

**VOLUNTARY DISCLOSURE, LONG-HORIZON INVESTORS AND
SHAREHOLDER FAMILIARITY – AN ONLINE INVESTOR RELATIONS
PERSPECTIVE**

by

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FAMILIARITY – AN ONLINE INVESTOR RELATIONS PERSPECTIVE**

I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

DATE

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ABSTRACT

Empirical evidence indicates that companies that reduce information asymmetry by increased voluntary disclosures achieve several benefits, such as lower cost of capital, improved pricing, and liquidity of their shares. Despite the possibility of such benefits, many studies report varying degrees of voluntary disclosure behaviour that is attributable to various factors. Recent studies indicate that investors' investment horizon has a significant effect on actions taken by management. Companies with predominantly short-horizon investors spend less on research and development, invest in shorter-term projects that are less profitable than longer-term projects, and are more likely to manipulate earnings to meet short-term earnings expectations. This study investigates whether investors' investment horizon has an effect on the quality of companies' information environment.

Long-horizon investors should be familiar with their investee company's risks and rewards, using both their own internal information gathering processes and the cumulative information disclosed by management over time. Moreover, over the course of a long-term relationship, they can become familiar with management's capability to deliver long-term sustainable returns. Long-horizon investors should therefore be less concerned with short-term fluctuations of earnings and management's public explanations and disclosures thereof. I hypothesise that higher (lower) proportions of long-horizon investors are associated with lower (higher) quality voluntary disclosure.

The shareholder familiarity hypothesis was tested in this study, using an ordinary least squares regression. Voluntary disclosures were observed via the channel of companies' websites. A checklist was compiled of best practices for online investor relations, and content analyses were conducted on the websites of 205 companies listed on the Johannesburg Stock Exchange. Shareholder familiarity was proxied by shareholder stability, measured over nine years. The stability measure was lagged by one year to create a temporal difference between the shareholder profile and disclosure behaviour. I found that companies with a profile of unstable investors that are larger, younger, dual-listed and have a Big4 auditor have higher quality online

investor relations practices. The hypothesis of a negative association between shareholder familiarity and voluntary disclosure quality is therefore accepted.

This study extends the theory on information asymmetry and voluntary disclosure by providing evidence supporting the argument that investor horizon is a predictor of voluntary disclosure quality. The dictum of more is better does not hold in all scenarios. It is important for financial directors and investor relations officers to establish the investment horizon profile of their respective companies' shareholders before they embark on extensive disclosure programmes.

Key terms: information asymmetry, voluntary disclosure, investor horizon, investor familiarity, investor relations, JSE, websites

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AFS	Annual financial statements
AICPA	American Institute of Certified Public Accountants
AIMR	Association for Investment Management and Research
ANOVA	Analysis of variance
BRICS	Brazil, Russia, India, China and South Africa
CEO	Chief Executive Officer
CFA	Chartered Financial Analyst
CFO	Chief Financial Officer
CSR	Corporate social responsibility
DS	Disclosure score
ESG	Environmental, social and governance
FCLT	Focussing Capital on the Long Term
GRI	Global Reporting Initiative
HTML	Hyper Text Markup Language
IASB	International Accounting Standards Board
ICAS	Institute of Chartered Accountants of Scotland
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
IMF	International Monetary Fund
IoD	Institute of Directors
IR	Investor relations
IRC	Integrated Reporting Committee
IRS	Investor Relations Society
JSE	Johannesburg Stock Exchange
KPMG	Klynveld Peat Marwick Goerdeler
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary least squares
PDF	Portable Document Format
Reg FD	Regulation Fair Disclosure
RSA	Republic of South Africa
R&D	Research and development
SAICA	South African Institute of Chartered Accountants
SEC	Securities and Exchange Commission

S&P	Standard & Poor's
URL	Uniform Resource Locator
UK	United Kingdom
US	United States of America
VIF	Variance Inflation Factor
WEF	World Economic Forum
XBRL	eXtensible Business Reporting Language

CHAPTER 1

INTRODUCTION

Long-term investors tend to be knowledgeable about the industry as well as the company's management and strategy. Typically, they spend meaningful amounts of time analyzing and modeling the company before meeting with management.

(Focusing Capital on the Long Term, 2015:22)

1.1. Background

The ability to communicate verbally and non-verbally is one of the most important traits that distinguish human beings from animals. Laughlin (1995:78) states this implies both a “fundamental ability and necessity to use language to make public what we are doing and why we are doing it and, where we need to convince.” This basic ability can be used in specialised ways: Bloomfield (2008:433) proposes that natural languages are general-purpose tools that allow communication about any number of topics, but that accounting is a special-purpose tool for communicating about financial status and performance.

The board of directors of every individual company, acting as agents of the legal owners, the shareholders, has traditionally communicated with company shareholders by means of printed annual financial statements (AFS) and the annual general meeting (AGM). The purpose of this communication is to account for the directors and managements' fiduciary duties. This communication looks backward – it involves accounting for what has already taken place, and it is highly prescriptive about what the company has to report on. However, investors may not rely solely on historical information when they make capital allocation decisions. Investors therefore also need forward-looking information from management.

As far back as 1994, the “Jenkins Report” by the American Institute of Certified Public Accountants (AICPA) in the United States (US), *Improving business reporting – A customer focus: Meeting the information needs of investors and creditors*, proposed a comprehensive model for business reporting that included more forward-looking information and placed more emphasis on value drivers and non-financial measures (AICPA, 1994). The Institute of Chartered Accountants of Scotland (ICAS) published a

detailed study of investors' information requirements for annual reports, based on an extensive survey amongst preparers, private and institutional users, and auditors (Beattie & Pratt, 2002). Many items deemed 'very useful' by users can be classified as forward-looking information, for example, revenue growth, objectives and strategies, the duration of patents, capital investment plans, as well as research and development (R&D) expenditure. Companies began to disclose voluntary information in response to this pressure, in order to reduce the information asymmetry between management as insiders, and the capital market. Studies by Botosan (1997), Sengupta (1998) and Frankel, Johnson and Skinner (1999) found that companies experienced a reduction in the cost of capital (and an increase in share value) after they increased their level of voluntary disclosure.

In the late 1990s, some companies set up specific investor relations (IR) departments and webpages, because they realised the importance of communicating specifically with their investors. The Investor Relations Society (IRS) of the United Kingdom (UK) defines IR as

...the communication of information and insight between a company and the investment community. This process enables a full appreciation of the company's business activities, strategy and prospects and allows the market to make an informed judgement about the fair value and appropriate ownership of a company. (IRS, 2013)

In line with prior voluntary disclosure studies, Farragher, Kleiman and Bazaz (1994), Brennan and Tamarowski (2000), Chang, D'Anna, Watson and Wee (2008), Bushee and Miller (2012), and Vlittis and Charitou (2012) found that increasing IR quality reduces the dispersion of analyst earnings forecasts and bid-ask spreads, increases the analyst following and investment by institutional investors, and improves trading volume and book-to-price ratios. Moreover, Agarwal, Taffler, Bellotti and Nash (2016) reported that companies with higher quality IR strategies (they considered companies nominated for Best Overall IR award) had significantly higher valuation multiples than companies that were not nominated. They also found that increasing the IR quality led to higher analyst following and to improvements in share liquidity. These findings applied to *companies of all sizes*, but were stronger for smaller companies.

An important factor to bear in mind is that stock exchange regulators in both the US and South Africa have implemented measures to curb private value-relevant disclosures to institutional investors and analysts. The Securities and Exchange

Commission (SEC) in the US implemented Regulation Fair Disclosure (Reg FD) in 2000 (SEC, 2000). The Johannesburg Stock Exchange (JSE) incorporated Sections 3.4 to 3.8, which permit the use of companies' websites for disseminating value-relevant information simultaneously to all investors and other interested stakeholders, into its revised Listings Requirements in 2003 (JSE, 2003). These regulations gave additional impetus to developing online IR practices.

Several studies, such as those by Hedlin (1999), Marston and Polei (2004), Bollen, Hassink and Bozic (2006), Abdelsalam, Bryant and Street (2007), Gandia (2008) and Pozniak (2013), have analysed the IR webpages of companies to identify how companies in different countries practise online IR. Standard deviations in the disclosure scores were large, so researchers used regression models to isolate factors that may be associated with disclosure quality. Their studies report conflicting evidence on the predictive power of the independent variables. Evidence of significance or insignificance, or positive association versus negative association, can be found for nearly every independent variable included in the regression models used in these prior studies.

Thus far, research in South Africa by Venter (2002), Barac (2004), Nel (2004), and Nel and Baard (2007) on the use of the Internet for investor communication has identified the same preliminary trends as those found in international studies. These studies only reviewed the largest companies' websites, for example, the top 40 or top 100 per market capitalisation. Over time, more of the large companies in South Africa began to use their websites for IR activities. However, thirteen years ago, after reviewing the top 100 companies' websites, Barac (2004:20) commented that South African companies did not yet fully use the technological benefits that the Internet has to offer for communicating with investors and that many companies just used their website as an electronic bulletin board.

When one compares the information and economic environment of South Africa to those that prevail in other countries, important differences emerge, as Table 1.1 shows. South Africa's stock exchange, the JSE, operates in a hybrid environment that shares some characteristics with the sophisticated US, UK and European markets (green highlighting), but also has some characteristics in common with markets in some emerging and developing countries (blue highlighting).

Table 1.1: Comparisons between economies and equity markets

US, UK and Europe	South Africa	Middle East, South Asia, China, South America and Egypt
Developed economies	Developing economy	Emerging and developing economies
Highly liquid	Illiquid	Illiquid
Dispersed ownership, even in presence of institutional and blockholdings	Ownership concentration – large institutional holdings	Ownership concentration – including large family and government holdings
Strong legal rights for minority shareholders and high reporting standards	Strong legal rights for minority shareholders and high reporting standards	Weak legal rights for minority shareholders and low reporting standards

Source: Author

It can therefore not be assumed that voluntary disclosure and trading behaviour observed in other domains, as well as explanations for that behaviour, would apply equally to South African companies and the JSE.

1.2. Investment horizon and familiarity

A recent area of research investigates the effects of institutional investors' investment horizons (how long they are invested in the investee) on the behaviour of companies. Bushee (1998) has identified three types of institutional investors, based on their investment patterns relating to portfolio turnover, diversification and momentum trading (Bushee, 1998:310-311):

- 'Transient' institutional owners hold small numbers of shares in a large number of companies and frequently trade in and out of these companies. Trading activity is mostly induced by short-term signals, such as current earnings.
- 'Dedicated' institutional owners hold large numbers of shares over the long term in only a few companies. They evaluate management's long-term performance and use a more complete set of information for that purpose.
- 'Quasi-indexers' invest in indexes or buy-and-hold strategies. Their portfolios are highly diversified (directly or indirectly via the index invested in), but their turnover is low.

Areas of research involving institutional investor horizons as an explanatory variable are the following: R&D spending (Bushee, 1998), mergers and acquisitions (Gaspar, Massa & Matos, 2005), cost of equity (Attig, Cleary, El Ghouli & Guedhami, 2013), investments and how they are financed (Huang & Petkevich, 2016) and future share returns (Yan & Zhang, 2009).

Souder, Reilly, Bromiley and Mitchell (2016) used a different measure of investor horizon than Bushee (1998), which they call ‘capital patience’ (proxied by a reverse-coded share turnover measure). Their capital patience measure differs from the measures used by the other authors above, in that the investor horizon is calculated based on all shares traded, and not only on the trading activity of institutional shareholders (although institutional shareholders’ trading activity probably constituted the largest portion of total trading activity). Souder *et al.* (2016:1212) found that companies with lower than industry average investment horizons (proxied by the expected useful lives of property, plant and equipment) tend to have a lower return on assets. This is exacerbated when the companies’ investors have low capital patience (there is frequent trading in the companies’ shares).

Employing a different research design to the ones described above, Bushee and Noe (2000) used the investor horizon as the dependent variable, and disclosure quality as the independent variable. In their study, disclosure quality was positively associated with transient and quasi-indexer institutions, but insignificant for dedicated long-horizon investors (Bushee & Noe, 2000:185). When they ran the regressions on changes in disclosure quality, it affected the holdings of transient and quasi-indexers. However, regarding dedicated investors, they remark:

Finally, consistent with the levels analysis, there are no significant associations between changes in dedicated institutional ownership and changes in AIMR [Association for Investment and Management Research] disclosure rankings. Both sets of results imply that the large, stable ownership positions of dedicated institutions likely provide them direct channels of information from firms and limit any benefit of public disclosure. (Bushee & Noe 2000:190)

However, in the post-Reg FD regime, Serafeim (2015:41) found that long-horizon investors *are* associated with integrated reporting quality. This contradicts the findings of Bushee and Noe (2000) that long-horizon investors are neutral to disclosure quality. Both these studies used disclosure quality as the independent variable and assessed the level of institutional shareholding as the dependent variable.

In a disclosure environment where private value-relevant disclosures are prohibited (for example, in South Africa, where Sections 3.4 to 3.8 of the JSE Listings Requirements have been in force since 1 September 2003, or in the US, where Reg FD of the SEC has been applied since 1 October 2000), one would assume that long-term shareholders would pressure management for more public disclosure, since their private channels have been blocked. Alternatively, long-term shareholders might be satisfied with the current level of public disclosure if they still have access to private information from management, or they have superior information processing capabilities to make sense of the information publicly disclosed, as well as their own research into industry trends, markets, etc. Given the high ranking South Africa received for the protection of minority shareholder rights by the World Economic Forum (WEF, 2012), I assume that JSE-listed companies do not provide private disclosures of value-relevant information to institutional shareholders and that all shareholder types only have access to the same public information provided by company management.

I would like to posit another reason why long-term shareholders may be satisfied with a poorer public disclosure environment: they are probably familiar with the investee company's risks and rewards, and management's achievement record over the long period of the investment relationship. They therefore do not require extensive voluntary disclosure. Long-horizon investors' information environment therefore consists of their own information, gathered over time (Focusing Capital on the Long Term, 2015; Huang & Petkevich, 2016), plus information cumulatively provided publicly by the investee company.

This study therefore hypothesises that shareholder familiarity (operationalised by a lagged measure of ownership stability averaged over a period of nine years, indicative of an investment horizon) is associated with the quality of the online IR practices of JSE-listed companies. This argument can also be supported from a signalling theory perspective: company management would have little incentive to increase voluntary public disclosure or to invest in best practice IR if it faces the same shareholder identities period after period, as trust has already been established. Another argument in support of this hypothesis is that a poorer public information environment allows long-horizon investors to capitalise on their substantial in-house information-gathering

and industry analysis expertise. Investee company management would therefore cater to the long-horizon investors' low(er) demand for public voluntary disclosure.

1.3. Research problems

There are a number of gaps in our knowledge. These are the following:

- The quality of the IR practices of middle-tier and smaller companies in South Africa is unknown.
- Download speeds for South Africa averaged 1,16 Mbps (megabits per second) in January 2008, after the last prior study by Nel and Baard (2007), versus 3,22 Mbps in June 2012 (Ookla, 2014), and 5.6 Mbps for South Africa in the second quarter of 2016 (Akamai, 2016:40). The growth in bandwidth and the number of online users implies that companies can now reach a wider audience of retail investors with their online IR programmes. Companies will increasingly be able to use bandwidth-intensive technologies such as videos, online conference calls with analysts, webcasts of presentations and interactive stock charting. They will be able to use such media more widely and efficiently as bandwidth capacity increases for both companies and private investors. These are low-hanging fruit in the quest to reduce information asymmetry for the benefit of private (retail) investors. However, we do not know whether companies took advantage of faster broadband speeds.
- Empirical studies report that reductions in cost of capital, improvements in liquidity and increased analyst following are associated with higher quality IR. However, the evidence of prior studies on online IR practised by JSE companies indicates that even amongst large companies, best practices for online IR are largely ignored. We do not know what factors are present in the South African context that explains the lack of uptake of best practices regarding online IR (based on prior research).
- Prior research on explanatory variables has focused mainly on the US, the UK, Europe, China, countries in the Middle East, South Asia, or South America, or on Egypt. It is not clear whether the models developed in these other domains would sufficiently explain the online IR behaviour of JSE-listed companies.

1.4. Research objectives

This study has two primary objectives:

- to determine the quality of the voluntary communications of JSE-listed companies as manifested by their online IR practices.

- as a secondary objective, to reach a conclusion regarding the stage of development of South African online IR (using Hedlin’s model); and
- to develop a regression model that explains the quality of the online IR practices of JSE-listed companies and to test the thesis hypothesis.

1.5. Research hypothesis

Based on the literature, I propose the following hypothesis in the null format:

$H_0 =$ *There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).*

1.6. Research design and methodology

1.6.1. Research paradigm

This study aims to make observations about the real world by collecting data and analysing it statistically. The researcher is detached from the subjects examined. It can therefore be classified as a positivist study.

1.6.2. Literature review

The investigation started with a literature search, based on the following key words:

- “Voluntary disclosure”
- “Internet reporting”
- “Online reporting”
- “Voluntary reporting”
- “Investors relations”
- “Investment horizon”

The theory behind increased voluntary disclosure and the benefits that may arise from it are discussed. Developments in financial reporting practices and IR are highlighted. The role of investment horizon was investigated. A second round of searches was executed before finalising the thesis in order to update the literature.

1.6.3. Empirical investigation

The dual primary objectives of the study were achieved by the following means:

- Content analyses were carried out on the websites of JSE-listed companies to ascertain what information was disclosed, what technologies were employed on the website and to what extent usability features were incorporated into the website.
- A regression model was developed to explain cross-sectional differences between the online IR practices of JSE-listed companies.

1.6.3.1 Timeframe of content analyses

Two factors determined the timing of the content analyses. The first was the fact that the South African disclosure environment experienced a systemic shock. The second was the availability of funding for carrying out the content analyses. The systemic shock came with the implementation of the King III Code, developed by the Institute of Directors (IoD), which required that an integrated report be produced for all financial years beginning on or after 1 March 2010 on an apply-or-explain basis (IoD, 2009). Companies that already disclosed extensively via their websites and/or annual reports before 2010 would benefit from their archive of information in preparing their first integrated report. On the other hand, for companies that had limited pre-2010 voluntary disclosures, I assumed that IR departments would leverage the information generating process for their integrated report and communicate the same information (as a minimum) on the companies' IR webpages. As with any new process, it takes time to improve compliance. I decided that 2011 would be too soon after this regulatory change to investigate the online IR practices of the JSE-listed companies.

Prior studies in South Africa (Venter, 2002; Barac, 2004; Nel & Baard, 2006, 2007) limited their studies to the largest 40 or 100 companies. In the present study, I wanted to capture behaviour across companies of different sizes. Secondly, to increase the strength of the regression analyses, a much larger sample was required. However, for comparative purposes, the websites' content analyses had to take place in as short a time as possible. Given the extensive checklist, this required that more than one person would be required to conduct the content analyses. The progress of the study was therefore delayed until funding could be obtained. In 2012, funding was received from Unisa's Master and Doctoral Support Programme. The content analyses therefore took place from July 2012 to mid-September 2012.

1.6.3.2 Sample selection

The sample frame was all companies listed on the JSE Main Board. To measure the stability in the shareholder profiles of the companies, and to avoid noise due to the 2008 financial crises, a ten-year period for trading activity was selected, namely July 2002 to June 2012. This requirement determined the first tranche of the sample: companies that were listed at least ten years before the start of the fieldwork (the content analyses). The first selection criterion resulted in 188 companies.

In order to compare the results of this study with those of prior South African studies of online IR practices, the sample included the top 100 companies, based on market capitalisation. This constituted the second tranche of the sample, and added 25 companies.

To eliminate between-industry differences, the model was also estimated for one complete sector of the JSE. A limitation is the relatively small number of companies listed on the JSE Main Board (about 330). For the model to have coefficient stability, given a large number of variables, meant that the largest sector (in terms of the number of listed companies) should be selected, namely the basic resources sector. However, the basic resources sector was still relatively small, so I decided to combine the consumer goods and services sectors. This constitutes the third tranche of the sample, and added ten companies.

The final sample consisted of 205 companies, after excluding seven pure holding companies, two dual-listed companies (the South African share was already included), six smaller companies that did not have websites, and two companies whose websites were unavailable during the period under review.

1.6.3.3 Measurement instrument

A disclosure checklist was compiled from the guidelines for effective online IR provided by Loranger and Nielsen (2009). The 2003 edition of these guidelines was used in the study by Abdelsalam *et al.* (2007). The guidelines were crosschecked against similar guidelines provided on the website of the Investor Relations Society of the UK. Lastly, I compared the information items to the higher-level items in the ICAS study (Beattie & Pratt, 2002) on what users (private and institutional) want to see in annual reports. Comparing Loranger and Nielsen's (2009) guidelines to checklists published in the

prior literature confirmed that the present study contains at least the same checklist items and more. This confirms the external validity of the checklist.

The guidelines were broken down into specific items. For example, prior studies checked whether a PDF of annual financial statements was present on the websites under review. This constitutes an information item. Loranger and Nielsen's (2009) guidelines are more specific and focus more on usability features, which are intended to ensure that users do not abandon their search; for example, the size of the file should be indicated in megabytes; large files should be split into smaller files; and the latest year's document should be listed first. Specificity reduces uncertainty for the assessor. Every checklist item for information content was coded dichotomously: if it was present, a value of '1' was awarded; if it was absent, a value of '0' was awarded.

A technology focus was taken to assist in reaching the secondary objective, namely to determine the stage of Internet adoption for financial communication (Hedlin, 1999). Hedlin (1999) proposed progressively higher usage of advanced Internet technologies for communicating with investors. To that end, some presentation formats were weighted. This weighting toward technology items is consistent with Bollen *et al.* (2006), Abdelsalam *et al.* (2007), Chang *et al.* (2008) and Cormier *et al.* (2009). The use of specific Internet features that cannot be replicated by a printed report, was scored as '2'; for example, an archived webcast of a conference call for results announcements. Posting only the press announcement was scored '1', and the absence of any information regarding the earnings announcement was scored as zero. There were no Likert-scale items. The checklist was programmed in LimeSurvey to enhance the quality of the data collection. The dichotomous coding, the absence of Likert-scale 'opinion' items and use of LimeSurvey enhanced the internal validity of the checklist.

1.6.3.4 Variables and analyses

A disclosure score was calculated from the checklist of best practices in online IR. This satisfied the first primary objective of the study, namely to determine the quality of online IR practices. Various descriptive statistics are presented in Chapters 6 and 7 to highlight the different practices and characteristics of the sample of JSE-listed companies. The disclosure score became the dependent variable in the second part of the study.

To satisfy the second primary objective, a regression model was developed in which the independent variables were company characteristics, for example market capitalisation and profitability, that prior literature indicated might have a bearing on a company's disclosure score. Information on company variables was obtained from INETBFA and Bureau van Dijk. Data patterns were analysed to ensure compliance with the requirements for ordinary least squares (OLS) regression. Continuous data were transformed to improve normality of the variables' distribution. The Breusch-Pagan test for heteroscedasticity of the residuals indicated that the null hypothesis of constant variance of the residuals could be accepted. Collinearity was not an issue as the Variance Inflation Factors (VIFs) for the independent variables were all below 2.5. Finally, scatterplots of the standardized residuals plotted against the standardized predicted values visually confirmed that there were no further observable relationships between the variables in the regression model. The output of the regression analyses were used in particular to test the null hypothesis that there is no relationship between the two proxies, shareholder stability and online IR quality. Additional robustness tests were performed. These results are presented in Chapter 7.

1.7. Ethical clearance

The ethical risk of this project was very low. The primary data (the disclosure score) were compiled from publicly available information on companies' websites. The secondary data were obtained from a reputable public database. Nevertheless, ethical approval was obtained from the College of Accounting Sciences' Research Ethics Review Committee. Approval for the study was granted under number 2014/CAS/0007 (see Appendix A for the Certificate).

1.8. Contribution

1.8.1. Contribution to the theory and literature

The study contributes to new knowledge in the growing area of research into the influence of investors' investment horizons on companies' behaviour. An association between investors' investment horizons and other areas of company behaviour (R&D, takeovers, investment in certain assets, and investment in shorter-term projects) has been found by prior studies. However, this is the first study that investigated the association between long-horizon investors and companies' voluntary disclosure behaviour, as measured by their online IR practices. Bushee and Noe (2000) argue

that dedicated long-horizon investors are neutral to information quality, due to private channel access. However, their findings apply to the pre-Reg FD period, when it was common practice for institutional shareholders to be given private access to investee management, and there were delays in value-relevant information's filtering through to retail or private investors. I assumed that private value-relevant disclosures are not permitted in the post-Reg FD period. This assumption also applies to the South African context, where measures similar to that of Reg FD are in place in the strict regulatory environment of the JSE (this assumption is corroborated by consistently high WEF rankings for the operation of the JSE equity market, reporting standards, the protection of minority shareholders, and corporate governance). I therefore argue that long-horizon investors in South Africa are content with a low(er) quality disclosure environment from investee companies because of their familiarity with the investee company over time. Furthermore, long-horizon investors may want to protect their own superior information-gathering and processing capabilities (if all investors and potential investors had access to the same detailed, high-quality information provided by the investee management, the long-horizon investors would have to work much harder for arbitrage opportunities, based on their incremental knowledge of the investee). Managers of investee companies in South Africa cater to the low(er) demand by their long-horizon investors for extensive voluntary information.

The present study extends the theory on voluntary disclosure by arguing against the adage that more public information is always better for all investors. This is not necessarily true in all instances. The investment horizons of the investor also have a role to play.

From a cost-benefit perspective, familiarity of the long-horizon investors could support financial directors' decision to resist demands for increasing public disclosure, as the cost (the gathering cost as well as the proprietary cost) may be greater than the benefits from lower cost of equity, or from improved liquidity of the shares. However, each company should negotiate its voluntary disclosure policy (frequency and extent of disclosures) with its own or potential institutional and block shareholders, based on their investment horizon.

Secondly, in an environment with a dearth of information on institutional investors' holdings and portfolio turnover, I propose a proxy for long-horizon investment in the

form of the average stability measure of the present model. This measure is based on the inverse of the average long-run share turnover ratio, so it can easily be employed by other researchers in emerging and developing countries who lack access to institutional investor investment patterns.

Thirdly, the study adds to the general literature on voluntary disclosure (online or not) and the extent to which companies practise it, and empirical evidence on factors driving disclosure behaviour.

Lastly, this is the first study to cover mid-tier and small companies of the JSE in a study on disclosure behaviour. This highlights important differences between the top 100 and the rest. If the study is accepted for publication, it will also be the first published regression model on factors associated with the voluntary online disclosure behaviour of South African companies.

1.8.2. Contribution to practice

According to Moizer (2009:286), the utilitarian view of accounting research is that its objective should be to produce something of value to society. I subscribe to this view. Hence, I intend to publish the results in practitioner journals as well so that others can find value in it. In 2015, the IR professionals in South Africa formed a non-profit company, the Investor Relations Society of South Africa. Results from the present study will be brought to their attention in the hope that it can improve IR practices in South Africa.

Regarding the capabilities of the Internet as a facilitator of meaningful communication between companies and their stakeholders, Unerman and Bennett (2004:704) call on academics to play a role “in spreading the use, effectiveness and impact of this potentially important new technology through more widespread and deeper research”.

The findings from the content analysis parts of this study can assist in improving online IR in the following ways:

- Financial managers would benefit from a better understanding of what information investors want from them in order to make investment decisions.
- Developers of corporate websites could ensure that they harness all the capabilities of the Internet, hardware and software technologies in order to facilitate the

assimilation of information in the most effective and efficient way for investors, and at the same time, in a cost-effective manner for companies, the preparers.

- IR practitioners would gain a better understanding of what information should be provided and in what electronic format on the IR web pages of their companies' websites.
- Other stakeholders, such as labour unions, communities, and environmental groups, will be able to source the same information as that available to those who provide capital, which will level the playing field for them from a political and social perspective.
- Academics involved in training accountants and future financial managers could benefit from a renewed awareness of what the value drivers for business entities are and how accountants can play a role in leveraging the maximum value from it.

1.9. Limitations

The main limitation of the study is the fact that websites, by their nature, change continually. It is therefore not possible to verify the results after the fact. However, this applies equally to all the prior studies discussed in the literature review. The exception is the study by Abdelsalam *et al.* (2007), who saved the websites used with an Internet Explorer functionality that is no longer available.

Secondly, the focus is only a selection of listed South African companies. Although the sample covers the bulk of the market capitalisation of the JSE, it does not include all listed companies. The results can therefore not be extrapolated to all listed companies.

Thirdly, the study is only cross-sectional at a point in time. It serves as an indication of differences between companies and factors that might explain these differences. A repeat study could provide further evidence.

Fourthly, I assume that during private meetings between JSE-listed companies and their institutional investors, no value relevant information is divulged which is not already available publicly. This seems reasonable, given the high rating given to South Africa for the protection of its minority shareholders (WEF, 2012). It is unlikely that 'leaking' value relevant information to specific long-horizon institutional investors would be a wide-spread practice among all JSE-listed companies.

Lastly, the study is limited to the dissemination of information on companies' websites. It therefore excludes other forms of information communication such as printed annual reports, printed press releases, or conference calls. However, the argument of the study is that a good IR website serves as a central repository of these communications, and in fact, the checklist included checking for the presence on the website of these sources of information.

1.10. Outline of the study

The remainder the thesis consists of the following chapters:

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|-----------|---|
| Chapter 2 | Chapter 2 describes the most prominent motivations for companies to disclose information voluntarily. These are economic benefits, societal acceptance, institutional pressure, investor recognition, and investor clientele. The chapter also describes various studies on investors' information needs. The chapter considers barriers to fuller disclosure from the companies' perspective. |
| Chapter 3 | Chapter 3 provides an historical overview of reporting practices, from hardcopy annual financial statements to company webpages with hyperlinked text and visual displays. Three models are presented to explain the adoption phases of Internet financial communications. The role of the IR department is described, as well as the benefits of a good IR programme. This chapter concludes with an overview of prior research on IR practices in South Africa. |
| Chapter 4 | Chapter 4 introduces the long-horizon motivation for shareholder familiarity of JSE investors. The chapter starts by describing the unique characteristics of the JSE and highlights the low turnover of shares, implying that investors are invested in shares for longer horizons. It then compares the regulations regarding private disclosure in the US to those of the JSE. A summary of prior literature on factors associated with online IR quality is presented. In the last part of the chapter, the shareholder familiarity hypothesis is developed as a distinctive factor associated with voluntary |

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- disclosure quality. The choice of control variables is explained on the basis of the prior literature. The chapter concludes with the regression model.
- Chapter 5 The methodology used in performing the content analyses and hypothesis testing for this study is set out, and the choice is explained in Chapter 5. The chapter also contains detailed descriptions of the sampling, the development of the measurement instrument, of how the content analyses were performed, and the resulting scoring to obtain the disclosure score. Details are also provided on how the information was obtained for the other independent variables in the regression model and the steps performed to ensure normality of the variables. The chapter concludes with a discussion of how validity and reliability of the research process were embedded in the process, as well as the inherent limitations of the methodology and the data obtained.
- Chapter 6 Chapter 6 presents the results from the content analysis and its descriptive analyses. Disclosure scores of the Top 100 companies are compared to the rest of the sample. The overall disclosure score for JSE-listed companies is compared to the scores obtained in studies in other economic domains. Then the average disclosure scores for the 11 main categories of the checklist are described. The chapter concludes with a discussion of the top five (highest disclosure scores) and bottom five (lowest disclosure scores) checklist items in each main category. Following on from analyses of the use of technology features on the webpages of the sample companies, a conclusion is reached regarding the stage of development of online IR in South Africa.
- Chapter 7 Results from the regression model and hypothesis testing are presented in Chapter 7. Descriptive and univariate statistics, analyses of variance (ANOVAs) and the regression outputs are discussed. Conclusions are reached regarding the shareholder familiarity hypothesis. Practical significance is discussed for all the

significant variables in the model. Lastly, robustness tests are discussed.

Chapter 8 The summary, conclusions, and recommendations for further study are presented in Chapter 8.

CHAPTER 2

VOLUNTARY DISCLOSURE

2.1. Introduction

As discussed in Chapter 1, this study is intended to contribute to the voluntary disclosure theory in various capital and institutional settings. I therefore start with a broad discussion of the seminal works in the field of voluntary disclosure that theorise on companies' motivations for engaging in additional voluntary disclosure. The theories suggested so far include economic motives (achieving direct benefits for the company), societal motives (gaining acceptance from society), institutional isomorphism (being influenced by what others are doing, being forced by regulations, or being subject to the demands of professional standards). I also discuss two further theories, namely investor recognition and investor clientele. These theories explain why companies behave in a certain manner in order to attract a certain kind of investor, which in turn results in economic benefits for the company or its shareholders. Empirical evidence from prior research in support of these theories is also discussed.

The section thereafter deals with the types of information that investors and stakeholders demand. The focus is on voluntary disclosure. The chapter concludes with the counterarguments from preparers of such information as to why management may prefer to be less forthcoming with fuller disclosure. These reasons revolve around the issues of the cost of data gathering, the protection of proprietary information and fear of litigation, for example, if users' expectations based on forward-looking guidance in respect of future earnings are not met.

The next section starts with the theoretical background on why management may choose to disclose additional information voluntarily.

2.2. Theoretical motivations

Each JSE-listed company's audited annual financial statement (AFS) must be prepared on the basis of the requirements of International Financial Reporting

Standards (IFRS) in terms of Section 8.3 of the JSE Listings Requirements¹ (JSE, 2011a). The AFS is submitted by its board of directors for approval to the shareholders of the company at the annual general meeting. The AFS primarily deals with historical facts. It reports on how management has discharged its fiduciary duties in respect of shareholders' assets during the past financial year. Chapter 1 (Paragraph 1.6) of the Conceptual Framework for Financial Reporting issued by the International Accounting Standards Board (IASB, 2015) acknowledges that users of general-purpose financial reports may need to source additional information in order to make economic decisions regarding their investment or potential investment in a given company's shares. Companies may thus choose to make available this additional information. Various theories have been proposed to explain why companies (via the board of directors) may want to provide additional voluntary disclosure. These theories are discussed in more detail below.

2.2.1. Economic motives

Several theories regarding economic motives for increased disclosures have been developed in the economics field. These theories propose that management would opt to disclose more information voluntarily for two main reasons. The first is to increase demand for the company's shares, leading to an increase in the share's price and liquidity (tradability). The second is to reduce the return required by providers of capital (cost of capital). The most influential studies on these theories are described below.

Modern large listed companies operate in a context where ownership is widely dispersed and separated from control. Since the shareholders of a large listed company are not involved in the day-to-day management of the company, they also lack detailed knowledge of the company's operations, strategies, markets and finances. This gives rise to information asymmetry, which refers to the situation where one party in a transaction or relationship has access to more or better information than the other party, for example, in selling goods or employing people. In the case of a company, there are two forms of information asymmetry. The first form arises between different investors in the company, for example, when existing shareholders want to

¹ I refer to the 2011 version (Service Issue 14, effective 1 May 2011) because it specifies the disclosure regulation at the time of primary data gathering. I have confirmed that everything I refer to in the 2011 version of the JSE Listings Requirements (Service Issue 14) in this document is also included in the current version, Service Issue 23, effective 24 October 2016 (JSE, 2016)

sell their shareholding because they are aware of certain adverse trading conditions, but potential buyers of this shareholding are not aware of these conditions. A second form of information asymmetry occurs between the owners of a company (shareholders) and its managers (the board of directors and other managers).

Fama and Laffer (1971) considered the cost/benefits of producing information for the company itself, its shareholders and outsiders, depending on whether the company produces the information, or an outsider produces the information about the company. They identified three benefits from information: “(i) reduction of risk, (ii) improved operating decisions by the firm, and (iii) investor trading profits as a result of private access to new information” (Fama & Laffer, 1971:290). Regarding the production of information for investors’ trading purposes, they concluded that the optimal situation is that a company produces information about itself, rather than one where shareholders buy the information from outside information producers. However, when securities laws prohibit companies from *selling* information about themselves, and from making *selective disclosure* to investors or other outsiders, the incentive for companies to generate information for trading purposes (by investors) is removed (Fama & Laffer, 1971).

Hirshleifer (1971) investigated the production and distribution of information regarding research and innovation from a societal economic benefit perspective. He concluded that private technological information (such as new discoveries and designs) that remains private has no social value as production processes do not benefit from new technology. By contrast, public information has the potential to alter production decisions and thereby increase social economic welfare (Hirshleifer, 1971). Marshall (1974) examined scenarios where there is information asymmetry between investors themselves. He concluded that public information is valuable as long as it can be produced more efficiently by the company than by the combined effort of each investor’s own private information production (Marshall, 1974). Public information about a company can be provided by its management, or other intermediaries, such as analysts and the financial media. Marshall (1974) also noted the importance of the timing of the release of public information. If his caution in this regard is applied today, the benefit of a corporate website is clear, as it makes it possible to disseminate value-relevant information to all market participants simultaneously as soon as it is available

and the company wants to release the information, thereby reducing opportunities for arbitrage based on privileged information.

Akerlof (1970) has shown how information asymmetry in the form of uncertainty regarding quality can lead to '*adverse selection*' in the second-hand car market. Adverse selection implies that an under-informed buyer would only be willing to pay a *lower* average price for a product or service in an attempt to minimise potential future losses (in case the product/service turns out to be of low quality). The seller (who has better information on the dubious quality of the product/service) would be prepared to accept a lower price, as long as it is higher than the price that would be obtained if the buyer had all the information (Akerlof, 1970). He also argues that information asymmetry works against a seller of a good quality product/service. If a buyer does not have all the information, he/she will offer a lower price, and the seller will not achieve the optimum price for the good quality product/service (Akerlof, 1970). In general, Akerlof (1970) also found that the number of market participants declines when information about quality is uncertain or scarce, which in turn implies that a seller may have to accept a lower price in conditions of illiquidity or in an inactive market.

The discount on the optimal price (which could have been achieved between two fully informed participants) is referred to as the cost of information asymmetry. If Akerlof's (1970) theory of adverse selection is applied to company shares, it would imply that the management of a company would want to disclose more information to the capital market to indicate the good quality of the company and its management. Management would then expect the share price to increase (once the full potential of the future cash flows is known) because more market participants would want to buy the share, and sellers would ask higher prices. More market participants would also realise a secondary beneficial effect on the share price, as increased market liquidity results in a reduction of the illiquidity discount.

Spence (1973) added to Akerlof's (1970) work by examining information asymmetry in the job market. Job applicants can signal their quality to prospective employers by incurring, for instance, further educational costs. In their turn, potential employers use screening criteria based on their inside knowledge to select candidates. If the analogy is extended to capital markets, the better-informed party (management) could incur '*signalling costs*' by voluntarily communicating more information to under-informed

parties (current and potential shareholders, and debt providers). Examples of these signalling costs include paying a dividend (signalling confidence about the future cash flow generation capability of the company), employing a Big 4-audit firm (signalling high quality reporting mechanisms), or holding investor days to communicate with investors and analysts, or investing in a good IR website and annual report (signalling transparency). The signalling increases the confidence of buyers in the quality of the company and its management, and thereby increases the value of the share (Spence, 1973).

Brown and Hillegeist (2007) investigated the scenario where there is informed traders, having private information about the company's value, and uninformed traders that only have access to information disclosed publicly by the company. They argue that disclosure quality can affect information asymmetry in two ways: one, by reducing the incentive for the privately informed investor to trade, and two, by reducing the amount of undisclosed information, thereby reducing the likelihood that investors discover and trade on private information. Brown and Hillegeist (2007) find a negative relation between the quality of disclosure and the level of information asymmetry. The reduction in information asymmetry is mostly through the channel of a reduction in the incentives to search for private information when information quality is high.

Another major branch of theory relates to the *agency* relationship between the shareholders and the managers of a company. Shareholders (the principals) appoint managers as their agents to manage the company on their behalf. In such an agency relationship, the shareholders have to face the risk that the management (agents) may not act in the best interest of the shareholders, but in their own self-interest (moral hazard). The owners of the equity carry the risk of financial loss, whilst the managers control the assets through their decision-making power. Jensen and Meckling (1976) propose that the principals incur agency costs (the cost of monitoring and providing incentives to management) in order to increase the likelihood that the agents act in the best interest of the principals. Agents, from their side, may also accept bonding costs, such as limitations imposed on their powers (for example, the need for shareholder approval to dispose of a major part of the assets).

Another form of agency cost is the loss in welfare for the shareholders, because, in practice, agents can never fully achieve optimum value for the principals. Jensen and

Meckling (1976) refer to this as residual loss. To limit such residual loss, shareholders incur auditing costs to monitor management's fiduciary actions, offer incentives by entering into performance contracts with management, where bonuses are linked to share prices, and put governance structures in place to ratify and monitor the agents' decisions (Jensen & Meckling, 1976; Fama & Jensen, 1983). Voluntary disclosure to the capital markets can therefore be a strategy adopted by management (the agents) to indicate to the principals that management can be trusted to take the right actions and that goal congruency is being achieved. Manager-owners benefit personally from any resulting increase in the share's market value arising from an increase in disclosure.

Various economic (mathematical) *models* have been developed, based on the theories described above, to illustrate how voluntary disclosure (public information) leads to benefits for companies through reduced cost of capital, improved investment decisions and increased share prices and liquidity (Diamond & Verrecchia, 1991; Lambert, Leuz & Verrecchia, 2007, 2012; Gao, 2010; Einhorn & Ziv, 2012; Cheynel, 2013; Wen, 2013; Chen, Huang & Zhang, 2014; Clinch & Verrecchia, 2015; Lambert & Verrecchia, 2015). These models and theories regarding voluntary disclosure benefits have also been *empirically* confirmed in various market settings (Yeo & Ziebart, 1995; Botosan, 1997; Sengupta, 1998; Frankel, Johnson & Skinner, 1999; Leuz & Verrecchia, 2000; Petersen & Plenborg, 2006; Abdo & Fisher, 2007; Legoria, Boone & Stammerjohan, 2008; Chang et al., 2008; Chen, Hope, Li & Wang, 2011; Bushee & Miller, 2012; Saxton & Anker, 2013; Chi, Dhaliwal, Li & Lin, 2013; Green, Jame, Markov & Subasi, 2014; Alves, Canadas & Rodrigues, 2015; Song, 2015; Ding & Hou, 2015; McCormick & French, 2016).

In summary, the above studies report that a share's price can be increased (or cost of capital can be reduced) directly, by reducing information asymmetry for investors by disclosing more voluntary forward-looking information regarding future cash flows, opportunities and risks. However, Bond, Edmans and Goldstein (2012) warn that price efficiency is not only about accurately predicting future cash flows, which they call forecasting price efficiency, and that prices in the secondary market (trading between investors) also contain information gathered (discovered) by market participants, which they call revelatory price efficiency. Forecasting price efficiency depends on information provided by management. Revelatory price efficiency is created by

investors that trade in the share. It is therefore also important to consider what information is changing a share's price – is the change due to information provided by management or due to investors trading into or out of a share based on their *self-discovered information*.

Management also have non-financial or societal motivations for voluntary disclosures. This is covered in the following section.

2.2.2. Societal motives

Apart from purely economic or financial reasons for voluntary disclosure, companies also have other motivations for voluntary disclosure of non-financial information. The days when companies were only accountable for their financial performance to their shareholders and financial institutions are long gone. Climate change, carbon emissions, bio-diversity, human trafficking, poor corporate governance and income inequality have become important issues to people the world over. Communities, employees, and even activist shareholders (Uysal, 2014) now hold companies accountable for their impact on the environment, local communities, employees, etc. Maximising shareholder wealth to the exclusion of all other stakeholders is no longer acceptable.

Legitimacy theory endeavours to explain why companies would voluntarily engage in, and *disclose* information about, their corporate social responsibility activities and the impact of their business operations on the environment, society and their employees. Companies want to be seen to be socially responsible and as operating in a sustainable manner. In disclosing information relating to their corporate social responsibilities, companies try to demonstrate that their actions are “desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995). DiMaggio and Powell (1983:155) argue that one reason for organisations to follow or mimic the practices of other successful organisations is that their own goals are ambiguous or disputed, and they are therefore “highly dependent upon appearances for legitimacy. Such organisations may find it to their advantage to meet the expectations of important constituencies about how they should be designed and run”. Dowling and Pfeffer (1975) contend that in order for companies to survive, they have to enter into a contract with society where companies perform certain actions in order to win the approval of society for their continued existence and

main business activities. The principals in the agency relationship, previously defined in the section above on economic motives as the shareholders, are now extended to include society and the natural environment.

Wheeler and Sillanpaa (1997) define four clusters of corporate *stakeholders*. Primary social stakeholders have direct financial dealings with the company, for example, shareholders, employees, customers, and suppliers. The secondary social stakeholders are financially indirectly affected by what the company does, for example, governments, trade bodies, and competitors. Primary non-social stakeholders are affected directly in a non-financial way by what companies do – for example, pumping out toxic gas into the air affects the natural environment, humans and non-human species, as well as future generations, reducing bio-diversity. The secondary non-social stakeholders, such as environmental pressure groups and animal welfare organisations, may act on behalf of primary non-social stakeholders that do not have a voice of their own.

Slack resource theory proposes that companies that are financially strong and that perform well have the slack financial resources to invest in social and environmental programmes (Waddock & Graves, 1997; Melo, 2012). These companies then communicate to the public about their social and environmental programmes.

The concept of non-financial stakeholders is embedded in South African business by the codes on corporate governance developed by the King Committee, commissioned by the Institute of Directors (IoD) in July 1993. The King II Report (IoD, 2002:98) acknowledges the concept that stakeholders have a direct bearing on on-going corporate viability and financial performance, and requires specific reporting on sustainability. Environmental, social and governance (ESG)² reporting requirements have now been included in integrated reporting. The King III Code (IoD, 2009)³ requires an integrated report to be produced for all financial years beginning on or after 1 March 2010 on an apply-or-explain basis, and indicates that the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI, 2011, 2013) should be used. Since

² Many authors and companies refer to corporate social responsibility (CSR) reporting. The terms ESG and CSR are used interchangeably in this document.

³ King IV was launched on 1 November 2016. The 75 principles of King III have been condensed to 16 in King IV, with a 17th principle that applies to institutional investors. King IV is effective in respect of financial years commencing on or after 1 April 2017. King IV replaces King III in its entirety.

2010, Section 8.63 of the JSE Listings Requirements have also made an integrated report mandatory (JSE, 2010).

Studies in countries where ESG or integrated reporting is not mandatory have found that, in addition to the legitimising effects discussed above, such disclosure also has capital market benefits for companies that voluntarily engage in this type of disclosure (Dhaliwal, Radhakrishnan, Tsang & Yang, 2012; Cho, Lee & Pfeiffer, 2013; Elliott, Jackson, Peecher & White, 2014; Jiraporn, Boeprasert & Chang, 2014; De Villiers & Marques, 2015; De Klerk, De Villiers & Van Staden, 2015; Lys, Naughton & Wang, 2015; Zahller, Arnold & Roberts, 2015; Nollet, Filis & Mitrokostas, 2016). Initial research on JSE-listed companies reported value-relevance in such disclosure (Abdo & Fisher, 2007; De Klerk & De Villiers, 2012). However, a later study by Marcia, Maroun and Callaghan (2015) found no significant association between corporate social responsibility (CSR) disclosure and JSE share prices, apart from the finding that larger companies disclose more. Research in this area is still in its initial stages and further studies should provide more clarity.

In summary, companies' desire for legitimisation by society and the demands of non-financial stakeholders have resulted in the expansion of voluntary disclosure to include ESG and CSR aspects. As described above, ESG/CSR disclosures appear to result in some economic benefits for companies.

Sometimes management also engages in voluntary disclosure to conform with what other companies are doing. I address institutional behaviour as a motive for voluntary disclosure next.

2.2.3. Institutional isomorphism

The definition of the adjective isomorphic is “[c]orresponding or similar in form and relations” (*Oxford English Dictionary*, 2016). In a seminal study of organisational behaviour, DiMaggio and Powell (1983) observe that institutions such as companies tend to behave more like one another over time. They have identified three institutional isomorphic processes: coercive, mimetic and normative (DiMaggio & Powell, 1983). These are discussed below.

DiMaggio and Powell (1983:150) describe *coercive* isomorphism as resulting from “formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function”. This can be observed when companies comply with new legislation, in other words, the requirement to produce an integrated report (IoD, 2009) and by complying with stakeholder demands for information.

The *mimetic* form of isomorphism occurs in the absence of regulation or clear guidelines (uncertainty about what is expected). If their own goals are ambiguous or disputed and they seek legitimacy, companies tend to mimic the behaviour or practices of other companies that are seen as successful leaders (DiMaggio & Powell, 1983:151). This view of why companies behave as other leading companies do is closely linked to the legitimacy theory of voluntary disclosure discussed in Section 2.2.2 Societal motives.

The *normative* force for isomorphic change in companies relates to the extent to which their personnel are members of professional bodies, for example, chartered accountants. The output produced by these employees will look similar to that of other companies that employ the same type of employees, because of professional standards regarding such work (DiMaggio & Powell, 1983:152). CSR reports and other voluntary disclosures are usually prepared by people with the same type of training, such as IR officers or public relations officers.

De Villiers, Low and Samkin (2014) found that the CSR reports of smaller mining companies in South Africa contain the same type of information, and are presented in the same formats as the reports of the larger companies. They attribute this finding to normative isomorphism due to mature practices of CSR reporting in the mining industry in South Africa (De Villiers *et al.*, 2014). De Villiers and Alexander (2014) came to a similar conclusion when they compared and found the CSR reports of South African and Australian mining companies contained most of the same categories of information, although individual companies provided specifics that pertain to their context.

CSR/ESG reporting is guided by the Sustainability Reporting Guidelines (GRI, 2011, 2013), but no similar *detailed* guidelines are available for other kinds of non-ESG

voluntary disclosure. Although the King Code (IoD, 2009) and the International <IR> Framework developed by the International Integrated Reporting Council (IIRC, 2013) include guidelines for non-ESG voluntary disclosure in the integrated report (strategy, business risks, forward looking information), the guidance is not as detailed as the GRI guidelines for sustainability/ESG reporting. Companies still have discretion in terms of what and how much detail they want to disclose aside from ESG matters. For evidence on progress made regarding integrated reporting, I refer to Ernst and Young who conduct annual reviews of the integrated reports of the 100 largest companies on the JSE. Ernst and Young report that the number of companies in the category “Average” and “Progress to be made” has declined from 44 for 2011’s integrated reports, to 39 for 2015’s integrated reports, despite the assessment criteria becoming more stringent over time as more guidance and examples of good integrated reporting become available (Ernst & Young, 2016:13). I therefore conclude that institutional isomorphism is also a factor in the improvement of JSE-listed companies’ integrated reports over time.

Considering the role that institutional isomorphism plays in the improvement of CSR and integrated reporting by JSE-listed companies, it is reasonable to assume that it also plays a role in online communication practices. Analysis of voluntary disclosure using company websites as a channel, is the first primary research objective of this study. This also affords me the opportunity to consider which type of institutional isomorphism is present for non-ESG voluntary disclosures of JSE-listed companies. I discuss prior research in this area in Section 3.7.3 Disclosure on South African corporate websites.

Next, I present two further theories on why management engages in voluntary disclosure, namely investor recognition and investor clienteles.

2.2.4. Investor recognition

A different avenue of theory investigates the effect of disclosure on the number of shareholders invested in the company, which *indirectly* affects the company’s cost of capital and share price. A seminal study in this area is that by Merton (1987). Merton argues that investors in an incomplete information environment only invest in a limited number of shares. Investors incur information-processing costs, which limit them to investing only in a subset of possible shares as it is impossible to research all possible

shares. Furthermore, information-processing costs are lower for current investors than for new investors. Merton's assumption about incomplete information in the investor base is known as the Investor Recognition Hypothesis. Merton (1987:488) argues, "an investor uses security k in constructing his optimal portfolio only if the investor knows about security k ". Security ' k ' is the shares of a company that comes to the attention of an investor. Because the investors are only invested in a limited number of shares, they are under-diversified and carry some idiosyncratic risks for which they should be compensated through an increased estimated return. Merton deems this premium the shadow cost of incomplete information, which consists of three components: idiosyncratic return volatility, relative market size, and the breadth of the shareholder base. Merton (1987:495) proves through a mathematical model that expected returns (cost of equity) "tend to be lower on better-known firms with relatively larger investor bases."

Management who wants to reduce their companies' cost of equity therefore has an incentive to expand the investor base by expending resources on public relations activities. Merton's model indicates that this incentive is especially effective for smaller and less well-known companies (Merton, 1987:500). He proposes that there is economic value in increasing the visibility of the company "in the investment community [even] without providing new and meaningful information for investor evaluation of the firm" (Merton, 1987:501). However, Merton (1987:504) cautions that

- spending on public relations and IR activities can create and sustain what he calls "speculative bubbles";
- spending on marketing the company will not change the investor base "if the underlying fundamentals do not justify a change"; and
- as with advertising, management may frame information to its advantage by selecting the form and medium through which the information is communicated.

Following on from Merton's investor recognition hypothesis of investing in shares known to the investor, is several other studies. Huberman (2001) compared the subscribers of seven regional fixed line telephone operators in the US with the shareholder database of those companies. All seven were listed and therefore available to a broader investor community. Shareholders of a given telephone company tended to live in the area served by that company (Huberman, 2001:670). Furthermore, account holders tended to hold more shares in the regional telephone

company than in any of the other six telephone companies (Huberman, 2001:672).

Huberman (2001:678) observes:

A person is more likely to invest with a company he knows (or thinks he knows). At the extreme, this will lead people to shy away from foreign stocks and to concentrate their portfolios on stocks they know – for instance, their own company's stock, stocks of firms that are visible in the investors' lives, and stocks that are discussed favorably in the media.

This familiarity bias was modelled in an international setting by Cao, Han, Hirshleifer and Zhang (2011). Their model is based on stock exchanges in two countries, each populated by both rational and familiarity-biased investors. Investors start with a known portfolio to which they then compare new options. These authors argue that from a psychological perspective investors view the outcomes from investing in new shares with greater pessimism than they anticipate from staying invested in their current portfolio. When uncertainty in respect of diversifying the portfolio is very high or very low, familiarity bias does not play a role in the equilibrium price. However, when there is moderate uncertainty, share prices reflect an unfamiliarity premium in equilibrium (Cao *et al.*, 2011:175).

Other researchers have gathered empirical data to test various components of Merton's (1987) shadow cost of incomplete information. Bodnaruk and Ostberg (2009) tested Merton's (1987) theory in a unique setting: they had access to the identities of direct and ultimate owners of shares comprising 98% of shareholders of listed public companies in Sweden (Bodnaruk & Ostberg, 2009:211). Knowing who the shareholders were was a unique research advantage, as other researchers reported missing or opaque shareholder identity information in the shareholder databases most commonly used:

- Gompers and Metrick (2001:236) reported that the CDA/Spectrum database⁴ of 13F forms filed by US institutional shareholders who hold more than \$100 million under management (individual holdings greater than \$200 000 or 10 000 shares) only contains information on about 50% of market capitalisation.
- Dyl and Elliott (2006:2057) note that Compustat gathers the number of shareholders from a company's 10-K filing, which only needs to be an approximate number.

⁴ South African researchers do not have access to a central database of institutional shareholders' detailed holdings and trading in JSE-listed companies.

- Furthermore, Compustat only contains the name of an intermediary (e.g. broker) and not the name of the ultimate owner.

Bodnaruk and Ostberg (2009) found that the shadow cost of incomplete information is positively related to returns. Companies with low levels of investor recognition tend to offer larger returns than highly visible companies. Bodnaruk and Ostberg (2009:225) concur with the Investor Recognition Hypothesis that the size of the shareholder base influences the cost of capital by adding a premium for incomplete information on less well-known shares with a smaller number of shareholders.

A more recent study by Chichernea, Ferguson and Kassa (2015) analysed the interaction between the breadth of the investor base and the pricing of idiosyncratic return volatility estimates of the cross-section of shares traded on US exchanges from July 1963 to December 2012. They used breadth of institutional ownership, the number of analysts covering the company and the number of shareholders as a proxy for visibility. Chichernea *et al.* (2015:287) reported that the coefficient on the idiosyncratic volatility variable is 2.608, 1.476 and 1.459 higher for neglected shares than for highly visible shares for each of the institutional ownership, number of analysts and number of shareholder measures of the investor base respectively (significant at a one per cent level). They concluded that idiosyncratic volatility risk premia are larger for neglected shares, while for shares that are more visible, they are smaller and even economically insignificant (Chichernea *et al.*, 2015:290).

Further studies investigated whether increasing investor visibility (reducing the shadow cost of incomplete information) results in a reduction of the required return. These studies can broadly be grouped according to the method used to increase investor visibility/recognition, namely cross-listing on a major stock exchange (or inclusion in a benchmark index, or offering further equity issues), increasing advertising and marketing of the company's products, and engaging in an IR programme. Each of these is discussed in more detail below.

2.2.4.1 Cross-listings, benchmark indices and seasoned equity offerings

Fanto and Karmel (1997) surveyed foreign companies that cross-listed during 1995/6 on a US exchange on the reasons for cross-listing and the obstacles that the companies encountered. Of the companies surveyed, 11 per cent (Fanto & Karmel, 1997:63) reported that expansion of their investor base was one of the main reasons

for the decision to cross-list. Another empirical study by Foerster and Karolyi (1999) investigated the listing of American Depository Receipts (ADRs) by non-US companies from 1976 to 1992. Foerster and Karolyi (1999:1008) found that the companies earned cumulative abnormal returns of 19 per cent during the 12 months before the listing, and another 1.2 per cent during the week of the listing, but surprisingly incurred losses of 14 per cent in the year after the listing. The shareholder base for these companies increased with 28.8 per cent (median 11.1 per cent) (Foerster & Karolyi, 1999:987). According to Foerster and Karolyi (1999), this provides evidence that increased investor recognition, translated into an increased shareholder base, is a driving force that provides economic value through reductions in cost of capital. However, this was a transient effect that dissipated after the listing, as the underlying fundamentals of these firms did not change. Still, the decline after the listing week was ameliorated for firms that also had an equity issue (an indication of additional information), and not only a listing. These findings therefore also support Merton's (1987) Investor Recognition Hypothesis.

Hacibedel (2014) investigated the price effects of inclusions or exclusions from the MSCI Emerging Markets index from 1996 to 2008. A permanent increase in abnormal returns of 2.4 per cent was reported for inclusions. It is explained by the increase in investor recognition, proxied by increased analyst recommendations (Hacibedel, 2014:3).

Seasoned equity offerings⁵ provide another environment for examining investor recognition effects. Autore and Kovacs (2014) analysed underwritten seasoned equity offerings by US companies from 1983 to 2005. They argue that the underwriting costs are in effect a marketing cost to achieve greater investor recognition for the seasoned equity offering. Consistent with Merton's (1987) Investor Recognition Hypothesis, they found a positive association between underwriting costs (the spread percentage), larger investor recognition, greater increases in company value and larger declines in illiquidity risk (Autore & Kovacs, 2014:216). They concluded that management can actively manage the investor recognition achieved (with its resulting benefits in required return) via a seasoned equity offering by increasing the discount for the offer

⁵ Seasoned equity offerings are further equity issues to the public subsequent to the Initial Public Offering.

price (Autore & Kovacs, 2014:225) or via increased analyst following, which follows from the underwriters' marketing efforts (Autore & Kovacs, 2014:228).

In a related study of stock markets, Kaniel, Ozoguz and Starks (2012) investigated determinants of the high volume return premium⁶ in 41 countries. They measured trading volume over 70-day intervals. They defined high (low) volume trading as the volume of shares traded on Day 50 that ranked in the top (bottom) 20th percentile of the share's own trading volume distribution during the preceding 49 days of trading. They then formed trading portfolios for high/low volume shares, and measured the returns over the next 20 trading days. Kaniel *et al.* (2012:278) reported that a high volume return premium is a pervasive phenomenon in most countries' shares. Their sample included data on 221 South African companies and 63 trading intervals, starting on 1 January 1996 and ending on 30 June 2001 (Kaniel *et al.*, 2012:258). The average high volume return for the South African shares was 1.11 per cent (significant at a five per cent level) versus a reference portfolio return of 0.17 per cent (Kaniel *et al.*, 2012:260). After testing with various proxies for investor visibility, Kaniel *et al.* (2012:278) concluded that high volume return premium is consistent with Merton's (1987) hypothesis that higher visibility amongst investors leads to higher returns.

2.2.4.2 Advertising and media coverage

Interestingly, advertising and marketing a company's products and services increases visibility, not only with the company's customers and clients, but also with potential investors. Grullon, Kanatas and Weston (2004) investigated whether advertising had capital market effects. Their sample consisted of all the companies that appear on the Industrial Compustat database for at least one year over the period 1993–1998 (2004: 443). They found that companies with higher advertising spending have significantly larger numbers of investors, both individual and institutional (Grullon *et al.*, 2004:448). Their regression analysis indicate that one standard deviation increase in advertising expenditure increases the number of shareholders by almost 99 per cent and the institutional shareholders by about 12 per cent (Grullon *et al.*, 2004:450). They propose that the much greater impact on individual investors can probably be attributed to the familiarity phenomenon. Greater advertising expenditure reduces the information

⁶ This is the "excess market-adjusted return that occurs after a stock receives a substantial positive volume shock" (Kaniel *et al.*, 2012:255).

asymmetry (proxied by the bid-ask spread) and encourages trading activity, thereby increasing the company's liquidity (Grullon *et al.*, 2004:455, 458).

Barber and Odean (2008) investigated whether individual and professional investors react the same way to attention-grabbing incidents. They argue that attention is a scarce resource and that individual investors tend to select potential buys from shares that come to their attention. On the other hand, when they sell, individual investors have a much smaller information acquisition effort, as they sell from the limited number of shares they already own. By contrast, professional investors routinely sell short; hence, professional investors seek information even when they are selling and have large, diversified portfolios (Barber & Odean 2008:786). Furthermore, "attention is not as scarce a resource for institutional investors as it is for individuals...Institutions use computers to narrow their search" (Barber & Odean 2008:787). These researchers used proxies to identify attention-grabbing incidents: a share's abnormal daily trading volume; the share's previous one-day return; and whether the firm appeared in that day's Dow Jones News Service (Barber & Odean, 2008:793-795). Data were obtained for individual investors from 1991 to 1996 and for institutional investors from January 1993 to March 1996. Barber and Odean (2008:789) found that professional investors were not as affected in their purchasing behaviour by attention-grabbing incidents as individual investors were. Individual investors made almost twice as many purchases of shares with high trading volumes (above the 95th percentile) or shares with an extremely low prior day return (below the 5th percentile).

A more recent study by Huang and Wei (2012) analysed the association between advertising (their proxy for investor recognition) and expected returns for the period from 1975 to 2001. They reported that increasing the spending on advertising with one standard deviation should lower the cost of capital with 36 basis points (Huang & Wei, 2012:286).

Ding and Hou (2015) distinguish between an active measure of investor attention, using the Google Search Volume Index, and passive measures of investor attention, using the number of online news articles by Google News, and advertising expenditure. Their data covered the period from 2004 to 2009. All three measures of investor attention were significantly positively associated with the number of shareholders (Ding & Hou, 2015:18). The authors remark that "the Internet has become an important tool

for retail investors to gather information and make investment decisions” (Ding & Hou, 2015:19). When Ding and Hou (2015:20) regressed the bid-ask spread (their proxy for liquidity) on the three measures of investor attention, the Google Search Volume Index and the advertising expenditure coefficients were significantly negative.

The study by Chichernea *et al.* (2015) described earlier also included advertising as a proxy for investor attention for the period from 1963 to 2012. They too found that lower levels of advertising were associated with significantly lower abnormal returns (at a one per cent level), in other words, higher required cost of capital (Chichernea *et al.*, 2015:285) and significantly higher levels of idiosyncratic volatility (at a one per cent level) (Chichernea *et al.*, 2015:287).

2.2.4.3 Investor relations activities

The main objective of a company’s IR department (or external IR service provider) is to ensure effective communication of the company’s investment proposition to the capital market and thereby to increase the company’s visibility. As already discussed, voluntary disclosure reduces information asymmetry, and improved visibility increases the share price, trading volume and analyst following. Prior research into the efficacy of IR functions has found evidence of these benefits (Peasnell, Talib & Young, 2011; Bushee & Miller, 2012; Agarwal *et al.*, 2016). The role of the IR department is therefore discussed in more depth in Section 3.4 Role of the Investor Relations (IR) department.

2.2.5. Investor clientele

A fairly recent avenue of research regarding voluntary disclosure relates to the sophistication and investment horizon of different types of investors. Voluntary disclosure was found to attract different kinds of investors, who have differing levels of sophistication (ability to process information) and display trading behaviour that *indirectly* affects companies’ cost of capital and liquidity in various ways.

2.2.5.1 Investor sophistication

Companies’ decisions regarding voluntary information disclosure should take cognisance of the sophistication level of different types of investors. Kalay (2015:976) defines disclosure clienteles as “the ability of different types of disclosure activities to differentially benefit investors with varying levels of sophistication”. The ability to use disclosed information depends on investors’ sophistication, and determines their

preference for certain information. He argues that sophisticated investors have more resources available to analyse and interpret information about their investments. Less sophisticated investors are less inclined to track their investments daily and to absorb information about those investments (Kalay, 2015:984).

Kalay (2015) used a novel measure of sophistication – he based his measure on investors in a company's traded options that exercise call options which are in the money, on the last *cum div* date. He attributed the proportion of call options that remained open on the *ex div* day to the presence of less sophisticated investors. Thus a smaller percentage of unexercised options implied that the company had more sophisticated investors (Kalay, 2015:984) who took advantage of profitable trading opportunities. The sophistication level was also ranked in quintiles with more well-known shareholder classification schemes, namely the percentages of institutional ownership (all types), hedge fund ownership, and transient institutional investors (as defined by Bushee, 1998). Total institutional ownership does not display much variation with levels of sophistication, but hedge fund ownership decreases as sophistication levels decrease, and transient ownership increases as sophistication decreases (Kalay, 2015:991).

Kalay (2015) then regressed the sophistication levels in a company on three variables for voluntary information: the number of Newswire articles after company-initiated news releases, the overall IR score for the company published by *IR Magazine* from 2002 to 2007, and whether the company is a regular issuer of earnings forecasts (Kalay, 2015:985-6). Kalay (2015:994) found that more Newswire disseminations and higher IR scores were positively related to higher levels of less sophisticated investors. This is consistent with Kalay's view that less sophisticated investors require other parties to digest and repackage information for them. By contrast, ongoing earnings forecasting companies have higher levels of sophisticated investors (Kalay, 2015:996) who pay attention to these forecasts and are able to interpret them.

Kalay (2015) ran further sensitivity tests on smaller samples of companies that initiated an earnings guidance practice or terminated such a practice. Kalay (2015:1001) reported increases in the presence of sophisticated investors following the implementation of earnings guidance, and conversely, an increase in less sophisticated investors when ongoing earnings guidance ceased. He concluded that

“variation in the sophistication of firms’ investor bases has implications for the liquidity of firms’ shares and the ability of disclosure to reduce information asymmetry” and that “while managers invest resources in various types of disclosure, not all disclosure activities are created equal” (Kalay, 2015:1005).

2.2.5.2 Shareholders’ investment horizon

The effect of shareholders’ investment horizon on company behaviour has also been the subject of various studies. In his analysis of the failings of the American system to invest in industry infrastructure and research and development (R&D) during the 1990s, Porter (1992) blames institutional investors for not holding companies’ management accountable for long-term performance and management’s deficient investment in cutting-edge technology. He ascribes this lack of oversight and the decline in the technological capabilities of American industrial companies to institutional investors’ short-term investment horizon (on average less than two years) (Porter, 1992:70) and on highly diversified holdings, resulting in extremely small shareholdings in individual companies (Porter, 1992:69). He found that many institutional investors, such as pension funds, held as much as 70 to 80 per cent of their investments in index funds in an effort to achieve performance that is at least on par with the market (Porter, 1992:70).

By contrast, German and Japanese companies were starting to outperform American industrial companies. Porter (1992:70) ascribed this to the fact that German and Japanese owners held their shares for long periods and held large share blocks. These dedicated owners wanted to see the company succeed in the long term. They have access to internal information of the company and work closely with management (Porter, 1992:70). For US companies to regain competitive advantage, Porter (1992:76) proposed a

...system in which managers will make investments that maximize the long-term value of their companies. The interests of the capital providers must be aligned with those of the corporations so that investors seek out high-quality information that fosters more appropriate investment choices.

A number of Porter’s (1992) proposals for improving the American capital allocation system are of interest to the present study. These are the following (Porter, 1992:79-81):

- accounting rules should be modified so that earnings reflect corporate performance better;
- public disclosure should be expanded to reduce the cost of assessing true corporate value (the kind of information that provides important measures of long-term corporate value);
- the disclosure of ‘insider’ information to significant long-term owners should be allowed under rules that bar trading on that information;
- long-term shareholder value should be codified as the appropriate corporate goal rather than the current stock price;
- institutional investors should
 - increase the size of stakes (shareholdings); and
 - reduce turnover and transaction costs;
- companies should
 - seek long-term owners and give them a direct voice in governance (boards);
 - link incentive compensation to competitive position;
 - shift from fragmented to integrated organisational structures; and
 - transform financial control systems into position-based control systems (measure market share, customer satisfaction, productivity etc.).

With the benefit of hindsight, it is interesting to notice how prescient these recommendations were, especially the recommendations to account for employee share option schemes, to ensure management remuneration containing multi-year locked-in share options, to implement integrated reporting practices (including use of internal management information), and to use ‘balanced’ measurement tools such as the Balanced Scorecard.

Bushee (1998) refined the institutional shareholder groups used by Porter (1992) further, based on their investment patterns relating to portfolio turnover, diversification, and momentum trading. He found the following (Bushee, 1998:310-311):

- *Transient* institutional owners have small shareholdings in a large number of companies and trade in and out of these companies frequently. Trading activity is mostly induced by short-term signals such as current earnings.
- *Dedicated* institutional owners have large, long-term shareholdings in only a few companies. They evaluate management’s long-term performance and use a more complete set of information for that purpose.

- *Quasi-indexers* invest in indexes or buy-and-hold strategies. Their portfolios are highly diversified (directly or indirectly via the index invested in), but their turnover is low.

Bushee (1998) then analysed the influence of the type of institutional investor on the R&D spending patterns for US companies from 1983 to 1994. He hypothesised that investors with a short-term focus lead companies to cut their R&D spending to meet these shareholders' earnings expectations. Bushee (1998:319) found that institutions owned on average 24 per cent of the outstanding shares. Quasi-indexers made up 70 per cent, transient investors 26 per cent and dedicated shareholders four per cent of the institutional shareholder base in the sample (Bushee, 1998:327). He reported that where transient institutional investors have high ownership, the likelihood is increased that management will cut R&D spending to increase earnings (Bushee, 1998:330).

Although the present study is not about earnings management or earnings quality, I included this research to indicate that the investment horizons of institutional owners influence management decisions. Further research is now discussed that applies Bushee's (1998) classification system, but investigates how disclosure affects the investor type and vice versa.

The first study to investigate the impact of disclosure quality on institutional investors according to investment horizon is that by Bushee and Noe (2000), which used the Association for Investment and Management Research (AIMR)⁷ annual rankings of corporate disclosure practices⁸ as a proxy for disclosure quality. The AIMR rankings are based on analysts' assessments of the informativeness of the following: the annual reports, interim reports, and IR activities of companies (Bushee & Noe, 2000:178). Bushee and Noe based their analyses on all companies for which rankings were available between 1982 and 1996. The average AIMR percentile ranking score was 52 per cent, and the average shareholding by each of the transient, dedicated and quasi-indexers was 10 per cent, 10 per cent and 29 per cent respectively (2000:183). Bushee and Noe found that the presence of institutional investors as a group was positively associated with disclosure quality levels. However, when the regressions were run on

⁷ In 2004 the AIMR changed its name to the Chartered Financial Analyst (CFA) Institute.

⁸ AIMR rankings have also been used in other disclosure studies as proxy for disclosure quality (Lang & Lundholm, 1993; Botosan, 1997; Sengupta, 1998)

the three types separately, a different picture emerged. Transient and quasi-indexers were positively associated with disclosure quality levels, but dedicated institutional owners were not significantly attracted by disclosure quality (Bushee & Noe, 2000:186). The trading behaviour of transient investors (small holdings and high turnover) and quasi-indexers (small holdings and low turnover) cancelled one another, with an effect of almost zero on return volatility.

When the regressions were run on changes in levels of disclosure, Bushee and Noe (2000:200) found that increases in disclosure quality led transient investors immediately to increase their holdings, whilst quasi-indexers held steady. The net increase in transient investor holdings was positively associated with increases in return volatility. Higher share return volatility is perceived to increase a company's riskiness, resulting in increases in cost of capital (Froot, Perold & Stein, 1992). Bushee and Noe (2000:200) therefore caution that managers who are considering changing their disclosure practices "must weigh any potential benefits of improved disclosure against the potential cost of attracting investors that exacerbate stock return volatility".

Attracting institutional investors with a short investment horizon not only heightens the risk of increasing a company's return volatility, but also seems to play a role during mergers and acquisitions. Gaspar *et al.* (2005) investigated the size of premiums offered for control, and the returns for the bidder, in merger and acquisition activities for US companies from January 1980 to December 1999. They followed a different methodology than that used by Bushee and Noe (2000) to identify institutional investors' investment horizon. First, they calculated each institutional investor's portfolio churn rate and averaged it over the four quarters preceding the takeover offer. Then, both the bidder and the target company's institutional investor shareholder base were weighted based on the first calculation. This provided a ratio indicating the weighted average investment horizon of institutional investors in the company.

Gaspar *et al.* (2005:148,149) found that high investor turnover in target (bidder) companies elicited a lower (higher) control premium (three per cent) accepted (offered) compared to companies with low investor turnover. They ascribed this finding to two reasons. The first reason is that short-horizon investors do not hold out long enough for a higher (lower) offer price during negotiations, as they want to exit. The second reason is that short-horizon investors do not effectively monitor management (it takes

too much time and effort), which results in managements' not optimising the merger and acquisition deal to get maximum benefit for the existing shareholders. A lower abnormal return is earned for bidders with high investor turnover (their offer price is too high) because the control premium offered is too high (Gaspar *et al.*, 2005:149). A noteworthy finding is that companies with a higher investor turnover have a significantly higher probability of receiving a takeover bid. They contend that this suggests that bidders are aware that companies with high investor turnover are "easier targets with lower bargaining power" (Gaspar *et al.*, 2005:155). They argue that many companies engage in IR activities in an attempt to increase their long-horizon investors.

The relationship between companies' ex ante cost of equity and the presence of institutional investors with long-term investment horizons was examined by Attig *et al.* (2013), using data from 1985 to 2007. They follow Gaspar *et al.*'s (2005) methodology to determine the investment horizon. Attig *et al.* (2013:456) found that the presence of institutional investors with long-term investment horizons results in lower cost of equity. They propose that this is due to improved monitoring of management and being able to obtain higher quality information about the company. In further analyses, Attig *et al.* (2013:460) found evidence that the presence of long-horizon institutional investors is even more important for companies whose management has excessive power⁹ compared to shareholder rights. Long-horizon institutional investors provide better oversight over management as they are invested for a longer period.

In a different approach, Serafeim (2015) considers how a company's disclosure quality attracts investors with different investor horizons. His analyses are based on 1 114 US companies' integrated reporting disclosure (whether they call it an integrated report or not) from 2002 to 2010. Using Bushee's (1998) classification, he found that nine per cent of the shares were held by dedicated institutional investors, 16 per cent were held by transients, and 47 per cent were held by quasi-indexers. The mean integrated reporting score was 39 per cent (Serafeim, 2015:39). His regression analyses indicate that the integrated reporting quality (explanatory variable) was positively associated with the predominant presence of long-horizon institutional investors (dependent variable) (Serafeim, 2015:41).

⁹ The power balance is based on the governance index methodology used by Gompers, Ishii and Metrick (2003).

Serafeim (2015) explains that long-term investors find companies attractive that signal their intent of sustainably growing shareholder wealth over the longer term, and tend to increase their holdings in such companies. His findings suggest that companies with higher share liquidity and better recent profitability attract more transient investors, which is consistent with these investors' trading strategies (quick selling and momentum trading without deep investigation into fundamentals) (Serafeim, 2015:42). His further analyses of a smaller group of 97 international companies revealed that information on the six forms of capital and the guiding principles of integrated reporting are significantly positively related to investment by long-term institutional investors (Serafeim, 2015:49). Serafeim (2015:50) cautions that even though it may be beneficial for a company to engage in integrated reporting in order to attract long-horizon institutional investors, the cost of generating such a report should not be overlooked.

A survey of 138 IR professionals at US companies by the Rock Center for Corporate Governance and the National Investor Relations Institute (NIRI) (2014) revealed agreement that companies believe that they can achieve economic benefits by managing their investor base (based on investment horizon). Participating IR professionals indicated that they thought that if they can achieve a greater proportion of long-horizon investors, it would result in an average increase of 15 per cent in the share's price, a 20 per cent decrease in price volatility and a six per cent increase in trading volume (Rock Center for Corporate Governance & NIRI, 2014:12). IR professionals classified a short-term investment horizon as between 0.6 years or less, a medium-term horizon as 0.9 to 2.3 years and a long-term horizon as 2.8 years or longer (Rock Center for Corporate Governance & NIRI, 2014:3).

In terms of shareholder concentration, companies prefer dispersed shareholding. Of the participants, 48 per cent agreed and 16 per cent strongly agreed that no single shareholder should own more than ten per cent of the shares. Indeed, 24 per cent agreed and five per cent strongly agreed with an even more stringent cut-off of five per cent shareholding (Rock Center for Corporate Governance & NIRI, 2014:10). An analysis of these companies' current shareholder composition (Rock Center for Corporate Governance & NIRI, 2014:6) indicated that the largest shareholder types were index, growth and value mutual funds, owning between 14 per cent and 23 per

cent of shares.¹⁰ Attracting long-term investors would afford management the ability to focus on long-term strategies to add value, but companies also expects these long-term shareholders to “provide higher quality feedback on management’s decision” (Rock Center for Corporate Governance & NIRI, 2014:9).

Bailey, Berube, Godsall and Kehoe (2014:1) surveyed 722 top executives and 316 board directors between April and May 2013 on the pressure to deliver short-term results. Their results indicate that the pressure had been building steadily over the previous three years (Bailey *et al.*, 2014:3). This had a particularly negative effect on the strategic planning of the participating companies: 44 per cent reported using periods of less than two years for future strategic planning, whilst 73 per cent indicated that they should actually use a period of three years and longer (see Figure 2.1).

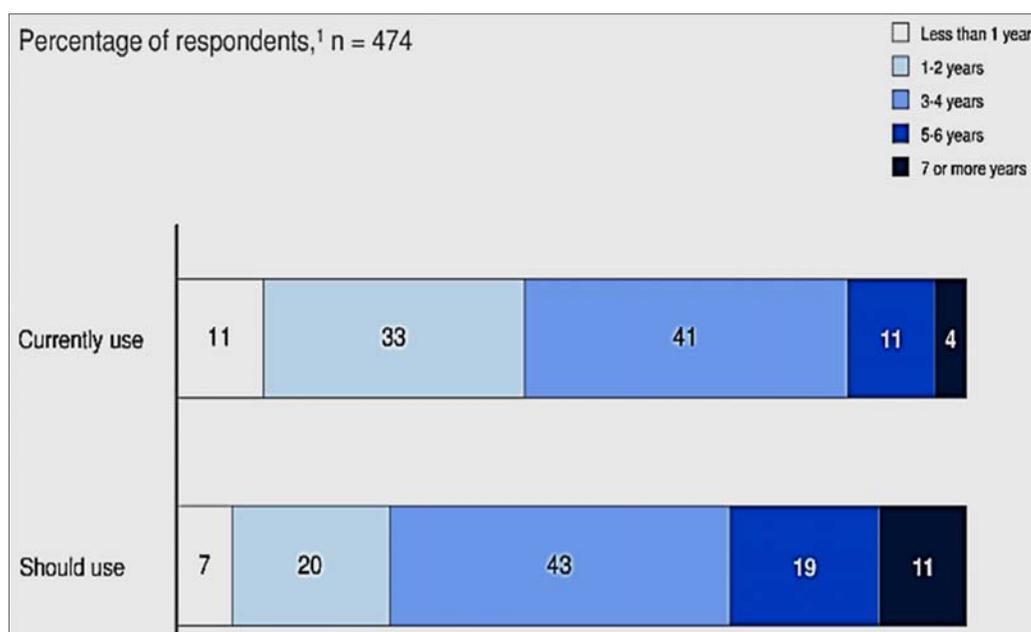


Figure 2.1: Primary time horizons management teams use in future strategic planning

Source: Bailey *et al.* (2014:6)

Of the respondents, 86 per cent agreed that their companies would benefit from a longer-term focus. The three most cited benefits were increased innovation, strengthened financial returns and relieving executives of pressure so that they could

¹⁰ Shareholder concentration of JSE companies is much higher and is discussed in Section 4.6.2 Ownership structure.

perform more effectively (Bailey *et al.*, 2014:7). These findings agree with the position of Porter (1992) that a short-term focus robs companies of their innovativeness and competitive edge.

Barton and Wiseman (2014:45), agreeing with Porter (1992) about the negative aspects of short-termism comment:

Since the 2008 financial crisis and the onset of the Great Recession, a growing chorus of voices has urged the United States and other economies to move away from their focus on ‘quarterly capitalism’ and toward a true long-term mind-set.

They express concern that short-termism by asset managers leads to suboptimal pricing, increased volatility and companies’ making decisions that benefit short-term earnings instead of long-term value (Barton & Wiseman, 2014:47). They envision the interaction between a company and institutional investors along an Equity Engagement Spectrum (see Table 2.1). As the size of the shareholding grows, the investors spend more time interacting with the company and giving input into the long-term strategy.

Table 2.1: The Equity Engagement Spectrum

Ownership stake in company		
<2%	1-5%	>10%
Ongoing engagement	Active ownership	Relationship investing
Continuously monitors companies, with a mix of active and reactive engagement	Owns a meaningful position in a handful of companies	Takes a significant minority ownership
May build micro-coalitions with other investors	Usually remains below the 5% threshold for public disclosure of holdings	Often has board seats
Often does not pursue any additional investment beyond an index-weighted holding	Tries to build micro-coalitions with other investors	Works collaboratively with management on long-term strategy
	Works publicly or privately to persuade the board and management to change long-term strategy	

Source: McKinsey & Company and Canada Pension Plan Investment Board (cited in Barton & Wiseman¹¹, 2014:49)

Analysing the transcripts of earnings conference calls of 3 613 companies for the period from 2002 to 2008, Brochet, Loumiotis and Serafeim (2015:1128) aimed to discover the characteristics of companies whose management used words implying a short-term focus (e.g. day, month, short-term). They found that voluntary disclosure (via conference calls) with a short-term focus is positively associated with share-based remuneration for management, earnings guidance, and greater analyst following. In line with earlier studies of Bushee (1998), and Bushee and Noe (2000), Brochet *et al.* (2015:1138) also reported a negative correlation between their short-term proxy and a long-term investor base. Brochet *et al.* (2015:1155) found evidence of financial effects; their proxy for short-termism in *management* was significantly negatively associated with lower return on equity (ROE) for the next two years. This parallels the results of Bushee and Noe (2000) and Attig *et al.* (2013) of negative financial consequences when short-horizon *shareholders* dominate. Brochet *et al.* (2015:1123) warn that if management is aware that their choice of words indicate a short- or long-term focus, they, together with their legal and IR departments, can manipulate their presentation by deliberately using or avoiding time-horizon words to convey the opposite meaning.

Souder *et al.* (2016) also investigated the detrimental effect of a short-term focus by management, catering to pressure from shareholders with a similar short-term focus on earnings, in their capital investment decision-making. They compared the expected useful life of property, plant and equipment (investment horizon) and return on assets (performance) to industry averages for 2 300 US manufacturing companies from 1991 to 2011. Their results show that investment horizon was positively associated with company performance (adjusted for industry differences) (Souder *et al.*, 2016:1211). The dampening effect on performance appears to be much more pronounced when the investment horizon is too short, and this effect levels off as companies' investment horizons lengthen (Souder *et al.*, 2016:1212). The authors further hypothesised that investors' investment horizon (which they call *capital patience*, and measured as the industry-adjusted share turnover) would play a role. When they brought a capital

¹¹ Barton is the global managing director of McKinsey & Company. Wiseman is the president and CEO of the Canada Pension Plan Investment Board (CPPIB). In 2013, CPPIB and McKinsey & Company co-founded Focusing Capital on the Long Term (FCLT) to promote long-term investing.

patience interaction variable into the regression model, they found that when capital patience is low, coupled with low investment horizons of management, performance is even lower (Souder *et al.*, 2016:1212).

Souder *et al.* (2016) contribute to the debate about investment horizon by showing with their model that the relationship between horizon (of management and of investors), and performance is not linear, but quadratic. The benefits of increasing the investment horizon and capital patience do not continue in a linear manner without limits. Companies with below average investment horizons pay a much higher penalty in performance (Souder *et al.*, 2016:1213). Souder *et al.* (2016:1215) explain their findings as due to companies' investing in property, plant and equipment with shorter expected useful lives, pursuing quicker initial returns (to satisfy investors with low capital patience), but lower overall net present values. Their findings corroborate those of Attig *et al.* (2013), Brochet *et al.* (2015) and Bushee and Noe (2000) regarding the negative effects of short-termism.

To conclude this section on the benefits of attracting long-term investors, and on companies' focusing on implementing and communicating long-term value-creating strategies, I present the new Standard and Poor's (S&P) Long-Term Value Creation (LTVC) Global Index, which was launched on 21 January 2016 (S&P Dow Jones Indices, 2016:1). Under the Index Attributes, the Fact Sheet states:

Companies that seek to anticipate and manage current and future economic and governance opportunities and risks by focusing on long-term strategy, innovation, and productivity may be more likely to maintain a competitive advantage and thereby sustain stakeholder value. (S&P Dow Jones Indices, 2016:1)

As can be seen from Figure 2.2, the LTVC Global Index has outperformed the benchmark S&P Global LargeMidCap Index in respect of total returns by about 3.1 percentage points over the last ten years. This provides further evidence that communicating a long-term strategy and attracting long-horizon investors do provide economic benefits in terms of increased total returns. The Fact Sheet indicates that on 29 April 2016, the index was comprised of 246 companies from 26 countries, including ten companies from South Africa (S&P Dow Jones Indices, 2016:4, 5). South Africa has the eighth most companies in the index, after France, with 13. This is an indication that many of the largest companies in South Africa are already following a long-term strategy for value creation.

These studies on shareholders' investment horizon form an important backdrop to the development of the present study's familiarity hypothesis to address a gap in the literature. This is discussed in more detail in Section 4.5 Shareholder familiarity hypothesis.



Figure 2.2: S&P LTVC Global Index Performance

Source: S&P Dow Jones Indices (2016:2)

In summary, in this section, I discussed various theories regarding managers' decision to engage in voluntary disclosure. Agency and signalling theories propose that by

reducing information asymmetry for investors, companies can reduce their cost of capital and increase their liquidity. Legitimacy and stakeholder theories argue that companies need to disclose voluntary information, and specifically environmental, social and governance information, in order to obtain society's approval for their continued operations. Institutional isomorphism theory claims that sometimes companies engage in disclosure behaviour because other (leading) companies are doing it, because legislation requires it, or because the professionalism of their employees results in similar behaviour regarding the manner in which they disclose and report relevant information. The last two subsections described disclosure theories that postulate that a company's cost of capital or liquidity is affected indirectly by its attracting more investors (the Investor Recognition Hypothesis), or by its attracting specific types (clienteles) of investors (investor sophistication and investor horizon). Empirical evidence from prior studies supporting these theories has also been discussed. Next, I elaborate on the types of information that users find value-relevant for decision-making.

2.3. Investors' information needs

Many investigations have been conducted into what information investors and stakeholders (users)¹² actually require. The discussion in this section is limited to early voluntary disclosure studies that are generally cited by most researchers, and studies that are more recent. The discussion will show that users' information needs have not changed much over the decades. The scope of the discussion is also narrowed by focusing on equity investors' information needs, because the variable of interest of this study relates to movement in equity shareholding. Although a lot of recent research relates to ESG and CSR disclosures, these disclosures form part of the broader set of information required by equity investors (pointing towards risks and sustainability). I do not delve into the depth of ESG/CSR disclosure research.

In 1991, the American Institute of Certified Public Accountants (AICPA) formed a Special Committee on Financial Reporting to address concerns about the relevance and usefulness of financial reporting at that stage. The Special Committee undertook a major study to determine the needs of users and to identify the types of information

¹² The terms 'investors', 'potential investors', 'shareholders' and 'users', are used interchangeably in this thesis. These terms also include analysts who make recommendations for institutional investors.

most useful in predicting earnings and cash flows for the purpose of valuing shares and assessing the prospect of repayment of debt securities or loans. Data was also gathered about the relative priority that users place on different kinds of information. In this ground-breaking report, generally referred to as the Jenkins report (AICPA, 1994:25-31), the following main categories of information needs of users were identified:

- financial statements and related disclosures;
- high-level operating data and the performance measurements that management uses to manage a business;
- reasons for changes in the financial, operating and performance-related data and the identity and past effect of key trends;
- a description of opportunities and risks, including those resulting from key trends;
- management's plans, including critical success factors;
- a comparison of actual business performance to previously disclosed opportunities, risks and management's plans;
- information about directors, management, compensation, major shareholders and transactions, and relationships among related parties;
- broad objectives and strategies of the company;
- the scope and a description of the business and its properties; and
- the impact of industry structure on the company.

In these ten categories, the inclusion of 56 items not found in the financial statements and related notes (at that time) was proposed – in other words, discretionary or voluntary items. Most of these items are indicators of future performance, and risks and rewards. These recommendations added substantially to the minimum statutory disclosure requirements, which dealt with the historical actions of management. A later study by the Financial Accounting Standards Board (2001) recommended voluntary disclosure substantially along the same lines.

The report *Voluntary annual report disclosures: What users want* (Beattie & Pratt, 2002) was based mainly on the Jenkins report recommendations (AICPA, 1994) with added items from the Balanced Scorecard (Kaplan & Norton, 1992) and value drivers as identified by PricewaterhouseCoopers (PwC) (2000), amongst others. The intention of the study was to determine unequivocally what users thought about the usefulness of a comprehensive set of disclosure items. The views of expert users and private

shareholders were considered (Beattie & Pratt, 2002:5). A comprehensive list of 130 information items was included in the questionnaire. The items were grouped into 11 topics. Respondents were asked to rate the usefulness of each item for investment decision-making. (The needs of other stakeholder groups, such as employees and customers, were not considered.) The researchers found that across all groups, the categories were generally ranked in the following descending order of usefulness (Beattie & Pratt, 2002:83):

- financial information (including performance measures, financial statements, revenue and costs by line of business);
- objectives and strategy;
- management discussion and analysis;
- background (including business description, description of industry structure and management and shareholders);
- innovation value drivers;
- risks and opportunities;
- customer value drivers;
- process value drivers;
- employee value drivers;
- intellectual assets/capital; and
- environmental, social and community aspects (rated last in usefulness).

In 2003, the AIMR reported the results of a survey amongst its members (portfolio and fund managers, and securities analysts) on financial reporting quality and the disclosure practices of the companies they followed. Almost three quarters of the respondents reported that companies' disclosure practices and the quality of their financial reporting were very (43 per cent) or extremely (30 per cent) important factors in their investment decisions and recommendations (CFA, 2003:1).

However, respondents rated the overall quality of financial or corporate information disclosed with an average of 3.4 out of 5 (where 5 is excellent). The respondents had to rank 33 specific types of information according to importance, quality and change over the previous three years. If one excludes many of the items which have since then been incorporated into mandated IFRS, the remaining voluntary disclosure items are rated as set out in Table 2.2.

Table 2.2: Voluntary information items (importance vs quality)

	Importance	Quality		
		Very or extremely important	Good or excellent	Average
Forward looking information	70	18	43	29
Information about risk factors, sensitivity of key assumptions	69	17	40	31
Non-financial information (e.g. key customers, business cycles)	66	15	37	36
Continuous disclosure reporting such as SEC filings on material events	63	19	50	16
Reconciliation of local/national GAAP to US GAAP or IAS/IFRS	56	19	39	21
Information on corporate governance practices	53	14	47	26
Forecast of earnings per share (EPS) numbers	49	16	42	27

Source: CFA (2003:3-4)

Cohen, Hoff, Nath and Wood (2007) conducted a survey of 228 professional investors in the US to identify which types of non-financial information they were using in their investment decision-making. They classified information items into three groups: industry cohort, governance and CSR. On a seven-point Likert scale, the average scores for each of the three groups were 4.83 (69 per cent), 4.8 (68.6 per cent) and 3.81 (54 per cent) respectively. Respondents used the following three types of information the most: market share (5.57), innovative products (5.53) and board selection processes (5.28) (Cohen *et al.*, 2007:7). Apart from product safety (9th most useful, 4.64), the three least useful information types were from the CSR group: humanitarian initiatives (3.37), employee diversity (3.43) and human rights (3.5). Professional investors who reported that they had a minimum of 50 per cent invested in socially responsible investments used governance and CSR information significantly more than other investors (Cohen *et al.*, 2007:7).

In a related study, using the same information classification, an online survey was conducted by Holder-Webb, Cohen, Nath, Hoff and Wood (2008) with 750 US retail investors to determine their use of non-financial information. The average use for each of the three groups was industry (51 per cent), governance (45 per cent) and CSR (36 per cent). From Figure 2.3, it is clear that retail investors still rank industry information very highly, in addition to paying moderate attention to governance and CSR information. Retail investors' use of all three groups of non-financial information was also decidedly lower than that of the professional investors, indicating that they still paid a lot of attention to the financial statements (Holder-Webb *et al.*, 2008:8).

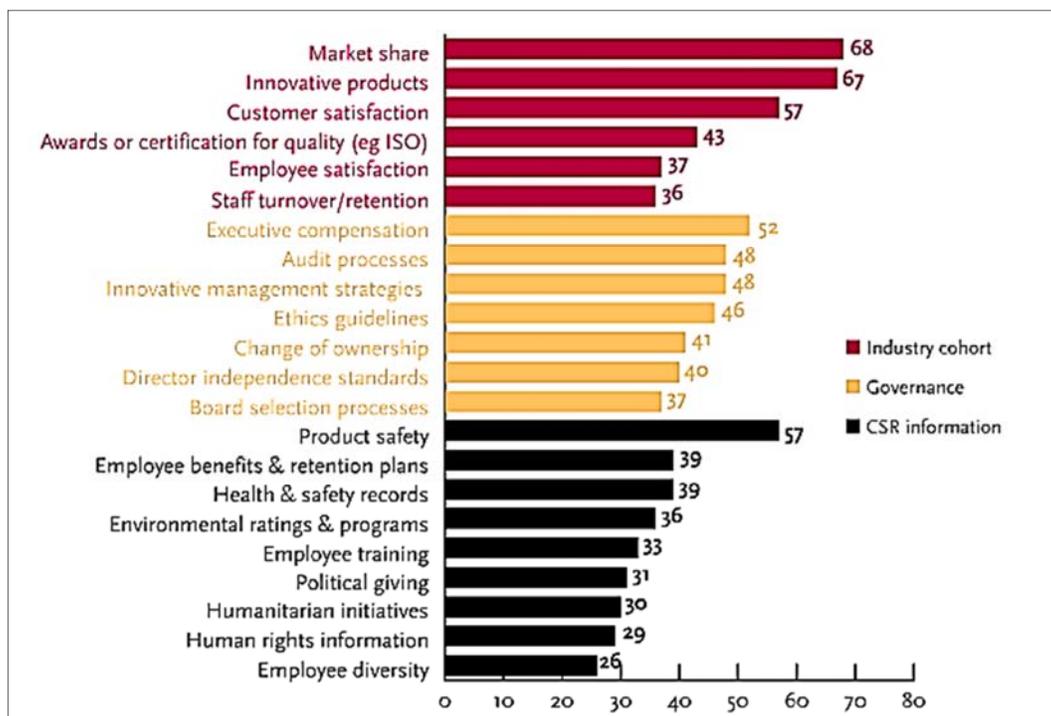


Figure 2.3: Past use of non-financial information by retail investors

Source: Holder-Webb *et al.* (2008:9)

Professional and retail investors were then asked to pick the top five most important kinds of information, in their opinion. Both groups agreed on the following order: market share, customer satisfaction, innovative products, product safety, and executive compensation (Holder-Webb *et al.*, 2008:13). It is noteworthy that many of the information types identified and used by both professional and retail investors (Cohen *et al.*, 2007; Holder-Webb *et al.*, 2008) agree with the categories identified by AICPA (1994) and Beattie and Pratt (2002).

In a study of 45 US and six Canadian companies in the wireless industry, Simpson (2010) investigated analysts' use of six industry-specific non-financial indicators that are indicative of future turnover and earnings, for 1997 to 2007. Simpson's (2010) results show that analysts underreact to the information in cases where companies did not consistently disclose the same non-financial information from period to period. The information was correctly weighted by analysts for companies that persistently disclosed these six key performance indicators in the period under review (Simpson, 2010:270). She also reported that analysts' use of the non-financial information improves when the companies' overall disclosure quality is higher (Simpson, 2010:282). She recommends that companies disclose their non-financial key performance indicators persistently across metrics and over time as a way to improve their usefulness for analysts (Simpson, 2010:251). FCLT (2015:19) similarly propose that companies disclose the same long-term metrics consistently year-over-year, as well as rolling averages for three to five years, irrespective of whether the metric is good or bad. FCLT furthermore advises that once a company discloses a key metric, investors need to be sure the metric will not be abandoned if the company cannot deliver on the target set for such metric (FCLT, 2015:19).

Financial collapses of companies before the 2007/8 worldwide financial crises (for example, Enron, Worldcom and Parmalat) and after it (for example, Northern Rock, HBOS, Lehman Brothers and AIG) have prompted investors and regulators to question the usability and reliability of financial reporting mechanisms of the time. Various regulatory bodies and auditing firms produced reports commenting on the increasing complexity and volume of mandatory IFRS disclosures and regulatory filings, but users (especially professional users) reported still not being able to form a clear picture of companies' risks and rewards (CFA, 2007; Global Accounting Alliance, 2009; IFAC, 2009, 2010, 2013; KPMG & FERF, 2011; Eurosif & ACCA, 2013). According to these reports, users continued to express a desire to see the types of information identified by the Jenkins Committee (AICPA, 1994) and the ICAS study (Beattie & Pratt, 2002).

Executive and directors in Bailey *et al.*'s (2014) survey agreed with the statement that if top management and the directors (appointed by institutional shareholders) were to change the focus of the company to a more long-term focus, they would need different information (see Figure 2.4). Note that once again, accounting measures ranks highest in terms of current use, but score much lower for helping companies to set their long-

term strategies. Most of the other information items are outside the AFS, in other words, voluntary.

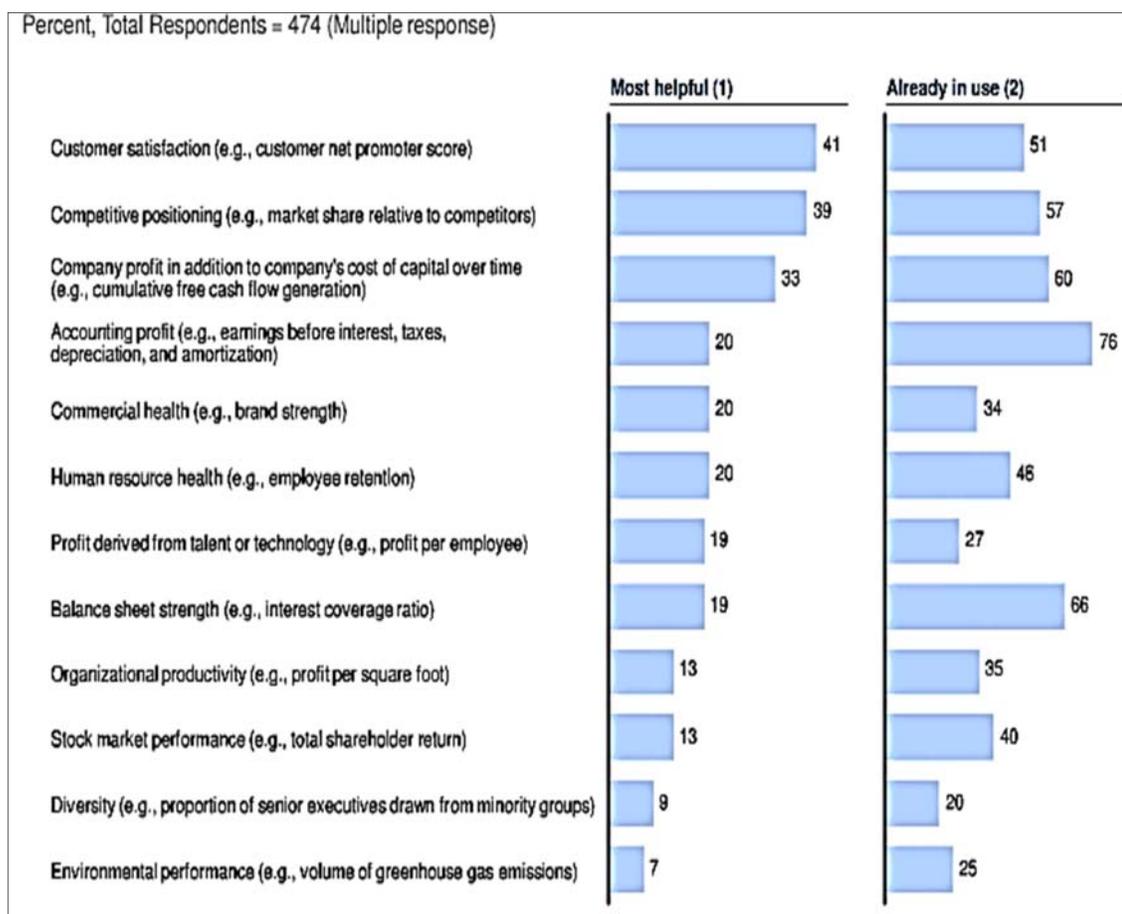


Figure 2.4: KPI's already in use and most useful

Source: Bailey *et al.* (2014:9)

A comprehensive review of European studies (limited to those that generated primary data by using surveys, experiments and interviews) was undertaken by Cascino, Clatworthy, Osma, Gassen, Imam and Jeanjean in 2014. The purpose of Cascino *et al.*'s (2014) review was to assist the IASB with its Conceptual Framework review by establishing who the users of accounting information are and for what purposes they use such information. Users need information primarily for two reasons, to *value* the equity and/or debt of the company, and secondly, to fulfil a *stewardship* role in evaluating management's performance (Cascino *et al.*, 2014:186). They found that "capital providers are heterogeneous and that their information needs, as well as their demand for information, differ systematically" (Cascino *et al.*, 2014:200). Furthermore, Cascino *et al.* (2014:191) note that capital providers use multiple information sources,

and that accounting information plays an anchoring role in the evaluation of the reliability of other information sources. Interestingly, Cascino *et al.* (2014:200) conclude that academics and regulators

...know surprisingly little about the actual information usage by capital providers. Direct evidence is scarce and many inferences are based on archival data that reflect aggregate investor behaviour and not their information-gathering activities.

In response to Cascino *et al.*'s (2014) findings regarding a lack of direct, primary evidence of users' information needs and the use of accounting information, the European Financial Reporting Advisory Group (EFRAG) and ICAS commissioned a study on this kind of evidence by the same authors. In total, 81 professional investors (48 from Europe, 28 from the UK, and five from the US) were interviewed between September 2014 and May 2015 on the decision-usefulness of financial reporting (Cascino, Clatworthy, Osma, Gassen, Imam & Jeanjean, 2016:27). Three quarters of these (60 interviewees) also participated in a two-by-two experimental case study. Half of them were asked to use the case study information to value a company and the other half were asked to assess the performance of management. Secondly, half of these users were told that management's compensation was linked to financial accounting information, and the other half were told that management's compensation was based on non-financial accounting data (Cascino *et al.*, 2016:31). They were also asked to identify three additional information sources that they would use for their assignment and to allocate a fictional budget (100 000 EUR) between accounting information and the three additional information sources (Cascino *et al.*, 2016:43).

As Table 2.3 shows, the participants would spend just under two-thirds of the budget for information acquisition on information outside the AFS, or voluntary information disclosed by management or other third parties. Interestingly, the objective of the information acquisition (to value the company or to evaluate the managers' performance) resulted in a slightly different budget allocation by the two groups (see Figure 2.5). It appears that when users fulfil a stewardship role (evaluating management), they spend (rely) more on the accounting information than users valuing the company as a whole (Cascino *et al.*, 2016:46).

Table 2.3: Requested additional information by content

	Weighted
Financial accounting information	34.8%
Qualitative data on business	13.7%
Non-financial quantitative data on business	13.4%
Data on competitors and industry	12.3%
Data on products and markets	8.1%
Information about corporate governance	3.9%
Information about management	2.7%
Macro-economic information	2.5%
General/unspecified	8.6%
Total	100.0%

Source: Cascino *et al.* (2016:44)



Figure 2.5: Effects of investors' information acquisition objective on the usage of alternative information sources

Source: Cascino *et al.* (2016:45)

In another recent survey, PwC interviewed Chief Executive Officers (CEOs) and investment professionals on their views of business success in a changing world. They interviewed 1 409 CEOs from 83 countries between September and December 2015 (PwC, 2016a). Another 286 investment professionals completed an online survey between December 2015 and January 2016, and interviews were conducted with a further 152 investment professionals between September 2015 and January 2016 (a total of 438 in 18 countries) (PwC, 2016b). Of interest to this study are the CEOs and investment professionals' views on measuring and communicating success. Figure 2.6 shows that both groups largely agree that more measurement and communication is required in respect of companies' innovation practices, business strategy and key risks.

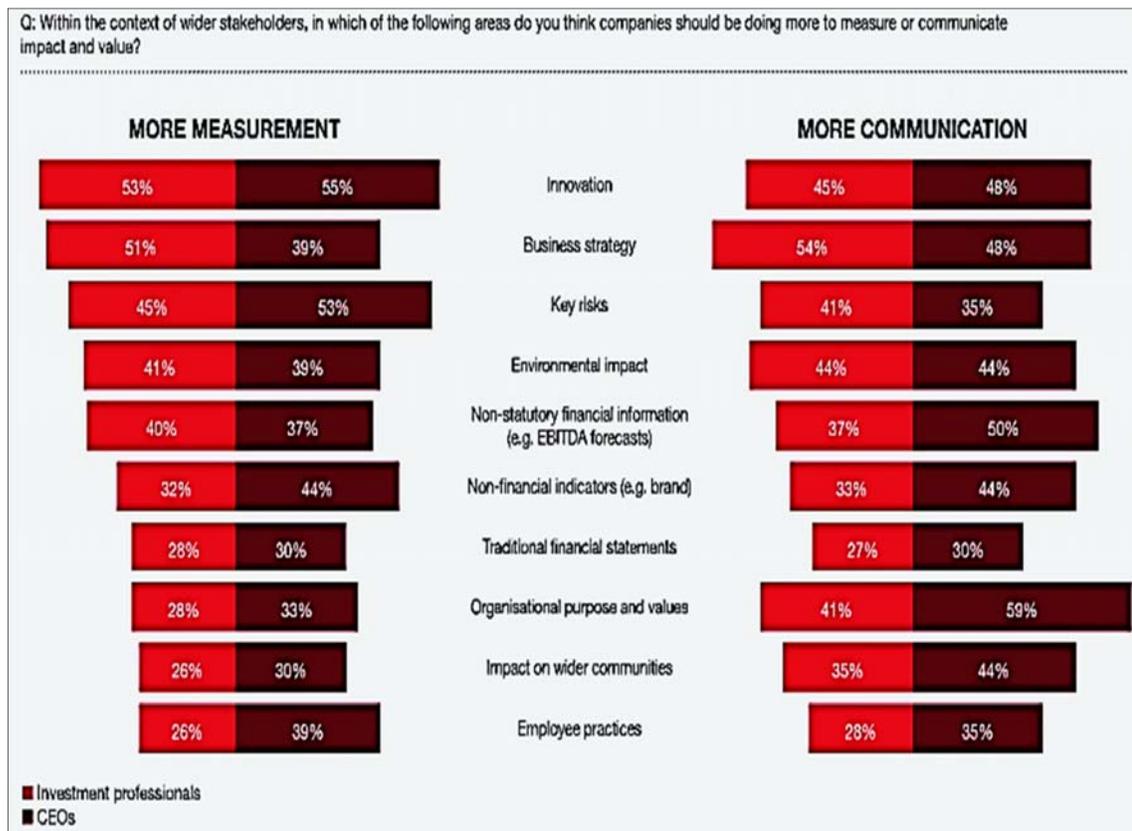


Figure 2.6: Measurement and communication success: views of CEOs and investment professionals

Source: PwC (2016b:27)

The biggest disagreement can be observed for the item regarding communication of organisational purpose and values: CEOs deemed 50 per cent more disclosure to be

necessary than investment professionals did. This may be because CEOs tended to consider a wider audience of users than the investment professionals, especially taking into consideration the findings of Cascino *et al.*'s studies in 2014 and 2016, which indicate that investment professionals usually have a valuation or stewardship objective when using reported information. Of the ESG/CSR categories, only the item 'Environmental impact' seems high on the agenda (fourth), whilst the items 'Impact on wider communities' and 'Employee practices' are the bottom two information categories. The higher ranking for 'Environmental impact' may be attributed to the possibility that this item may have a more direct financial impact through penalties and regulations. PwC concluded that if CEOs do not know what information their investors require, they may not report decision-useful information and may also pursue the wrong strategies for their companies (PwC, 2016b:32). Barton and Wiseman (2014:50) propose that metrics

...like 10-year economic value added, R&D efficiency, patent pipelines, multiyear return on capital investments, and energy intensity of production is likely to give investors more useful information than basic GAAP [Generally Accepted Accounting Practices] accounting in assessing a company's performance over the long haul.

A comparison of these categories to the findings by PwC (2016b), as set out in Figure 2.6, reveals agreement on the need for voluntary information and key performance indicators (KPIs) over and above the AFS. However, simply sharing KPIs and targets with investors is not enough; investors should be convinced to use them. Investors should be made to understand why using certain KPIs and metrics are better indicators of the company's long-term sustainable earnings and cash flows (FCLT, 2015:18) than others.

No discussion of investors' information needs would be complete without a consideration of integrated reporting. The continued pressure from users of corporate reports for enhanced voluntary disclosure has culminated in the development of the concept of Integrated Reporting <IR> by the IIRC. The aims of <IR> are to (IIRC, 2013:2)

- Improve the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital.
- Promote a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an organization to create value over time.
- Enhance accountability and stewardship for the broad base of capitals (financial, manufactured, intellectual, human, social and relationship, and natural) and promote understanding of their interdependencies.

- Support integrated thinking, decision-making and actions that focus on the creation of value over the short, medium and long term.

These aims are echoed in the Organisation for Economic Co-operation and Development's (OECD's) latest draft Principles of Corporate Governance which require shareholders and potential investors to be able to "make informed decisions about the valuation, ownership and voting of shares" (OECD, 2015:38).

Section 4.1 of the Integrated Reporting Framework (IIRC, 2013:24) requires the following content to be discussed:

- organisational overview and external environment;
- governance;
- business model;
- risks and opportunities;
- strategy and resource allocation;
- performance;
- outlook; and
- basis of preparation and presentation.

The Integrated Reporting Framework also acknowledges other forms of capital in addition to financial capital (IIRC, 2013:12). It requires discussion of manufactured, intellectual, human, social and relationship, and natural capitals. The integration between the various elements of the report can be seen in the value creation process illustrated in Figure 2.7.

South Africa has been a leader in the adoption of integrated reporting practices due to the requirements of the successive King Commission reports. The King III Code applies to entities incorporated and resident in South Africa (IoD, 2009:16), and took effect on 1 March 2010 (IoD, 2009:17). It has now been superseded by King IV that is effective for financial years starting on or after 1 April 2017 (IoD, 2016:38). The King III Code was part of the JSE Listings Requirements from Service Issue 13 on an 'apply or explain' (author's emphasis) basis for financial years commencing on or after 1 March 2010 (JSE, 2010). King IV should be applied on an 'apply *and* explain' (author's emphasis) basis.

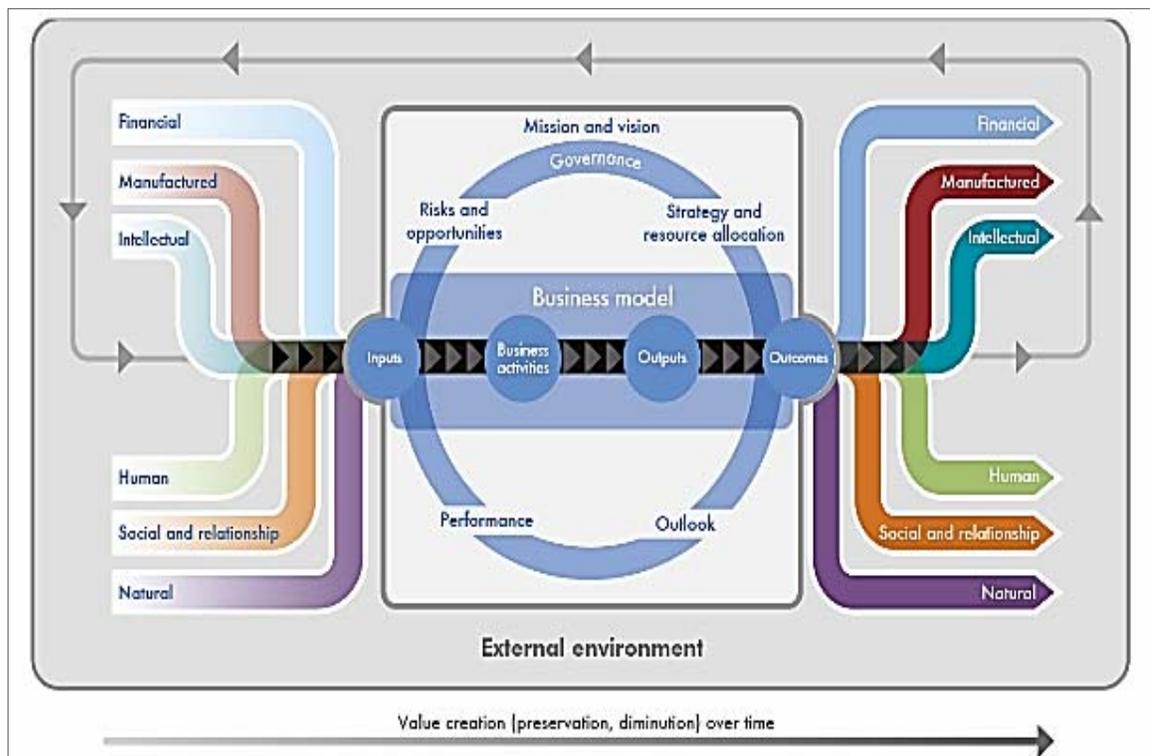


Figure 2.7: The value creation process

Source: IIRC (2013:13)

Ernst and Young's 2012 Excellence in Integrated Reporting Awards bestowed ratings of 'Top 10', 'Excellent' (17 companies) and 'Good' (29 companies) to companies included in the top 100 JSE-listed companies based on capitalisation on 31 December 2011 (Ernst & Young, 2012:3). Therefore, 56 per cent of the top 100 companies were rated as 'Good' or higher in respect of the quality of their integrated reporting. In a similar study, the audit firm Nkonki reviewed integrated reports produced by the top 100¹³ JSE-listed companies, plus seven additional companies included in the JSE's Socially Responsible Investment (SRI) Index, for year ends from 31 December 2010 to 30 November 2011 (Nkonki, 2012:10). They grouped companies based on compliance with the requirements of the King III Code (IoD, 2009) into the following groups (Nkonki, 2012:61–63):

- between 80 and 100 per cent – 13
- between 70 and 79 per cent – 12

¹³ One of the top 100 companies delisted during the review and was therefore excluded from the results. The final sample consisted of 99 of the top 100 companies. The seven companies added was to complete the full list of companies making up the SRI Index (the rest were already part of the top 100 companies (Nkonki, 2012:71).

- between 60 and 69 per cent – 30
- between 50 and 59 per cent – 30
- 49 per cent and below – 21

Fifty-two per cent of companies achieved ratings of higher than 60 per cent, prompting the reviewers to remark that JSE companies “have truly embraced the King 3 Disclosure requirements” and “integrated reporting standards in South Africa are improving at an applaudable pace” (Nkonki, 2012: 4). The combined evidence from the Ernst and Young (2012) and Nkonki (2012) studies suggest that JSE-listed companies are serious about integrated reporting and the additional disclosures that the King III Code (IoD, 2009) requires. The Ernst and Young (2012) and Nkonki (2012) findings are also in line with the WEF’s (2012:325) ranking of first place that South Africa receives for its reporting.

Caution should be exercised when attributing various economic benefits to the production of an *Integrated Report* as such. Much, if not most, of the value relevant information contained in such a report would have already been communicated to the capital market by any good IR department in prior financial years. It would therefore be difficult, if not impossible, to ringfence the information already in the market (and discounted into share prices) due to prior communications from the IR department, and that provided by publication of an integrated report for financial years starting on or after 1 March 2010.

Between March and September 2011, 34 investors and 35 analysts were surveyed on their use of and the perceived relevance of their non-financial data, including the integrated report by Accounting for Sustainability, the Global Reporting Initiative (GRI) and Radley Yeldar (2012). In Figure 2.8, one can see that more than a third of the respondents indicated that integrated reporting provides various benefits to users. Accounting for Sustainability *et al.* (2012:41) remark that although there are many similarities between how investors and analysts source and use extra-financial information, there are also marked differences. They recommend that companies develop communication strategies targeted at specific user groups’ preferences. Investors and analysts want quality data and information that support comparison and benchmarking (Accounting for Sustainability *et al.*, 2012:43).

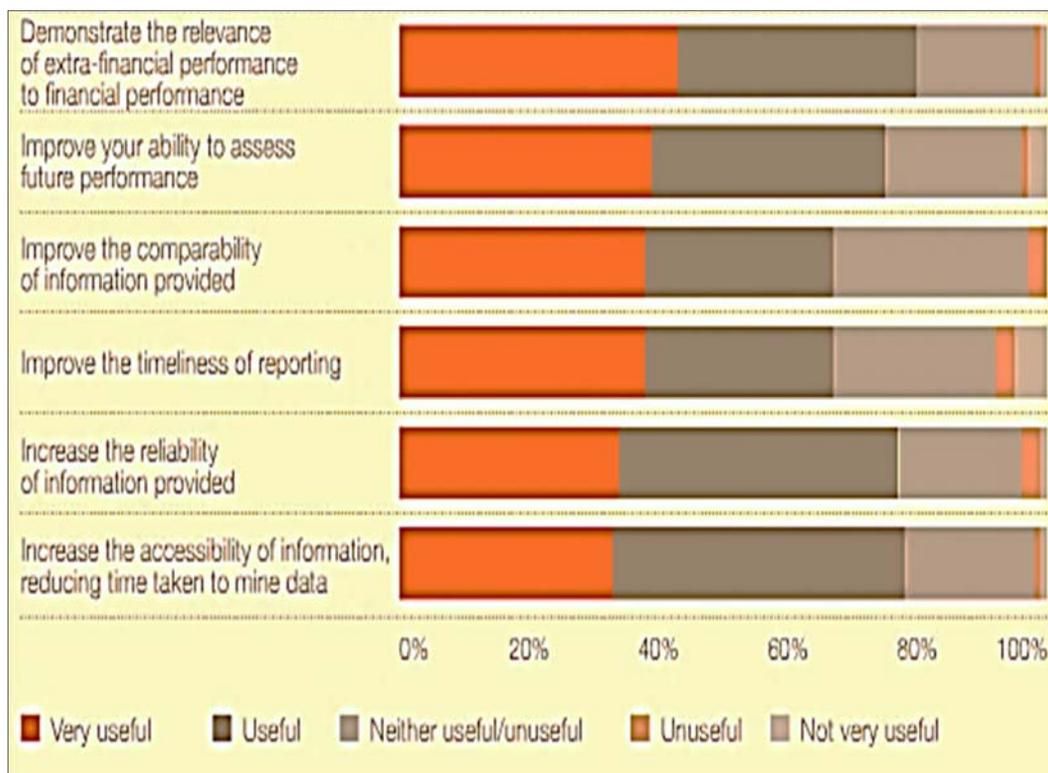


Figure 2.8: Usefulness of integrated reporting in decision-making or analysis

Source: Accounting for Sustainability *et al.* (2012:34)

PwC (2014) conducted interviews with 85 investment professionals to establish what investors want to know from companies, what the quality of the information that they receive is and how integrated reporting can be of use to them. Figures 2.9 to 2.12 set out the 'gap' between information needed and the quality of information received. The gap ranges from 11 per cent to 38 per cent. In respect of all categories of information, the importance for investment professionals exceeds the quality of the information that they did receive. The smallest gap was for KPI information. It could be because it is probably easier to compile and communicate KPI metrics than strategy or risk information. Note from Figure 2.12 that the importance of sustainability information is much lower than information on financial and operational KPIs.

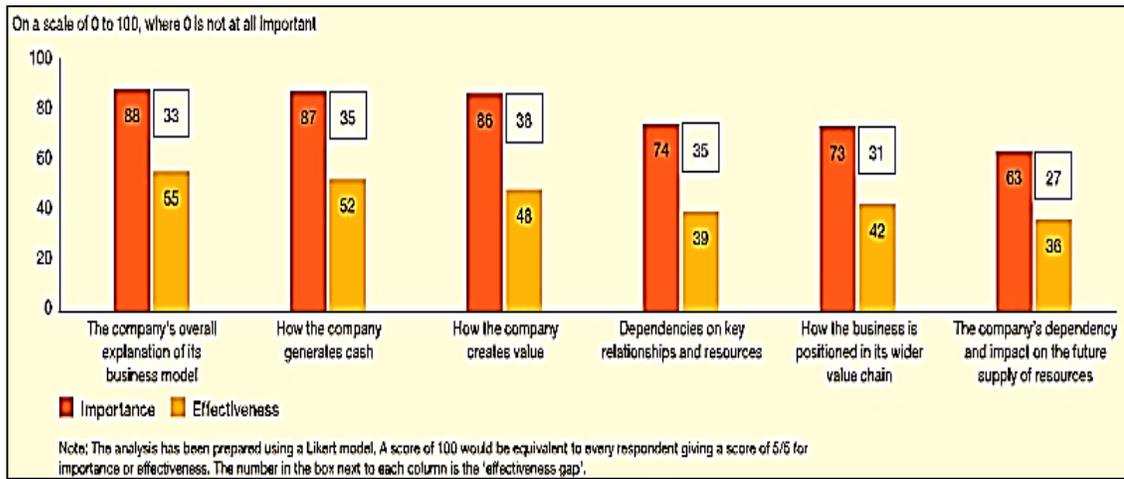


Figure 2.9: Importance versus effectiveness of information being received

Source: PwC (2014:8)

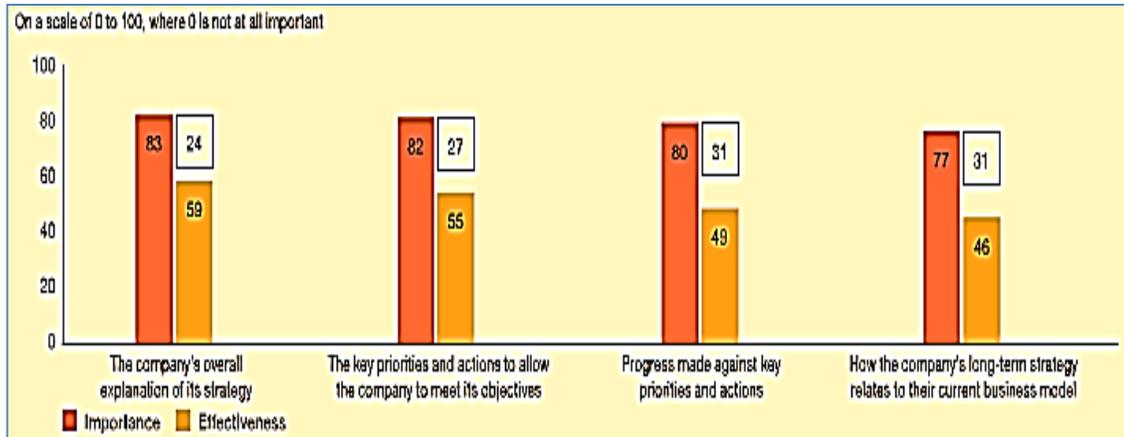


Figure 2.10: Importance versus effectiveness of strategic information being received

Source: PwC (2014:11)

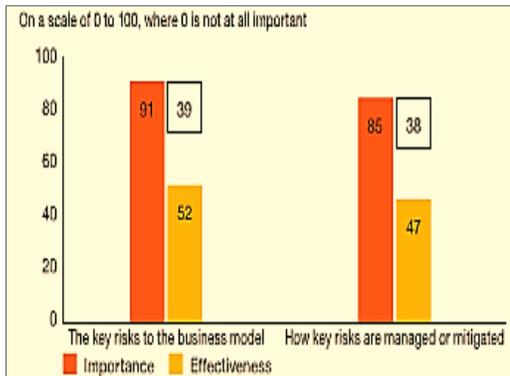


Figure 2.11: Importance versus effectiveness of risk information being received

Source: PwC (2014:13)

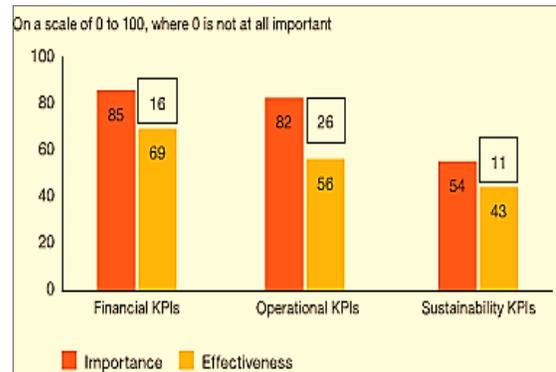


Figure 2.12: Importance versus effectiveness of KPI information being received

Source: PwC (2014:15)

For more studies on integrated reporting and investor benefits, please refer to the IIRC 2015 report. It describes various studies conducted during the last three years on the benefits and obstacles relating to integrated reporting (IIRC, 2015:22).

In this section, prior research has been presented about investors' information needs. It was established that users mainly have one of two intentions when they source information, namely to value the company or to fulfil a stewardship or fiduciary duty. Even more than two decades later, most voluntary or extra-financial information required can still be traced to the proposals of the Jenkins Committee (AICPA) in 1994. Prior research has found that where the overall quality of voluntary disclosure is high, and metrics are reported consistently from period to period, investment professionals are able to use the information better to come to a fair valuation or performance evaluation. Despite growing acceptance of the integrated reporting concept, the studies discussed in this section gave clear signals that users want more forward-looking information, as well as key metrics that are used internally by management, such as market share and customer satisfaction ratings. Users have confirmed the usefulness of integrated reports, but lamented the fact that there is still not enough integration between various pieces of information, and that business risks and strategies are still not reported sufficiently. In the next section, hurdles to more voluntary disclosure is discussed. These hurdles stem from the nature of the information itself.

2.4. Hurdles to fuller voluntary disclosure

Although there is sufficient evidence that increased disclosure will have a beneficial effect on share prices and that users want more information, many companies are reluctant to disclose more information. Management's decision to limit disclosure is usually based on three arguments, namely the cost of data gathering, the need to defend the company's competitive advantage, and the threat of litigation. The validity of these arguments is addressed in more detail in the next three subsections.

2.4.1. Cost of data-gathering and publishing

The IASB's Framework (IASB, 2015:par. 2.38) maintains that the balance between benefit and cost is a pervasive constraint rather than a qualitative one. The benefits derived from information should exceed the cost of providing it. This view is also supported by the AICPA (1994:91). As can be seen from the above discussion of the

types of information that investors would find useful, management should already be using most of the KPIs, if not all, in their day-to-day steering of their company. Management should be under no obligation to gather information it does not have, or does not need to manage the business (AICPA, 1994:54-57). Elliott and Jacobson (1994:83) also distinguish between information that already exists for management purposes and that should not attract further gathering costs on the one hand, and the cost of packaging and presenting the information to outside users on the other. This implies that if some of the information does not exist and thus first has to be gathered, it would send a serious message of incompetence or bad corporate governance to shareholders. It follows, then, that the cost of data gathering should be negligible. Furthermore, the computer systems of the company should have the information readily available, or the information would be stored in electronic format (in management information systems). Internal management reports should already report key metrics, strategy, and so on. Technology like the Internet allows for negligible cost of distribution or the publication of such information.

2.4.2. Protecting competitive advantage (commercial sensitivity)

The AICPA (1994:54-57) report acknowledges that management should not be required to report information that could harm the company's competitive position significantly. Elliott and Jacobson (1994:84) identified the following categories of information that might create a competitive disadvantage:

- information about technological and managerial innovation;
- strategies, plans and tactics; and
- information about operations.

They argue that the potential for disadvantaging a company is determined by the timing of the release, the type of information, the level of detail, and the audience for the disclosure.

However, many companies belong to industry bodies, which require statistics to be submitted annually, if not quarterly. These are published in industry newsletters or bulletins. Suppliers usually supply more than one company in the same industry. Companies vie with one another to attract the best marketers or sales representatives, who take their institutional knowledge with them when they change employers. Market share is usually won at the expense of the competitor and customers are updated on new products in the pipeline that would satisfy their currently unfulfilled needs. All of

these arguments cast doubt on the claim that disclosure would reduce competitive advantage. Elliott and Jacobson (1994:85) claim that every entity that suffers a competitive disadvantage could *gain* competitive advantage from comparable disclosure by its competitors. This view is also supported by the CFA, which believes that industry competitors generally know much more about each other than they share with investors (CFA, 2007:54). Only genuine R&D projects (such as R&D on pharmaceutical drugs, design stage proto-types etc.) should fall under that protection. A reasonable investor would agree that not disclosing that information (for example, on a new HIV/AIDS drug in development) would protect his/her long-term cash flow and capital growth from the investment.

FCLT (2015) acknowledges that companies may be uncomfortable about sharing details of their long-term strategies with investors, in case it could harm their competitive advantage. However, they argue that *true* competitive advantage is “typically not easily replicated” (2015:11). They propose that the process of becoming more open about a company’s long-term strategies is gradual. Furthermore, each company should make the trade-off between protecting its competitive advantage and attracting a shareholder base with a long-term horizon that supports long-term strategies, with resulting benefits (see Section 2.2.5.2 Shareholders’ investment horizon).

2.4.3. The threat of litigation

Elliott and Jacobson (1994:83) group the causes for litigation costs (legal fees and damages awarded) into two groups: insufficient disclosure and allegations of misleading disclosure. It follows that lawsuits that arise from insufficient disclosure support the notion that litigation threats would decrease with increased disclosure. They argue that the following four factors should reduce litigation costs that arise from misleading disclosure:

- Fuller disclosure should lead to smaller claims, as the financial market would have more realistic expectations of the company’s prospects. The difference between the expected share price and the actual share price should therefore be smaller, leading to lower claims for damages.
- Defendants (preparer companies) would have a better defence, as they can argue that users had sufficient access to information regarding risks surrounding the company.

-
- The first two conditions would make it unattractive for class action suit attorneys, resulting in few cases' going to court.
 - The nature of the business is a key factor in triggering declines in share prices (which may lead to lawsuits), rather than increased disclosure.

It is the view of the AICPA (1994:54-57) that management should not be required to provide forecasted financial statements. Rather, management should provide information that helps users to forecast for themselves what a company's financial future may be. This view is supported by the finding in the 2003 AIMR survey of investment professionals that management's giving current period trend updates is considered more valuable (by 47 per cent of respondents) than management's giving earnings guidance (by 31 per cent of respondents) (CFA, 2003:5). By a narrow majority, 51 per cent of respondents also felt that earnings guidance increases the volatility of a share, compared to 36 per cent who want to receive general trend updates from management.

The obstacle of the threat of litigation regarding issues such as forward-looking information can be overcome with proper legal consultation. Most companies publish extensive Disclaimer notes in their annual reports and websites. An example from Sasol Ltd is displayed in Figure 2.13.

Website disclaimer

The content on this Sasol web site is proprietary to Sasol and is for informational purposes only. In particular, the content does not constitute any form of legal, financial, or other advice, recommendation or arrangement by Sasol (which includes its divisions, affiliates, joint ventures or departments) or its associated information providers, and is not intended to be relied upon by users in making (or refraining from making) any specific investment or other decisions. For greater certainty, the information contained in or accessible through this Website is for information purposes only and is not intended to and does not constitute an offering of securities in any jurisdiction. Appropriate expert advice should be obtained before making any such decision or using the information.

In using this Website, you agree that Sasol shall not be liable for any damages whatsoever (including indirect, incidental, special, punitive or consequential damages and loss of profits, opportunities or information) arising from (a) your use of or reliance on information contained on this Website; (b) any inaccuracy or omission in such information or failure to keep the information current; (c) use of any third party web sites linked or referred to in this Website; (d) any delays, inaccuracies or errors in, or in the transmission of, any stock price quotes or historical price data; (e) any Internet software used in connection with this Website or computer viruses or other destructive programs encountered as a result of using this Website; and (f) any other matter connected with the Website; even if Sasol is made aware of the possibility of such claims, damages or losses.

Figure 2.13: Website disclaimer

Source: Sasol Ltd (2016)

In conclusion, the overall benefits of producing and communicating voluntary information should exceed the costs and potential risks. Figure 2.14 shows a clear visual representation by Schuster and O'Connell (2006) of the costs, risks, and benefits associated with voluntary disclosure practices, as discussed in this chapter.

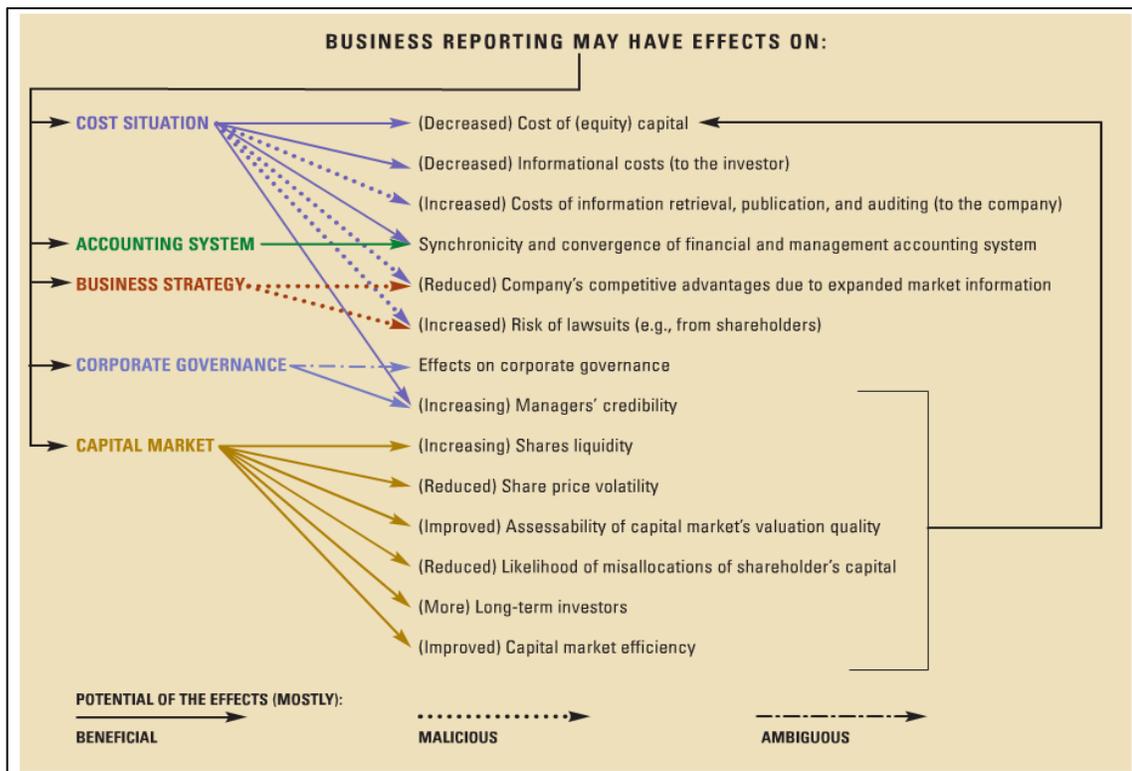


Figure 2.14: Potential effects from value-oriented business reporting

Source: Schuster and O'Connell (2006:6)

2.5. Summary and conclusion

This chapter opened with a discussion of various theories on managers' decision to engage in voluntary disclosure. The agency and signalling theories propose that by reducing information asymmetry for investors, companies can reduce their cost of capital and increase liquidity. The legitimacy and stakeholder theories argue that companies need to disclose voluntary information, and specifically environmental, social and governance information, in order to obtain society's approval for their continued operations. The notion of institutional isomorphism implies that sometimes companies engage in disclosure behaviour because other (leading) companies are doing it, because legislation requires it, or because the professionalism of their employees results in similar behaviour (similar ways of disclosing and reporting information). The last two subsections described disclosure theories that postulate that the company's cost of capital or liquidity are affected *indirectly* by attracting more investors (the Investor Recognition Hypothesis), or by attracting specific types of

investors (depending on investor horizon and sophistication). Empirical evidence from prior studies supporting these theories was also discussed.

Section 2.3 Investors' information needs, elaborated on the types of information that users indicated as value-relevant for decision-making. It was established that users mainly have one of two intentions when they source information, namely to value the company or to fulfil a stewardship or fiduciary duty. The demand for and provision of most voluntary or extra-financial information can still be traced to the proposals of the Jenkins Committee (AICPA) in 1994. Prior research has found that where the overall quality of voluntary disclosure is high, and metrics are reported consistently from period to period, investment professionals are able to use the information better to come to a fair valuation or performance evaluation.

Despite growing acceptance of the integrated reporting concept, studies that reviewed initial reports found clear signals that users want more forward-looking information, as well as key metrics that are used internally by management, such as market share, customer satisfaction ratings, etc. Although users report that the integrated report is useful, they also remark that there is not yet enough integration between various pieces of information and risks and strategies.

This chapter concluded with a section on hurdles to more voluntary disclosures. These hurdles stem from the nature of the information. Users want more forward-looking information about future projects and income streams. Managers argue that disclosing this information may erode their competitive advantage. Being too specific in forward-looking guidance also raises concerns about class action suits for not delivering on promises. In conclusion, the costs and potential risks involved in producing and communicating voluntary information should, overall, be outweighed by the benefits, as discussed in this chapter.

The next chapter deals with the evolution of reporting practices from printed annual reports to the complete IR webpages on companies' websites.

CHAPTER 3

ONLINE INVESTOR RELATIONS PRACTICES

3.1. Introduction

The previous chapter described various theories for why company management engages in voluntary disclosures. This chapter discusses how the practice of IR developed. The chapter starts with a short history of how financial reporting evolved from traditional, paper-based audited AFS to the practice of publishing the annual report and other voluntary information on a company's website in various formats. Three models that describe the stages of the adoption of online communication are presented.

Due to the increasing complexity of capital market disclosures, the communication strategies that companies employ are now largely the domain of IR specialists, working in conjunction with the financial director or chief financial officer (CFO) and the chief executive officer (CEO). Prior research has provided some evidence on what types of information users want to see on IR webpages and the benefits to companies of having effective IR programmes. An overview of IR practices in South Africa, with some views from users and practitioners is then presented. This serves as a background to and motivation for the first primary objective of the study.

3.2. From printed AFS to online communication

According to Crowther (2000), there are four broad stages in the evolution of the format and function of corporate reporting through the twentieth century and up to the present.

3.2.1. Stage 1: Before 1940

The distinction between the company and its environment was recognised, but a deliberate choice was made to ignore the external environment. Corporate reporting was simply a way for the managers and the owners of the business to communicate. The communication was retrospective – it simply reported past actions and results. Results were what mattered and the annual report was merely deemed an effective means of communicating those results to the owners (the existing shareholders). The main emphasis was accountability to the shareholders only (Crowther, 2000:1843).

3.2.2. Stage 2: From 1940 to 1975

In this period, the company and its managers recognised the existence and importance of the external environment and the need to attract additional investment for expansion projects and other purposes. The orientation of reports thus shifted towards potential investors. To attract new investment, there was an increasing focus on future prospects for the company, rather than only past performance. Crowther (2000:1843) argues that in this stage the agency relationship between managers and shareholders started to weaken. Managers began to view themselves as being in a relationship with any investors (current and potential) in the business, rather than only with the current owners of the business. In this stage, past results and future prospects for the company were the issues that mattered, and annual reports remained an effective means of communication only. The emphasis began to shift towards forward-looking information that could be used for decision-making purposes (Crowther, 2000:1843).

3.2.3. Stage 3: From 1975 to 1995

Companies no longer sought to communicate only internally, to existing shareholders or potential shareholders, but began widening their focus to include the external environment. Results no longer mattered: they were still included in annual reports, but became less prominent. Future prospects mattered more. The forward orientation did not focus on the economic prospects of the company, but on prospects for shareholders in terms of rewards – both dividends and share price increases. The annual report acknowledged other stakeholder groups and sought to demonstrate good corporate citizenship by including employees, customers and the local community in its intended audience. This resulted in annual reports becoming not only a communication medium, but also a mechanism for self-promotion. The results of the past performance were no longer of primary importance; the image of the company was. The production and distribution of the report became a major event on the corporate calendar (Crowther, 2000:1844).

3.2.4. Stage 4: Since 1995 and online

This is the age of electronic communication and reporting. The performance of the company is now included in a wider range of information concerning the company. The Internet is used as another communication channel. The company's image is still

important, and companies vie with each other to have the most elaborate, spectacular and entertaining websites (Crowther, 2000:1844).

In order to engage users online (including investors), the usability of a company's website becomes a crucial consideration. Usability as a general term is defined by ISO 9241-11 as

...the extent to which a system can be used by specified users to achieve a specified goal with effectiveness, efficiency and satisfaction in a specified context of use. (ISO, 1998)

Useful websites are described by Nielsen (2012), a usability expert, as having the following:

Utility = whether it provides the features [and information] you need.

Usability = how easy and pleasant these features are to use.

Useful = utility + usability.

Loranger and Nielsen (2009) conducted usability tests of 94 IR websites with individuals and investment professionals, which resulted in the publication of 103 usability guidelines focusing specifically on online IR. The aim of usability guidelines is to help companies to get users to the right information swiftly, to make websites easy to view, and to make it easy for those who view the sites to use the information. Nielsen (2011) reported that websites need to attract a visitor's attention within ten seconds; otherwise, visitors leave the site in increasing numbers during the next 20 seconds. Accounting for Sustainability *et al.* (2012:42) also recommends that companies "should be mindful not only of content but the usability of websites."

The short history above illustrates how companies have moved from reporting in printed format to communicating with investors online. The next section describes models of how companies implement the Internet as a communication medium.

3.3. Online communication: Adoption models

3.3.1. Lymer, Debreceeny, Gray and Rahman's model of Internet financial reporting

Lymer, Debreceeny, Gray and Rahman (1999) conducted research on behalf of the International Accounting Standards Committee (IASC) on the annual financial reporting by 660 companies on the Internet. These companies represented the 30

largest companies listed on the Dow Jones Global Index for 22 countries. The websites were analysed for the period from November 1998 to February 1999.

Lymer *et al.* (1999:48) describe the following stages of Internet financial reporting:

- *Duplicate print*

The electronic format financial information duplicates the printed financial statements. Portable Document Format (PDF) versions of documents are used extensively. This involves little additional effort from management.

- *Interactive webpages and downloading*

The financial information uses Hyper Text Markup Language (HTML) hyperlinking, and data are available for downloading. Much more effort is involved, and companies are serious about using the Internet as an information distribution platform.

- *Enhanced Internet technologies*

The financial information is now presented with enhancements that cannot be incorporated in printed documents. These provide alternative ways to present complex information, for example, user-specified graphing, slides with videos of presentations, or live-feed of presentations.

They found that 86 per cent of the companies had websites, but this differed from 100 per cent to 43 per cent between countries. Just under 50 per cent used HTML in some format – 35 per cent disclosed substantial elements of their complete financial statements in HTML format. Lymer *et al.* (1999:49) concluded that at that stage most of the Internet reporting was still in Stages 1 and 2.

3.3.2. Hedlin's model of corporate reporting on the Internet

Based on his research on the websites of 60 companies listed on the Stockholm Stock Exchange during September 1998, Hedlin (1999:373-374) framed the following model for the adoption of the Internet for IR:

- *Establishing a web presence*

This entails establishing a website with general company information. There is usually little information of interest to investors. The focus is mostly on customers buying the company's products or services.

- *Using the Internet to communicate financial information*

Companies start to realise that different stakeholders require different information. IR departments are established and they effect changes to the company's website. Electronic versions, such as PDFs of paper-based documents such as annual reports, interim reports and press releases are made available on websites. The Internet is only used as a low-cost and efficient second distribution channel and little attention is paid to specific advantages that could be leveraged by using the Internet.

- *Taking advantage of the unique features and possibilities of the medium*

In this stage, corporate websites are not only used as alternative means to distribute traditional paper-based information, but companies exploit the unique features and possibilities of the Internet, such as interactive graphs, Flash-video, real-time webcasts, HTML hyperlinked reports, etc.

3.3.3. Teo and Pian's model of Web adoption

Teo and Pian (2005:458) developed a model of Internet adoption that reflects the strategic intentions of a company, based on website research on 159 companies listed in Singapore. Although their model is not specifically related to Internet use for financial communication, it is still a valuable model in terms of general trends in the adoption of Internet capabilities.

- *No website, only an email account*

Companies in this stage do not have independent domain names and websites. They only have an email account to establish connectivity with customers and business partners. In Teo and Pian's (2005) study, 17 per cent of companies fell into this category.

- *Web presence*

The adoption decision has been made and implementation is in progress. Websites generally provide very simple information and brochures, and tend to be non-strategic. Thirty per cent of companies fell into this category.

- *Prospecting*

This stage involves limited use of the Internet and initiatives are driven by individual departments, and not tied to a cohesive strategy. They provide customers with product information, news, interactive content, email support etc. In Teo and Pian's (2005) study, 33 per cent of companies fell into this category.

- *Business integration*

Web adoption is incorporated into the business model. There are cross-functional links between customers and suppliers and web strategy is integrated with the firm's business strategy. The Internet is used for business support and cost reduction. Sites include features for interactive marketing, sales, online communities, and secure online ordering. In Teo and Pian's (2005) study, only 11 per cent of companies achieved this integration.

- *Business transformation*

The business is transformed by Internet adoption. The focus is on building relationships and developing knowledge to create new business opportunities. The supply chain is electronically integrated. Only nine per cent of companies in the study were at this level.

Teo and Pian (2005:465) found that the more proactive an organisation's strategy, the higher their adoption level of Internet features. They also assessed the impact of Web adoption on an organisation's competitive advantage in terms of its differentiation, cost reduction, innovation, growth and alliances, using a 7-point Likert scale (7=extremely much). Companies with only a 'Web presence' had mean scores of 3.51 to 4.35, whereas companies in the 'Business transformation' phase had mean scores of between 4.81 and 5.94 across the five dimensions measured (Teo & Pian, 2005:466). They concluded that companies that used the Web at higher levels did so for innovation and knowledge transfer, rather than simply as a mechanism to lower costs. The competitive advantage of Web adoption at higher levels were greater than those achieved at lower levels. Teo and Pian's model's applicability to the present study is that it highlights the benefit that the Internet (in the form of a company website) can have on the cohesiveness of a company's strategy. In an effective company, one of the objectives of its strategy would be to lower the cost of long-term funding by means of, *inter alia*, increased effectiveness in communicating with investors.

As mentioned in Section 1.4 Research objectives, a secondary objective of this study is to deduce the phase in which JSE-listed companies are. Hedlin's (1999) model deals specifically with using the Internet for IR activities. It is therefore appropriate that the rest of the present study refers to the stages as defined by Hedlin.

3.4. Role of the Investor Relations (IR) department

A few definitions of IR are helpful in achieving greater clarity on the role of IR departments.

One of the earliest studies into the role of IR departments was conducted by Marston (1996) on 61 per cent of the 500 largest UK-listed companies. She defines IR as

...the link between a company and the financial community, providing information to help the financial community and the investing public evaluate a company. (Marston, 1996:477)

Dolphin (2004:26) describes IR as

...continuous, planned, deliberate, sustained marketing activities that identify, establish, maintain and enhance both long- and short-term relationships between a company and not only its prospective and present investors, but also other financial analysts and stakeholders.

The IRS of the UK expands the IR definition, describing IR as

...the communication of information and insight between a company and the investment community. This process enables a full appreciation of the company's business activities, strategy and prospects and allows the market to make an informed judgement about the fair value and appropriate ownership of a company. (IRS, 2013)

Another view of the role of IR is offered by the FCLT-initiative. They define 'investor-corporate dialogue' as

...[the] flow of information and ideas between corporations and their current and future investors. A healthy dialogue can empower management to make strategic and operating decisions that build value for the long term. (FCLT, 2016:4)

The FCLT definition places a strong emphasis on two-way communication and the valuation to be determined as the long-term value, in line with Dolphin's view (2004).

Note the similarity of the IR definitions above with the first aim of the Integrated Reporting Framework (IIRC, 2013:2), which is to "[i]mprove the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital". Companies have practised IR, and communicated about the various capitals, for decades (the questionnaire for Marston's 1996 study was completed by IR professionals in 1991), long before the formalisation of the concept of integrated reporting.

The importance of transparency and the strategic role of IR departments is also recognised by the OECD. The OECD advises that the board of directors clearly establish functions and responsibilities in respect of disclosure and communication. For large listed companies, the appointment of an IR officer who reports directly to the board is considered good practice (OECD, 2015:50).

In its tenth annual survey of global IR practices in 2015 (responses from 550 companies in 54 countries), the Bank of New York Mellon (BNY Mellon, 2016:10-11) reported on the structure and budget of IR teams inside companies as follows:

- the average IR team consists of 3.2 members (2.1 professionals and 1.1 support staff member);
- the number of years of experience of the most senior IR professional in the team is 9.5 years on average;
- ten per cent of companies had IR staff located outside their home market;
- the average IR budget (excluding IR staff's salaries) for North America is \$658 000, followed by Western Europe with \$621 000, Latin America with \$497 000, Developed Asia with \$410 000, and Africa with \$367 000; and
- the IR department reports to the CFO in 64 per cent of companies (BNY Mellon, 2016:23).

Communication with the equity market is split between the CEO, the CFO and the IR Officer. The percentage of time usually spent on IR activities is set out in Table 3.1. The bulk of the time across all role players and across all company sizes is spent on communicating with institutional shareholders and sell-side analysts. Executives of micro-sized organisations have the highest non-participation rate. Retail investors and the financial media received the least amount of time across all role players and across all company sizes.

Table 3.1: Percentage of time spent on IR-related activities

	CHIEF EXECUTIVE OFFICER					CHIEF FINANCIAL OFFICER					INVESTOR RELATIONS OFFICER				
	Micro	Small	Mid	Large	Mega	Micro	Small	Mid	Large	Mega	Micro	Small	Mid	Large	Mega
Existing institutional investors	24.9	32.9	40.3	44.7	49.9	26.6	31.9	36.1	41.3	43.4	32.9	28.8	34.2	35.9	42.8
Prospective institutional investors	19.9	21.5	22.0	20.9	14.7	20.1	24.1	23.4	25.9	15.4	14.5	27.4	27.4	27.1	23.5
Sell-side analysts/ Equity sales	10.8	12.6	15.7	16.6	12.1	11.1	16.9	18.3	18.9	15.4	16.7	23.2	26.9	28.0	24.4
Retail investors	7.9	4.1	1.6	2.4	2.7	7.4	3.7	1.6	1.8	0.9	7.4	8.4	4.0	3.1	5.4
Financial media	13.1	10.9	5.1	6.3	8.0	6.2	5.8	3.2	3.7	6.4	4.8	6.1	3.5	2.4	3.7
Does not participate in IR-related activities	23.3	17.9	15.3	9.0	12.6	28.7	17.6	17.4	8.4	18.6	23.8	6.1	3.9	3.5	0.3

Source: BNY Mellon (2016:12)

Only 24 per cent of companies have a written policy regarding interaction between the board of directors and investors, whilst 22 per cent reported having a company policy not to meet with investors (BNY Mellon, 2016:25). In line with the OECD's recommendation (2015:50), 82 per cent of companies now have a disclosure policy and 37 per cent have a policy that covers analyst and broker interaction (BNY Mellon, 2016:27).

The importance of an IR department can be judged by how it is perceived by the users of its output. An earlier survey of investment professionals by the AIMR (now the CFA) revealed that 74 per cent of respondents rated the CFO, controller, treasurer, or equivalent, as a very or extremely important source of communication, compared to 65 per cent who thought the CEO was extremely important as a source of information. IR staff scored only 31 per cent for importance as a source of information (CFA, 2003:7). The quality of information received from these three sources was scored 43, 35, and 22 per cent each in the good or excellent category.

A more recent study (Hoffmann & Fieseler, 2012:145) found that equity analysts in Frankfurt rated the quality of a company's IR department as the second most important factor in forming an opinion of the company, aside from its financials. In South Africa, Bechan (2011) surveyed large institutional and private shareholders. His results show that transparent communication is regarded as the most important aspect of corporate governance that affects confidence in a company (Bechan, 2011: 148): 98 per cent of respondents indicated that they were likely to lower a company's rating if sufficient information was not available to them (Bechan, 2011:150). These surveys point towards the increasing importance of IR departments in the process of communicating with the capital market.

Next, I discuss what types of information investors and analysts want to see on corporate websites to assist them in decision-making.

3.5. Users' perceptions

Loranger and Nielsen (2009) conducted interviews with 63 retail investors, analysts, professional investors and the business press regarding their information needs when

they visit a company's website for research purposes. A summary of the items that users wanted to see on websites is presented in Table 3.2.

Table 3.2: The most important information requirements by category of user

Private (retail) investors	Financial analysts	Institutional investors
Company overview (the company's purpose and its history, such as when it was founded and where it is based)	Company overview (the company's purpose, size, and markets)	Company overview (the company's purpose, size, and markets, and its business philosophy and values)
Annual and quarterly reports	Annual and quarterly reports, and SEC filings	Annual and quarterly reports, and SEC filings
Share information (current and historical share price, charts, and graphs)	Share information (current and historical share price, charts, and graphs)	Share information (current and historical share price, charts, and graphs)
Press releases (current news, business strategies, and acquisitions)	Press releases (current news, business strategies, and acquisitions)	Press releases (current news, business strategies, and acquisitions)
	Executive information (management bios, previous positions, business concepts and direction)	Executive information (management bios and previous positions)
	IR contact information (names, phone numbers, and email addresses)	IR contact information (names, phone numbers, and email addresses)
	Financials calendar (dates for events such as conferences, earnings releases, and reports)	Financials calendar (dates for events such as conferences and earnings releases)
		Competitor information (who they are, how they are performing)
		List of analysts following the company

Source: Summarised from Loranger and Nielsen (2009:11&13)

The first four items (a company overview, annual and quarterly reports, share information and press releases) were chosen by all three categories of users, but the level of detail required differs, depending on the skill and purpose of the user. Private investors wanted to see a one-page financial overview of the company, as well as dividend information and product information (innovative products, services, and research) (Loranger & Nielsen, 2009:11). The institutional investors required information on the industry in which the company operates, as well as a list of analysts that are following the company.

In the same study, Loranger and Nielsen also conducted user testing to simulate how users use company IR pages. Based on this research, Loranger and Nielsen (2009) published 103 guidelines for effective and user-friendly online IR. These guidelines include what information should be available, as well as what presentation formats to use. These guidelines formed the basis of the measurement instrument of this study, as discussed in Section 5.6.1 Measurement instrument and categories.

Information needs can also be inferred from analyses of the information actually accessed on the IR webpages of companies. For example, Rowbottom and Lymer (2009) analysed the weblogs of traffic to 12 large UK-listed companies from January 2003 to February 2004. Only information actually provided on a website can be accessed (limiting their results), but the results in Table 3.3 bear a striking similarity to those listed in Table 3.2.

Table 3.3: Aggregate content requested from UK websites

Content	% of total requests
General company information	20.8
Annual reports	20.2
Share price information	14.2
Media and press releases	14.2
Sustainability	10.8
Website services	8.1
Contact information	4.9
Financial information (outside the annual report)	3.4
Shareholder services	3.3
Total	100.0

Source: Rowbottom and Lymer (2009:39)

Large South African institutional and private investors (Bechan, 2011:151) indicated that the most important issues that should be communicated to the investment community are a clear path or strategy, new product or service developments and changes in the senior executive team. This agrees with many of the items on Loranger and Nielsen's (2009) list. Although Bechan's study was not about online IR in South Africa, it nevertheless indicates that users in South Africa want the same type of information as international investors. The South African investors did indicate that the company's website was their second most preferred source for finding information about the company (Bechan, 2011:150).

The IRS of the UK similarly proposes voluntary disclosure across a range of areas that would assist analysts and investors to grasp the competitive and financial strategies of the company, the various types of risk it faces and other forward-looking information that will guide these readers to estimate the future cash flows of the company. Examples of these types of disclosure are short biographies of directors, charts of market share for each of the main divisions of a company, future product launches, risk management policies and structures, governance structures, future capital expansion plans and dividend policy (IRS, 2012). In addition, companies can use their websites to load their analyst presentation booklets, allow the public to dial into conference calls with analysts when results are released, and present interactive and hyperlinked company reports. The information requirements described here strongly resemble those discussed in Section 2.3 Investors' information needs. This is logical, as the only difference is the channel through which the information is accessed by the users and investors.

Benefits of online IR are obvious for private (retail) shareholders and other stakeholder groups. Using these Internet technologies enables private shareholders and the public to access the same information as that which is accessible to investment professionals, adding to company accountability and transparency (Rowbottom & Lymer, 2010; Elliott, Hodge & Sedor, 2012; Bagnoli, Wang & Watts, 2014; Basoglu & Hess, 2014; Fuertes-Callén, Cuellar-Fernández & Pelayo-Velázquez, 2014; Gajewski & Li, 2015). Investors in low disclosure markets (China, emerging markets, and Europe prior to IFRS) benefit even more from online disclosure. Souissi and Khlif (2012) found these

investors to be very sensitive to voluntary disclosure in annual reports and on companies' websites.

IR websites also have benefits for analysts and institutional shareholders. In an analysis by Eurosif and the Association of Chartered Certified Accountants (ACCA) (2013), company websites were deemed 'essential' or 'high' as a source of non-financial information for more than 80 per cent of analysts and investors surveyed. In its survey of professional investors, PwC (2014) reports on how often various sources of information are used (see Table 3.4). Investor presentations by companies are the top source for information about a company's strategy and resource allocation, and the third most popular source for financial information and information on risks and opportunities. If the company's IR department uploads these presentation webcasts and/or slides to the company's website, private or individual shareholders also have access to this information. Professional investors also rated the corporate website the third most popular source for information about environmental, social and governance issues. Apart from personal dialogue with management, all other information sources should be archived on the company's IR webpages in any case.

Table 3.4: The top three data sources per information category

Financial	Strategy and resource allocation	Risks and opportunities	Governance	Environmental, social and human capital
1. Annual report	Investor presentations	Dialogue with management	Annual report	Annual report
2. Preliminary results announcement	Dialogue with management	Annual report	Proxy statements	Sustainability report
3. Investor presentations	Annual report	Investor presentations	Dialogue with management	Website

Source: PwC (2014:17)

Quality of investor communication is therefore not only about the type of information that is communicated, but also about whether the technology and channel(s) used for the communication add to the credibility and usability of the information for a variety of users of corporate financial and non-financial information. It is therefore of the utmost

importance that a company's CFO and the IR officer work closely together to sell the company's investment case on its website.

In the next section, I discuss the benefits to the company from having an effective IR programme.

3.6. Benefits for the company from having an IR programme

Chapter 2 Voluntary disclosure, explored the role of voluntary disclosure in reducing information asymmetry and thereby improving the information component of share prices. Disclosure made via an IR programme makes use of another channel by which information is passed on to the capital markets (see the various definitions provided for IR in Section 3.4 Role of the Investor Relations (IR) department). One would therefore expect the same benefits as those described in Section 2.2.1 Economic motives to follow from high quality IR programmes and from increasing quality over time. Empirical studies have indeed found this to be true. Increasing IR quality reduces the dispersion of analyst earnings forecasts and bid-ask spreads, increases the analyst following, increases investment by institutional investors, and improves trading volume and book-to-price ratios (Farragher *et al.*, 1994; Brennan & Tamarowski 2000; Chang *et al.*, 2008; Bushee & Miller, 2012; Vlittis & Charitou, 2012). Kirk and Vincent (2014) have shown that companies that invest in an internal IR department (as opposed to contracting external service providers) experienced increased disclosure, higher analyst following, greater institutional shareholdings, improved liquidity and higher market valuations than a control group of matched companies.

Agarwal *et al.* (2016) found that companies with higher quality IR strategies, which are nominated for Best Overall IR award, tend to have significantly higher valuation multiples than companies that are not, nominated. They also found that increasing the IR quality led to higher analyst following and improvements in shares' liquidity. These findings applied to companies of all sizes, but were stronger for smaller companies. They extended the findings of Bushee and Miller (2012) and Vlittis and Charitou (2012), whose studies focused on smaller, less visible companies. Interestingly, having a good IR programme did not seem to shield US companies from investor distrust in the wake of the Enron disaster and related financial scandals (Peasnell *et al.*, 2011). They advise

companies to be cautious and to adapt their IR programmes during specific periods of investor mistrust in capital markets.

Some benefits to a company's investment in IR, for example, improved liquidity, do not accrue equally to all shareholders (small shareholders do not benefit from improved market depth, but proportionally share in the cost of IR). They may not even lead to an increase in the company's long-term share price, according to various conceptual models developed by Hong and Huang (2005:21-22). This is especially true for small and recently listed companies where the CEO and CFO need to spend a large portion of their time with analysts and institutional shareholders to increase visibility in the equity market at a time when survival is crucial (see also Table 3.1 for the percentage of time spent on various IR activities by small and micro companies). Management usually has high equity stakes in small and recently listed companies. Hong and Huang (2005:4) argue that an agency problem arises because "it is these high equity stakes that lead insiders to consider the liquidity of their shares possibly at the expense of adopting a value maximizing investor relations policy."

The background and research into IR practices in South Africa follows next.

3.7. Investor relations in South Africa

Schoonraad (2003) investigated the financial communication *process* and *role players* inside companies in South Africa. As companies' types of financial reporting progressed towards Stage 4 as described by Crowther (2000), and Stage 3 as described by Hedlin (1999), the reporting process itself also evolved into a multi-functional team effort. Schoonraad (2003:102) found that there was some confusion regarding the nature, management, and organisation of financial communication. There is also a lack of integration, in terms of both management and organisation. She proposed a conceptual model for an inclusive and integrated approach to financial communication. Schoonraad's model recommends that the entire financial communication process should be managed and organised in an interdisciplinary or cross-functional manner, linking the accounting, IR and public relations departments.

In prior research, I amended Schoonraad's model to include the role that the Internet plays in facilitating two-way communication between parties (Esterhuyse, 2004:25), as set out in Figure 3.1. Schoonraad's model was adapted to reflect the information technology (IT) department's involvement as a fourth party and the Internet as another channel for communication with stakeholders. The IT department's role is to facilitate the company's communication via the Internet. I proposed that once the company has decided what information to publish, it is the IT department's task to put that information on the company's website (Esterhuyse, 2004:25).

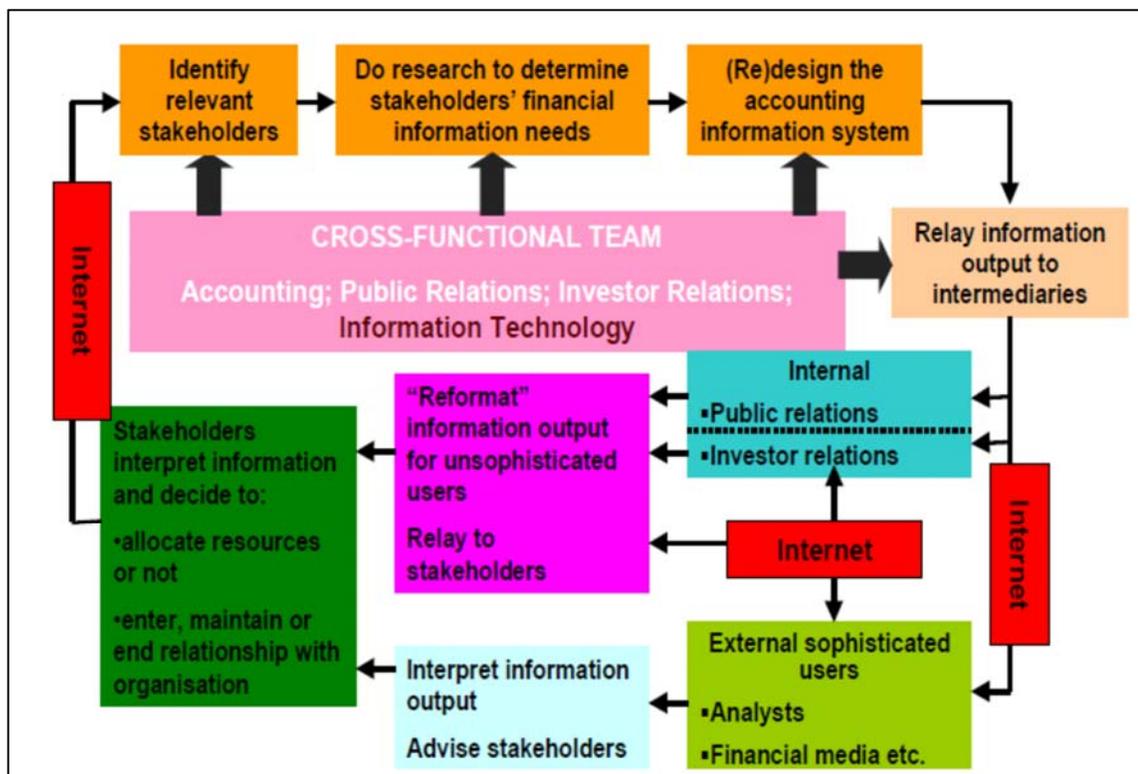


Figure 3.1: Model for integrated management and organisation of financial communication – incorporating the Internet

Source: Esterhuyse (2004:25)

Users that have subscribed for specific updates or releases of certain information can be alerted by email. Normally, most financial information is posted on the website under the menu of the IR webpage. Information needs of other stakeholders are normally catered for under pages such as Community, Environment and so on. It is also the role of the IT department to keep up to date with technological developments and to advise

the team of ways that can enhance the communication process, for example, webcasts of analysts' presentations, live conference calls for results announcements, or social media such as Twitter. I also recommended that the financial director take an active role in determining what information is disclosed and what Internet technologies would get the company's message across most effectively in collaboration with the IT department (Esterhuysen, 2004:65).

in the wake of the 2007/8 global financial crises, a survey by the South African Institute of Chartered Accountants (SAICA) of CFOs of the JSE's top 40 companies reported that CFOs rated communication management as the third most important soft skill (after leadership and problem-solving skills) in 2010, and for the next three years ahead (SAICA, 2010:29). A majority of 58 per cent of CFOs indicated that they envisaged spending a lot or most of their time on investor, stakeholder and market liaison and communication work in the next three years. Communicating with stakeholders and investors was also repeatedly mentioned as a challenge for the future (SAICA, 2010:52).

King II (IoD, 2002:138) acknowledges that IT such as the Internet is a potentially powerful enabler to improve the reporting and transparency of companies. The King III (IoD, 2009:par 48 - 50) stipulates that a company's board of directors should ensure that there is transparent and relevant communication with stakeholders. South Africa is part of the global economy, and in terms of financial services is rated to be on par with developed countries such as the US and UK (WEF, 2012:325). It follows that international trends in reporting and IT would be followed locally. International and local investors expect to find the same information and presentation formats for South African companies as those they find on international companies' websites.

3.7.1. Investors' (users') views

Stainbank and Peebles (2006:74) surveyed 72 unit-trust managers in South Africa in 2000 to determine their views (using a 5-point Likert scale) on the usefulness of various sources of information for investment decision-making. Table 3.5 represents their findings from 12 responses (a 17 per cent response rate).

Table 3.5: Sources of information for unit trust managers in South Africa in 2000

	Rank	Mean
Communication with management	1	4.50
Company announcements/reports	2	4.27
Stockbroker advice	3	3.73
Newspapers, magazines and journals	4	3.25
Internet	5	2.92
Financial analysts	6	2.67
Technical analysis	7	2.33
Family/friends' advice	8	1.17

Source: Stainbank and Peebles (2006:74)

Interestingly, the Internet was only ranked fifth in usefulness. This could be explained by a lack of quality decision-relevant information on those websites. Although the survey was published in 2006, the survey was already done in 2000. At that stage Internet reporting and communication in South Africa was still in Stage 1 in terms of Hedlin's (1999) model. Information items ranked above the Internet were either not usually present on company websites, or could be found more easily through other direct means, such as a telephone call to the CEO or newspaper announcements. It should also be borne in mind that this survey was executed before the implementation of regulations prohibiting companies from releasing information selectively. The low response rate makes it difficult to generalise the findings of this 2006 study to all users.

Bechan (2011:150) reports that large institutional and private investors rank corporate websites as the second most popular source of information, after articles in the financial press. No further studies could be found that solicited the views of South African investors (users) of companies' IR websites.

The next section discuss the views of IR practitioners in South Africa.

3.7.2. IR practitioners' views

Lujiza (2011) interviewed 12 of the largest companies listed on the JSE regarding their IR practices. The IR managers reported that they had an IR strategy to achieve the following (Lujiza, 2011:37):

- Ensuring that the cost of equity is reduced. The only way to reduce the cost of capital is to ensure that the share price is valued fairly on the market.
- Ensuring that they effectively manage communication between management and investors.
- Focussed investor targeting by understanding investment styles, in order to get the investor on their shareholder register.
- Providing information on company financial performance, business strategy and operations in an accurate, honest and quick manner.
- Being accessible to the investor community (investors, analysts, sponsors, etc.).
- Complying with JSE regulations and other reporting requirements imposed by King 3 and the Companies Act.

These objectives are in line with the definitions of IR provided in Section 3.4 Role of the Investor Relations (IR) department.

All but one of the respondents in Lujiza's (2011) interviews with IR officers reported that their companies take IR very seriously, have formalised it, and have incorporated it into their structures. Having an IR function and strategy is voluntary. Therefore, spending money on IR (for example, going on international road shows, employing IR staff and investing in an IR website) is evidence of how seriously they take IR (Lujiza, 2011:41-42). Companies reported the following reasons for presenting IR information on their websites (Lujiza, 2011:55, cited verbatim):

- It was common practice with all listed companies around the world to have information on the website, as it is publicly accessible
- Potential investors from anywhere in the world could access information and make enquiries based on the information provided on the website
- It was a generally accepted communication practice with the JSE to disclose market information via websites
- It was a quick method of disseminating useful information about investor events and storing documents that investors had been given already

Respondents also indicated that they used the Internet for IR to meet the increased information requirements of stakeholders and because of the transparency provided by the Internet (Lujiza, 2011:72). Only one respondent regarded the Internet as strategically important for the company's IR activities; the rest admitted to using the Internet because it was 'common practice' (Lujiza, 2011:78). Bearing in mind that Lujiza's interviews were conducted with some of the largest companies on the JSE, it seems that this is a classic example of mimetic isomorphism, as described by DiMaggio and Powell (1983). Lujiza (2011:79) adds:

..the organisations were not thinking about Internet investor relations as a medium through which relationships could be built, but rather as a *medium for distributing disclosure information*. [author's emphasis]

From the above observation by Lujiza in 2011, one can deduce that companies were still using the Internet as a 'push' ('distributing') communication medium instead of as a two-way channel with feedback loops, as I proposed seven years earlier (Esterhuysen, 2004:25). There was no IR certification, or professional body to which IR practitioners in South Africa could belong (Lujiza, 2011:82). Since then, on 12 October 2015, the IR Society of South Africa was incorporated (IRS SA, 2015) and the society has an operational website at <http://irsociety.co.za/>. Lujiza (2011:83) noted that for some companies "the seriousness starts and ends with complying with the minimum requirements of the JSE only." This finding provides a rationale for the choice of the first aim of this study, namely to establish what the current online IR practices of South African companies are.

The next section deals with studies about what is actually displayed on IR websites of South African companies.

3.7.3. Disclosure on South African corporate websites

Various authors have researched the use of web technologies in South African companies for communicating financial and other voluntary information. The earliest study that included South Africa was done by Lymer *et al.*, (1999). The top 30 companies, according to the Dow Jones South African Index, were analysed for the period from November 1998 to February 1999 regarding their Internet characteristics, as part of a larger study (22 countries). Of the 30 companies, 26 (87 per cent) had websites, but only 22 (73 per cent) had financial information on these websites. As can be seen in Table 3.6, 13 (59 per cent) of the 22 companies with financial information on their websites made use of a downloadable format. HTML was used in some format for their financials by 18 companies (82 per cent).

Table 3.6: Stage of development of financial reporting by country (South Africa)

	Count	% of all companies	% of companies with financials
No website	4	13	
Website – no financials	4	13	
Download accounts only	4	13	18
HTML summary only	2	7	9
HTML summary & download	3	10	14
HTML accounts	7	23	32
HTML accounts & download	6	20	27
Total	30	100	100

Source: Extracted from Lymer *et al.* (1999:51)

Table 3.7: Types of information supplied under financials (South Africa)

	Disclosed (n = 22)	%
Balance sheet	13	59
Income statement	13	59
Cash flow statement	12	55
Notes to the accounts	4	18
Changes in equity statement	4	18
Financial summary	11	50
Audit report	3	14
Segment report	6	27
Chair's report	10	45
Corporate information	10	45
Year in review	7	32
Management report	4	18

Source: Extracted from Lymer *et al.* (1999:53, 55)

The types of information supplied under the financial sections of the web sites are summarised in Table 3.7. Half of the companies supplied at least the summary financials, and 55 per cent or more supplied the cash flow statement, balance sheet and/or income statement. Only 18 per cent of these companies provided the notes to the financial statements. This omission reduced the usability of the financial figures greatly.

Roberts (1999:2) reported in a study of the top 100 South African companies for June 1999 that only 43 companies (43 per cent) had accessible websites. The ratio of companies with websites is lower than that of Lymer *et al.* (1999), but the sample size of Roberts (1999) is much larger than that of the Lymer *et al.* (1999) study (100 companies versus 30 companies). Of those websites, 33 supplied financial information (77 per cent of those with websites). Financial statements were supplied in 22 cases (67 per cent of those with financial information) and only 11 (33 per cent of those with financial information) provided full annual reports (Roberts, 1999:3). However, when the 33 company websites with financial information are compared to the total sample of 100 companies, only 33 per cent of companies used the Internet to communicate financial information at that stage.

In January 2002, the websites of the top 100 companies (from the Top 150 Market Leaders identified by the *Financial Mail*) were investigated by Venter (2002). Of the 100 companies, 85 had a website. This was already almost double the number of companies with websites than in the study by Roberts in June 1999. Of these, 83 (98 per cent) had some form of IR or financial information web page. Only 45 per cent of companies provided a search option, and 34 per cent had a site map. Venter (2002) found that 66 per cent of the companies provided a link to IR or investor information and concluded that these links are an important part of the planning of a company's website. At that time, 54 per cent of companies had links to their latest annual financial statements. Stock prices were provided on the home page by 25 per cent of companies.

Of the companies, 78 per cent provided their annual statements in PDF format, compared to the use of HTML (63 per cent). On average, the companies provided 2.4 years of information on their annual results. Only four companies (5 per cent) presented their financial statements in both English and Afrikaans. Five companies (6 per cent) furnished their information in foreign currencies, or had the option to convert to foreign currency. Of the companies that provided financial information in electronic format, 27 per cent did not provide a chairperson's report. In cases where it was present, the chairperson's reports were signed in 53 per cent of cases. Moreover, 18 per cent of companies did not provide information on their directors. Just under half of the companies (49 per cent) provided a presentation of their latest results. Newer

technologies such as webcasting were used in 16 per cent of instances. A few companies also provided the opportunity to read the opinions of market analysts, either by links to reports, or by supplying the contact details of analysts that followed the company and from whom the user could request reports.

In a later study undertaken in January and February 2003 by Barac (2004) as part of a larger study, the websites of the top 100 companies in South Africa (the SA Giants as identified by the *Financial Mail* of June 2002) were assessed for their content, style of presentation and application of navigation aids. Of the 100 companies, six had been delisted at the time of the survey. A further six did not have a website and one's site was under construction. Therefore, 87 sites were investigated. Of the companies with websites (93 per cent), nearly all (99 per cent) used drop-down menus or a table of contents. Site maps were only found on 46 per cent of the websites, and only 44 per cent provided a search facility. Detailed annual reports were provided on 86 per cent of the sites, mostly as PDFs. Hyperlinks were only found in 29 per cent of the annual reports presented on-line. A corporate governance statement was evident in 84 per cent of cases and even social and environmental reports were found on 63 per cent of websites. At that time, 75 per cent of companies had an IR page on their website. The following information appeared on these pages:

- press releases (94 per cent);
- share price information (77 per cent);
- shareholder information (e.g. dates of meetings, proxy votes) (86 per cent);
- presentations (69 per cent); and
- interim reports (82 per cent).

The annual reports were presented in PDF in 78 per cent of cases. Barac (2004) found that 46 per cent of companies used HTML (33 per cent used both). Audio and video presentations were very limited. Two-way communication took place by email (93 per cent), chat groups (9 per cent) and frequently asked questions (FAQ) sections (25 per cent). Barac (2004:15) commented that “top South African companies are using their websites mainly as bulletin boards with limited real-time financial information”. She concluded that electronic media are used as a mere substitute for traditional printed material, rather than for the more innovative practices already being implemented internationally (Barac, 2004:18).

In a study with more companies, but more limited in its content analyses, Nel and Baard (2006) selected 240 companies in Africa and determined during April and May 2006 that all 40 selected South African companies had working websites. All of these South African companies had dedicated IR sections on their websites. Determining a logical website address or Universal Resource Locator (URL) was 95 per cent successful for the South African companies.

Nel and Baard (2007) conducted another study on online investor communication practices for South Africa and four other African countries during June 2007. This is the most recent study on the topic for South Africa. Nel and Baard (2007) reviewed the websites of the top 40 companies in South Africa in terms of market capitalisation on 31 December 2005. However, their checklist was limited, containing only eight items for content (representing broad categories rather than specific items) and 12 items for presentation (for example, if the company presented the information on its IR pages, its own dedicated page or elsewhere on the website). Webpages for company information, annual reports, annual report archives and corporate governance were present for all forty websites. Of the 240 companies, 39 had a news page, 38 had corporate governance pages and 37 had a page for shareholder information. Bondholder information was the least represented with only 15 companies making this information available.

Since Nel and Baard's (2007) study, Internet saturation and bandwidth in South Africa have increased substantially. In 2012,¹⁴ the WEF reported that 21 per cent of the population in South Africa were using the Internet, compared to 7.8 per cent in 2008 (WEF, 2009:227, 2012:325). South Africa's average download speed was 1.16 Mbps (megabits per second) in January 2008 versus 3.22 Mbps in June 2012¹⁵ (Ookla, 2014). The growth in bandwidth and online users means that companies can reach a wider audience with their online IR programmes. Companies will be able to use bandwidth-intensive technologies such as videos, online conference calls with

¹⁴ Although newer statistics are available and were consulted, reference is made to 2012 figures as it relates to the period when the content analyses of the websites for the current study were executed.

¹⁵ I could not obtain the latest Internet speeds from Ookla as they have since made their data proprietary. An alternative source is Akamai, which reports average speeds of 5.6 Mbps for South Africa in quarter two of 2016 (Akamai, 2016:40).

analysts, webcasts of presentations and interactive stock charting more widely and efficiently as bandwidth capacity increases for both companies and private investors.

Given that

- the most recent study on IR in South Africa was conducted in 2007;
- Internet speeds have improved considerably since 2007;
- the Integrated Report <IR> has been implemented for financial years beginning on or after 1 March 2010; and
- there is no evidence on the use of online IR outside of large companies;

it is evident that the online IR landscape in South Africa needs to be revisited. This provided the motivation for the first primary objective of the present study, namely to understand the state of online IR practices of JSE-listed companies. The Ernst and Young (2012) and Nkonki (2012) findings of high ratings for JSE-listed companies' integrated reporting and the WEF (2012) first rating for South African companies' compliance with reporting standards (see Section 2.3 Investors' information needs), led me to expect that I would find similar high ratings for online IR practices of the present study's sample of JSE companies.

A secondary research objective, following on from an assessment of these practices, was to conclude in which stage of online IR South Africa finds itself as described in Section 3.3.2 Hedlin's model of corporate reporting on the Internet.

3.8. Summary and conclusion

The chapter started with a brief history of how financial reporting developed from the traditional, paper-based audited annual financial statements (AFS) to the practice of disclosing the annual report and other voluntary information on the company's website (Crowther, 2000). Models by Hedlin (1999), as well as Lymer, Debreceeny, and Gray and Rahman (1999) describe three stages in the adoption of online investor communications. Due to the increasing complexity of disclosure, communication strategies are now largely the domain of IR specialists. Prior research has provided evidence on the benefits to companies of having effective IR programmes. Research into the use of websites and other electronic communication media by investors was

discussed. It highlighted the fact that investors increasingly prefer to gather their information from companies' websites.

Prior research into IR practices in South Africa was also discussed. Users indicated the same preferences as those of users in other parts of the world. Lujiza (2011) reported evidence that IR practices are not well developed in some companies, where only the minimum information required by regulation is provided. Further evidence was discussed from prior studies into what was actually displayed on the IR webpages of South African companies. These studies were mainly conducted on large companies, in the top 40 or top 100 companies. Barac's (2004) results showed that companies were still stuck in Stage 2 of Hedlin's (1999) model, as they tried to replicate the paper documents only, instead of taking full advantage of the Internet's capabilities to enhance communication with investors. The most recent study on JSE-listed companies' IR practices was conducted by Nel and Baard in 2007. This study was limited to the top 40 companies. I have pointed out that Internet broadband has improved significantly since then. I therefore indicated that, based on the literature review, there is a strong reason to pursue the first primary objective of this study, namely to discover what the latest online IR practices of South African companies are, and to reassess the stage of implementation of online IR in terms of Hedlin's (1999) model as a secondary objective.

The next chapter introduces the long-horizon motivation for the shareholder familiarity hypothesis of the study, and describes prior studies on factors associated with the levels of online IR practices in other parts of the world.

CHAPTER 4

LONG HORIZONS AND SHAREHOLDER FAMILIARITY

4.1. Introduction

In the previous chapter, the purpose and practice of online IR in the rest of the world and in South Africa were discussed. This chapter argues that the practice of IR is influenced by the capital market in which it is practised. Studies comparing IR in different regions of the world have confirmed that the national disclosure environment is a differentiating factor (Debreceeny, Gray & Rahman, 2002; Bollen, Hassink & Bozic, 2006). The chapter starts by describing the unique characteristics of the JSE and the companies listed on it.

Many of the theories that underpin voluntary disclosure behaviour were formulated in the US during periods when institutional investors and block-holders had preferential access to the management of their investee companies. I therefore discuss the disclosure regulations of the SEC in the US and those of the JSE. This forms the background to the motivation for the concept of long investment horizons by investors and shareholder familiarity. Findings of prior studies on other factors that are associated with the quality or extent of online IR are then described. The chapter concludes with the presentation of the model proposed by this study for voluntary online IR practices by JSE-listed companies.

4.2. Characteristics of the Johannesburg Stock Exchange (JSE)

The International Monetary Fund (IMF) classifies South Africa as an emerging market and developing economy in the Sub-Saharan African cluster (IMF, 2014). In their meta-analysis of studies on company characteristics related to disclosure behaviour, Khlif and Souissi (2010) noted that differences in cultures and business environments between emerging market countries and developed economies may explain the lack of transparency in corporate disclosure practices in emerging market countries. In their subsequent meta-analysis of studies on the relationship between annual report disclosure and cost of equity, Souissi and Khlif (2012) found a negative association between these two variables in countries with a low disclosure environment. In low disclosure environments, shareholders usually only have access to the annual report

as a source of information (Souissi & Khlif, 2012:58). By contrast, Souissi and Khlif (2012) found no significant association between annual report disclosure and the cost of equity in high disclosure environments such as the US, Canada, and the UK. They attributed this finding to the high quality of the annual reports in these three countries, where there is not much variation between companies' disclosure levels, and a significant relationship can therefore not be observed. Information intermediaries such as analysts also reduce the information asymmetry with their reports. However, when the disclosure proxy was based on Internet disclosure and conference calls, the association became significantly negative, even for high disclosure countries (Souissi & Khlif, 2012:59). These authors therefore recommend that managers in low information environments increase their "voluntary disclosure to reduce uncertainty among investors and increase the marketability of their securities" (Souissi & Khlif, 2012:49).

Emerging markets are not only usually low information environments, but stock exchanges in emerging markets are also smaller and less liquid than those in developed countries. The JSE is characterised by low stock turnover, high transaction costs, the absence of retail investors, and the presence of large long-term blockholders (JSE, 2014). For illustrative purposes, I compared the JSE to four other capital markets, namely the US and UK (most prior studies were conducted in those two countries), China (like South Africa, China is a BRICS¹⁶ country and some research has been published on online financial communication in China) and Hong Kong (previously a colony of the UK¹⁷). Figure 4.1 shows that in 2012 the US equity market was 30 times larger than the JSE. The equity markets of the UK and China were respectively five and six times larger, and that of Hong Kong was almost twice as large.

¹⁶ Brazil, Russia, India, China and South Africa

¹⁷ Debreceeny, Gray and Rahman (2002:382) classify Hong Kong, Singapore and South Africa as 'colonial' countries.

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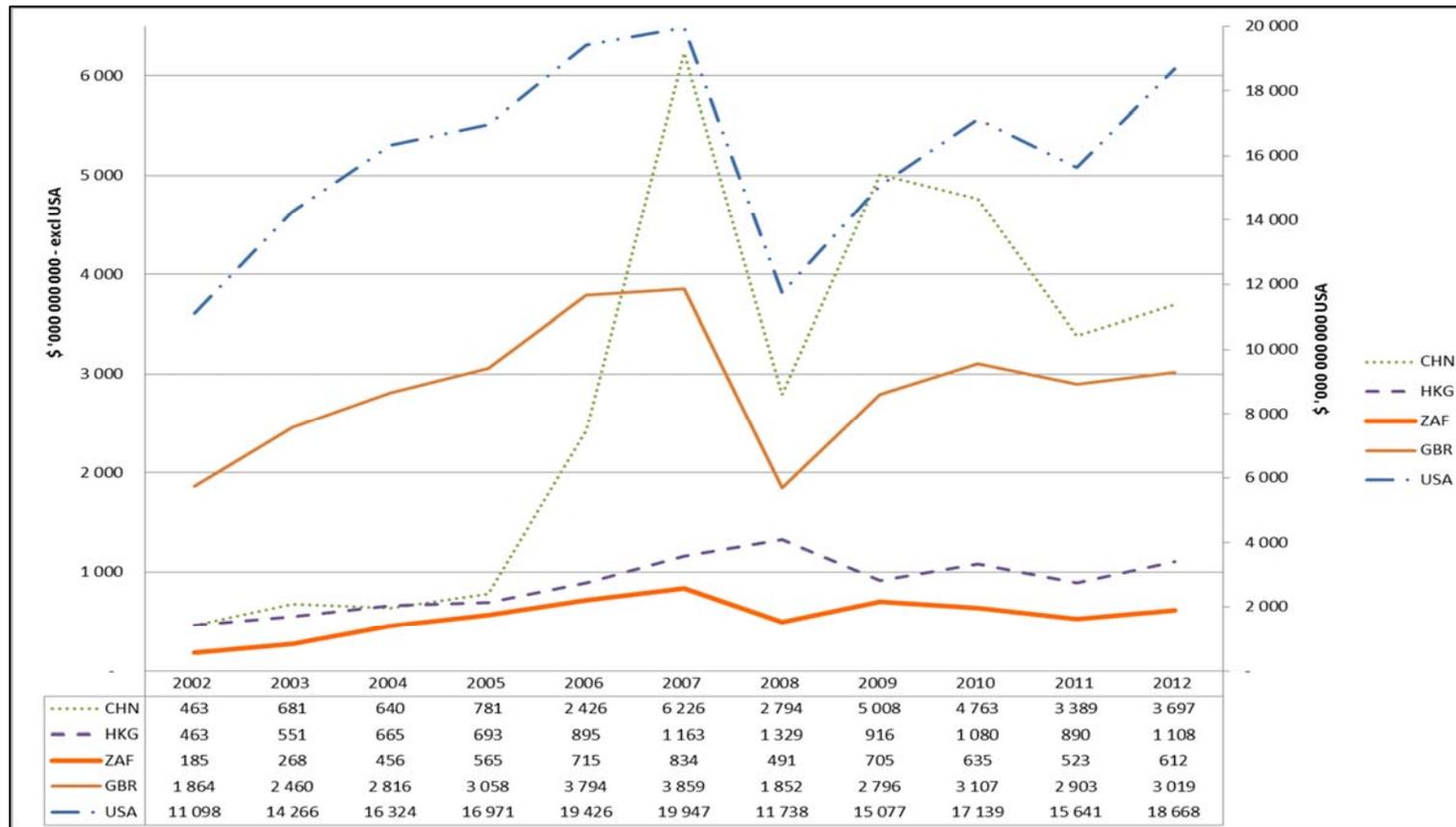


Figure 4.1: Market capitalisation of listed companies (US\$)¹⁸

¹⁸ The US market capitalisation is represented on the secondary Y-axis so as to make the graph more legible for the other four stock markets.

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Source: Extracted from World Bank (2014a)

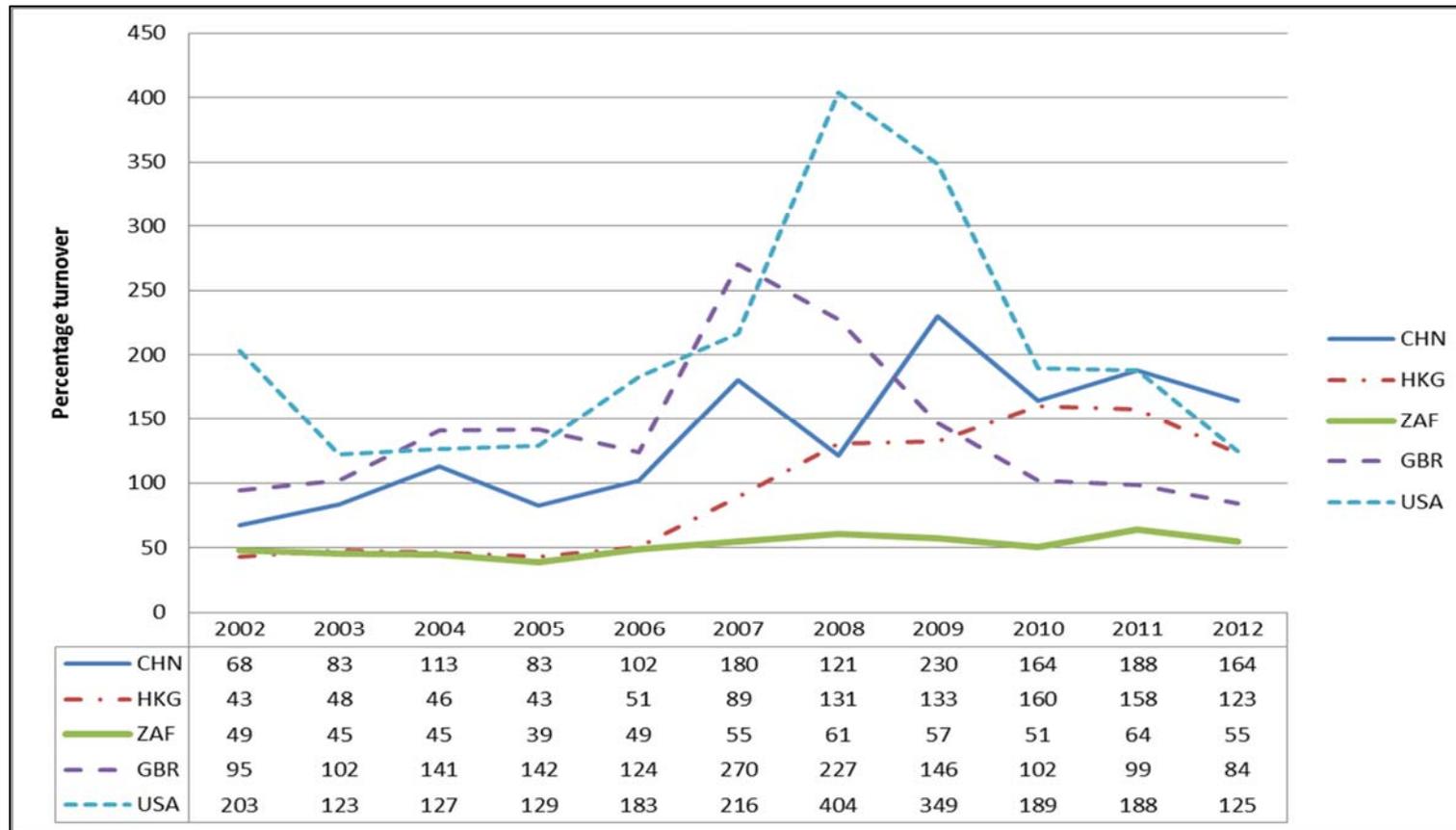


Figure 4.2: Stocks traded, turnover ratio (per cent) of market capitalisation

Source: Extracted from World Bank (2014b)

Emerging markets and developing economies are also known for having a larger portion of controlling shareholders, such as founding families, government, or block ownerships, which limits liquidity. Orsagh, Schacht and Allen (2013:138) report that 21.7 per cent of a sample of 46 South African companies included in an international index such as the Russel 1000 or S&P 500, had a controlling shareholder. The corresponding figures for the US, UK, China, and Hong Kong were 8.4, 7.6, 61.1 and 53.9 per cent respectively. South Africa is thus on middle ground in respect of controlling shareholders.

Although South Africa exhibits some characteristics typical of emerging markets, it performs in line with advanced economies in other respects. South Africa tends to be strong with regard to shareowner rights, compared to other emerging markets (Orsagh *et al.*, 2013). This argument is corroborated by the Global Competitiveness Report for 2012-2013 (WEF, 2012:325) which ranked South Africa tenth out of 144 countries for investor protection (the US, UK, China and Hong Kong were ranked fifth, tenth¹⁹, eightieth and third respectively for the same metric. South Africa performed even better in the protection of minority shareholders' interest (2nd), compared to the US (33rd), the UK (16th), China (68th) and Hong Kong (13th) (WEF, 2012:325). Confidence in the South African financial markets should be bolstered further by its first ranking for the strength of its auditing and reporting standards, the efficacy of its corporate boards, the regulation of securities exchanges and legal rights (WEF, 2012:325). In the Financial Development Report (WEF, 2012:259) South Africa is ranked second for 'Financing through local equity market' (Hong Kong was ranked first), and it is ranked third for 'Financial market sophistication' (the UK was ranked first). The JSE was also the first stock exchange to mandate the production of an integrated report (<IR>), albeit on an 'apply *or* explain' basis (JSE, 2010). Since King III has been superseded by King IV, which is effective for financial years starting on or after 1 April 2017 (IoD, 2016:38), <IR> must now be applied on an 'apply *and* explain' basis.

It is therefore argued that the JSE (South Africa) is a unique capital market in which to study voluntary disclosure behaviour, because it is classified as an emerging market and developing economy, but exhibits many of the characteristics of advanced

¹⁹ Joint ranking is possible.

economies in respect of its stock exchange, protection of minority shareowners and corporate governance. In the next section, the regulatory regimes in the US and the JSE are compared.

4.3. Comparing the disclosure regime of the SEC to the JSE

Historically, institutional investors (investment funds, pension funds), block-holders, and analysts had access to sources of information such as analyst presentations (via road shows), conference calls, and one-on-one meetings with the management of the investee company, while private or individual shareholders did not have such access. These ‘back room’ communication channels were criticised for denying individual (or private) shareholders access to relevant information (exacerbating information asymmetry between investors) and for delays before that privileged (value relevant) information was made public. The SEC in the US, and the JSE Listings Requirements, addressed the issue of unequal access with similar regulation. The US regulation and its consequences are discussed in some detail in the next section, as most of the prior empirical research on information asymmetry, voluntary disclosure, the effect of institutional investment horizon and ownership concentration has been conducted using the large databases available for US shares, such as Compustat, the Center for Research in Security Prices (CRSP), I/B/E/S (analysts’ forecasts) and Thomson’s 13 F filings (details of institutional investors’ portfolio holdings).

4.3.1. Regulation Fair Disclosure (US)

On 23 October 2000, the SEC in the US implemented Regulation Fair Disclosure (known as Reg FD) (SEC, 2000). This prohibits companies from privately disclosing value-relevant information to selected securities markets professionals without simultaneously disclosing the same information to the public. Rule 101(e) stipulates that the company’s website and the Internet (for example, webcasting or a conference call) may be used as part of a process to provide equal and simultaneous access to material information (SEC, 2000).

Various researchers have studied the effect of Reg FD on voluntary disclosure via private channels. Because companies and investors would not openly admit to receiving private information before 2000, these studies use the implementation of Reg FD as an exogenous shock to the information environment. They then compare

behaviour before and after implementation of Reg FD. In this regard, Ke, Petroni and Yu (2008) established that transient institutional investors (short-horizon) previously sold off shares a quarter before bad news broke (after a series of quarterly earnings increases). However, after Reg FD came into effect, the abnormal selling off before the breaking of bad news stopped. Like Ke *et al.* (2008), Ramalingegowda (2014) reported that long-horizon institutional investors sold off significantly fewer investments in companies where bankruptcy was imminent after the implementation of Reg FD than before. In the period before Reg FD, these investors would use their private information to project potential bankruptcy, and sell their holdings at least a quarter before the bankruptcy filing took place.

Other studies found that the public information environment was enriched after Reg FD came into effect. Lee, Strong and Zhu (2014) found that the mispricing of US stocks declined after the implementation of Reg FD. This effect was stronger for companies that had a poor information environment before the regulation was implemented. Kirk and Vincent (2014) reported that companies with established professional IR departments more than doubled their public disclosure after the implementation of Reg FD. These companies also experienced a post-Reg FD increase in analyst following, institutional shareholders, and liquidity.²⁰

Despite some of the positive findings described here, other researchers had lingering doubts about whether the private disclosure channels had really been shut off. A case study investigation of a large New York Stock Exchange-listed company indicated that sell-side analysts continue to spend large amounts of time privately with company management and the IR department (Soltes, 2014). No access was observed for the blackout periods before earnings announcements, but private access peaked immediately after public announcements of earnings results (Soltes, 2014:256). More than half of private access occurred during other times of the year (259). Soltes (2014:259) comments:

Despite the passage of Reg FD, analysts can still become more informed by speaking with management. While Reg FD restricts managers' ability to convey material information, analysts are legally permitted to acquire pieces of nonmaterial information from management. When used in conjunction with an analyst's other

²⁰ For a comprehensive discussion of the many studies on the effect of Reg FD, see the literature review by Lee *et al.* (2014).

sources of information, this information may become material in an information “mosaic”.

To verify that this was not a situation unique to the case study company, Soltes confirmed the behaviours he observed with four directors of large sell-side analyst firms, who corroborated his observations (Soltes, 2014:247).

In a related article, based on the same case study, Solomon and Soltes (2015:328) also reported that hedge funds that meet privately with management make more informed trading decisions, but this advantage does not apply to investment advisors or pension funds. Solomon and Soltes (2015:329) lament:

Our analysis provides evidence suggesting that private meetings undermine one of the SEC's goals of assuring that all investors have equal access to information. These results do not necessarily imply that these meetings ought not to be allowed, as there may be other market benefits to permitting these interactions. Yet our analysis suggests that the benefits and costs of these private interactions may not accrue equally to all market participants.

Brown, Call, Clement and Sharp (2015) extended the work of Soltes (2014) and Solomon and Soltes (2015) by surveying 365 sell-side analysts, supplemented by interviews with 18 of them. They found that information gathered during private conversations (mostly telephone calls) with management was more useful for earnings forecast accuracy than their own primary research (Brown *et al.*, 2015:10). Some examples from Brown *et al.* (2015:19) of how the private conversations add value are cited verbatim:

- Many analysts said companies schedule analyst “call-backs” immediately after their public earnings conference calls: one-on-one, private calls from the CFO, who answers additional questions from individual analysts.
- One analyst suggested the order of calls is based on the analysts’ valuations of the company: *“Management will call the analysts who are at the low end of their valuation, if they want the stock to move up. By the order in which management calls analysts, they can move the consensus to where they want it to be.”*²¹
- Another analyst explained the benefits of private calls as follows: *“In private conversations with management, you get details that they’re not necessarily going to go into on a public call with investors. They might be more willing to share that with us because we can then go to clients and say, ‘This is our understanding of the situation. This is what the company says; this is what we think.’ It’s a way for them to broadcast. We’re sort of like a megaphone for them.”*

²¹ The italics indicate Brown *et al.*’s verbatim quotations of analysts in their study.

The studies by Soltes (2014), Solomon and Soltes (2015) and Brown *et al.*, (2015) are highlighted here, because in Section 4.6.2 Ownership structure, I discuss studies that include institutional shareholding as control variables in regression models of online IR disclosure quality. The studies discussed in Section 4.6.2. Ownership structure rely on the assumption that institutional shareholders and block-holders have access to direct communication channels with management (as discussed here) which private or retail investors do not have, and therefore rely less on public information.

Now that we have a better understanding of the effect of Reg FD on the US securities market' disclosure environment, we will focus on the disclosure regulations of the JSE.

4.3.2. Disclosure regulations of the JSE

Similar to Reg FD, the JSE also prohibits companies from releasing information that might influence the share price (value sensitive information) to selected parties only. This is stipulated in Regulations 3.4 to 3.8 of the JSE Listings Requirements, which came into effect on 1 September 2003 (JSE, 2011a). If information is released, it should be released via a public medium accessible to everybody at the same time. Regulation 3.46 of the JSE Listings Requirements determines that after publishing announcements via the Stock Exchange News Service (SENS), companies are allowed to post the information on their websites and in the general news media (JSE, 2011a). The prohibition of private disclosure was recently reinforced with specific guidance on how management should handle discussions with journalists and investment analysts (JSE, 2015) without releasing value-relevant information by chance. Of particular relevance are the following guidelines:

- During discussions with analysts, issuers are allowed to expand on information already in the public domain or discuss the markets/industry in which they operate, provided that such expanded disclosure does not qualify as price sensitive information. Therefore, issuers must decline to answer questions from analysts where the answer would lead to divulging price sensitive information. In responding to certain comments or views from analysts which appear to be inaccurate, issuers should respond with information drawn from information released publicly to the market through SENS (JSE, 2015:2).
- Issuers must not correct draft reports from analysts which are sent to them with a view to commenting on financial figures and/or assumptions. The issuer may consider the financial figures and/or assumptions and discuss them with the analyst, in broad terms and without providing any price sensitive information. Issuers can of course correct information in relation to financial figures and/or

assumptions that do not constitute price sensitive information and drawn from information released publicly to the market through SENS (JSE, 2015:3).

- Body language: Spokespersons must be mindful of body language when answering questions. As an example, the shake of a person's head in a "yes" or "no" gesture or showing thumbs up or down in a "positive" or "negative" gesture, does constitute communication when answering questions although not in a verbal format (JSE, 2015:3).
- Responding to financial projections and reports: Issuers must confine comments on financial projections by analysts to errors in factual information and underlying assumptions that do not constitute price sensitive information. Avoid any response which may suggest that the current projections of an analyst are incorrect (JSE, 2015:4).

In line with the OECD recommendations (OECD, 2015:50), the JSE also recommends that companies institute a written policy for handling confidential and price sensitive information (JSE, 2015:3). Provisions against insider trading are also contained in sections 77 to 82 of the *Financial Markets Act, No. 19 of 2012* (RSA, 2012). These regulations together ensure that private investors, institutional shareholders and analysts all get value-relevant information at the same time.

It would be inappropriate to make direct comparisons with the findings of Soltes (2014), Solomon and Soltes (2015), and Brown *et al.* (2015), as similar studies on the extent of private information signals have not been conducted in South Africa. However, it seems from its release of specific guidance (JSE, 2015) that the JSE wants to ensure that there is no private disclosure of price-relevant information. The efficacy of these measures can be found in the rankings that South Africa receives from the WEF, whose rankings are based on responses from their Executive Opinion Survey, plus local economic data (WEF, 2012:69-78). As indicated, in 2012, South Africa was ranked first for the regulation of its securities exchanges (WEF, 2012:325), second out of 144 countries for the protection of its minority shareholders' interests and tenth for the strength of investor protection. This supports my contention that in South Africa, institutional shareholders and analysts do not have an informational advantage, compared to private (or retail) shareholders, in respect of information released by company management. I address this again in the hypothesis development (see Section 4.5 Shareholder familiarity hypothesis).

The JSE's Regulations 3.4 to 3.8 and 3.46 also paved the way for the company's website to become the *de facto* default channel for simultaneous 'publication' (after

publication via SENS) of value-relevant information, as well as a ‘repository’ of previous SENS and other news releases.

The discussion in Section 3.7.3 Disclosure on South African corporate websites indicated that even amongst large companies, best practices for online IR are not uniformly followed. Outside of the top 100, no research has been done on their online IR practices. We do not know what factors are present in the South African context that explains the lack of uptake of best practices in online IR. In the next section, I describe what researchers in other domains have found regarding factors determining online IR quality.

4.4. Prior literature on predictors of online investor relations quality

The empirical studies reviewed in Section 3.6 Benefits for the company from having an IR programme found that reduced cost of capital, improved liquidity and increased analyst following are associated with higher quality IR. However, not all companies engage in extensive disclosure or invest in all the Internet features. This has given rise to a plethora of studies since the late 1990s that investigated whether particular company characteristics are associated with the quality of online IR programmes.²² Discussion here focuses on studies that report fieldwork (content analyses) conducted during the period ten years before the present study’s fieldwork. Studies conducted before 2002 contained very few variables in their explanatory models. Furthermore, technology, a key focus of the present study’s content analyses, has changed considerably.

Online IR studies were initially conducted on US and UK companies, and European companies followed later. In the last decade, studies were published on emerging and developing economies, for example, on Asian, Middle-Eastern and South American countries and Egypt. Multi-country studies have also been conducted by many researchers. The complexity of the explanatory models for online IR quality evolved over time as more companies started adopting online financial communication

²² I specifically excluded studies on online disclosure of environmental, social and governance information, or corporate social responsibility disclosure. Primary users of that information differ from those that the current study focuses on; motivations for such disclosure also differ (see Sections 2.2.2 and 2.2.3).

practices (the dependent variables changed from ordinal to scale measures as the measuring instruments were refined).

A brief description of the main findings, in order of when the website content analyses took place, follows in Table 4.1. I specifically highlight in a separate column the definition of ownership structure that was employed. After the implementation of Reg FD in 2000, the disclosure regime in the US changed. The discussion in Section 4.3.1 Regulation Fair Disclosure (US) above indicates that, although regulations prohibit *value-relevant* disclosures from being made in private to analysts and institutional investors, it appears that *non-value-relevant* disclosures *are* still being made in private, which does seem to create value for the analysts in the bigger ‘mosaic’. The public and private channels of ‘accessibility’ for large block-holders and institutional shareholders therefore provide the basis for including ownership structure as a variable in models of online IR quality. Some researchers used the other side of the coin, the percentage free float shareholding as a variable.

Table 4.1: Factors associated with online investor relations practice quality

Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Debreceny, Gray and Rahman (2002)							
<i>Log Likelihood</i> = 96.210 Chai sq = 0.000 BIC = -37.845	November 1998 to February 1999	22 countries ²³	Top 30 in each country; per MC ²⁴		<i>Presentation model</i>		
					Size (MC); US listing; Technology industry; National disclosure environment	Foreign listing	Growth prospects; Beta; Leverage; Internet saturation
<i>Log Likelihood</i> = 79.330 Chai sq = 0.000 BIC = -20.965					<i>Content model</i>		
					Size (MC); US listing;	Growth prospects;	Foreign listing; Technology industry; Beta; Leverage; Internet saturation; National disclosure environment

²³ This study had a very basic rubric compared to the comprehensive checklists in the other studies due to the large scale. Content was measured on a scale of 0 = No internet financial reporting, to 3 = Full financials and additional information downloadable and/or HTML. Presentation format was measured on a scale of 0 = No website, to 2 = Dynamic (downloads and HTML). The focus was primarily on financial information (statements) (Debreceny *et al.*, 2002:374).

²⁴ MC = Market capitalisation

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Bollen, Hassink and Bozic (2006)							
Weighted Index: Adj R ² = 0.198 F = 5.130 P = 0.000	December 2001 and October 2002	Australia Belgium France The Netherlands South Africa UK	270 largest companies; 50 each for European countries and 40 each for Australia, SA and UK	Percentage of shares available to the public	Size (MC); Foreign revenue; Foreign listing; National disclosure environment	Growth prospects	Public shares ('free float'); Leverage; Share return; Return on equity (ROE); Industry
Marston and Polei (2004)							
<i>2000</i> :stepwise Adj R ² = 0.410 F = 7.676	21 to 26 July 2000;	Germany	DAX100 1 st & 4 th quartile 2003:44	Percentage free float	Size (MC); Free float; Foreign listing (2003 sample)		Foreign listing (2000 sample); ROE; Beta
<i>2003</i> :stepwise Adj R ² = 0.617 F = 14.849	25 May to 3 June 2003		2000:49				
Gandía (2008)							
<i>Stepwise</i> : Adj. R ² = 0.504 F = Not reported P = Not reported	Not disclosed. Sample selected on 1 June 2003	Spain	92 excl. financial firms	'Free float' = 100% less sum of shareholdings ≥ 5%	Media visibility (number of news items); <i>Number of analyst earnings estimates (only in additional analyses)</i>	Listing age; Consumer Goods sector; Capital & intermediate goods sector; ICT sector	Size (MC); ROE; Free float; Size of board; CEO/Chair duality

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Kelton and Yang (2008)							
<i>Poisson total sample:</i> Likelihood ratio = 95.48 P = 0.00	October to November 2004	US	NASDAQ 284, excl. financial firms, & those with recent mergers & acquisitions	Block-holdings > 5%	<i>Full sample</i>		
					Size (MC); Big4 auditor; Shareholder rights; % Independent directors; % Financial experts on audit committee; Number of audit committee meetings; Earnings quality	Block-holdings	Management shareholding; CEO/Chair duality; ROE; Growth prospects; Issued equity
<i>Poisson:</i> Likelihood ratio = 69.60 P = 0.00					<i>Small companies</i>		
					% Financial experts on audit committee; Number of audit committee meetings; Growth prospects;	Block-holdings; CEO/Chair duality;	Shareholder rights; Management shareholding; % Independent directors; Size (MC); ROE; Issued equity; Earnings quality; Big4 auditor
<i>Poisson:</i> Likelihood ratio = 62.96 P = 0.00					<i>Large companies</i>		
					Size (MC); Big4 auditor;	Block-holdings	Shareholder rights; Management shareholding;

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
					% Independent directors; Number of audit committee meetings; Earnings quality		CEO/Chair duality; % Financial experts on audit committee; ROE; Growth prospects; Issued equity
Bonsón and Escobar (2006)							
Stepwise: Adj R ² = 0.501 F = 70.825 P = 0.000	Mid-February to Mid-March 2005	13 Eastern European countries	266; random		Size (MC); Big4 auditor; Financial services		Country
Abdelsalam, Bryant and Street (2007)							
Ranks: Adj R ² = 0.358 F = 7.561 P = 0.000	Mid-2005	UK	110 from London Stock Exchange top quartile	Block-holders holding ≥5%	Independent directors %; Number of analysts following; Manufacturing industry	Director holdings;	Block-holdings; CEO/Chair dual role; Return on assets (ROA); Size (Assets); Growth prospects
Cormier, Aerts, Ledoux and Magnan (2010)							
Adj. R ² = 0.453 F = 9.12 P = 0.001	Summer 2005	Canada	139, excluding financial companies	Block-holders ≥10%	Size (Assets); Beta; US listed; Board independence; Board size	Block-holdings; Free cash flow; Leverage; CEO share options	New financing (equity or debt); Audit committee size; Media exposure; High skill employees; Repeat customer relations

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Boubaker, Lakhali and Nekhili (2012)							
Adj. R ² = 0.5132 F = 102.48 P = 0.01	October and November 2005	France	529; All, excl. financial firms	Percentage free float	Size (Assets); Free float; Cross-listed; IT industry; New issue of shares; Big4 auditor		Leverage; ROA
AbuGhazaleh, Qasim and Roberts (2012)							
<i>Rank</i> Adj. R ² = 0.439 F = 9.15 P = 0.000	October 2007	Jordan	105 active, with websites	Government-owned shares >5%; Institutional shareholders >5%; Number of shareholders	Government holdings; Institutional holdings; Number of shareholders; Size (MC); Finance industry	List age	ROE; Growth prospects; Big4; New issue of equity
Desoky (2009)							
Adj. R ² = 0.400 F = 7.226 P = 0.000	February 2008	Egypt	57, excl. banking & insurance	Free float ≥ 15%	Foreign listed; Free float		Size (MC); ROE; Industry Government shareholder
Fuertes-Callén, Cuellar-Fernández and Pelayo-Velázquez (2014)							
<i>SEM: E-disclosure</i> R ² = 0.398 <i>Web-presence development</i> R ² = 0.324, P = 0.001	2008	Argentina Mexico Chile	Excl. financials A = 18 M = 30 C = 28		Cross-listed; Size; Web-presence development		Leverage; Profitability; Industry

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Samaha, Dahawy Abdel-Meguid and Abdallah (2012)							
Adj. R ² = 0.6903 F = 11.29 P = 0.000	January 2009	Egypt	61 with websites from Top100	Free float = % held by individuals (retail)	Size (MC); Free float; Board size	Government ownership	Management ownership; Independent directors; CEO/Chair duality; Leverage; ROE; Industry; Foreign sales; Foreign listing; Big4 auditor
Uyar (2012)							
Adj. R ² = 0.526 F = 16.545 P = 0.001	February 2009	Turkey	14 Corporate Governance Index plus 29 random		Corporate Governance Index; Size (Assets)		ROA; Industry
Alali and Romero (2012)							
Adj. R ² = 0.752 F = 13.664 P = 0.000	Mid-March to mid-June 2009	Argentina	72, all listed with website	Majority shareholders = international investors + local investors + family ownership holdings ≥ 35%	Size (Assets); Merval25 index; Industry (various); Majority shareholders	Growth prospects;	Leverage; ROA; Big4 auditor; Foreign investor with ≥ 35%
Bozcuk (2012)							
Adj. R ² = 0.347 F = 6.8 P = 0.000	December 2009	Turkey	All listed on Istanbul Stock Exchange, 311	Percentage free float	Size (MC); Big4 auditor; Governance Indices		Profitability (3 ratios); Growth prospects; Free float; Industry

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Turrent and Ariza (2012)							
Adj. R ² = 0.560 F = 11.351 P = 0.000	Not disclosed. Sample selection based on 2009 lists	Mexico Spain	Largest by MC, weighted by free float M = IPyC35 S = IBEX35	Shares owned by majority shareholders	National legal framework;	Ownership concentration; CEO/Chair duality	Size (employees); Independent directors; Number of directors; ROA; Leverage
Nurunnabi and Hossain, 2012							
Adj. R ² = 0.368 F = 6.251 P = 0.000	January 2010	Bangladesh	All companies with websites, 83	Dichotomous: family-controlled or not	Big4 auditor; Not family-controlled		List age; NP%; ROE; Size (Sales); Size (MC); Industry
Dâmaso and Lourenço (2011)							
Adj. R ² = 0.264 F = 15.784 P = 0.000	February to June 2010	UK	316 from FTSE350 applying IFRS	Percentage held by the largest shareholder	Size (MC) Industry (air pollution & mining)	Leverage; Ownership concentration	ROA; Big4 auditor
Andrikopoulos, Merika, Triantafyllou and Merikas (2013)							
GMM: J-stat = 0.1849	October to December 2010	Inter-national merchant shipping companies	171 with websites, from the following stock exchanges: New York, NASDAQ, London, Singapore and Oslo	Percentage holding of the largest shareholder (measures dispersion)	Size (Assets); Ownership concentration; ROE; Leverage		

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
Dolinšek, Tominc and Skerbinjek (2014)							
Stepwise: Adj. R ² = 0.389 F = 14.867 P = 0.000	January 2012	Slovenia	110 large	Percentage of ten largest shareholders	Size (Number of employees); Size (Income); Finance industry; Legal structure	Ownership concentration;	ROE; ROA; % Net Profit; List age Size (assets)
Ghasempour and Yusof (2014)							
Adj. R ² = 0.065 F = 4.660 P Chi sq = 0.000	Not disclosed. Sample selected in March 2012.	Iran	65 random from 182 trading for ten years, excl. finance firms		Size (MC); Complexity (debtors + inventory/assets)	Growth prospects;	Leverage; ROE; Earnings volatility; Firm value t-1
Pozniak (2013)							
Adj. R ² = 0.4745 F = 8.04 P = 0.0000	First week of April 2012	Belgium France	Unregulated exchanges (Free Market & Alternext). B = 34 F = 34	Percentage of free float (public holdings)	Size (Assets); IT industry	List age	Free float; Leverage; ROA and ROE
Jankensgård (2015)							
Adj. R ² = 0.728 F = not reported P = not reported	Kanton & Aktiespararna ratings for 2007 – 2012	Sweden	321 listed on NASDAQ & NGM Equity list (large MC to small firms seeking risk capital), HQ in Sweden, excl. financial and		Bond issue	Financial status (Altman's Z-score)	Size (Assets); New equity issue; Share return; Increased bank borrowing; Leverage; Growth prospects;

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Model fit	Website analyses	Country	Sample size	Ownership structure	Significant factors		No significance
					+	-	
			holdings companies				
Mohamed & Basuony (2014)							
<i>Log likelihood</i> = 222.865 Cox & Snell R ² = 0.150 Chi-sq = 31.176	January to March 2013	Qatar Oman Bahrain	192, all listed Q = 39 O = 113 B = 40		Size (Assets)		ROA; Big4 auditor; Industry; Leverage

In summary, it seems that evidence can be provided for the significance or insignificance of most variables. The most consistent predictor is company size, but even there, contradictory evidence was found in a few cases. These findings are discussed in more detail in Section 4.6 Controls, where I provide a rationale for the choice of the control variables I used in the regression model of the current study.

The prior literature on explanatory variables described focused on research either in the US, UK or Europe, or in countries in the Middle East, South Asia and South America, and China and Egypt. It is not clear whether existing models developed in other domains would sufficiently explain the behaviour of JSE-listed companies. This leads to the second primary objective of this study, namely to develop a regression model that explains the quality of the online IR practices of JSE-listed companies and test the thesis hypothesis.

In the next section, I present the hypothesis that attempts to explain the online IR quality of JSE-listed companies. This hypothesis assumes an equity market with low turnover, excellent protection of minority shareholder interests and strict enforcement of disclosure regulations, as described in Section 4.3.2 Disclosure regulations of the JSE.

4.5. Shareholder familiarity hypothesis

This study builds on the work of Bushee and Noe (2000) regarding the association between disclosure quality and shareholders' investment horizon. The prior literature, discussed in Section 2.2.5.2 Shareholders' investment horizon, points out how disclosure quality and increases in disclosure quality can attract different clienteles of institutional investors, based on their investment horizon. Bushee (1998:310) classifies institutional investors into three groups: transient (short-term, frequent traders), dedicated (long-term, large investments), and quasi-indexers (invest in index, buy-and-hold).

Bushee and Noe (2000) investigated the question of whether the disclosure quality (AIMR ratings) of a company is associated with the type of institutional investor it attracts. The AIMR ratings they used were based on three types of disclosure: annual reports, interim reports and IR activities. They ran regression models with institutional

owner type as the dependent variable and disclosure quality as the independent variable (plus controls). Disclosure quality was positively associated with transient and quasi-indexer institutions (Bushee & Noe, 2000:185). Regarding dedicated investors, Bushee and Noe (2000:185) remark:

The level of dedicated ownership is unrelated to AIMR disclosure rankings, consistent with our arguments that this type of institution does not value the benefits of more forthcoming disclosure.

In further robustness tests, dedicated institutional investors were insensitive to *any* of the three components of the disclosure score (Bushee & Noe, 2000:187). When they ran the regressions on changes in disclosure quality, it affected the holdings of transient and quasi-indexers. However, regarding dedicated investors, they comment:

Finally, consistent with the levels analysis, there are no significant associations between changes in dedicated institutional ownership and changes in AIMR disclosure rankings. Both sets of results imply that the large, stable ownership positions of dedicated institutions likely provide them direct channels of information from firms and limit any benefit of public disclosure. (Bushee & Noe, 2000:190)²⁵

The FCLT initiative describes the information-gathering activities of long-term investors as follows:

Long-term investors tend to be knowledgeable about the industry as well as the company's management and strategy. Typically, they spend meaningful amounts of time analyzing and modeling the company before meeting with management. Long-term investors tend to make calculated long-term decisions that show a focus on longer-term value creation rather than quarterly or annual EPS. (FCLT, 2015:22)

Huang and Petkevich (2016) examined the relation between institutional investment horizons and companies' financing and investment decisions. They found that differences in how companies invest and finance their investments are associated with the investment horizons of their institutional investors. Huang and Petkevich explain the phenomenon as being the result of the different information preferences of long-versus short-horizon investors. They posit that long-term institutional investors are "interested in seeing decisions and improvements that potentially create value through fundamentals" (Huang and Petkevich 2016:1018). Long-term investors are less concerned about short-term mispricing and more interested in the long-term value.

²⁵ Bushee and Noe (2000) study was conducted before the implementation of Reg. FD in October 2000, whose purpose was to reduce private information channels (see Section 4.3.1 for a discussion on whether this was successful).

That leads long-term investors to be interested in value-enhancing information, which Huang and Petkevich (2016:1019) describe as “(i) costlier, (ii) more user-specific, and (iii) less efficiently captured in security prices than value-neutral information”.

If one considers that the role of an IR department is to communicate a company’s long-term sustainable value proposition, it follows that long-term investors would particularly be interested in the communications from the IR department, especially in the post Reg FD environment, which prohibits private value-relevant disclosures.

However, there is also evidence that long-term investors do not have superior information about the future performance of their investee companies. Yan and Zhang (2009) examined the relationship between the investment horizon of institutional investors and future stock returns. They reported a significant positive relation between *total* institutional ownership and future returns, but this was almost entirely driven by short-horizon investors (Yan & Zhang, 2009:895). They remark that there is no evidence that long-horizon investor holdings or trading is indicative of future long-term share returns (Yan & Zhang, 2009:896). Maffett (2012) extended the work of Yan and Zhang (2009) by showing that in opaque information environments, transient institutional investors achieve higher returns by trading on their privately gathered information. In the post-Reg FD regime, Serafeim (2015:41) found an association between long-horizon investors and integrated reporting quality. This contradicts the findings of Bushee and Noe (2000) that long-horizon investors are neutral to disclosure quality. Huang and Petkevich (2016:1021) remark that the debate regarding who is better informed than who is still not settled, and that it is still unclear through which channels better informed investors are informed (Huang & Petkevich, 2016:1052).

In a disclosure environment where private value-relevant disclosures are prohibited (for example, in terms of Regulations 3.4 to 3.8 of the JSE Listings Requirements since 1 September 2003, or Reg FD of the SEC since 1 October 2000), one would assume that long-term shareholders would pressure management for more public disclosure, since their private channels have been blocked. Alternatively, long-term shareholders might be satisfied with the current level of public disclosure, as they still have access to private information from management, or they have superior information processing capabilities to make sense of the information publicly disclosed, as well as their own

research into industry trends, markets, etc. Taking into consideration the high ranking South Africa received for the protection of minority rights (WEF, 2012), I assumed that private disclosures of value-relevant information are not provided by JSE-listed companies, and that all investor types have to make do with the same public information. I suggest another reason why long-term shareholders might be satisfied with a poorer public disclosure environment: they are familiar with the investee company's risks and rewards, and management's record of accomplishment over the long period of the investment relationship.

Long-horizon investors' information environment consequently consists of their own information which they gathered themselves (FCLT, 2015; Huang & Petkevich, 2016) and the information cumulatively provided publicly by the investee company. The present study therefore hypothesises that shareholder familiarity (operationalised by a lagged measure of ownership stability, averaged over a period of nine years) is associated with the quality of the online IR practices of JSE-listed companies. This argument can also be supported from a signalling theory perspective: company management would have little incentive to increase voluntary public disclosure or invest in best practice IR if the same shareholder identities persist period after period. Companies with predominantly long-horizon investors would therefore adapt their IR information mainly to their investors' low information requirements.

As described in Sections 2.2.5.2 and 4.3.1, other research on institutional investor horizons as an explanatory variable was the following:

- *R&D spending*: Bushee (1998:330) has found that where transient institutional investors have high ownership, there is a higher likelihood that management will cut R&D spending to increase earnings.
- *Mergers and acquisitions*: Gaspar *et al.* (2005:148,149) reported that high investor turnover in target (bidder) companies elicits a lower (higher) control premium (a difference of three per cent) accepted (offered), compared to companies with low investor turnover.
- *Cost of equity*: Attig *et al.* (2013:456) have shown that the presence of institutional investors with long-term investment horizons results in lower costs of equity. They propose that this is due to improved monitoring of management, and that this

occurs where investors are able to obtain higher quality information about a company.

- *Investments and how they are financed*: Huang and Petkevich (2016) found differences in how companies invested and financed their investments, associated with the investment horizon of their institutional investors. They argue that long-term institutional investors are “interested in seeing decisions and improvements that potentially create value through fundamentals” (Huang & Petkevich, 2016:1018). Long-term investors are less concerned about short-term mispricing and are more interested in the long-term value.
- *Future share returns*: Yan and Zhang (2009:895) reported a significant positive relation between *total* institutional ownership and future returns, but noted that this is almost entirely driven by short-horizon investors. They found no evidence that long-horizon investor holdings or trading are indicative of future long-term share returns (Yan & Zhang 2009:896).
- *Investments in property, plant and equipment*: Souder *et al.* (2016:1212), referring to ‘capital patience’, found that companies whose expected useful lives of property, plant and equipment was lower than the industry average had a lower return on assets. This was exacerbated when the companies’ investors had low capital patience (a short investment horizon).
- *Release of bad news*: Ke, Petroni and Yu (2008) established that prior to Reg FD, transient institutional investors sold off shares a quarter immediately *before* bad news broke (after a series of quarterly earnings increases). However, after Reg FD came in effect, the abnormal selling off before bad news breaks stopped.
- *Filing for bankruptcy*: Ramalingegowda (2014) reported that long-horizon institutional investors sold off significantly fewer investments in firms with impending bankruptcy after the implementation of Reg FD than before. In the period before Reg FD, these investors would use their private information to project potential bankruptcy, and sell their holdings at least a quarter before the bankruptcy filing took place.

Two other studies investigated the effect of disclosure quality (as an explanatory variable) on companies’ investor clientele in respect of investment horizon (as the dependent variable):

- Bushee and Noe (2000:185) found that disclosure quality (AIMR ratings) was positively associated with transient and quasi-indexer institutions, but insignificant for dedicated long-horizon investors.
- In contrast to Bushee and Noe (2000), Serafeim (2015:41) reported that in his study, long-horizon investors *were* associated with integrated reporting quality.

Pucheta-Martínez and García-Meca (2014) found that the presence of directors appointed to boards or audit committees by pressure-sensitive institutional investors (banking and insurance companies, which also have a business relationship with the investee, hence the pressure) was positively related to mandatory disclosure quality, measured by obtaining an unqualified audit opinion. However, their study was based on *type* of institutional investor, not investment *horizon*, and the dependent variable was audited information quality, not voluntary disclosure.

Thus, as far as I could ascertain, the current study is the first study to investigate the association between investment horizon (with shareholder stability as the explanatory variable) and voluntary disclosure (online IR disclosure practices as the dependent variable). Furthermore, the studies described above tested their hypotheses in the liquid US equity market. As pointed out in Section 4.2 Characteristics of the Johannesburg Stock Exchange (JSE), the JSE is characterised by high ownership concentration and illiquid markets, especially for large holdings (JSE, 2014).

It is important to distinguish between shareholder (owner) stability (a time-based measure) and ownership structure (a class-based measure). The following example illustrates this: if Institutional Shareholder “A” (who holds 12 per cent of the shares) sold its holding to Institutional Shareholder “B”, the ownership structure analysis would indicate before and after the change that institutional shareholders as a class hold 12 per cent of the shares. On the other hand, assuming no other sales in the secondary market took place, the share turnover would be 12 per cent of outstanding shares. The shareholder identity of 12 per cent of the shares changed from “A” to “B”. It is relevant from the present study’s perspective that 88 per cent of shareholder identities did not change (were stable). Huang and Petkevich (2016:1020) have a similar view, stating, “Institutional ownerships are empirically persistent over time, and changes in ownership present actions of a small fraction of the institutional ownership of a stock.”

It is also essential to distinguish between the present study's shareholder stability measure and the free float percentage (another class-based measure), which was used as predictor or control variable in many of the studies described in Table 4.1 Factors associated with online investor relations practice quality. The free float percentage measures the percentage of outstanding shares available to be traded freely (excluding directors' shareholding, restricted block-holdings, and controlling or *de facto* controlling, shareholding). It describes a class of shareholder. The free float percentage also fails to capture changes in ownership of the larger owners, as illustrated before. The shareholder stability measure of the present study therefore includes turnover of all classes of shareholders.

I therefore frame the hypothesis in the null format as follows:

$H_0 =$ *There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).*

I tested the hypothesis of shareholder familiarity in the South African equity market, because, to the best of my knowledge, no prior research has been published that investigated the possible drivers of online IR practices in South Africa. Two multi-country studies included South Africa (Debreceeny *et al.* 2002; Bollen *et al.* 2006). Debreceeny *et al.* (2002) included the top 30 South African companies, based on market capitalisation (at the end of 1998) and Bollen *et al.* (2006) included the top 40 companies based on market capitalisation (in October 2002). The disclosure scores for South Africa were published, but they did not publish the results of their models as applied to South African companies separately. Both studies included only the largest companies of the JSE and can therefore not be representative of the disclosure behaviour of the more than 300 companies listed on the main board of the JSE.

I tested the hypothesis with an OLS regression. In the next section, I discuss the control variables for the regression model, synthesized from the prior literature discussed in Section 4.4 Prior literature on predictors of online investor relations quality.

4.6. Controls

As the number of studies investigating factors that are associated with voluntary disclosure behaviour increased, the results started converging on the same variables,

appearing in most regression models as control variables (see Section 4.4 Prior literature on predictors of online investor relations quality). The number of control and dummy variables (loss of degrees of freedom) that the sample size of 205 companies could bear was limited, taking into consideration that this was a cross-sectional study. For each control variable I assumed a statistically significant relationship between the variable and the quality of online IR without making a prediction about direction (two-tailed tests have more power to detect relationships than directional one-tailed tests). A brief description is provided below for the control and dummy variables selected for this study's regression model.

4.6.1. Size

The theoretical foundation for the size of companies as predictors is that larger companies have more slack resources to spend on communications, and that the incremental cost of generating information for their website is minimal (Marston & Polei, 2004). Mimetic isomorphism (DiMaggio & Powell, 1983) could also explain why most large organisations follow the first adopters' practices. All the explanatory studies discussed in Section 4.4 employed size in their models. With the exception of a few studies, most found a significantly positive association between disclosure quality and size, whether measured as market capitalisation, total assets, or sales. However, Abdelsalam *et al.* (2007) reported that size (total assets) was only significantly positively associated with the dependent variable for 'credibility' disclosures, but not for the presentation, content or total score. Although Kelton and Yang (2008) found size significant for their total sample, it was no longer significant for the bottom half of the sample ('smaller' companies) when they split the sample along the median. Gandía (2008), Desoky (2009), Nurunnabi and Hossain (2012), Turrent and Ariza (2012), and Jankensgård (2015) could not confirm that size was a significant determinant of web disclosures. Lack of significance could be explained by too much homogeneity in respect of size in the samples (selecting mostly large companies).

4.6.2. Ownership structure

One of the problems inherent in any agency relationship is whether the agent (management) is acting in the best interests of the principals (the shareholders). Jensen and Meckling (1976), Agrawal and Knoeber (1996) and Shleifer and Vishny (1997) argue that having concentrated ownership, in the form of shareholding by block-

holders and institutional investors, serves as an efficient mechanism for monitoring management, for example, they can threaten to sell their shareholding if they are unsatisfied with management's actions (McCahery, Sautner & Starks, 2016) and institutional shareholders prevent real earnings manipulation (Sakaki, Jackson & Jory, 2017). Signalling theory then proposes that management who thus become the focus of the scrutiny engages in increased voluntary disclosure in order to signal its trustworthiness and competence. Another avenue through which institutional shareholders exercise their monitoring role is by replacing managers that do not perform sufficiently or with whom they disagree on strategy. If management resists the direction provided by the institutional shareholders, it usually leads to a proxy contest to dislodge the incumbent management. Baginski, Clinton and Mcguire (2014) report that in a proxy contest involving its tenure, management tends to increase the frequency of its forward-looking disclosures and the tone is also more positive. However, this reverts to prior levels after the contest (Baginski *et al.*, 2014:1010). This school proposes a positive association between institutional ownership and voluntary disclosure.

An opposing view is that these shareholders have direct channels of communication with management (such as one-on-one conversations, or investor days) and that therefore voluntary disclosure occurs less in companies with high concentrations of institutional shareholders and block-holders, especially long-term investors (Bushee & Noe, 2000; Ramalingegowda, 2014). Cormier *et al.* (2010:327) state, "since the dominant shareholders have access to the information they need, closely held firms are expected to be unresponsive to public investors' monitoring costs." To put this another way, companies with low concentrated holdings, or high dispersion (free float) would disclose more publicly in order to reduce the monitoring and information acquisition costs of individual or retail shareholders. This school argues that there is a negative association between institutional ownership and voluntary disclosure, or a positive association between free float and voluntary disclosure. Many of these studies were conducted before the introduction of Ref FD on 23 October 2000 (SEC, 2000) and similar regulations in the UK and Europe, or in emerging economies with low protection of minority interests (such as Egypt). Since the introduction of regulations to provide equal access to information, institutional shareholders and block-holders have lost their 'inside track' to value-relevant information. For a more detailed discussion of

Reg FD and private access by analysts and institutional shareholders, see Section 4.3.1 Regulation Fair Disclosure (US).

The relationship between ownership structure and the quality of online IR has been empirically investigated by various authors, with differing results. Kelton and Yang (2008), Cormier *et al.* (2010), Dâmaso and Lourenço (2011), Turrent and Ariza (2012), and Dolinšek *et al.* (2014) used percentage shareholding by the major shareholder or those owning more than ten per cent (or five per cent in some cases) as an indicator of ownership concentration and found a significantly negative relationship with web-based disclosure quality. No association between ownership concentration (shareholders holding more than five per cent) and the level of Internet disclosure (full model) was reported by Abdelsalam *et al.* (2007). However, in Abdelsalam *et al.*'s reduced model, ownership concentration became marginally significant, with a negative association with extent of content disclosures. By contrast, Andrikopoulos *et al.* (2013) found a positive association between disclosure and the percentage of a company's shares held by the largest shareholder. They argue that even with a controlling shareholder, the capital of the minority shareholders is needed, and that management therefore increases signalling to reassure minority shareholders. Similarly, Alali and Romero (2012) and AbuGhazaleh *et al.* (2012) found a significantly positive association between the percentage shares owned by the largest shareholders and the extent of disclosure.

Marston and Polei (2004), Desoky (2009) and Boubaker *et al.* (2012) used free float in their models and found that free float was significantly positively associated with levels of disclosure. The proportion of shares held by individual (retail) investors had a positive coefficient in the study by Bollen, Hassink and Bozic (2006). The number of shareholders, which is an alternative measure for dispersion, also had a positive relationship with online disclosure quality in the study by AbuGhazaleh *et al.* (2012). However, Gandía (2008), Bozcuk (2012) and Pozniak (2013) found no significant relationship for free float as an indicator of online disclosure quality.

Separation of ownership and control is prevalent in South Africa. Steyn and Stainbank (2013:323) reported that in 2010, 54 per cent of JSE-listed companies were controlled by dominant shareholders, in other words, one or more shareholders with a holding of at least 25 per cent. Orsagh *et al.* (2013:138) reported that 21.7 per cent of 46 large

South African companies (included in an international index such as the Russell 1000 or S&P 500) had a controlling shareholder. Section 64 of the Companies Act no. 71 (RSA, 2008) requires only a 25 per cent shareholding and three shareholders to form a quorum which can pass resolutions in the presence of further dispersed shareholding. That implies that control of a company can be held at 25 per cent if the rest of the shareholding is very diffuse.

4.6.3. Industry

Most of the prior studies included industry as a variable. Mimetic isomorphism proposes that over time, organisations in the same industry tend to mimic each other's behaviour (DiMaggio & Powell, 1983). Some studies controlled for specific industries, for example, manufacturing (Abdelsalam *et al.*, 2012), consumer goods or IT (Gandía, 2008), finance (AbuGhazaleh *et al.*, 2012), or mining industry (Dâmaso & Lourenço, 2011). Others (Bonsón & Escobar, 2006; Alali & Romero, 2012; Dolinšek *et al.*, 2014; Mohamed & Basuony, 2014) controlled for any industry effect. Results were contradictory, as can be seen from Section 4.4 Prior literature on predictors of online investor relations quality. For the sake of brevity, I do not repeat these findings here.

4.6.4. Age

Companies that had their first or main listing more recently are more used to dealing with the press, analysts, and institutional shareholders. Hence, their practices may be more in line with IR best practices. Haniffa and Cooke (2002) argue that recently listed firms have an incentive to disclose more, as they want to retain the confidence of the investors. Gandía (2008) and AbuGhazaleh *et al.* (2012) found a significant negative association for age: younger companies disclose better. By contrast, Nurunnabi and Hossain (2012) found no significant effect for the age of the company.

4.6.5. Profitability (performance)

Voluntary disclosure is an important means for management to communicate a company's performance to outside investors to alleviate information asymmetry and reduce agency conflicts, according to Healy and Palepu (2001). They remark that "the Internet provide[s] management with the opportunity to access all investors and to provide daily updates of important information" (Healy & Palepu, 2001:432). Healy and Palepu (2001:421) further propose that

...given the risk of job loss accompanying poor stock and earnings performance, managers use corporate disclosures to reduce the likelihood of undervaluation and to explain away poor earnings performance.

Baginski *et al.* (2014:1010) have found evidence that supports Healy and Palepu's proposition above, noting that managers who are the subject of a proxy fight to replace them tend to increase the frequency of their forward-looking disclosures temporarily (if they fend off the proxy replacement bid, frequency returns to pre-proxy fight levels). Signalling theory can also explain why managers of profitable companies engage in voluntary disclosure, namely to signal their competence and reliability.

Profitability, usually measured as return on assets or return on equity, is also popular as a predictor of voluntary online disclosure quality studies, but was only found to be significant (and positive) for the model by Andrikopoulos *et al.* (2013). Marston and Polei (2004), Abdelsalam *et al.* (2007), Gandía (2008), Desoky (2009), Dâmaso and Lourenço (2011), Uyar (2012), Nurunnabi and Hossain (2012), Turrent and Ariza (2012), and Ghasempour and Yusof (2014) found no significant relationship between disclosure quality and company profitability. The findings of the majority of studies that show no significance are counter-intuitive, as one would expect high-profitability companies to boast about their performance through increased disclosure. It might be that profitability is also correlated to size or industry, which may reduce the power of this control variable. The case for profitability as a predictor of voluntary disclosure is therefore still in debate.

4.6.6. Leverage (or risk)

Another accounting variable, financial risk, is usually measured as the debt to equity ratio, or debt to total assets or the leverage ratio. Higher debt levels increase a company's risk profile (information and default risk) and lead to higher cost of debt, which can be mitigated by increased disclosure (Sengupta, 1998). Andrikopoulos *et al.* (2013) found a significant positive relationship between leverage and disclosure for international shipping companies, in line with Sengupta's (1998) argument.

However, Alali and Romero (2012), Samaha *et al.* (2012), Turrent and Ariza (2012), Fuertes-Callén *et al.* (2014) and Mohamed and Basuony (2014) could not find any significant relationship between leverage and disclosure levels. Leverage was also not

significant in Jankensgård's (2015) model of web disclosure, although issuance of a bond in the financial year was significantly and positively related to the disclosure ratings. A financial status variable, based on the company's Z-score (developed by Altman) was also included in Jankensgård's (2015) model. The results of his model for web disclosure indicate that companies with weaker financial status disclose significantly more. This is consistent with the risk that a higher leverage ratio tries to encapsulate.

Cormier *et al.* (2010) and Dâmaso and Lourenço (2011) found a significant negative association between online disclosure and leverage. Their explanation is that leverage increases financial risk and that leads to management's disclosing less information to the public. Similar to Jankensgård (2015), Cormier *et al.* (2010) also included a systematic risk variable measured by the company's beta. Beta was found to be associated significantly positively with web disclosure quality. Marston and Polei (2004) did not find any statistical significance for beta. A study of South African companies found that the extent of voluntary disclosure in the annual report was significantly negatively associated with cost of debt (Guidara, Khelif & Jarboui, 2014).

4.6.7. Big4 auditor

Although voluntary disclosure is not currently audited, prior studies (Bonsón & Escobar, 2006; Kelton & Yang, 2008; Boubaker *et al.*, 2012; Nurunnabi & Hossain, 2012) have found significant positive associations between having a Big4 audit firm (Deloitte, Ernst & Young, KPMG or PwC) and online disclosure quality. Having a Big4 audit firm is an indicator of general disclosure quality. However, Alali and Romero (2012), AbuGhazaleh *et al.* (2012) and Samaha *et al.* (2012) did not find any significance for auditor type.

Schedule 15 of the JSE Listings Requirements contains regulations that listed companies may only use accredited auditors and advisors that the JSE deem fit for auditing a listed company (JSE, 2011a). The accredited firms must provide evidence that their personnel are familiar with IFRS. During the period that relates to the present study's content analyses of the websites, 28 audit firms were accredited (JSE, 2011b) and companies in the sample appointed 14 of these firms – the Big4 and ten other firms.

4.6.8. Dual listing

Listing on another exchange was discussed in Chapter 2 as one of the methods to raise the visibility of a company with investors (based on Merton's 1987 Investor Recognition Hypothesis). Companies domiciled in low disclosure and low enforcement countries have to increase their reporting quality in order to be listed on the US or UK exchanges. Being listed on a foreign stock exchange (in addition to the local exchange) was found to be significantly positive for online financial reporting quality by Debreceeny *et al.* (2002), Bollen *et al.* (2006), Desoky (2009), Cormier *et al.* (2010) and Fuertes-Callén *et al.* (2014). The Global Competitiveness Report of the WEF (2012:325)²⁶ ranked South Africa first out of 144 countries for the strength of its auditing and reporting standards, the efficacy of corporate boards and regulation of its securities exchanges. Although South African companies' reporting standards are already of extremely high quality, the benefit of improved voluntary disclosure would follow from having international institutional shareholders who expect the same type of disclosure as from UK or US companies.

4.6.9. Issued new shares

Companies that want to expand can turn to the equity market and raise funds by a further issue of shares, also known as a seasoned equity offer. This affords them the opportunity to disclose additional information in respect of the prospective expansion project, as well as historical information that provides a track record of their successful management of shareholders' funds. Ettredge *et al.* (2002) and Boubaker *et al.* (2012) found that companies that were net issuers of stock or bonds in the previous year had better disclosure scores. On the other hand, Kelton and Yang (2008), Cormier *et al.* (2010), AbuGhazaleh *et al.* (2012) and Jankensgård (2015) found no significant relationship with new issues of shares and web disclosures. It is therefore unclear what the direction of the association would be.

²⁶ I used the 2012 report, as this coincides with the period when the disclosures on the websites were reviewed. The WEF's 2014-2015 rankings for South Africa are the same, except for the efficacy of boards, which is now rated third.

4.7. Proposed model of online investor relations practices in South Africa

Taking into account the hypothesis and the control variables identified above, the following regression equation is proposed to model voluntary disclosure behaviour via online IR practices for companies listed on the JSE:

$$\begin{aligned} \text{Disclosure} = & \alpha + \beta_1 \text{ShareholderFamiliarity} + \beta_2 \text{Size} + \beta_3 \text{OwnershipConcentration} + \\ & \beta_4 \text{Industry} + \beta_5 \text{Age} + \beta_6 \text{Profitability} + \beta_7 \text{Leverage} + \beta_8 \text{Big4Auditor} + \\ & \beta_9 \text{DualListing} + \beta_{10} \text{IssueNew} + \varepsilon \end{aligned}$$

4.8. Summary and conclusion

This chapter started by demonstrating how the JSE differs from other capital markets in respect of its size (smaller), share turnover (lower) and concentration of shareholders (higher). Although the IMF classifies South Africa as an emerging market and developing economy, the WEF ranks it first in many areas such as the operation of its stock market and reporting standards. It also ranks high for protection of shareholders' rights. Therefore, the JSE can be classified as a hybrid market.

Reg FD was introduced to the US equity markets in October 2000. That led to major changes in the disclosure environment in the US. Evidence was discussed that indicated that institutional investors could not trade on private information anymore. However, contradictory evidence was also found, suggesting that private information is still being divulged to analysts and institutional shareholders. The information may not be value-relevant at face value, but taken together with other information, it may become relevant. The regulations against private disclosure instituted by the JSE were also discussed. It was noted that the JSE published additional guidance to companies on how to conduct questions and answer sessions from analysts.

A large body of prior studies into factors that affect online IR quality was reviewed. Most of the factors employed showed mixed results for significance in various studies. In particular, it is still unknown which factors explain online IR in South Africa. That led to the choice of the second primary objective of this study, namely to model online IR disclosure practices in South Africa.

The effect of institutional investment horizon on the behaviour of companies was discussed next. Conflicting findings were presented regarding long-horizon investors' access to private information. Some studies found that long-horizon investors had superior information-gathering expertise regarding their investments and their industries. The shareholder familiarity hypothesis was introduced, which argues that long-horizon investors in JSE companies are satisfied with a low disclosure environment because they are familiar with the risks and rewards of their investee companies, and have sufficient information-gathering prowess of their own. The last section of this chapter discussed the motivation for the choice of control variables included in the regression model. The chapter concluded with the mathematical regression model for the online IR quality of JSE-listed companies:

$$\text{Disclosure} = \alpha + \beta_1 \text{ShareholderFamiliarity} + \beta_2 \text{Size} + \beta_3 \text{OwnershipConcentration} + \beta_4 \text{Industry} + \beta_5 \text{Age} + \beta_6 \text{Profitability} + \beta_7 \text{Leverage} + \beta_8 \text{Big4Auditor} + \beta_9 \text{DualListing} + \beta_{10} \text{IssueNew} + \varepsilon$$

In the next chapter, the methodology used to achieve the research objectives is described.

CHAPTER 5

DESIGN AND METHODOLOGY

5.1. Introduction

The preceding chapters discussed the framework and background for the thesis in terms of the substantial number of theories that support the communication of voluntary information, and the prior research done in the area of online financial communication. Chapter 4 presented the hypothesis development for the regression model. The purpose of this chapter is to provide a rationale for the research design choice employed in this study to reach the two primary objectives. These two primary objectives were firstly, determining the quality of the online IR practices of JSE-listed companies, and secondly, developing a regression model that explains the difference in quality of these practices and which tests the thesis hypothesis.

This chapter starts by setting out the research paradigm most closely aligned with my views on the research process. Thereafter, the research objectives are discussed again, and this is followed by a research design suitable for the achievement of the objectives. The sample selection is then discussed in detail. The content analysis section describes how the measurement instrument, or checklist, was developed and tested. The coding rules are described with specific emphasis on what is required before an item can be marked as being present. The operationalisation of the variables in the regression model is described in detail, as well as the sources for the data, in order for the study to be replicable. The last section describes the procedures used to ensure validity and reliability, and the limitations of the study.

5.2. Research paradigm

Laughlin (1995) developed a useful three-dimensional model of the range of research paradigms used in the social sciences. Each paradigm has a distinct set of theory, methodology and change characteristics. Where different schools of thought can be placed into the three-dimensional model depends on whether each school views its research as having high, medium, or low theory, methodology, or change characteristics. Laughlin (1995:68) defines the levels for each characteristic as follows:

The “theory” dimension refers to high to low levels of usage of prior theorizing before undertaking any investigation. The “methodology” dimension ranges from high to low levels of theoretical closure on the methods of investigation. The “change” dimension relates to high to low levels of critique with regard to the status quo and the need for change in the phenomena being investigated.

The variables that define each characteristic are summarised in Table 5.1.

Table 5.1: Some key characteristics of the dominant schools of thought

	High/high/low ^a	Medium/medium/medium ^a	Low/low/low ^a
<i>Theory characteristics:</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
Ontological belief:	Generalised world waiting to be discovered	‘Skeletal’ generalisations possible	Generalisations may not be there to be discovered
Role of theory:	Definable theory with hypotheses to test	‘Skeletal’ theory with some broad understanding of relationships	Ill-defined theory – no prior hypotheses
<i>Methodology characteristics:</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
Role of observer and human nature belief:	Observer independent and irrelevant	Observer important and always part of the process of discovery	Observer important and always part of the process of discovery
Nature of method:	Structured, quantitative method	Definable approach, but subject to refinement in actual situations, invariable qualitative	Unstructured, ill-defined, qualitative approach
Data sought:	Cross-sectional data used, usually at one point in time and selectively gathered, tied to hypotheses	Longitudinal, case study based. Heavily descriptive, but also analytical	Longitudinal, case study based. Heavily descriptive
Conclusions derived:	Tight conclusions about findings	Reasonably conclusive, tied to “skeletal” theory and empirical richness	Ill-defined and inconclusive conclusions, but empirically rich in detail
Validity criteria:	Statistical inferences	Meanings: researchers + researched	Meanings: researched
<i>Change characteristics:</i>	<i>Low</i>	<i>Medium</i>	<i>Low</i>
	Low emphasis on changing status quo	Medium emphasis: open to radical change <i>and</i> maintenance of status quo	Low emphasis on changing status quo
^a Theory, methodology and change ordering			

Source: Laughlin (1995:80)

Note that in the three dominant schools of thought presented in Table 5.1, the 'Change characteristics' is never higher than 'Medium'. Other minority schools of thought might pursue aggressive agendas for change. In the next three sections, I define and motivate the present study's position in terms of each of the three main characteristics of research.

5.2.1. Theory characteristics

According to Laughlin (1995:66), the theory dimension of a study relates to

...the level of prior theorising and prior theories that can legitimately be brought to the empirical investigation [...]. High levels of prior theorizing are indicative of an assumed material world (which exists distinct from the observers' projections and bias), which, despite empirical variety, has high levels of generality and order and has been well researched through previous studies.

I agree with the ontological viewpoint that the world (including the people and objects in it) is real and that generalisations can be made about it. The discussions in Chapters 2, 3 and 4 indicate that the theory surrounding voluntary disclosures and investors' information needs is extensive, and that in-depth research has been done on the topic by previous researchers. This thesis would therefore fall into the high category regarding its theory characteristics.

5.2.2. Methodology characteristics

The methodological characteristics describe the way in which the research in a study is actually conducted. The investigation is either "defined according to some theoretical model of how the observer should see or is more reliant on the implicit perceptual powers of the individual observer" (Laughlin, 1995:67). The more prescriptive the research method, the less the impact of the researcher on the research process in terms of subjectivity and bias. At the other end of the scale, the researcher is free to explore in any manner (method) he/she sees fit to use, while acknowledging that subjectivity and involvement may play a role in the discovery of new knowledge about the objects under investigation.

Although this thesis strives to uncover new knowledge, the methods I employed, namely disclosure scores and regression analysis, have been widely used in prior studies (see Section 3.7.3 for South African disclosure studies and Section 4.4 for regression analysis studies in other countries). Procedures were put in place (as

discussed in Section 5.8 Reliability, validity and limitations) to limit subjectivity during content analysis conducted for this study. The methodology used is highly prescriptive and structured. Results were quantified. Considering all these characteristics, the thesis falls into the high category regarding its methodological characteristics.

5.2.3. Change characteristics

Change “refers to attitudes by the researcher concerning the worth or otherwise of maintaining the current situation that is being investigated as well as views about the necessity for actually doing something about this situation” (Laughlin, 1995:67). As discussed in Section 1.8.2 Contribution to practice, it is envisaged that the results of this study will be used to change companies’ behaviour and to promote the role of IR in the financial reporting process, specifically for the domain of online IR on the company website. As I would not want to be overly optimistic about my ability to effect change in actual online IR practices, I would characterise the thesis as belonging to the low level regarding change characteristics. On the theoretical contribution front, I hope the research will make a higher change contribution to the way voluntary disclosure behaviour is thought about in different equity markets.

5.3. Research objectives

The study has two primary objectives. These are discussed below.

5.3.1. Quality of online investor relations practices

The first primary objective of this study was to determine the overall quality of the online IR practices of JSE-listed companies, as measured against international best practice guidelines. Flowing from that, a secondary research objective was to arrive at a conclusion regarding the stage of development of JSE-listed companies’ online IR practices, in terms of Hedlin’s (1999) model.

5.3.2. Modelling online investor relations practices in South Africa

The second primary objective of the study was to develop a regression model that explains the quality of online IR in the unique JSE equity market. In Sections 4.4 and 4.5, I described models that were used in other domains to explain online IR quality and presented the present study’s shareholder familiarity hypothesis. The following mathematical model was proposed:

$$\text{Disclosure} = \alpha + \beta_1 \text{ShareholderFamiliarity} + \beta_2 \text{Size} + \beta_3 \text{OwnershipConcentration} + \beta_4 \text{Industry} + \beta_5 \text{Age} + \beta_6 \text{Profitability} + \beta_7 \text{Leverage} + \beta_8 \text{Big4Auditor} + \beta_9 \text{DualListing} + \beta_{10} \text{IssueNew} + \varepsilon$$

5.4. Research design

5.1.1. First primary objective

According to Mouton (2001:55), a research design is a plan or blueprint of how a researcher intends to conduct a study. Hofstee (2006:113) refers to it as the naming and discussion of the overall approach used to test the thesis statement(s).

The main factor that influenced design choice was my view of online IR as a programme (system) implemented by a company to achieve certain outcomes. The desired outcomes are twofold: to improve disclosure (voluntary information items) to investors, and to improve the company's share performance. This system view is in line with Cronjé's (2007:138,258) conclusion that voluntary disclosure is generated by a system that is separate from the system that generates statutory disclosures, but that sometimes overlaps with it. He confirms, "both systems are responsible for the disclosure of relevant information in minimising the risks of stakeholders" (Cronjé, 2007:138).

Cronjé (2007:259) found that, in contrast to mandatory financial information, discretionary information is generated by an open system that interacts with and reacts freely to feedback from user groups. Bloomfield's (2008:434) views are in line with Cronjé's description of an 'open system':

Both natural languages and accounting methods change constantly because of a variety of forces, including changes in communication technology, interaction with other cultures, and changes in the subject matter to be discussed and the decisions to be made. (Bloomfield, 2008:434)

Laughlin (1987) is also of the opinion that in a social life-world, accounting and money form a system to steer the actions of people and organisations. The accounting system "is actually related to other social contextual variables" (Laughlin, 1987:488). Accounting systems and mandatory reporting requirements form part of what DiMaggio and Powell (1983) call coercive forces in their work on institutional isomorphism (why organisations tend to become like one another) – they regard increased

professionalization of employees (for example, the requirement that financial directors and CFOs should be chartered accountants) as a form of normative isomorphism.

From these systems perspectives, I argue that the implementation of online IR as a practice to channel financial and other information is a programme (system) implemented to improve the investor-targeted communication processes of a company. By listening to the information demands of society (investors and other stakeholders), a company acknowledges its social contextual variables as proposed by Laughlin (1987).

I therefore attempted to reach the first primary objective (determining the quality of online IR practices) by using a programme evaluation design adopted from the social sciences. According to De Vos, Strydom, Fouché and Delport (2005:108), evaluation research methodology can be used to assess, amongst other things, the design, implementation, and applicability of social interventions. For the purposes of this study, I regarded the existence of an online IR programme as an intervention.

Mouton (2001:158-161) also lists implementation (process) evaluation as a valid research design. Von Kardoff (2004:137) argues that evaluation research is a scientific response to the following requirements:

- Evaluation research checks the effectiveness, efficiency, and goal-attainment of, *inter alia*, social programmes, measures, models and laws, interventions, technical innovations and organisational changes in complex and constantly self-regenerating environments.

The literature review chapters of this study have shown that financial communication and the technologies employed in this communication process are constantly changing, complex environments. An online IR programme is an intervention to streamline the communication process, to make it accessible to everybody with an Internet connection, and to deliver a coordinated message about a company as an investment vehicle.

- The results of evaluation research are expected to provide support in decision-making and planning and to assist in better monitoring, higher rationality, and improved quality of products, and to provide arguments for a legitimate pursuit of goals and interests.

It is proposed that publication of the results of this study may enhance the credibility of the online IR function as an important part of the financial communications supply chain and which may also lead to improved quality in the practice in South Africa. This view is in line with the arguments of Cronjé (2007) and Laughlin (1987) that accounting systems and organisations go through iterative processes that are informed by their social contexts.

I therefore regarded a programme evaluation research design as suitable to investigate the quality of online IR programmes to ascertain the extent to which these are adapted for the South African capital market and broadband environment in which JSE-listed companies operate. The primary data for this study's first primary objective were therefore gathered by reviewing the websites of the companies selected for inclusion in the sample for the presence or absence of certain information items, presentation technologies, and usability features, according to a checklist.

5.1.2. Second primary objective

In order to achieve the second primary objective (to develop a model for online IR practices and test the hypothesis), the research design I chose was the development and testing of a regression model. The literature review and findings of prior studies informed the selection of the independent variables. Explanatory analysis by means of regression modelling is a widely used research design in the area of web-based financial and non-financial voluntary disclosures (Bollen *et al.*, 2006; Abdelsalam *et al.*, 2007; Boubaker *et al.*, 2012; Nurunnabi & Hossain, 2012; Uyar, 2012; Botti, Boubaker, Hamrouni & Solonandrasana, 2014; Satta *et al.*, 2015).

5.5. Sample

I used the INETBFA database of JSE-listed companies to determine the sample and collect the stock exchange data for the descriptive and regression statistics. I extracted a list of 338 companies whose ordinary shares were listed on the JSE Main Board on 1 June 2012.²⁷ In order to compare the results from this study with those of similar studies I decided to extract three samples, which then also formed a composite sample.

²⁷ Property Income Funds were excluded from the population as they behave more like exchange-traded funds (ETFs) than single ordinary equity securities.

The first sample was based on companies being listed at least ten years in order to compute the independent variable of interest (shareholder stability) over a long enough period to eliminate periodic unusual trading behaviour, such as the 2003 and 2007/8 financial market upheavals. The list of companies on 1 June 2012 (338) was filtered to identify only those companies that were already listed on 30 June 2002. In total, 188 companies had already been listed on 30 June 2002. This sample contained large and small companies from a variety of sectors.

The second sample was selected with the purpose of comparing the results for the largest companies on the JSE with the results of similar studies in other countries and in South Africa. Geerings *et al.* (2003), Uyar (2012), and Yanjie and Wan (2013) used samples of 30 to 50 of the largest companies on various exchanges. The largest sample of 110 companies from the top quartile of the London Stock Exchange was used by Abdelsalam *et al.* (2007). Nurunnabi and Hossain (2012) selected all 83 companies on the Bangladeshi Stock Exchanges (Dhaka and Chittagong). In South Africa, Nel (2004) and Nel and Baard (2006, 2007) respectively selected the top 40 and top 50 companies on the JSE. Roberts (1999), Venter (2002) and Barac (2004) selected the top 100 companies listed on the JSE, although the realised samples with websites were slightly lower. Nkonki (2012) also based their analysis of Integrated Reporting on the JSE Top 100 (based on market capitalisation).

The most popular measure of size in previous studies was usually market capitalisation or turnover. Given that the present study focuses on the investors and characteristics of the stock exchange, I considered market capitalisation a more appropriate measure than turnover. The 189 companies already identified were then ranked in terms of market capitalisation (high to low). This ranking was then compared to a separate ranking (high to low) of market capitalisation of all JSE companies listed on 31 December 2011, (the ranking on 31 December was used in other studies to determine the top 100). Because I anticipated that some companies might be excluded from the final sample because they are pure investment holding companies, this selection was drawn to include the *largest 112 companies* instead of only the largest 100, in order for substitution to be possible where necessary. This comparison added another 25 companies to the initial list of 188 companies.

For the purposes of supplemental analysis of the regression models without industry effects, it was decided to compile a further sample, namely a census of one of the nine main industry sectors of the JSE. As the regression model contains a large number of independent variables, it had to be a large sector for the analyses to be reliable. Due to the relatively small number of companies listed on the JSE, this eliminated most industry sectors. Therefore, I decided to combine the 'Consumer goods' and 'Consumer services' sectors of the JSE. Furthermore, Bowen (2006) suggests that consumer companies have a particular problem with the Internet, as they experience a marketing versus corporate communication conflict. This conflict arises because companies selling directly to consumers initially used their company website for online transactions with customers. The corporate divisions in those companies (which include the IR department) then struggled to establish non-selling sections on the company's website. Bowen (2006) also found that many such companies tended to relegate their IR sections to links at the bottom of the main home page, which required investors to scroll down to find it, or they established separate websites, one for selling, and another for other corporate information (Bowen, 2006).

The complete list of all the companies on the JSE on 1 June 2012 was then sorted per main sector. The consumer goods and consumer services sectors totalled 24 and 41 companies respectively. Comparing this selection to the combined list of companies required a further ten companies to be added to the selection in order to achieve complete representation of the consumer goods and services sectors.

The total raw selection then came to 223 companies. Seven pure investment holding companies and two dual listed securities (Investec PLC and Mondi PLC) were excluded because their equivalent South African share was already included in the sample. Six smaller companies did not have websites, and two websites were unavailable during the period when the analysis was done. One company was also excluded because it had delisted since the raw sample was drawn and when the primary data were collected. That left 205 companies (61 per cent of the population of 338) whose websites and IR pages were assessed for content, method of presentation and usability (as summarised in Table 5.2).

Table 5.2: Sample selection

Step followed	Number of companies
First draw – Listed before Sept 2002	188
To complete – Top 100 (included highest 112 per market capitalisation)	25
To complete – consumer goods and services sector	10
Raw selection	223
Delisted	-1
Pure investment and holding	-7
Dual listed (SA share already in raw selection)	-2
Site unavailable	-2
No website	-6
Final sample for assessment of online IR practices	205

The total market capitalisation of the selection was R6.3 trillion (R10¹²), representing 97 per cent of the R6.5 trillion market capitalisation of all listed ordinary equity on the JSE on 1 June 2012. Although a random sample was not calculated, the selection was wide and large enough to provide information on JSE companies' behaviour and characteristics. The list of companies in the sample is available in Appendix B.

5.6. Content analysis

Assessing what is posted on companies' websites implies that the content needs to be analysed. Mouton (2001:105) describes selecting and analysing texts as a key data collection method, with content analysis as a subgroup of this method. Content refers to words, meanings, pictures, symbols, themes or any message that can be communicated (Mouton, 2001:165). Mouton (2001:166) notes that one of the typical applications for content analysis as a research methodology is the analysis of public documents such as company annual reports. According to Holsti (1969:2),

...[c]ontent analysis is a multipurpose research method developed specifically for investigating any problem in which the content of communication serves as the basis of inference.

In addition, Du Plooy (2009:213) describes content analysis as a "methodology applied to explore, describe, and infer characteristics of messages". Mayring (2004:266) states that the goal of content analysis is the systematic examination of communicative

material. In the context of the thesis, the whole content of the IR website is deemed a message consisting of many parts.

Content analysis can be used to describe the characteristics of content (Holsti, 1969:42-67; Mayring, 2004:267) by doing the following:

- *Describing trends in communication content* – Du Plooy (2009:213) explains that a common use of content analysis is to record the frequencies with which certain symbols or themes appear in messages. In the present study, after analysing the data, conclusions are drawn about the state of current online IR communications compared to that found in prior studies by other researchers. This should highlight general developing trends over time, although not necessarily of the same population.
- *Auditing communication content against standards* – Du Plooy (2009:348) concludes that content analysis over a period of a month or two can be undertaken of communications disseminated by an organisation as part of a public relations audit. An extensive literature review was done and discussed in the previous chapters. From this, the disclosure checklist was compiled to represent a standard to be used for online investor communications. This is discussed in more detail in Section 5.6.1 Measurement instrument and categories. The content analysis should therefore reveal whether companies are conforming to the standard.

Holsti (1969:118) defines the *context unit* as the largest body of content that may be searched to characterise a recording unit. In the present study, the context unit was the entire company website. Companies structure the architecture of their websites differently. Some information is contained on the home page, other information on the investors' page etc. Different names are used; for example, some companies call the pages where most of the information useful to investors is found 'Investors', others call those pages 'Financials'. In order to be fair to the companies, in each case, the whole website was therefore scrutinized for the items on the checklist (see Section 5.6.1 Measurement instrument and categories).

The type of content analysis used for the present study conforms to what Mayring calls *structuring content analysis*. This technique seeks to “filter out particular aspects of the material ... or to assess the material according to particular criteria” (Mayring, 2004:269). The context units were assessed according to particular criteria determined

in advance, in other words, the measurement instrument. Therefore, not all information or messages in the context units were analysed or coded, but only those determined beforehand.

5.6.1. Measurement instrument and categories

Previous studies on web-based or online IR practices employed self-constructed checklists (or the self-constructed checklists of previous researchers) to evaluate the information which was published, and the formats in which the information was presented (Hedlin, 1999; Marston & Empson, 2003; Barac, 2004; Rowbottom *et al.*, 2005; Hodge & Pronk, 2006; Nothnagel, 2006; Nel & Baard, 2006, 2007; Bollen *et al.*, 2006; Cormier, Ledoux & Magnan, 2009; Cormier *et al.*, 2010; Boubaker *et al.*, 2012; Uyar, 2012; Nurunnabi & Hossain, 2012; Botti *et al.*, 2014). However, for this study, it was decided to use guidelines developed by website usability experts and tailored specifically for online IR practices.

The checklist was thus compiled from the second edition of *Designing websites to maximize investor relations usability – guidelines for investor relations (IR) on corporate websites*” by Loranger and Nielsen (2009). Loranger and Nielsen (2009) compiled their guidelines after analysing 94 websites and observing 63 users (finance professionals and individual investors) in usability studies (2009:4). Usability is defined by ISO 9241-11 as “the extent to which a system can be used by specified users to achieve a specified goal with effectiveness, efficiency and satisfaction in a specified context of use” (ISO, 1998). Research by the Nielsen Norman Group into the usability of websites found that websites should attract a visitor’s attention within ten seconds; otherwise, visitors would leave the site in increasing numbers during the next 20 seconds. The focus of usability guidelines is therefore on getting the user to the right information swiftly and making it easy for them to view and use the information (Nielsen 2011).

Abdelsalam *et al.* (2007:11) used the 2003 first edition of Loranger and Nielsen’s Guidelines as their measurement instrument. Loranger and Nielsen (2009:7) reported that after a period of six years between their two IR usability studies, investors continued to view/use websites in the same way. However, they noted that presentation features such as webcasts for analyst presentations were much more

prevalent (Loranger & Nielsen, 2009:7). This is in line with presentation features' becoming more advanced as the bandwidth in countries expanded over time.

To ensure validity of the measurement instrument, I cross-checked Loranger and Nielsen's (2009) guidelines specifically with those of the UK IRS (2012) and the higher-tier recommendations for annual report disclosure that users indicated they wanted in the Beattie and Pratt (2002) study. In reviewing prior studies, described in Section 4.4 Prior literature on predictors of online investor relations quality, I also observed that the present study's checklist covered at least those items contained in the more limited, self-constructed checklists (see also Table 6.1 for a comparison of the number of checklist items of a few studies). I concluded that the Loranger and Nielsen's (2009) guidelines were complete and comprehensive, especially with regard to presentation and usability guidelines and suitable for the present study.

The 103 guidelines compiled by Loranger and Nielsen (2009:29-193) were converted to questions/statements that accommodate a 'present/not present' answer. For example, Guideline 101 (Loranger & Nielsen, 2009:192) requires that for each IR contact, the time zone and hours of availability be provided. This facilitates connecting an investor in another time zone with the IR department of the company. In the measurement instrument used for the present study, this became two separate items, namely the time zone is provided (e.g. Greenwich Mean Time + 1 hour), and the hours of availability are provided. I did not use any Likert-style questions requiring opinion or interpretation, nor thematic coding in the conventional sense of qualitative research studies. All questions/statements referred to features that were electronically either present on a website or not, and were observable with the human eye.

The final number of items included in the checklist came to 201. The total included content items (for example, a description of the main products or services of the company), presentation items (for example, a webcast of the annual general meeting is available), as well as usability items (for example, e.g. the size in megabytes of Portable Document Format (PDF) files are provided next to the description of a downloadable PDF file, enabling users to gauge how long the download will take, depending on their own bandwidth). Checklist items were grouped into 11 categories:

- Getting to corporate information,

-
- Company information,
 - Shareholder information,
 - Share charts,
 - Financial and other reports,
 - HTML and PDF reports,
 - Calendar of IR events,
 - Presentations to investors, Contacting the IR department,
 - General usability, and
 - International aspects.

See Appendix C for the complete disclosure checklist.

The final checklist was then converted to an online format in LimeSurvey. This brought the following benefits:

- Checks and balances were built into the checklist that assisted in ensuring internal consistency. Certain items only opened up if a previous item was indicated as present – for example, detailed features of an interactive stock chart only opened up if such a stock chart was ticked as present.
- Having fewer items to tick saved time and speeded up the data collection process.
- Further guidance and hints were also provided for certain items to clarify the analysis (for an example, see Figure 5.1).
- Surveys could not be submitted unless all the required items were answered, ensuring that there was no missing data.
- The survey data were exported to MS Excel, which made capturing the data of manual checklists unnecessary and eliminated capturing errors.

Using LimeSurvey as a checklist-capturing tool is a methodological contribution from this study that can also be adopted by other researchers employing checklists.

Company Information

General information about the company, its products, directors etc. Also includes general communication by the company, i.e. press releases.

12 [b1]1. Is the following information available on the company's website (usually under 'Overview', 'About us' or 'Who we are' and sometimes on the 'Home' page)?

This should be available as menu items or clickable links leading to HTML webpages, or contained in subsections of a webpage.

*You should select 'NO' if you found it per chance somewhere in a presentation or financial report and it is only available in the presentation/report. **

Please choose the appropriate response for each item:

	Yes	No
The corporate overview ('Overview', 'About us', 'Who we are' or on 'Home' page) explicitly states what the organisation does in plain language.	<input type="radio"/>	<input type="radio"/>
Key corporate facts in the company overview are visually scannable, e.g. locations, number of employees etc.	<input type="radio"/>	<input type="radio"/>
More detailed company facts are available under 'Fact Sheet' or 'Company Snapshot'.	<input type="radio"/>	<input type="radio"/>

Figure 5.1: Example of guidance provided in the LimeSurvey checklist

5.6.2. Timeframe of content analysis

Two factors determined the timing of the content analysis. Firstly, there was a systemic shock to the disclosure environment in South Africa, and, secondly, I required funding for carrying out the content analysis.

The systemic shock came with the implementation of the King III Code (IoD, 2009) which required that an integrated report be produced for all financial years beginning on or after 1 March 2010 on an apply or explain basis. During this period of uncertainty

for the preparers of integrated reports, both the Integrated Reporting Committee (IRC) of South Africa and the International Integrated Reporting Council (IIRC) issued discussion papers (IIRC, 2011; IRC, 2011). Both these discussion papers provided guidelines for the additional information that companies needed to source, and for disclosure regarding their business models, risks, sustainability, outlook, etc. As already mentioned in Section 1.1 Background, and described more fully in Section 2.3 Investors' information needs, this information has been demanded by investors as far back as the Jenkins Report in 1994 (AICPA, 1994). I assumed that IR departments would leverage the information-generating process for their Integrated Report and communicate the same information on the IR webpages of the company (if they did not already disclose it before). As with any new process, time is required to improve compliance. I decided that 2011 would be too soon to investigate the online IR practices of the JSE-listed companies after this regulatory change.

Prior studies in South Africa (Venter, 2002; Barac, 2004; Nel & Baard, 2006, 2007) limited their studies to the largest 40 or 100 companies. In the present study, I wanted to capture behaviours across different sized companies. To increase the strength of the regression analysis, I required a much larger sample. However, for comparative purposes, the website content analysis had to take place in as short a time as possible. Given the extensive checklist, this required that more than one person would be required to do the content analysis. The progress of the study was therefore delayed until funding could be obtained. In 2012, funding was received from Unisa's Master's and Doctoral Support Programme. The funding would expire in December 2012 if I did not use it. I therefore decided to proceed with the content analysis. I negotiated with Unisa's Bureau for Market Research for access to their Computer Laboratory. This provided me with the equipment and Internet access for conducting the content analysis of the websites. Access to the laboratory was available during the third quarter of 2012. The content analysis therefore took place from July 2012 to mid-September 2012.

5.6.3. Pilot and data gathering

Any visitor to websites can attest to the fact that website content changes rapidly. McMillan (2000:85), in an analysis of published website research, found that, given continuous changes in the online content of websites, rapid data collection is essential.

Similarly, Sangster and Tyrrell (2004:316) advise that “data collection will almost certainly have to be done reasonably quickly...[or] the web will have moved on”. It was therefore imperative that the assessment of the websites be completed in the shortest time possible in order to increase comparability of the websites in terms of the available Internet technology and regulatory aspects. To shorten the content analysis period, and to cover more companies than just the top 100 during the time that the facilities of Unisa’s Bureau of Market Research were available to me, I decided to employ four post-graduate finance students, selected from the top of their class, to analyse the websites, using the online LimeSurvey checklist.

These students played a dual role in that they also proxied for private investors. Section 4.3.2 Disclosure regulations of the JSE described how the Internet has levelled the playing field for private investors by making information available to all market players simultaneously. Hodge, Kennedy and Maines (2004), Elliott, Hodge, Kennedy and Pronk (2007), Janvrin, Pinsker and Mascha (2013), and Basoglu and Hess (2014) argue that using *graduate business* students as a proxy for non-professional (private) investors is a valid methodological choice. Cormier *et al.* (2010) and Baral and Pokharel (2016) also used students for their website content analysis, but provided no further information about the students. Using post-graduate finance students therefore infused the results of the content analysis with the experience of private investors.

Training on the use of the LimeSurvey format was provided over three days at the Bureau for Market Research facilities. First, the students and I assessed the website of an international company, BASF, together, as an example of excellent online IR (BASF previously won awards from the IRS of the UK). Thereafter the students individually assessed the website of a South African company, Kumba Iron Ore, which was rated Excellent for its integrated reporting disclosure practices by Ernst and Young (2012:3, 2013:5). This assessment was done using a printout of the checklist. We then reviewed the results together and clarified uncertainties. The students then reviewed a second JSE-listed company on their own. This company had a very limited website, so that the students could see the difference between an extensive website and a perfunctory website. The results of each student’s checklist were once again reviewed together.

After this training, the companies in the sample were randomly allocated to the students, and they proceeded to review the websites from July to mid-September 2012, using the online LimeSurvey format. The content analysis of the individual websites was executed by toggling between the company website window and the LimeSurvey checklist window. If the students encountered any uncertainties, they contacted me. We then accessed the company website together and came to a joint decision.

5.6.4. Coding

The concept of ‘present on the website’ in this study needs clarification. The King III Code (IOD, 2009) requires the production of an integrated report from financial years beginning on and after 1 March 2010. In Section 3.4 Role of the Investor Relations (IR) department, I have pointed out how the various definitions for IR were very similar to the first aim of the Integrated Reporting Framework (IIRC, 2013), that is to improve communication with investors. Several of the present study’s content checklist items can also be described as complying with the spirit of the King III requirements for the integrated report. For example, the guideline “Acknowledge the challenges your company faces and explain the company’s plan to address them” (Loranger & Nielsen, 2009:58), is similar to recommended Practice 9.2.4:

The board should ensure that the positive and negative impacts of the company’s operations and plans to improve the positives and eradicate or ameliorate the negatives in the financial year ahead are conveyed in the integrated report. (IoD, 2009:50)

Furthermore, Ernst & Young (2012) and Nkonki (2012) reported that South Africa’s Top 100 companies were making good progress with implementing the King III Code reporting requirements (in either an ‘extended annual report’, an additional social responsibility report or an integrated report). Given these findings, it was therefore reasonable to expect that many of the items in the present study’s checklist would also be disclosed in a company’s integrated report. However, for the purposes of the present study, a distinction needed to be made between disclosing information in an integrated report (or similar report), whether in PDF or HTML format, and disclosing information on the IR pages of the website itself – this study is not about the completeness of integrated reporting, but about the use of the Internet as an IR communication channel.

In line with Cormier *et al.* (2010:330), an item was only ticked as 'present' if it was available on the company's website as a clickable menu item leading to an HTML webpage with the information. For example, the tab 'About Us' may contain a menu of information about the company, and one item may be 'Our Team'. Clicking on 'Our Team' takes users to a webpage with that name where users can find short biographies and photos of the board of directors. Alternatively, if they click on 'Our Team' inside the IR pages, and that takes them *directly* to the place inside the PDF or HTML annual or integrated report where the directors' biographies and pictures are provided, the item was ticked as 'present'. However, the item was not 'ticked' present if directors' biographies and pictures were only present in the PDF or HTML annual or integrated report, with no links back to the IR webpages, and the user had to use the website's 'Search box' to find the information inside the integrated or annual report.

The point of departure for effective online IR is presenting information that users will be interested in on the webpages themselves as 'permanent' information (much like the permanent information about an audit client) that is separate from financial and other reports available on the website. Information items were scored '1' and the absence of an item was scored '0'. Best practice items that were not applicable to all companies in the sample (for example, information on American Depository Receipts) were not included in the maximum number of points available.²⁸

A further focus of this study was on how well the presentation features of the Internet were used to communicate with investors (and other stakeholders). This analysis was required to determine whether companies had moved into Stage III of Hedlin's (1999) model, where Internet features are used which cannot be incorporated into printed communication material. Certain items, such as video tours of operations, interactive stock charts, social media links and links to brokers' consensus, were scored with a '2' if present, as it demonstrated additional effort to use the Internet's unique capabilities to communicate with investors. This weighting toward technology items is consistent with Bollen *et al.* (2006), Abdelsalam *et al.* (2007), Chang *et al.* (2008) and Cormier *et al.* (2009). Other checklist items addressed usability, for example, indicating the size

²⁸ The information was gathered (scored with *text* indicators 'yes' or 'n/a'), but not counted as part of the disclosure score, as it was not numerical.

of any downloadable file or indicating the office hours of the South African IR department in different time zones for international investors.

Finally, it was assumed that it was possible for each company to comply with each of the 201 recommended best practices for online IR, if they wanted to. If, for example, a company did not have an interactive share chart, I did not exclude those points from the total score, thereby artificially inflating the company's disclosure score. The point of a checklist based on best practices is that every company should be applying those practices. The results of the regression analysis described in Chapter 7 point out which company characteristics are associated with non-compliance.

A subtotal was calculated for each of the 11 categories and then an overall disclosure score (DS) was calculated, expressed as a percentage of the maximum available marks of 244. The total count for company j for category c with z number of items was calculated as follows:

$$Category_{jc} = \sum_{i=1}^z Score_j$$

The total online IR DS for company j over all 11 categories (201 items) was calculated as follows:

$$DS_j = \frac{\sum_{i=1}^{11} Category_{jc}}{244} \quad \text{or} \quad \frac{\sum_{i=1}^{201} Score_j}{244}$$

DS formed the dependent variable in the regression model that was developed to test the hypothesis that shareholder stability is associated with the quality of online IR practices.

Finally, the LimeSurvey results were exported to MS Excel. After reviewing the data for completeness in MS Excel, they were imported into version 23 of the Statistical Package for Social Sciences (SPSS) software for further analyses.

5.7. Regression model

Section 5.6.4 Coding described how the DS was determined. The DS was the dependent variable in the regression equation. The variable of interest was shareholder familiarity, which was proxied by the shareholder stability variable. Unlike, Bushee (1998), Bushee and Noe (2000), Gaspar *et al.* (2005), Yan and Zhang (2009), Ramalingegowda (2014) and Huang and Petkevich (2016), I did not have access to the portfolios of JSE companies' institutional investors (South African or overseas) to calculate their portfolio turnover in order for the institutional shareholder to be classified as transient, dedicated or quasi-indexers. Instead, I used the turnover or churn ratio of each JSE company's outstanding shares to calculate a measure for stability, which is indicative of an average investment horizon of its shareholders. Huang and Petkevich (2016:1023) observe "Intuitively, a higher average churn rate implies a shorter investment horizon." Share turnover ('trading intensity') was also employed by Souder *et al.* (2016) to obtain their 'capital patience' measure of investor horizon. Souder *et al.* (2016:1209) remark "...firms with less frequently traded shares typically have investors with greater tolerance for long-term investments."

The share turnover (trading) volume information was obtained for each company from INETBFA. To ensure that I captured a long-term profile of shareholder stability, I first calculated the share turnover ratio for each full year from 1 July 2002 up to 30 June 2011. The calculation of the share turnover for share 'X' for *one year* is as follows:

$$\frac{\sum \text{Daily volume of share 'X' sold for the full 12 months}}{\frac{\sum \text{Daily outstanding number of shares for share 'X' for the full 12 months}}{\sum \text{Trading days in the full 12 months}}} \quad \text{Equation (1)}$$

Note that some companies had annual share turnover ratios of more than one, in other words, they 'turned over' their number of outstanding shares more than once. For example:

- the total volume of shares sold was 3.25 million shares;
- the year had 240 trading days; and
- the outstanding number of shares was 3 million for each of the first 160 days and 3.1 million per day for the last 80 days.

In that case,

$$\text{Share turnover ratio for share 'X' in year } y = \frac{3.25}{\frac{[(3 \times 160) + (3.1 \times 80)]}{(160 + 80)}} = 1.071$$

In line with Lee, Strong and Zhu (2014:745), I only included companies with trading for at least 12 months as the initial trading after a listing (heightened market interest, as well as sponsoring investors selling off in the secondary market to take profit soon after listing) is not representative of the long-term trading of the share.

The long-term share turnover ratio is the following:

$$\frac{\sum \text{Equation (1) for each full year listed}}{\sum \text{Number of full years listed}}$$

Equation (2)

Using the average turnover for a nine-year period eliminated short-term fluctuations. The long-term ratio captures the percentage of shareholders that have been with the company for a long while and that are deemed familiar with the company. The nine-year period (1 July 2002 to 30 June 2011) also covered the pre- and post-2007/8 financial crises, when volume traded might have been unusual. Note that I excluded or lagged one year between the turnover data and when the DS was compiled with content analysis. I use a lagged variable to minimise the effect of potential endogeneity between the stability measure (average trading prior to July 2011) and the disclosure behaviour a year later (the DS after July 2012). Other researchers that also applied lagging to create temporal differences between the dependent and independent variable are Chen, Lim and Lobo (2016), Souder *et al.* (2016), Tan, Xu, Liu and Zeng (2015) and Yan and Zhang (2009).

I then used a reverse coding procedure to convert the turnover ratio into a measure for stability: the higher the turnover of a share, the lower the stability in ownership. The results of Equation (2) were sorted from large to small in order to find the highest turnover ratio, which was 1.41284 for Mondi Ltd. In Equation (3), I then used the next whole number, 'two', to determine the shareholder stability ratio by subtracting the average annual turnover derived in Equation (2) from two. This was done for each company in the sample. Souder *et al.* (2016) also employed reverse coding to obtain their 'capital patience' measure, but they subtracted an industry average turnover (instead of an upper range value), with results above and below the industry average.

Shareholder stability ratio (STAB9_lag) = 2 - Equation (2)

Equation (3)

The operationalisation and data sources of the independent variables are specified in Table 5.3.

Table 5.3: Variables – operationalisation and data sources

Variable	Operationalisation	Data source
DS	The disclosure score (DS) was obtained from the content analysis of each company's website according to the checklist. The distribution of the raw scores were considered normal for a sample larger than 200, the z-scores for skewness and kurtosis being less than 2.58 (Field, 2009:139). Visual observation of the distribution with fitted curve confirmed that the distribution was good. No transformation was applied.	Hand collected via content analysis of company website
FR_STAB9_lag_IDF	To improve the distribution curve for the stability measure, 'STAB9_lag' (as calculated in Equation (1) to (3) above) was first ranked according to fractions between 0 and 1. The case that had a ranking value of 1 was replaced with a value = $1 - (1/205)$, because the next step can only work with values smaller than one (Templeton, 2011:50). These fractional rankings were then transformed with the Inverse Distribution Function (IDF.Normal), where the mean = 0 and the standard deviation = 1. The resulting distribution was then normal.	Underlying turnover data from INETBFA
Controls:		
MCAPbillions	Market capitalisation from FTSE/JSE Index composition during June 2012, in R10 ⁹ .	JSE, 2012
LNCAP062012	In order to improve normality of the distribution, 'MCAPbillions' was transformed to its natural logarithm.	

Variable	Operationalisation	Data source
Age	Date that the company started trading on the JSE relative to 30 June 2012, in full years (months and days dropped).	INETBFA. System missing information on listing date was hand collected from the company's website.
LNAGE	A natural logarithm transformation was applied to 'Age' to achieve normality of the distribution.	
RoaA	Return on average total assets ratio for the financial year ending at least three months before 1 July 2012 (the start of the fieldwork). Average total assets were calculated as the average of the opening and closing total assets for the period. The lagged period of three months was to allow for preparing the audited financials of March 2012 financial year-ends.	INETBFA from the standardised financial statements.
RoaA_win	Five outliers in each tail distorted the distribution of 'ROaA' and these cases' values were winsorized (Tukey, 1962:19; Lei & Li, 2016:534; Souder <i>et al.</i> , 2016:1208)	
DE	Debt to equity ratio for the financial year ending at least three months before 1 July 2012 (the start of the fieldwork). The lagged period of three months is to allow for preparing the audited financials of March 2012 financial year-ends.	INETBFA from the published financial statements.
LNDE_Pub	In order to improve the distribution, the natural logarithm was used to transform this variable.	
Big4Auditor	Dummy variable coded '1' if auditors were Deloitte, Ernst & Young, KPMG or PricewaterhouseCoopers, otherwise '0'.	INETBFA
DualList	Dummy variable coded '1' if the company's shares were also listed on another stock exchange, otherwise '0'.	JSE

Variable	Operationalisation	Data source
IND	<p>Dummy variable coded '1' to '9' for the nine main sectors of the JSE. Telecommunications (three companies), oil & gas (two companies), and health services (seven companies) had too few cases to justify being in separate industry classes. These companies' main segments were reviewed in their annual reports, and reclassified into industrial, technology, or consumer services. The final statistical analyses were therefore done with six industry classifications. In the regression analysis, basic materials became the reference category. The coefficients of the other five industry variables therefore represent the difference to the constant.</p>	INETBFA and annual reports
ISSUE	<p>Dummy variable coded '1' if company had new issue of shares during the preceding 24 months before 1 July 2012. First, I calculated the change in issued number of shares from one year to the next. Then I identified those companies that had a change greater than five per cent. Changes in issued shares smaller than five per cent were 'allowed' to accommodate changes due to employee shareowner schemes (Jankensgård, 2015:869). Changes that were flagged were then manually confirmed with company documents as relating to additional issue of shares to the public or existing shareholders.</p>	INETBFA, and company documents on JSE SENS.

Variable	Operationalisation	Data source
Ownership concentration (OC):	<p>It is problematic in South Africa to obtain reliable information on the percentage of restricted shareholdings due to the prevalent use of nominee companies. Although INETBFA discloses directors' shareholding in various line items, percentages are not always consistent, which brings into question the reliability of this metric. Although I started to gather directors' shareholding percentages, I eventually abandoned this avenue.</p> <p>Information on free float is also difficult to gather as the JSE only publishes quarterly changes in free float indicators for index constituents, and not a complete list with current free float percentages.</p> <p>I therefore used the board independence indicator from the Orbis database of Bureau van Dijk as a measure of ownership concentration. I used the Independence Indicator for the last period recorded before 1 July 2012 as a measure of ownership concentration. The classifications were:</p>	Orbis database; Bureau van Dijk, 2016
None >25%	A = Attached to any company with known recorded shareholders none of whom have more than 25% direct or total ownership. This was coded 'None >25%', and is a rough indicator of a company with more dispersed shareholding.	
One or more >25%	B = Attached to any company with known recorded shareholders, none of whom had an ownership percentage (direct, total or calculated total) over 50%, but which had one or more shareholders with an ownership percentage above 25%. This was coded 'One or more >25%', and is indicative of a company with substantial block-holdings.	

Variable	Operationalisation	Data source
Controlled	<p>C = Attached to any company with <i>one</i> recorded shareholder with a <i>total</i> or a calculated total ownership over 50%.</p> <p>D = Allocated to any company with <i>one</i> recorded shareholder with a <i>direct</i> ownership of over 50%. Branches and foreign companies were also indicated using indicator 'D'. As there were very few Cs, I grouped Cs and Ds together, as these companies are 'Controlled'.</p>	
	<p>Eight cases were indicated with 'U' as 'uncertain' by Orbis. I referred to each case's annual report, specifically the Shareholder Profiles, and considered the shareholding of the top shareholders disclosed there. A code was assigned based on that information.</p> <p>In the regression analysis, None >25% became the reference category. The coefficients of the other two ownership concentration variables are therefore the difference in the constant.</p>	

The regression model and variables are therefore specified as follows:

$$DS = \alpha + \beta_1 FR_STAB9_lag_IDF + \beta_2 LNCAP062012 + \beta_3 OC + \beta_4 IND + \beta_5 LNAGE + \beta_6 RoaA_win + \beta_7 LNDE_Pub + \beta_8 Big4Auditor + \beta_9 DualListed + \beta_{10} ISSUE + \varepsilon$$

All statistical tests and analyses were conducted in the Statistical Package for the Social Sciences (SPSS), version 23. Various steps were performed to ensure that the requirements for employing OLS were not transgressed and that the output values were acceptable:

- The histograms of all continuous independent variables with a normal curve fitted indicated that the transformations of the respective continuous variables were successful.
- The histogram of the regression model residuals and the scatterplot of the standardized residuals plotted against the standardized predicted values visually

confirmed that there were no further undiscovered relationships between the variables in the regression model.

- The Breusch-Pagan test for heteroscedasticity of the residuals ($p=0.887$) indicated that the null hypothesis of constant variance of the residuals could be accepted. Regressing the model residuals on the 15 variables of the model ($p=0.697$) also indicated constant variance in the residuals. The null hypothesis of homoscedasticity could therefore be accepted.
- None of the independent variables correlated perfectly (see the univariate results in Section 7.4 Univariate analyses).
- Variance Inflation Factors (VIFs) were all below 2.5, which are well below ten or even five, and indicates that collinearity was not an issue (see the regression output in the multivariate results in Sections 7.5 to 7.7) (Field, 2009:224).
- Reference categories were used for the two categorical variables that had more than three categories:
 - For ownership concentration, 'None >25%' (representing more dispersed shareholders) was the reference category.
 - For industry, the 'Basic materials' sector was the reference category.
- The OLS was run on cross-sectional data for one point in time, so there was no need for firm and year fixed effects. The Durbin-Watson statistic for serial correlation of the residuals was therefore not applicable.
- As a final control, I verified from the output tables in SPSS that the lower and upper bounds at a 95 per cent confidence level for the coefficients of all the *significant* predictors did not cross zero, meaning that the lower bound coefficient value being negative whilst the upper bound coefficient value being positive.

Tables and graphs for the outputs are available in Appendix D.

5.8. Reliability, validity and limitations

De Vos *et al.* (2005:163) define reliability as “the extent to which independent administration of the same instrument (or highly similar instruments) consistently yields the same (or similar) results under comparable conditions”. The four graduate finance students that assessed the websites had three days of extensive training on using the measurement instrument (checklist). I assisted whenever there was uncertainty during the content analysis of the 205 companies in the sample. The checklist items tested

for the presence or absence of certain information, as well as presentation formats (HTML, PDF, video). This did not require deep insight or considered judgement. As these were top-class finance graduate students, it can safely be assumed that they understood what to look for, and would recognize it after three days' training. The checklist contained no questions involving perceptions or feelings that are ordinarily measured on a Likert-type scale. Therefore, this study is not classified as an opinion survey of some latent construct.

Checklist items were grouped into 11 categories. The nature of the checklist item (guideline) determined in which category it would fall. There was no ambiguity about it – for example, 'The stock chart displays the date' fell into the share charts category. This grouping into categories was determined upfront by me and there was no need for the students to make a judgement each time. The coding rules were very straightforward (present or not) and the electronic measurement instrument in LimeSurvey contained additional guidelines.

Holsti (1969:143) argues that if the purpose of a study is mainly descriptive, content validity can usually be established through the informed judgement of the investigator(s). The first research objective of this study was to determine what the online IR practices of JSE-listed companies are, and this would be classified as a descriptive objective. The measurement instrument was verified by comparing two expert guidelines for best online IR practices (Loranger & Nielsen, 2009; IRS, 2012) to each other, as well as information items from the Beattie and Pratt (2002) study. Reviewing checklist items in previous studies, as discussed in Section 4.4 Prior literature on predictors of online investor relations quality, also confirmed that the present study's checklist measured at least the same information as other studies, but in more detail. I am therefore confident that the checklist was valid for measuring the quality of JSE-listed companies' online IR activities.

Reliability of the financial information for the independent variables was increased by sourcing it from INETBFA and Bureau van Dijk, both leading providers of financial and JSE information in South Africa. The reliability and validity of the regression model developed to test the hypothesis was enhanced by using the assistance of a trained statistician to assist with the data analyses. Running the analyses in SPSS software

also ensured that the process was structured, as the test statistics indicate when certain assumptions are violated.

Section 5.7 Regression model already described what transformations were required to improve the normal distribution of the variables. Chapter 7 Results and discussion of the regression model, elaborates on the measures taken to comply with the requirements for running an OLS regression and the robustness tests undertaken.

The main limitation of the study is the fact that websites, by their nature, change continually. There was no facility to save or preserve complete websites 'as is'. Copyright protection might also be a problem if one attempted to do this. It is therefore not possible to verify the results after the fact. However, this applies equally to all the prior studies discussed in the literature review in Sections 3.7.3 and 4.4. The exception is Abdelsalam *et al.* (2007), who saved the websites they used with an Internet Explorer functionality that is no longer available.

I acknowledge that assessing each website only once is a potential shortcoming. However, I contend that the students acted as proxies for private investors from the general population, who might also have overlooked some information if they had participated in the survey. It is in fact a feature of good usability that users should be able to find information quickly and easily. Nel and Baard (2007) remark that time spent to evaluate websites was limited to 15 minutes per company as "important information should be available easily and at first glance". The method of data collection in the present study therefore erred on the conservative side by perhaps accepting that an item is not present, when in fact it was, and could be found by further searching on the website (which is not the point of usability). Barac (2004:3) similarly acknowledged that despite best efforts information might be overlooked and that her results were likely an underestimate rather than an overestimate of actual reporting. Given the quality of the post-graduate finance students (from the top of their class), the three-day intensive training provided and the additional guidance in the electronic checklist, it is doubtful whether a second review of the websites would yield a different result.

Other limitations of the study are the following:

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- It was a cross-sectional study measuring variables at a point in time for 205 companies. Repeating the study for more years could provide more data points that would improve the effect size of the sample.
 - An assumption was made that even though private meetings might take place between companies and their large investors, no value-relevant information are disclosed in these meetings which is not already in the public domain. I rely here on the reputation of the JSE as a highly regarded exchange and for its protection of minority rights (WEF, 2012:325), which would include minorities having equal access to information. Furthermore, most CFO's of JSE-listed companies are members of professional accountancy bodies whose members are required to abide with high ethical standards regarding compliance with laws and being fair.
 - This study focused only on the information requirements of investors and did not include information required by other stakeholders, such as trade unions, environmental groups, or the government. In some cases, the information items might overlap in any case. In terms of what sustainability means, it is in the long-term interest of the shareholders that a company not only addresses economic issues, but also environmental, social and governance issues. The measuring instrument did check whether or not companies provided a sustainability or corporate social responsibility report or integrated report. However, it was not the purpose to evaluate the content of these reports in depth.
 - The focus was a selection of South African companies listed on the main board of the JSE. Non-listed companies were excluded, as investors in those companies are aware of the risks of non-tradability, etc. Investors in small non-listed companies would normally be directly involved in the management of the company or have direct access to management in order to gain the necessary information. Information asymmetry was therefore not applicable in their case.
 - As I explained in the background to this study, the content analysis was limited to the dissemination of information on companies' websites by the IR department. It therefore excluded other forms of communicating information, such as printed annual reports, printed press releases, or emails to investors, and other sources of information about a company, such as articles in the financial press. To the extent that electronic copies of annual reports and press releases are available on the website, they were included. Investor Days and Results Conference Calls are also means by which an IR department can communicate with investment professionals.

However, as this study focused on publicly available information that private investors can access, it was only assessed if it was placed as a webcasts on the website (with or without a transcription and slides). The website was the only communication channel used to assess the quality of IR practices for the purposes of this study.

5.9. Summary and conclusion

In this chapter, I described my epistemological and ontological view of the world and the research process used to observe that world. A rationale was provided for choosing the programme evaluation research design as the most appropriate method to establish the quality of the online IR practices of JSE-listed companies. In Table 5.4 the two primary objectives are summarised, as well as the research design to accomplish those objectives.

Table 5.4: Summary of research objectives and research design

Research objectives	Research designs
<p>1. Determine the quality of the voluntary communications of JSE-listed companies as manifested by their online IR practices.</p> <p>1.1. Reach a conclusion regarding the stage of development of South African online IR (using Hedlin's model).</p>	Content analyses of the websites.
<p>2. Develop a model that explains the quality of the online IR practices of JSE-listed companies and test the thesis hypothesis:</p> <p><i>H₀ = There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).</i></p>	<p>OLS regression model.</p> $DS = \alpha + \beta_1 \text{ShareholderFamiliarity} + \beta_2 \text{Size} + \beta_3 \text{OwnershipConcentration} + \beta_4 \text{Industry} + \beta_5 \text{Age} + \beta_6 \text{Profitability} + \beta_7 \text{Leverage} + \beta_8 \text{Big4Auditor} + \beta_9 \text{DualListing} + \beta_{10} \text{IssueNew} + \varepsilon$

Source: Author

A sample of 205 companies was selected from the JSE main board in various stages, resulting in three subsamples: companies listed for longer than 10 years, companies in the top 100 according to their market capitalisation, and companies belonging to the consumer goods and services sector. The checklist used as a measurement instrument was based on the guidelines of Loranger and Nielsen (2009). The checklist was verified for its validity and completeness against the IRS of the UK's guidelines and a previous study on users' requirements for annual reports (Beattie and Pratt, 2002). Content analysis was conducted by four post-graduate finance students from July to mid-September 2012 with financing from Unisa's Masters and Doctoral Support Programme.

The operationalisation for the test and control variables in the regression model was described. Most continuous variables needed to be transformed to obtain a better distribution. Information about the companies was obtained from INETBFA and Bureau van Dijk. In this chapter, I also outlined the procedures employed to improve the validity and reliability of the statistical analyses. The main limitation of the study (as of most similar studies) is that the websites could not be saved or recreated at another point in time in order to reassess them.

The results from the website content analysis are discussed in the next chapter.

CHAPTER 6

RESULTS AND DISCUSSION FROM THE CONTENT ANALYSIS

6.1. Introduction

The previous chapter described the methodology followed to accomplish the primary research objectives of this study. In this chapter, the findings in respect of the first primary objective – determining the quality of online IR in South Africa – are discussed. Overall results for the full sample and the top 100 companies are discussed first. I compare these results to those of similar studies in other countries, bearing in mind differences in economic development and bandwidth speeds. Thereafter, the results per category and the top and bottom five guidelines in terms of compliance, in each category are described in more detail. The chapter ends with conclusions regarding the stage of online IR in South Africa, as required by the secondary research objective.

6.2. Overall findings for 205 companies and top 100 companies

The frequencies and descriptive statistics based on the comprehensive disclosure score for each of the 205 websites analysed, as well as the top 100 companies are presented in Figure 6.1. The mean score for the total selection is 39.78 per cent, with a standard deviation of 13.55 per cent. The graph clearly indicates a wide distribution. The mode, based on binning in five per cent increments, for the full sample is located between 30 and 35 per cent and contains 30 companies. The distribution is slightly negatively skewed, with a negative kurtosis due to the wide distribution of scores. The mean score for the top 100 companies is higher at 47.85 per cent, with a slightly lower standard deviation of 11.26 per cent. The top 100 mode, based on binning in five per cent increments, is located between 55 and 60 per cent and contains 21 companies. The shift to higher scores led to an increase in the negative skewness of the top 100 distribution. Within the top 100 companies, it would seem that normative isomorphism might be playing a role as the scores are higher, with a smaller standard deviation and a mode of 21 companies lying between 55 and 60 per cent. The mode, based on individual scores, is 61.07 for both the full sample and the top 100 companies and consists of five companies.

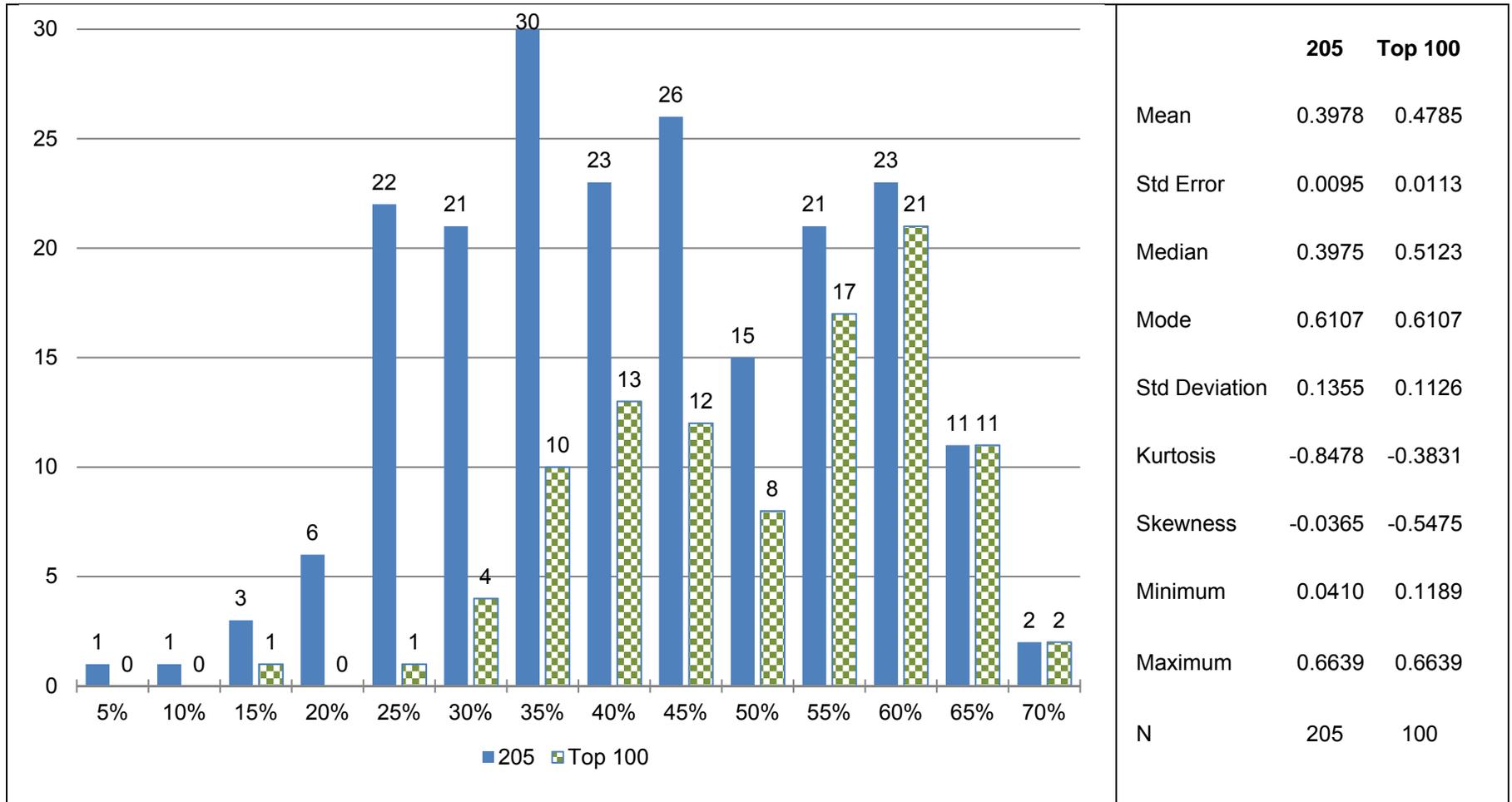


Figure 6.1: Frequencies and descriptive statistics for the total online IR scores

As argued in Section 3.7.3 Disclosure on South African corporate websites, I expected South African companies to perform well, based on the Ernst and Young (2012), Nkonki (2012) and WEF (2012) findings. The overall mean score of 39.78 per cent was therefore disappointing. The lower performance of the South African companies in the current study may be attributed to the fact that the study included 205 companies, and not only the top 100. Roberts (1999), Venter (2002), Barac (2004) and Nel and Baard (2006, 2007) did not report composite IR scores as these initial studies were exploratory.

When the scores are grouped per market capitalisation, the effect is slightly better for the larger companies. Figure 6.2 indicates that the mean score for the top 50 companies per market capitalisation was 50.5 per cent, versus 28.3 per cent for the bottom 55 companies. It seems that companies with a smaller market capitalisation did not make much of an effort to use their website to communicate effectively with investors. The results for the top 100 companies was also unsatisfactory, in that 49 of the top 100 companies scored below 50 per cent – the lowest score in this group was 11.9 per cent.

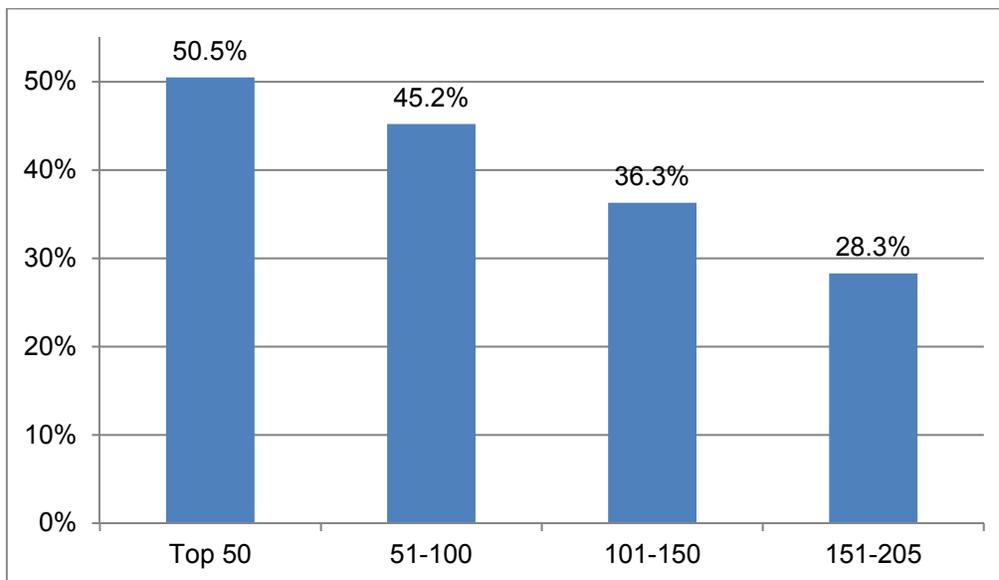


Figure 6.2: Average score per market capitalisation grouping

The average score of 47.85 per cent for the top 100 companies is slightly below the promising findings of Ernst and Young (2012) and Nkonki (2012) regarding integrated reporting disclosure practices of the top 100 companies. For larger companies there

seems to be synergy between information disclosed on the company's website and the content of its integrated report. One possible explanation for the much lower IR scores of smaller companies in the present study's sample may be that their CFOs and IR departments were focusing on adapting to the integrated reporting requirements of the King III Code (IoD, 2009) over the previous two years, and neglected the website as a communication channel. One hopes to see synergies from the integrated report of smaller companies flowing to the website in future, as many of the content items of the integrated report (such as risks and future plans) also occur in the IR best practice guidelines (IRS, 2012; Loranger & Nielsen, 2009) and should in any case be communicated in the integrated report. In Section 7.5, I report on the multivariate regression model and the result of the hypothesis test regarding the role that shareholder familiarity plays in depressing the information environment of companies.

In Table 6.1, the study's total disclosure score is presented, together with those of a selection of reported studies from other countries that used checklists containing more than 35 items. In terms of comprehensiveness, the present study's checklist has most in common with the study of Abdelsalam *et al.* (2007), which reported incorporating items from Loranger and Nielsen's earlier guidelines published in 2003 – note that the present study's checklist is based on Loranger and Nielsen's (2009) guidelines.

In respect of its financial institutions, South Africa was ranked first in the 2012-2013 Global Competitiveness Index (WEF, 2012:325) for its regulation of securities exchanges, together with the strength of its auditing and reporting standards, and the efficacy of its corporate boards. The soundness of banks and availability of financial services were both ranked second. Financing through the local equity market was ranked third. Given this *institutional regime*, one would expect a disclosure score of higher than 39.78 per cent, and more in line with the disclosure scores found in the UK and US studies which contain the world's leading stock exchanges. The score of the present study's top 100 companies are better, but still not comparable to that of Abdelsalam *et al.*'s (2007) UK study (110 companies), as well as the later results of Yanyie and Wan (2013) for the UK (top 30 companies) and the US (Dow30).

Table 6.1: Comparison to online disclosure scores of international studies

Study	Exchange	Primary data gathering ²⁹		No. of companies	No. of items in checklist	Disclosure score and standard deviation	IMF class ³⁰
		Download speed ³¹					
Abdelsalam <i>et al.</i> (2007)	London	Mid 2005		110 from top quartile (market cap)	143	66% (9%)	AE
		Not available. Oldest – Jan 2008:4 Mbps					
Desoky (2009)	Egyptian	Feb 2008		57 companies from three indices	39	37% (31%)	EMDE
		0.5 Mbps					
Uyar (2012)	Istanbul	Feb 2009		All 14 from Governance Index; 29 random (rest of exchange)	67	54% (SD not reported)	EMDE
		2.55 Mbps					
Nurunnabi & Hossain (2012)	Dhaka and Chittagong (Bangladesh)	Dec 2009		All 83 with websites	56	32% (20%)	EMDE
		0.48 Mbps					
Yanjie & Wan (2013)	USA	Jan – July 2012	12.9 Mbps	DOW30	76	60% (6%)	AE
	UK		14.6 Mbps	top 30 from FTSE100		60% (6%)	AE
	Hong Kong		36.91 Mbps	Hang Seng Index (48)		33% (9%)	AE
	China		6.69 Mbps	CNINFO40		31% (10%)	EMDE
This study	Johannesburg	July – mid-Sept 2012		205 various	201	40% (14%)	EMDE
		3.29 Mbps		top 100		48% (11%)	

Being listed on a foreign stock exchange (in addition to the local exchange) was found to be significantly positive for online financial reporting quality by Debreceny, Gray and Rahman (2002), Bollen *et al.* (2006) and Desoky (2009). Of the top 100 JSE-listed companies, 27 were also listed on UK, US or European exchanges.³² Although the South African top 100 companies' mean score of 47.85 per cent is slightly better than the full

²⁹ The studies are listed according to the dates on which the primary data was collected (via content analyses of the websites), not according to when the results were finally published.

³⁰ AE = Advanced Economy; EMDE = Emerging Market and Developing Economies (IMF, 2014:163-165)

³¹ Average download speed is given in Mbps per country during the data collection period (Ookla, 2014). Data is only available from January 2008 onward.

³² These 27 companies do not necessarily form part of the top 30 or top 100 of those foreign exchanges, given that their market capitalisations are much higher– see Section 4.2.

sample's score, it is still low, given that more than a quarter are also listed on major overseas stock exchanges. The present study's comparatively poorer results are probably related to the difference in the market capitalisation of the companies included in the studies of Debreceeny, Gray and Rahman (2002), Bollen *et al.* (2006) and Desoky (2009), which considered much larger companies. The results of the regression model (see Section 7.5) provide more clarity on the role of size and listings on foreign exchanges in a multivariate analysis of the factors associated with the quality of online IR practices in South Africa.

In the context of South Africa's *economic classification* as an emerging market and developing economy (EMDE) (IMF, 2014:163–165), the average disclosure score of all 205 companies is better than those reported in all other EMDE countries, except Turkey. In general, it also seems that the scores achieved in studies in the emerging markets were lower, and displayed greater variability in companies' IR relations. It seems that again, size in terms of market capitalisation may have an influence, since the DOW30 and FTSE100 companies in advanced economies, are much larger in terms of their market capitalisation than the JSE and other EMDE companies.

Finally, considering the effect of *available bandwidth* at the time of the individual surveys, South Africa performed worse than the UK and the USA (Yanjie & Wan, 2013). These countries' available bandwidths were almost four times higher than South Africa's in 2012 (the study period). Comparative bandwidth data had only become publicly available on the NetIndex (Ookla, 2014) for countries from January 2008. Therefore, I had to assume that the bandwidth for Abdelsalam *et al.*'s (2007) earlier UK study during mid-2005 would have been lower than the four megabytes per second (Mbps) reported in January 2008. The average score of the South African top 100 companies (47.85 per cent) at an available bandwidth of 3.29 Mbps is lower than the 66 per cent score of the 110 UK companies reported in Abdelsalam *et al.* (2007). South Africa performed better than the other developing countries, which had lower available bandwidth, notably Egypt, Turkey and Bangladesh, and even China, who had higher bandwidth. A country's available bandwidth therefore also seems to play a definite role in the extent to which the features of the Internet can be used for online IR.

The main findings per category will be discussed next.

6.3. Main findings per category

This section provides more detail on how companies performed in each of the 11 broad categories of online IR practices. The results are summarised in Figure 6.3. The categories that achieved the best scores were ‘Getting to corporate information’ (96 per cent) and ‘General usability’ (76 per cent). The low overall mean score is mostly due to low ratings for the categories ‘Presentations’ (19 per cent), ‘Contacting the IR department’ (19 per cent), ‘Calendar of IR events’ (31 per cent), and the ‘Share details’ (33 per cent). These categories also had high standard deviations, which reflect wide disparities between companies’ practices. The top 100 companies performed between nine and 11 per cent better in these categories, but still scored below 50 per cent.

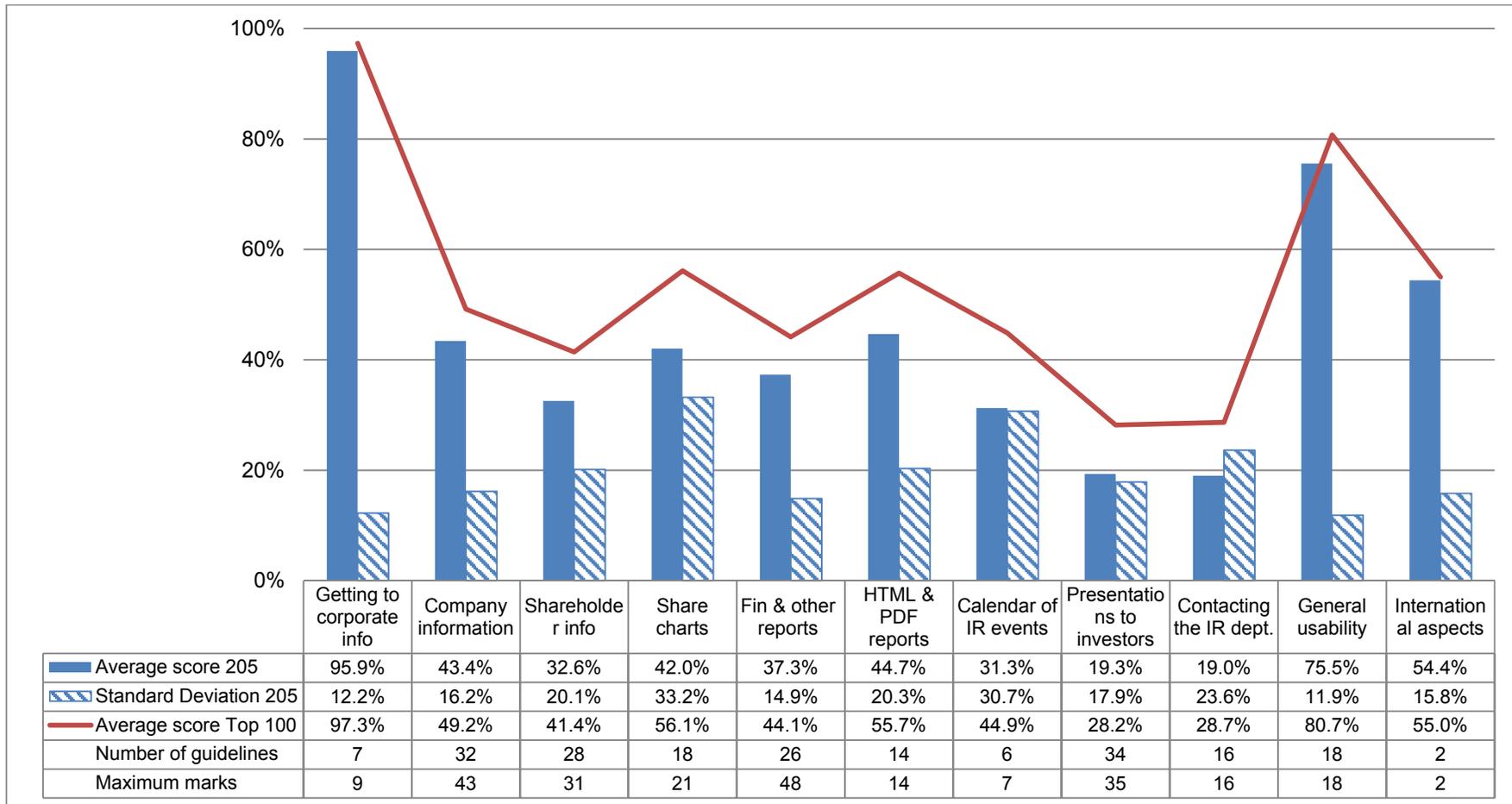


Figure 6.3: Online IR scores per main category

The results for each category are now discussed in more detail.

6.3.1. Getting to corporate information

Figure 6.4 presents the distribution in scores for the category ‘Getting to corporate information’. Companies did very well in getting users to visit their websites and the IR webpages, as 188 companies scored above 80 per cent. This resulted in a mean score of 95.93 per cent.

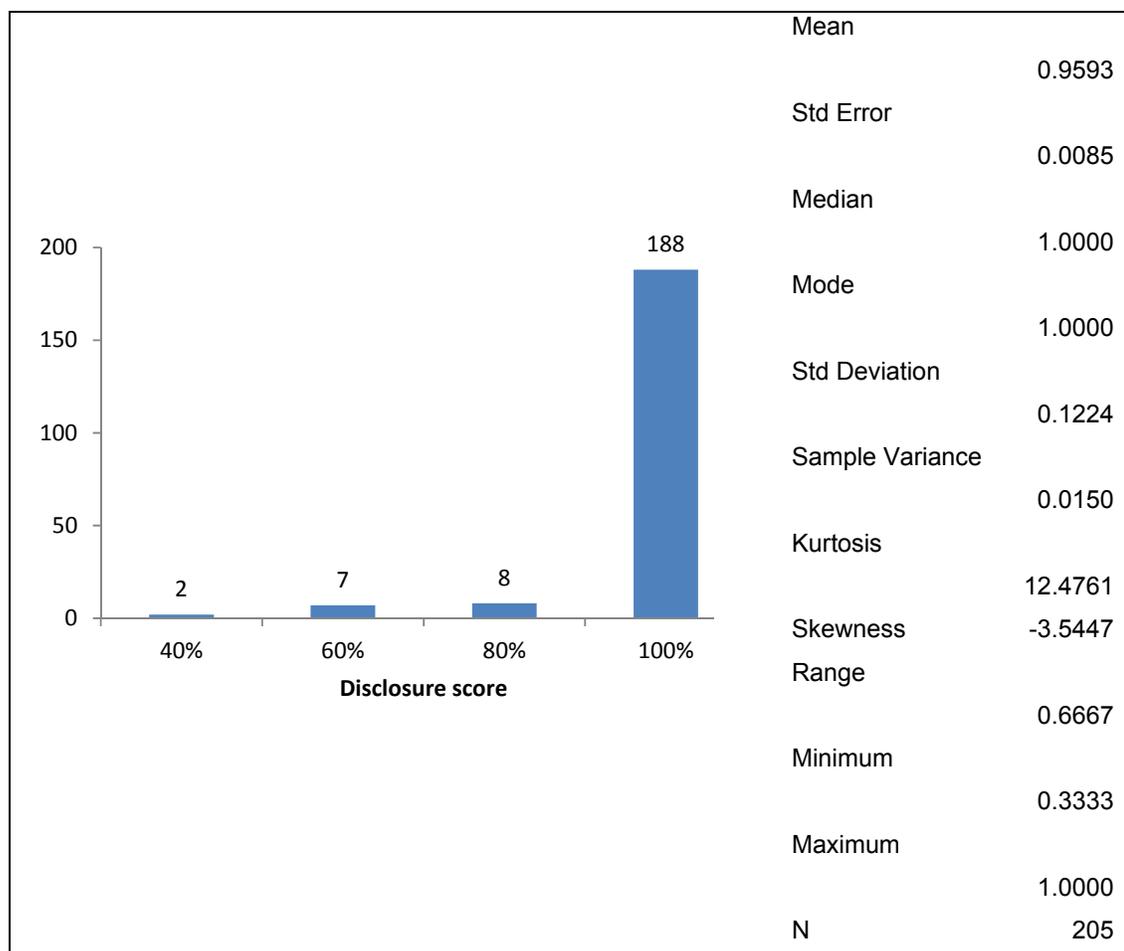


Figure 6.4: Frequencies and descriptive statistics: Getting to corporate information

The scores for the individual guidelines are presented in Table 6.2. It was easy to find the company’s website address (URL) by guessing the web address, or the browser search engine listed the correct address in the search results under the top three results (top result = 92.7 per cent, second result = 3.9 per cent, third result = 3.4 per cent). All the companies hosted their websites on their own site, which is an indication

of the maturity of website development in the South African corporate environment. With regard to communicating with investors, it is important that the IR pages are separated from the other pages of the company website (95.1 per cent) and that investors can find the IR link easily on the 'Home' page with one click (94.6 per cent). In 93.7 per cent of websites, the IR link was easy to see. An IR link was present on every page of the website in 94.1 per cent of the websites, or there was a link to the IR pages from at least the 'About Us' or the 'Overview' pages (2.6 per cent). Six companies had no links from either the website's 'Home' page, or the 'About Us'/'Overview' pages.

Table 6.2: Guidelines: Getting to corporate information

Guideline	% compliance
URL easy to guess	99.5
Top three Google search result	100.0
Own site (not hosted)	100.0
IR pages separate from commercial pages, etc.	95.1
One click to 'IR Home' page from website 'Home' page	94.6
IR link easy to notice	93.7
IR link on every page, <i>or</i> Link to IR in 'About Us'/'Overview'	94.1 2.9

6.3.2. Company information

Results for the category 'Company information' are presented in Figure 6.5. This grouping contains information about the company's products, risks and strategies, why one should invest in it, the board of directors, news and press releases, social networking and means to stay updated about what is happening in the company. The mean for this group of guidelines was only 43.39 per cent. This is disappointing, as this is the area where an investor would normally look for non-financial voluntary information (apart from CSR/Sustainability reporting, which should be available under 'Reports' or 'CSR'). In addition, this area contains most of the guidelines that would describe the governance of the company. Investors have been asking for these types of information to make their investment decisions since the Jenkins report (AICPA, 1994). In Section 3.4, the primary role of the IR department was defined as communication that "enables a full appreciation of the company's business activities,

strategy and prospects and allows the market to make an informed judgement about the fair value and appropriate ownership of a company” (IRS, 2013). Irrespective of the fact that King III (IoD, 2009) recommendations only came into effect in 2010, South African IR officers and CFOs that take transparency and accountability seriously, should have disclosed this value-relevant information to their investors.

The five most applied guidelines for company information in terms of compliance are presented in Table 6.3. In this sample, 97 per cent of companies made it very clear what the company did and 92 per cent gave a more detailed description of the main product or service segments in the group. In a similar vein, key facts about the company (locations, number of employees) were offered in one place and were easy to scan in 84 per cent of cases. These guidelines are intended to ensure that the investors at least understand the market in which a company operates. Providing a fuller picture, 56 per cent of companies described their value proposition (strategic plans, new products, and business outlook; not tabulated). However, only 35 per cent acknowledged the challenges or risks the company faced, and how the board planned to address it (not tabulated). These guidelines should be followed better as companies begin to comply more fully with the Integrated Reporting principles. Under the ‘Board of directors’ menu, 91 per cent and 89 per cent of companies offered the names and titles of directors respectively. Short biographies of each director were provided by 77 per cent of companies (not tabulated). Compliance with these guidelines is crucial in creating confidence in the investor regarding the skills and experience of the management of the company.

Table 6.3 also shows compliance with the five least applied guidelines. Under the board of directors menu, no companies provided downloadable, high-quality photos of directors for use in press articles or transcripts of speeches by directors.³³ Only one per cent of companies provided downloadable presentations given by specific directors under their profiles. Links to company blogs were provided in six per cent of cases, which is an indication that companies do recognise the social media trend (although this was not as strong in 2012 as it is now). In addition, 24 per cent of companies provided links to various social media sites (not tabulated). It is also disappointing that

³³ Photos of directors were provided by 70.2 per cent of the companies in the sample, but this is not the same as downloadable photos in a ‘press kit’.

only 11 per cent of companies provided a downloadable fact sheet or company snapshot. It would enable the user to save the file on their computers without needing to refer to the company website every time, or printing a hard copy. Online fact sheets were provided by 29 per cent of companies (not tabulated).

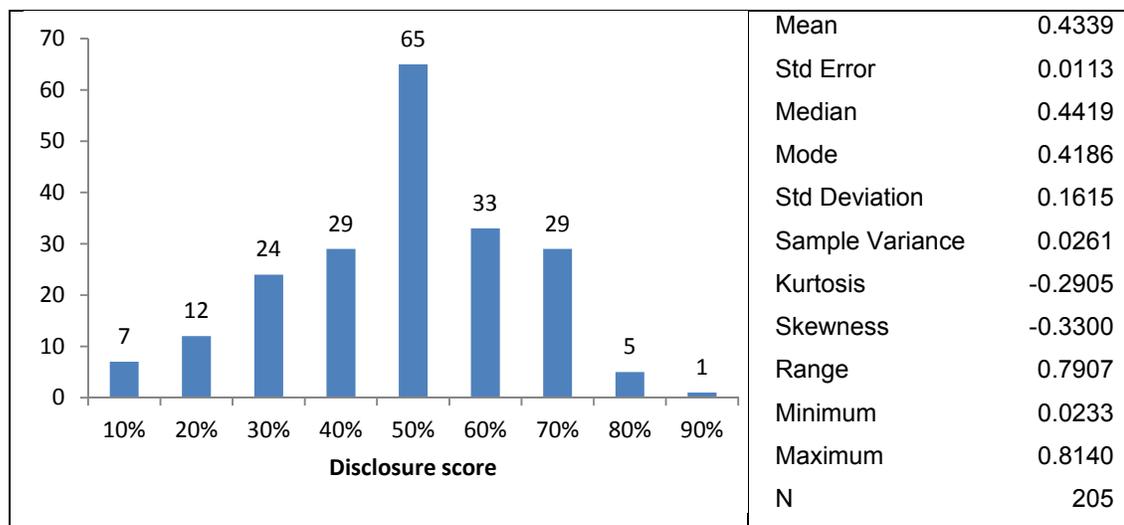


Figure 6.5: Frequencies and descriptive statistics: Company information

Table 6.3: Selected guidelines: Company information

Top five	%	Bottom five	%
Clear what company does	97.1	Downloadable director photos	0
Product/service segments explained	93.7	Transcripts of speeches by director	0
Director's name	90.7	Download presentations by director	1.0
Director's title	89.3	Link to company blog	5.9
Key facts scannable	84.3	Fact sheet/snapshot downloadable	10.7

6.3.3. Shareholder information

Figure 6.6 displays the results for the guidelines on 'Shareholder information'. Guidelines in this category address the availability of a share quote, shareholder distributions, dividend policy, details of analysts following the company, and who the company's corporate advisors are. The average score was again disappointing, at only 32.57 per cent. About ten per cent of the sample, 21 companies, displayed no share details and forms the mode for this distribution.

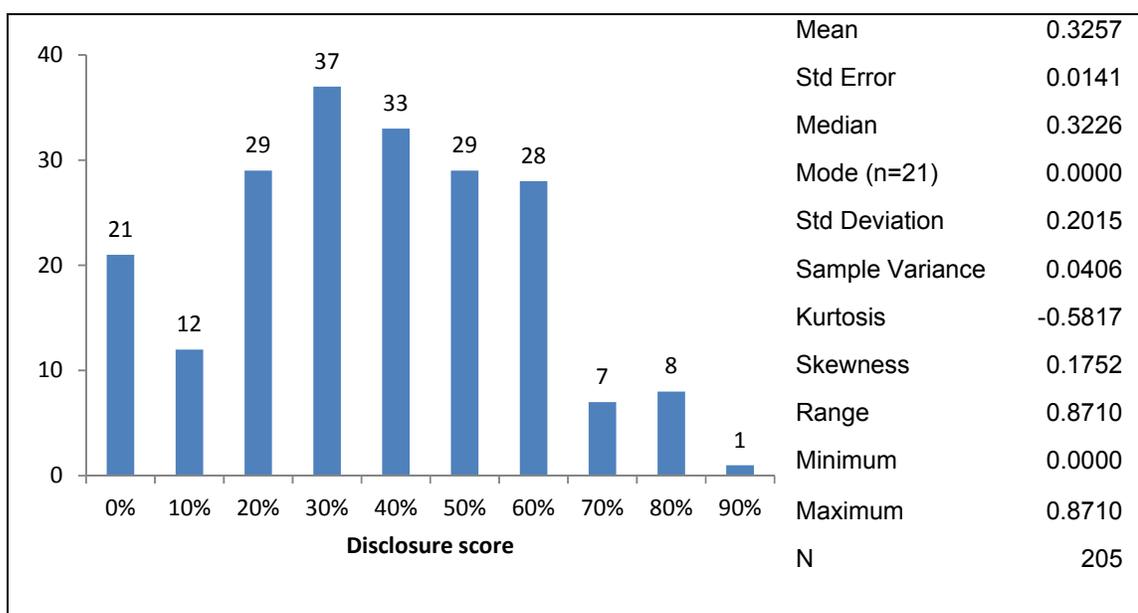


Figure 6.6: Frequencies and descriptive statistics: Shareholder information

The five most applied guidelines regarding 'Shareholder information' are presented in Table 6.4. These five guidelines relate to the provision of a share quote on the company's home page, reflecting the latest trading price for the share. This is one of the key pieces of information that any investor would be looking for when accessing the website, but only 71 per cent of companies provided such a quote. The share quote should be an interactive feature, reflecting the latest updated price (usually there is some lag, for example, fifteen minutes). The latest price was provided by 65 per cent of companies, 61 per cent provided the date, and 57 per cent provided the volume traded so far for the day. Only 62 per cent of companies included their share's ticker symbol for each of the exchanges on which it is traded. This information would enable investors to access a third party site if they needed more information, as most shares are referenced by their three-character ticker symbol.

Table 6.4: Selected guidelines: Shareholder information

Top five	%	Bottom five	%
Share quote highly visible	70.7	Dividend policy described	5.9
Latest trading price displayed	65.4	Analyst email address	6.3
Ticker symbol provided	62.0	Explain how to buy a share	6.8
Updated: date	61.5	Link to Brokers' Consensus	10.2
Volume traded	57.1	International format for analyst's telephone number	11.2

The five guidelines with the lowest compliance in the ‘Shareholder information’ category are also in Table 6.4. The guideline calling for describing the company’s dividend policy had the lowest compliance, at only six per cent. For many retail investors, this is an important piece of information, which influences their decision to invest in a company. Companies should make more effort to describe their dividend policies. Providing contact details of analysts following the company and links to brokers’ consensus on third party sites would enable investors to contact the analysts and enhance the credibility of the website, as external confirmation can be obtained. However, only six per cent of companies provided the email address of analysts following their company and only ten per cent provided links to the brokers’ consensus. In the same category, only 11 per cent provided the local analysts’ telephone details in international format (for ease of use by international investors). Companies should not only cater for the large or institutional shareholders, but should also accommodate smaller retail investors. For this purpose, explaining how their share can be bought is very useful. However, only seven per cent provided this information.

6.3.4. Share charts

Another useful tool for investors is a share chart that reflects the performance of the share over time and which should allow comparison to relevant indices and even competitors’ shares. Figure 6.7 reflects the performance of companies in the category ‘Share charts’. A disappointing one third of companies (67 out of 205) had no share chart, which contributed to the low average score of 42 per cent. A share chart was provided by 59 per cent of all companies on their own website (although data is provided by INETBFA or similar service providers) and 12 per cent provided a link to a third party site (four per cent had both options) (not tabulated). Companies can choose to provide an interactive chart, whose inputs the user can change, or a static chart – 37 per cent presented a static chart on their own website and five per cent provided a link to a static chart on a service provider’s website (not tabulated). Only a third of companies provided an interactive chart on their own website; nine per cent linked to an interactive chart on another site (not tabulated).

For five guidelines most complied with in this category, see Table 6.5. Companies that supplied a share chart also complied with the basic guidelines for making the graph

visually attractive and easy to interpret. However, it is disappointing that only 61 per cent of companies indicated the date when the share chart was last updated.

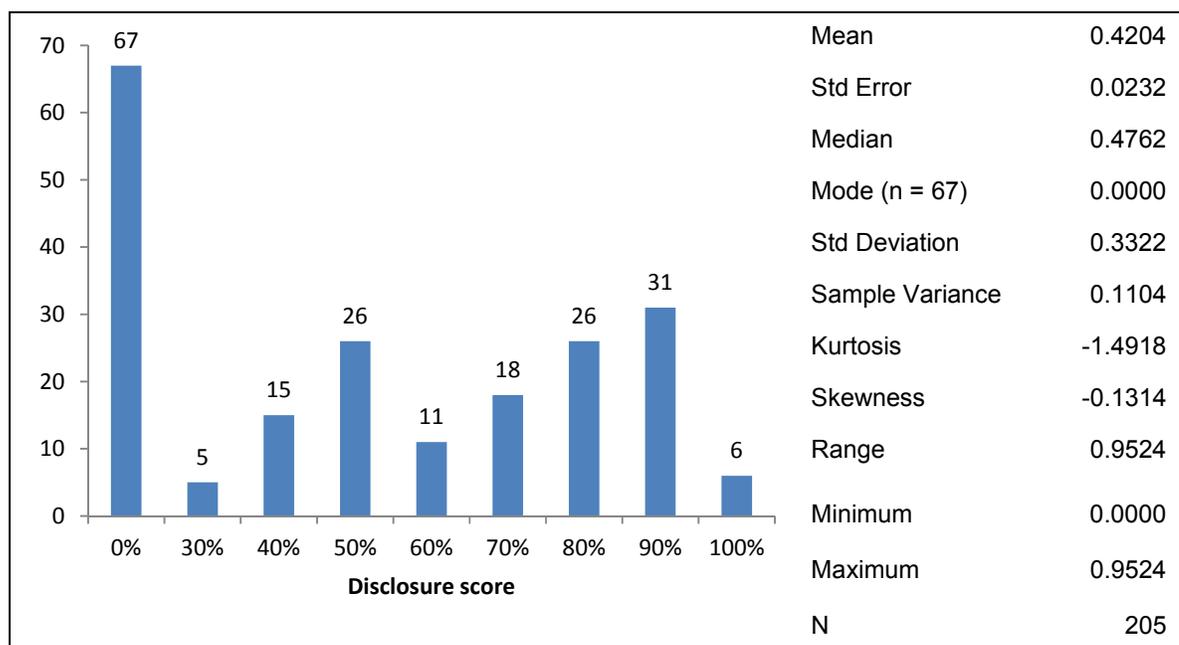


Figure 6.7: Frequencies and descriptive statistics: Share charts

The five least complied with guidelines for share charts are also presented in Table 6.5. Only six per cent of companies provided a downloadable share price history. This feature is useful to those private investors that do not have paid access to other sites that provide share data. The next four guidelines with low compliance related to the provision of interactive share charts. Investors like to compare a company's share performance to that of its competitors, but only 19 per cent of companies in the sample provided that facility. The performance of a share should also be judged against general indicators and indices – this information was provided by only a quarter of the companies. Analysts have access to their own specialist graphing tools, which incorporate moving averages, Bollinger bands, price channels, etc. and they are trained to interpret these graphs. Advanced functions such as these should *not* be available on the share chart provided by a company for primary use by retail investors. However, 30 per cent of companies catered for advanced needs and skills, ignoring this guideline. Only 38 per cent of companies provided the option to plot trading volumes together with the share price, which is useful for interpreting large moves in the share's price.

Table 6.5: Selected guidelines: Share charts

Top five	%	Bottom five	%
Chart legends close to lines	66.3	Share price history downloadable	6.0
Chart numbers rounded off	65.8	Interactive charts:	
		• Competitors' share price can be plotted	18.8
Chart high contrast colours used	61.1	• Relevant indices can be plotted	25.0
Chart date updated	59.6	• Specialist (analyst) options <i>not</i> offered	29.8
Chart axis clearly labelled	52.9	• Trading volumes can be plotted	38.0

6.3.5. Financial and other reports

Figure 6.8 provides the compliance data for the category 'Financial and other reports'. This category's scoring was weighted towards hyperlinked reports. The mean score is only 37.33 per cent, which can be attributed mostly to the fact that companies continue to provide financial reports in PDF format, instead of in HTML or other electronic formats.

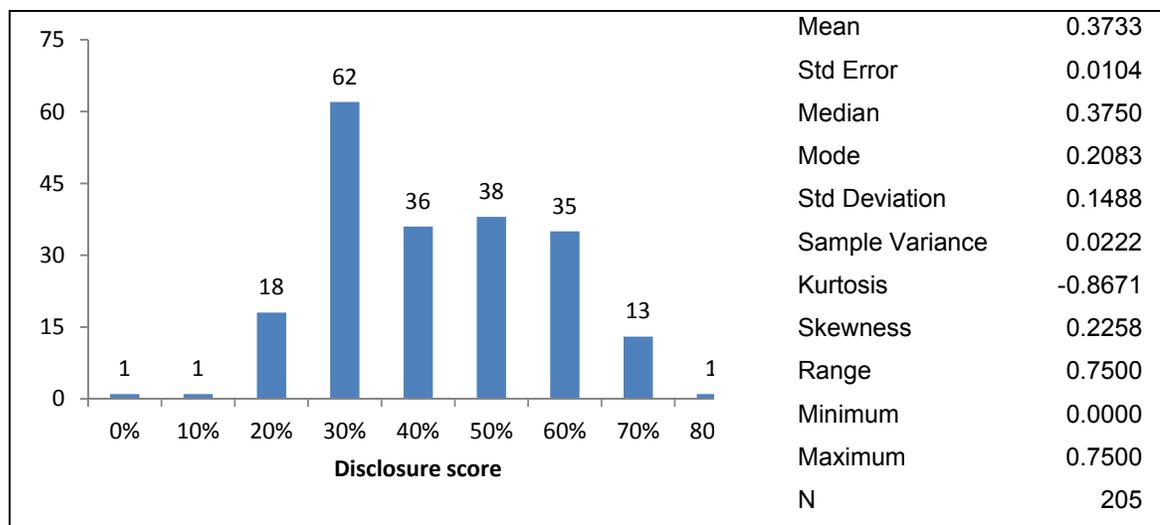
**Figure 6.8: Frequencies and descriptive statistics: Financial and other reports**

Table 6.6 presents the different presentation formats companies used for their annual and other reports. As can be expected, most companies provided an annual report (89 per cent) and an interim report (84 per cent). Only two of the 205 companies provided neither an annual nor an integrated report, although one of these at least provided the

annual financial statements and commentary. (The other company was incorporated in Zimbabwe, and was very small.) I also expected a higher compliance rate (67 per cent) for the integrated report, as it was mandatory for all companies to prepare one for financial years starting on or after 1 March 2010. Companies could at least have posted the PDF version, but only 64 per cent of them did so. A possible explanation could be that some companies divided the information required by the integrated report between the annual report and a CSR report. Just over half, 51 per cent, of companies provided a separate CSR report. Notably, more companies provided an HTML version of the CSR report (36 per cent) rather than a PDF version (32 per cent). Furthermore, 11 per cent of companies provided quarterly reports. Overall, this study found a ratio of approximately 2:1 for PDF to HTML for all 205 companies' reports.

Table 6.6: Format of financial and other reports provided

	Top 100				N = 205			
	Available #	HTML	PDF	E-book	Available #	HTML	PDF	E-book
Annual report	91%	65%	88%	4%	89%	42%	86%	4%
Interim report	87%	46%	85%	1%	84%	29%	82%	*
Integrated report	81%	62%	77%	3%	67%	38%	64%	3%
CSR report	69%	49%	46%		51%	36%	32%	
Quarterly report	15%	7%	12%	1%	11%	4%	9%	*

Columns do not add up to 100% as companies provided more than one format.

* The result for the one company that did provide an e-book for these reports does not reflect, as it amounts to less than 0.5 per cent.

The top 100 companies performed better, especially in providing integrated and CSR reports. As in the full sample, the top 100 companies provided more CSR reports in HTML than PDF. Analysis of the top 100 companies indicates a higher application of HTML (although PDF still dominated), especially for the integrated report, which is the newer reporting format. The ratio of HTML to PDF reports overall was also much better for the top 100 companies. This is probably because larger companies have more resources available to invest in the development of HTML webpages.

If one compares the annual and integrated report presentation formats for this study with those of previous studies of South African companies, an interesting trend seems to emerge from Table 6.7. Note that all the prior studies listed, excluding those by Barac (2004) and Loxton (2003), refer to financial statements and not to the annual

report, which is a much more comprehensive document and over time has grown to hefty proportions. The earliest research by Lymer *et al.* (1999) found that HTML was more prevalent than PDF. Their study was based on the top 30 companies and was conducted at a time when the Internet was first becoming a popular communication tool. Financial statements in HTML format were provided by 69 per cent of the companies. A possible reason for this high rate could be that early adopters of technology were eager to experiment with HTML reports. It would also not have been an onerous project to convert the smaller number of pages of typically shorter financial statements than those presented today to HTML.

All subsequent studies have found the opposite, namely that PDF was more prevalent than HTML. The prevalence of HTML has declined slightly over time and has remained around or just above 60 per cent. When I compare the present study's findings for the top 100 companies' integrated report formats with the annual report formats reported by Barac (2004:13), in a study conducted more than nine and a half years earlier, I find that they are virtually identical. I concluded that despite increases in bandwidth over the past decade, even the larger companies have not yet moved to interactive HTML as their preferred method of presenting reports on the company's website.

Table 6.7: Comparison of largest companies' report presentation formats

	N	With website	Analysis period	HTML#	PDF#
Lymer et al. (1999)	30	26	Nov 1998–Feb 1999	69%*	50%*
Venter (2002)	100	85	Jan 2002	63%*	78%*
Loxton (2003)	40	40	Aug–Sept 2002	18%*	98%
Barac (2004)	100	87	Jan–Feb 2003	62%	78%
Nel (2004)	50	50	March 2004	62%* [@]	100%*
Current study: Annual Reports	100	100	Jul–Sept 2012	65%	88%
Current study: Integrated Reports	100	100	Jul–Sept 2012	62%	77%
#	All percentages in these columns are based on companies with websites.				
*	Percentages relate to financial statements only, not full annual reports.				
@	Includes 'interactive financial statements'.				

Companies also provided financial statements in downloadable format (see Table 6.8). Downloadable documents enable users to manipulate the information on their own hardware, without re-entering information. Nel (2004:8) found that of the top 50 companies, only 26 per cent provided MS Excel statements. The current finding of 44 to 45 per cent is therefore a considerable improvement, given the larger sample. Once again, the top 100 companies scored about ten per cent better in this regard. However, given that most, if not all, companies would have their financial statements internally available in spreadsheet format in any case, it is not clear why more companies do not give users access to information in this user-friendly format.

Table 6.8: Availability of financial statements in MS Excel

Statement	N = 205	top 100
Comprehensive income	45%	55%
Financial position	45%	56%
Changes in equity	44%	53%
Cash flow	44%	54%

No reports in eXtensible Business Reporting Language (XBRL) could be found, even though eight of the companies in the study are members of the XBRL-SA jurisdiction (XBRL SA, n.d.). It seems their XBRL reports are not available on their publicly accessible websites, or that these reports were still under development. According to the international XBRL organisation's website

“XBRL allows the creation of reusable, authoritative definitions, called taxonomies, which capture the meaning contained in all the reporting terms used in a business report, as well as the relationships between all the terms...XBRL makes reporting more accurate and more efficient, as it does not require users to re-enter information. It allows unique tags to be associated with reported facts” (XBRL, n.d.).³⁴

The five most adhered to guidelines are presented in Table 6.9. Almost all companies indicated the reporting currency for monetary amounts and rounded figures to reduce clutter. In the present study's sample, 98 per cent of companies grouped similar reports

³⁴ See <https://www.xbrl.org/the-standard/what/an-introduction-to-xbrl/> for more background. See <http://za.xbrl.org/home/join-us/xbrl-sa-working-group-members/> for more information on the South African working group.

together. Latest reports and results were listed first in order that users can find them first by 97 per cent of companies. Financial reports were grouped together under a descriptive name on the IR pages so the investors can find them easily (95 per cent). Companies were doing the basics right.

Table 6.9 also provides details of the five least adhered to guidelines for financial and other reports. Only four per cent of companies offered comparisons of key figures for competitors or the industry in order to allow investors to judge their size and performance. Key figures should also be provided in some major foreign currency so that overseas investors can quickly grasp the scale of figures – only 15 per cent of the sample provided key financial figures in currencies other than ZAR (not tabulated). Furthermore, only four per cent of companies indicated the date on which the exchange rate was pegged for conversion and five per cent indicated the exchange rate that was used for the conversion. Nine per cent of companies allowed visitors to customise some aspect of the available reports and 13 per cent provided key historical data, such as turnover or earnings per share in downloadable spreadsheet format. This would assist investors to graph trends, etc. without having to key figures in again. Although compliance with the latter two guidelines compliance was still low, it is encouraging that some companies were making an attempt to provide their information in user-friendly formats.

Table 6.9: Selected guidelines: Financial and other reports

Top five	%	Bottom five	%
Indicate reporting currency	99.0	Offers comparisons to competitors or industry statistics	3.4
Figures are rounded	98.5	Exchange rate determined on 'date'	4.4
Similar reports grouped together	97.6	Exchange rate provided for figures in other currencies	5.4
Latest reports listed first	97.1	Users can customise reports	8.8
Financial reports grouped together under Reports or Financials	94.6	Key historical data downloadable in spreadsheet	13.1

Overall, for this category it seemed that companies were providing their financial and other reports, but that they were not making much effort to contextualise the figures in terms of their competitors or their own previous history.

6.3.6. HTML and PDF reports

Presenting financial and other reports on the website is also subject to certain usability guidelines. The results for the category ‘HTML and PDF reports’ are presented in Figure 6.9. The average of 44.67 per cent is low, especially if one considers that HTML and PDF are not new technologies for presenting documents or information. The mode is 28.57 per cent, which is indicative of a low level of compliance.

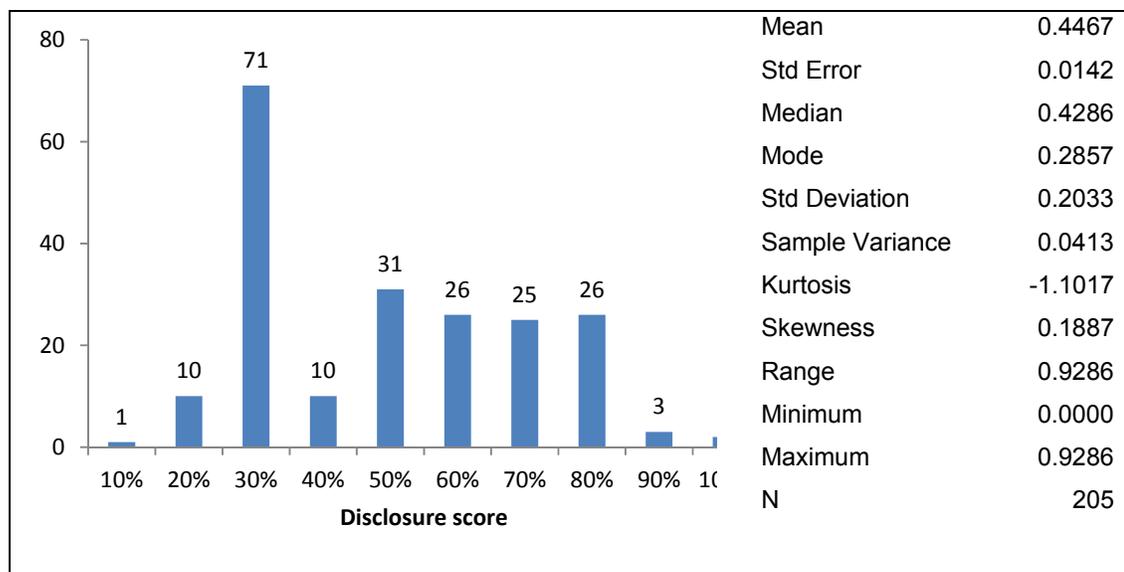


Figure 6.9: Frequencies and descriptive statistics: HTML and PDF reports

As Table 6.6 shows, PDF is the dominant method of presenting annual, interim, integrated, and quarterly reports. It is therefore encouraging to see high compliance with the first three guidelines for PDF documents, as set out in Table 6.10. However, only 63 per cent of companies indicated the page count or MB size of the PDF document, which serves as an indication to users as to how long it will take to download the file. Only 55 per cent of companies provided HTML reports which contained a topic on one webpage (scroll up or down), or, if a topic was split over multiple pages (similar to a hard copy report), navigation was provided to move back or forward, the number of pages was indicated and there was an option to jump to any page.

The five guidelines which were least complied with are also presented in Table 6.10. The first three guidelines relate to each other. Large PDF files should be provided in smaller downloadable files so that a user does not have to wait too long for the download and can download only the required sections. Financial reports are usually

very large, but only 16 per cent of companies provided this option. Only eight per cent of all companies provided the megabyte (MB) size of the smaller files, and only 13 per cent indicated the name of the smaller file. HTML reports should be described as 'online' and PDF as 'print' documents to distinguish their respective roles. However, only 22 per cent of companies complied with this. In an online environment, such as a company's website, users should be using the online tailored file (HTML) instead of the PDF file. For that purpose, HTML reports should be listed first if documents are provided in different formats. However, only 29 per cent of companies listed the HTML document first. Listing the PDF document first might perpetuate the demand for having the PDF file on the website instead of weaning users from print-equivalent documents.

Table 6.10: Selected guidelines: Presentation of HTML and PDF reports

Top five #	%	Bottom five #	%
PDF opens in legible font size	95.1	When large document split up:	
		• Size of smaller PDF files provided	8.3
Table of content at beginning of PDF	93.7	• Smaller PDF files described	13.2
Description of PDF file content on webpage	90.2	Large PDF files downloadable in sections	16.1
PDF Page count or MB size next to icon	63.4	Report described as 'print' or 'online'	22.0
Topic complete on one HTML page, or navigation provided when split over more than one page	54.6	HTML reports listed first	28.8
# HTML guidelines were assessed for <i>any</i> financial report available in HTML format. PDF guidelines were assessed for <i>any</i> financial report available in PDF format. Therefore, response rates are greater than those in Table 6.7 are. Some companies provided the annual report in HTML format and the Interim report in PDF.			

6.3.7. Calendar of investor relations events

The dispersion of scores for the category 'Calendar of IR events' is presented in Figure 6.10. The average of 31.32 per cent is very low. This is mostly the result of the fact that 88 companies (43 per cent of 205) had no calendar of IR events. These 88 companies also formed the mode for the distribution. The calendar of IR events is used to indicate when a company is hosting an event to communicate results or general presentations about the company as an investment. For investors who want to trade in the share, it is important to be among the first to receive potential value-relevant information. A first-

time visitor to the company's site would therefore go to the calendar of events to find out about these events (and expect be able to register to receive future alerts about events).

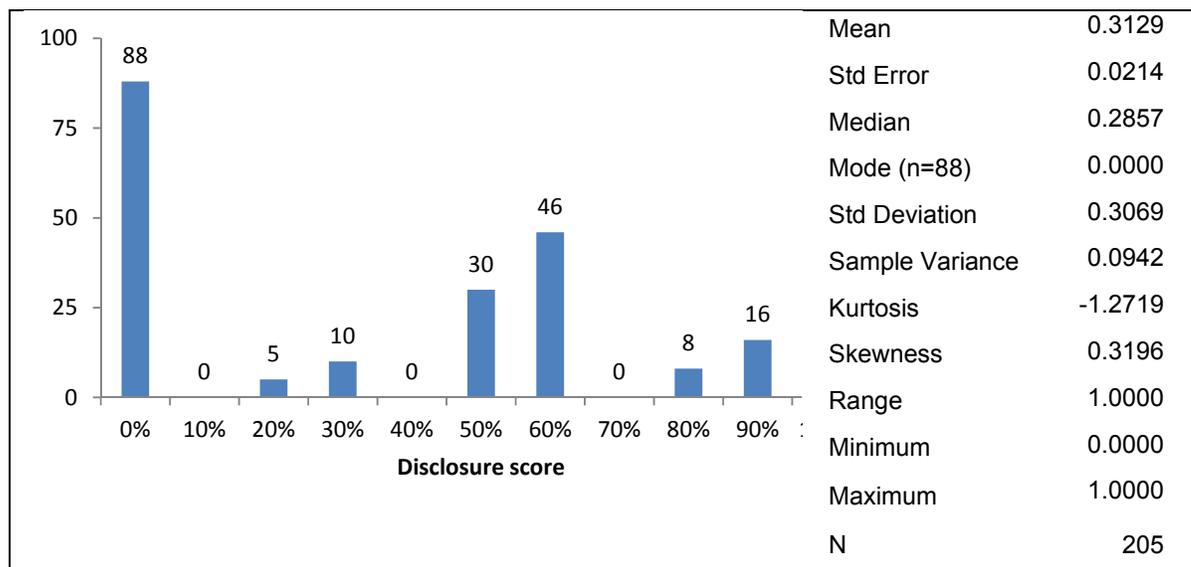


Figure 6.10: Frequencies and descriptive statistics: Calendar of IR events

The results for the individual guidelines are presented in Table 6.11. Half of the companies listed future event dates (and not only past events). However, only 17 per cent provided an alert service, which means that they lose an opportunity for communicating with potential investors. Half also complied with the guideline to group the events by year, with the current year listed first, and then within each year, in calendar order. In respect of future events, information should also be provided of the purpose (agenda), who is invited, the venue and how to participate (attend in person or register for a webcast). Only 27 per cent of companies provided this information. Lastly, only ten per cent of the calendar of IR events had a function that allowed it to be exported to common calendar software such as MS Outlook.

Table 6.11: Guidelines: Calendar of IR events

	%
Future or expected event dates listed	49.3
Current year listed first, then Jan to Dec	49.3
Description of who, where, agenda	26.8
Offers Alert service for future events	17.1
Calendar exportable to calendar software	9.8

6.3.8. Presentations to investors

Performance in the next category, 'Presentations to investors', is presented in Figure 6.11. This category covers presentations for results announcements, 'road shows' to analysts and institutional shareholders or debt providers, the annual general meeting (AGM), conference calls to analysts and the financial press. It also includes general guidelines for transmitting live events such as webcasts of conference calls or the AGM. In general, compliance with guidelines for this area was very weak. It requires using advanced technology on the website (as opposed to just posting a PDF document or news release). It therefore requires investment in technology and in other resources to manage live events. The average compliance for this category was only 19.32 per cent, and 31 companies (15 per cent) had no presentations on their websites. These 31 companies also formed the mode for this distribution.

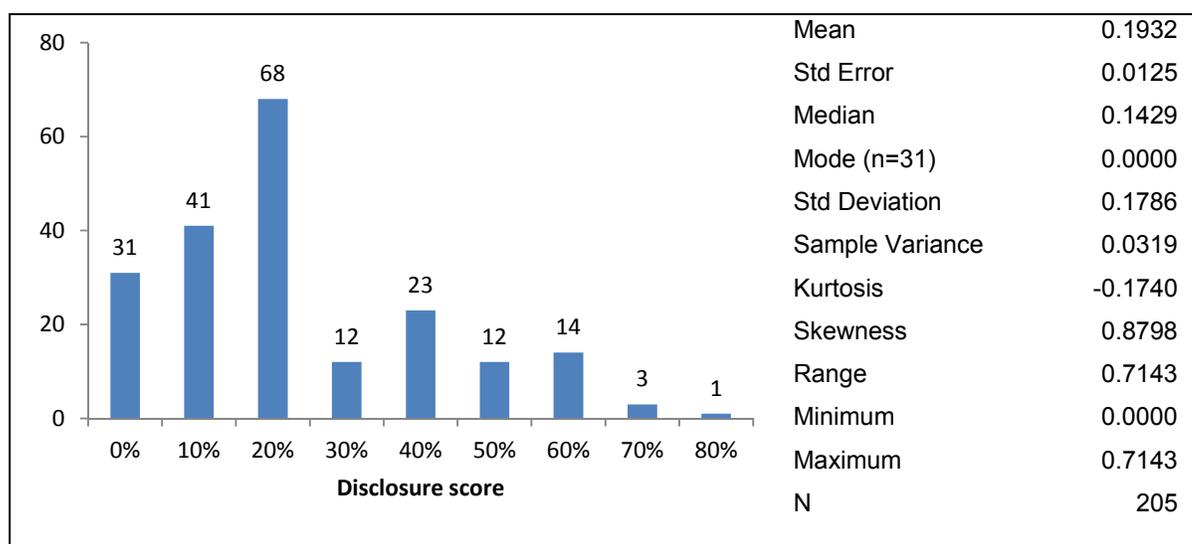


Figure 6.11: Frequencies and descriptive statistics: Presentations to investors

Regarding the five guidelines not complied with, as indicated in Table 6.12, it is encouraging that 75 per cent of companies made results announcements in some form on their website (the most popular format was a PDF of the results announcement press release, 49 per cent). The next three guidelines all refer to MS Powerpoint slides and handouts/booklets of presentations. Compliance in respect of these three usability guidelines was around 60 per cent. Half of the companies grouped all the material of an event together in one place, giving users the option to decide which to access.

The results for the five guidelines with the lowest compliance are also presented in Table 6.12. No companies explained to those who visited their website what a podcast or vodcast is. In particular, older people might not know what these are and may miss an opportunity for a more enriching communication interaction with the company. Guidelines for allowing shareholders virtual access to the AGM if they cannot attend in person were very poor. Only one company provided a transcript of its AGM proceedings. Two companies provided a vodcast of their AGM and three companies provided a podcast of the event. Conference calls with analysts or the financial media were transcribed by only four companies. Compliance with another 14 guidelines was below ten per cent. This area needs attention from IR practitioners.

Table 6.12: Selected guidelines: Presentations to investors

Top five	%	Bottom five	%
Results announcements available (in any form)	75.1	Explains to website visitors what 'podcast' and 'vodcast' mean	0.0
MS Powerpoint slides and booklets for presentations:		Available for AGM:	
<ul style="list-style-type: none"> When opened online, the default font size is readable 	62.5	<ul style="list-style-type: none"> Transcription of audio track 	0.5
<ul style="list-style-type: none"> Indicates total number of pages or slides and current progress 	59.5	<ul style="list-style-type: none"> Video 	1.0
<ul style="list-style-type: none"> Avoids dark colours for background of handout or slides (reduce ink consumption during printing) 	59.5	<ul style="list-style-type: none"> Audio 	1.5
Groups all materials of same the event together	50%	Conference call is transcribed	2.0

Although 75 per cent of companies included results announcements on their website in some form, companies still had a long way to go in harnessing the power of the Internet for communicating with investors.

6.3.9. Contacting the investor relations department

Figure 6.12 contains the results for the category 'Contacting the IR department'. It is important for investors and the financial press to be able to get hold of the IR department directly in case they require additional information, especially if the rest of

the website and IR pages are not well developed. It is not sufficient to provide only a general *info@company.co.za* address or general switchboard telephone extension. Disappointingly, 100 companies (49 per cent) provided no IR-specific contact details and scored zero. As a result, the mean for this category was very low, at 18.99 per cent. These 100 companies also formed the mode for this distribution.

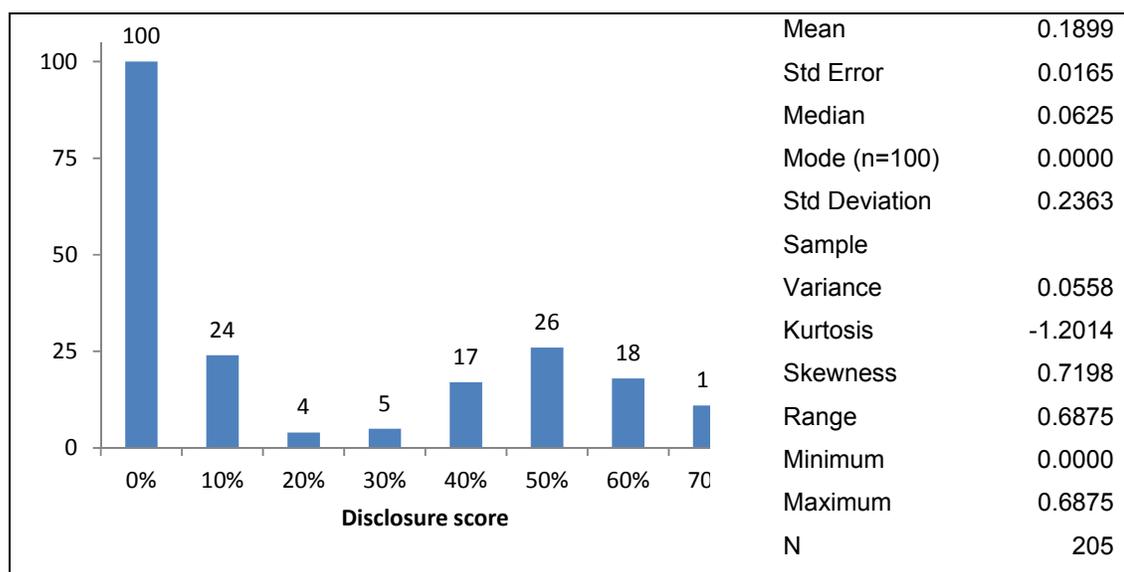


Figure 6.12: Frequencies and descriptive statistics: Contacting the IR department

Table 6.13: Selected guidelines: Contacting the IR department

Top five	%	Bottom five	%
Some IR contact details provided	55.6	Contact/working hours of IR department	0.0
IR department telephone number	34.6	Time zone differences	0.0
IR department email address	33.2	Indicate email response time	0.0
Full name of IR officer	32.7	Invitation to contact the Board and top management	5.4
International format telephone number	32.7	Offers Contact Form in addition to email	7.3

The five guidelines with the highest compliance for this category are available in Table 6.13. Of the companies, 56 per cent provided some IR contact details. Only 35 per cent of companies provided the IR department's telephone number, and 33 per cent provided a general IR email address. The full name of the IR officer was only provided

by a third of companies. Only 21 per cent provided the specific email address of the IR officer (not tabulated). The international format for telephone numbers (indicating country code), for investors, the financial press, or analysts phoning from overseas, was provided by 32 per cent of companies.

Table 6.13 also shows compliance for with the five least adhered to guidelines. No companies provided details on the operational hours of their IR departments, nor did they indicate differences in time zone for investors from overseas. Response times to email enquiries were also not provided. Only 11 companies (five per cent) invited investors or analysts to contact the board and top management with their queries. Only seven per cent of companies provided a contact form on the IR contacts page for automation of routine questions or requests.

Overall, compliance in this category was very disappointing. This calls for further research on the perceived reluctance of IR departments to engage with investors and other stakeholders. The lack of quality in the rest of the online IR pages contributes further to this concern.

6.3.10. General usability

The results of the category ‘General usability’ are presented in Figure 6.13. These guidelines address general web usability. Compliance was good, resulting in a mean of 75.53 per cent and a mode of 77.78 per cent. Companies obviously brought their experience in other parts of their company website to the IR webpages.

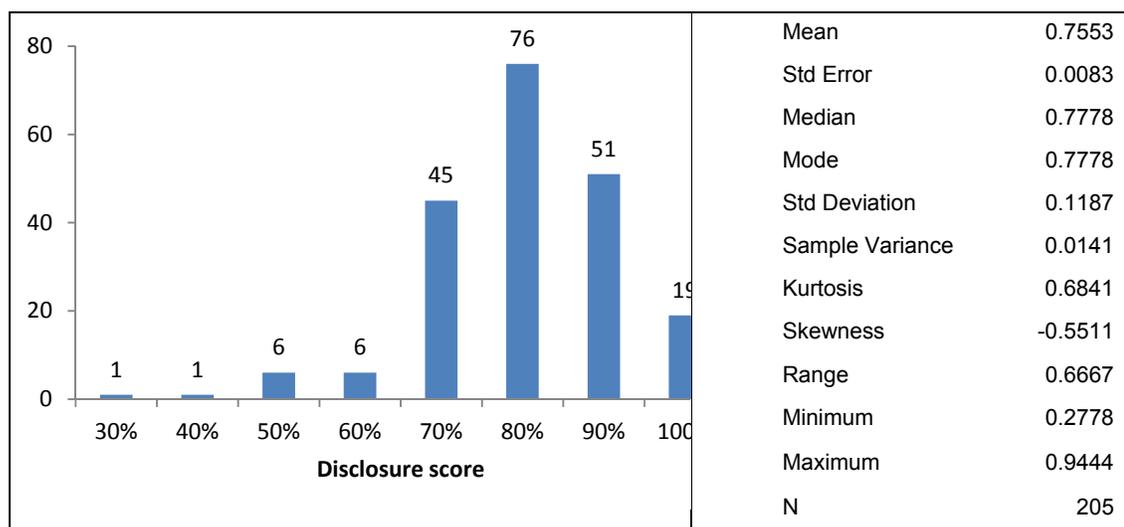


Figure 6.13: Frequencies and descriptive statistics: General usability

Compliance with the five most adhered to guidelines was very high, as can be seen from Table 6.14. All the websites listed menu items in order of importance and not alphabetically. Webpages had specific hyperlinks only once per page (204 companies). The IR pages of the sites contained the minimum of moving or revolving images in 99 per cent of cases. Plug-in icons for print, playing a video, or downloading files should be the same size as the text that describes the name of the file (99 per cent of companies complied). The purpose of IR pages is not to sell the company's products or services, and therefore these pages should not contain advertising. Almost all (98 per cent) of the companies complied with this guideline.

From Table 6.14, one can see that companies are still not paying attention to making their websites accessible to visually impaired people. Only six per cent provided accessibility options. Navigation was aided by change in colour of visited hyperlinks (39 per cent) and orientation of the visitor by highlighting current tabs or providing page tracking (61 per cent). If a user wanted to print HTML pages, print-friendly versions were offered and indicated with a print icon by 48 per cent of companies. Moreover, 51 per cent of companies provided a site map where users could view the structure of the website and find the menu item where they anticipated the information should be.

Table 6.14: Selected guidelines: General usability

Top five	%	Bottom five	%
Menu items listed in priority order, not alphabetically	100.0	Accessibility options	6.3
Links only once on page	99.5	Visited links change colour	38.5
Content static (minimum Flash)	99.0	Print friendly options	47.8
Plug-in icon same size as text	99.0	Site map	51.7
Facts, no ads in IR pages	98.5	Page tracking/orientation	60.5

6.3.11. International aspects

Table 6.15 contains two additional guidelines addressing international aspects. Of these South African companies, 20 companies provided some of their webpages in additional languages such as Afrikaans, French, Portuguese, and German. Unfortunately, no African language sites were available. Almost all companies spelled out the names of months and did not use numerals, e.g. Feb, or February instead of

02. This should help avoid confusion in respect of dates between the mm/dd/yyyy and dd/mm/yyyy conventions.

Table 6.15: Guidelines: International aspects

Guideline	%
Information available in other languages	9.8
Spells month, not number only	99.0

6.4. Stage of online IR in South Africa

A secondary research objective of this study was to determine at what stage of online IR adoption South African companies were. Hedlin (1999) predicted that as the Internet gains acceptance as a channel for IR activities, over time, companies will come to prefer using HTML reports, due to the additional features (such as hyperlinks) that HTML offers, as well as cost savings that would arise from not producing bulky hard copy AFS. The Internet also facilitates providing material that cannot be replicated in a printed report, such as webcasts, videos of plant facilities, and downloadable spreadsheets. From Table 6.6, it is clear that there is a continued preference in South Africa among the largest companies for PDF rather than HTML. This finding is contrary to expectation, especially as Internet bandwidth has increased in the last decade. For the rest of the sample, the preference for PDF was even more pronounced. For the total sample, the preference for PDF over HTML reports was about 2:1.

The adoption rate of Internet-enhanced features on IR websites and web usability features was also poor. The following categories, which contained the most guidelines relating to technology and usability, actually had modes of zero for the frequency dispersion:

- Share charts – 67 companies (33 per cent)
- Calendar of IR events – 88 companies (43 per cent)
- Presentations to investors – 31 companies (15 per cent)
- Contacting the IR department – 100 companies (49 per cent)

Therefore, in respect of the study's secondary research objective, I must conclude that the majority of South African companies remain in the second stage of Hedlin's (1999)

model for adopting the Internet for IR practices. A large portion of IR departments seemed to treat the company website as a repository for print-equivalent (PDF) documents, and made no a real effort to engage and communicate with investors via the website. Present findings indicate that little has changed since Barac (2004:18) concluded that South African companies treat their websites as mere 'bulletin boards'.

An explanation for this study's finding of a low adoption rate could be the inclusion of "smaller" market capitalisation companies that do not invest so much in their IR activities. Industry affiliation could also explain differences. The influence of shareholder investment horizon on the companies' voluntary disclosure behaviour should also be considered. In Chapter 7, the investor stability hypothesis is investigated in the presence of other company characteristics that, according to the prior literature (as reviewed in Section 4.4 Prior literature on predictors of online investor relations quality), may be associated with online IR quality.

6.5. Summary and conclusion

The first primary objective was to determine the quality of JSE-listed online IR practices. The companies' websites were measured against international best practice guidelines for online IR. The total average online IR score for all 205 companies was a disappointing 39.78 per cent, with a relatively large standard deviation (13.55 per cent), indicating a wide array of practices. The top 100 companies performed slightly better, with an average of 47.85 per cent. This low average for the large companies is the result of 49 of the top 100 companies' scoring below 50 per cent. It seems that the good ratings achieved for integrated reports, as found by Ernst & Young (2012) and Nkonki (2012) did not extend to information and usability features available on the websites outside of these reports. The average for the bottom 105 companies was 32.1 per cent. In comparison to the results of other international studies, South African companies performed better than companies in other emerging and developing economies, but performed worse than companies in advanced economies, where size is probably the main differentiator.

There was also large variability in the compliance rate between the different categories. The categories that achieved the best scores were 'Getting to corporate information' (96 per cent) and 'General usability' (76 per cent). These categories contain guidelines

that are synergized from the rest of the company's website design, and the high scores are therefore not surprising. The low overall mean score is mostly due to low ratings for the categories 'Presentations to investors' (19 per cent), 'Contacting the IR department' (19 per cent), 'Calendar of IR events' (31 per cent), and the 'Shareholder information' details (33 per cent). These categories also had high standard deviations, reflecting wide disparities between companies' practices. The top 100 companies performed between nine and 11 per cent better in these categories, but still scored below 50 per cent.

A secondary research objective of this study was to form an opinion on the development stage of online IR of JSE-listed companies. Despite advances in Internet technologies and available bandwidth, the findings indicate that many of the sampled companies still did not use the unique features of the Internet for communication. PDF annual and integrated reports were almost twice as prevalent as their HTML equivalents. Four categories – those that contained the most guidelines relating to technology and usability – actually had modes of zero for their frequency distribution: 'Share charts' (33 per cent), 'Calendar of IR events' (43 per cent), 'Presentations to investors' (15 per cent) and 'Contacting the IR department' (49 per cent). It is further disconcerting, given the low scores in the other categories that just under half of the IR departments did not attempt to make themselves available for visitors to the website. Given the low adoption rate of Internet technology, I concluded that JSE-listed companies in the present study's sample have not yet moved to the third stage of Hedlin's (1999) model for online IR practices.

In the next chapter, I present the results of the regression model. This elucidates what company characteristics play a role in the low level of voluntary disclosures, as manifested by the low average online IR disclosure scores.

CHAPTER 7

RESULTS AND DISCUSSION OF THE REGRESSION MODEL

7.1. Introduction

In the previous chapter, the results from the content analysis were described. The poor overall performance, differences between groups based on market capitalisation and wide standard deviation required further analysis to determine why the disclosure practices differed so much between the companies. In Section 4.5 Shareholder familiarity hypothesis, I hypothesised that shareholder familiarity may play a role. The hypothesis in the null format is as follows:

$H_0 =$ *There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).*

The second primary objective of this study was therefore to determine whether shareholders' familiarity with the investee company (proxied by the stability measure) reduces the need for extensive voluntary disclosure practices. The hypothesis was tested with an OLS regression that included controls for certain market and company specific characteristics. As I explained in the methodology chapter, Section 5.7 Regression model, some of the independent variables had to be transformed to their natural log or fractional ranking in order to improve the normal distribution of the variable, but more importantly, to ensure heteroscedasticity of the residuals, which is a prerequisite for employing OLS. The histograms, with fitted normal curve, of the untransformed data, the transformed data and the residuals plot are provided in Appendix D. The total online IR score from the content analysis formed the dependent variable for the regression model's results in this chapter.

I present the descriptive statistics for the continuous variables first, and then a comparison of the categorical variables. This is followed by the univariate results, the results from the OLS regression for the main model and the final model, and the results from a few robustness tests.

7.2. Descriptive statistics

As described in Section 5.7 Regression model, all the continuous independent variables had to be transformed to improve their distributions in order for an OLS regression to be applied. Histograms with normal curves fitted are available in the Appendix D, showing that the transformations were successful. The descriptive statistics for the continuous and categorical variables are discussed separately.

I also compare the present study's results to those of other recent studies from emerging economies in the Middle East, the Indian sub-continent, South America and Africa north of the Sahara. It would add little if any value to compare the descriptive characteristics of studies ten years or older to the statistics in this study. Furthermore, most of the older studies were done in developed economies such as the economies in the US, UK and Europe which reduced comparability of descriptive results (their regression results may still be useful, as they model behaviour of all the variables together).

7.2.1. Continuous variables

Table 7.1 contains the descriptive statistics for the raw and transformed continuous variables of the sample. For practical reasons, only the raw variables are discussed thereafter.

Table 7.1: Descriptive statistics: Continuous variables

Variable	N	Mean	Minimum	Maximum	Std. Deviation
DS	205	0.3978009	0.04098	0.66393	0.13548196
STAB9_lag (based on full years)	202 [#]	1.6245377	0.58716	1.99867	0.30099046
FR_STAB9_lag_IDF	202 [#]	0.0128	-2.58	2.58	0.99408
MCAPbillions	205	31.16256	0.031	812.411	86.705455
LNCAP062012	205	22.1826	17.24	27.42	2.20021
Age (full years)	205	26.11	1	117	21.892
LNAGE	205	2.9108	0.00	4.76	0.90699
RoaA (Return on average assets)	205	8.3547	-98.44	80.21	15.73980
RoaA_win	205	8.6459	-19.38	34.64	10.87553
DE (Debt-to-equity)	205	2.4726	0.01	164.99	11.81064
LNDE_Pub	205	-0.1819	-4.85	5.11	1.25251
Valid N (listwise)	202 [#]	# Three companies were listed for less than a full year in 2011			

As shown in the previous chapter, the average DS is 39.78 per cent, and the distribution of scores is quite wide, resulting in a standard deviation of 13.55 per cent. The joint best performers were Anglo American PLC and Barloworld Ltd, and the worst performer was Cafca Ltd. The mean for the proxy for familiarity, *STAB9_lag*, was 1.62. This measure was calculated by subtracting from two the average of the nine annual share turnover percentages for the years from 1 July 2002 to 30 June 2011. This implies that only 37 per cent of outstanding shares turned over (changed owners) on average over the nine years. This confirms the impression that the JSE is an illiquid market, as described in Section 4.2 Characteristics of the Johannesburg Stock Exchange (JSE).

Mondi Ltd had the lowest familiarity measure (58.72 per cent), which indicates an average turnover ratio of 1.41 times its outstanding shares over the nine years. As a very large company, Mondi Ltd was also in the JSE's Top40 index in June 2012 (JSE, 2012). However, despite being the most traded share in the present sample, Mondi Ltd only ranked 162 for quality of its online IR practices. These contradictory metrics clearly highlights the importance of considering all the variables together in a multivariate model, as I do later on. The most stable ownership profile (1.9987) was observed for Cafca Ltd, which turned over less than 0.13 per cent of its shares, and had the lowest disclosure score.

Figure 7.1 reflects the inverse distributions of stability and turnover for the lagged nine years (2003 to 2011).

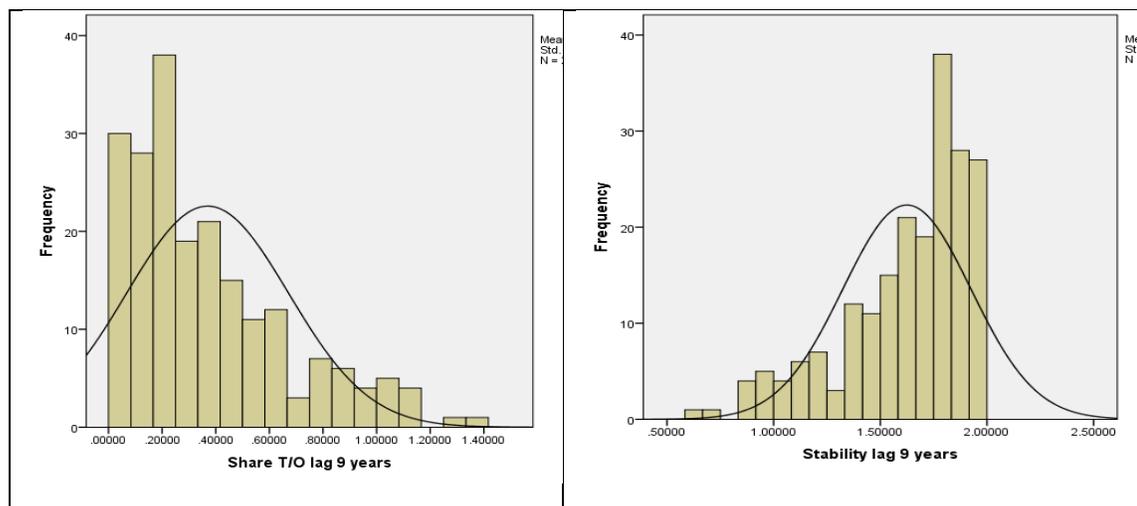


Figure 7.1: Share turnover mirrors stability

The average market capitalisation (ordinary equity) of the sample group in June 2012 was R31.16 billion. The smallest company was Cafca Ltd, and the largest was British American Tobacco PLC. There is a very large standard deviation of R86.71 billion. This can be attributed to the dominance in numbers of companies with a market capitalisation of less than R40 billion, and the small number of companies with a market capitalisation of more than R200 billion. Figure 7.2 illustrates the skewed distribution (which was corrected with the natural logarithmic transformation). For a comparison of the size of the JSE to other exchanges, see Section 4.2 Characteristics of the Johannesburg Stock Exchange (JSE).

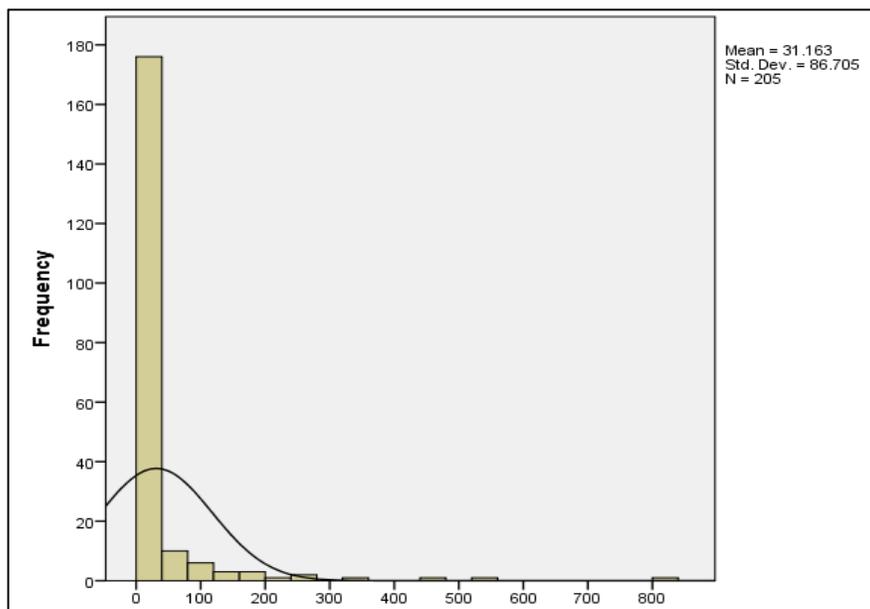


Figure 7.2: Distribution of market capitalisation in R billions

The average age of companies in the sample on 30 June 2012 was 26.11 years. This is young compared to the 63.62 years of Slovenian companies (Dolinšek, Tominc & Skerbinjek, 2014:850), but comparable to the 20.73 of Jordanian companies (AbuGhazaleh *et al.*, 2012:218). By contrast, Satta, Parola, Profumo and Penco (2015:158) report the average list age of Italian companies as 8.91 years. Lee *et al.* (2014:746) calculate the average age of the US-listed stocks in their sample in two periods to be 18.24 and 20.1 years.

The standard deviation of 21.89 years for the present study's JSE sample is large, as can be seen from the distribution in Figure 7.3. Three companies in the sample were

listed for one full year only³⁵ by 30 June 2012 (Rand Merchant Insurance Holdings, Royal Bafokeng Platinum and Curro Holdings Ltd). The oldest company listed was DRDGold Ltd (117 years); the second oldest (115 years) was SABMiller Plc (if one includes its previous incarnation, South African Breweries).

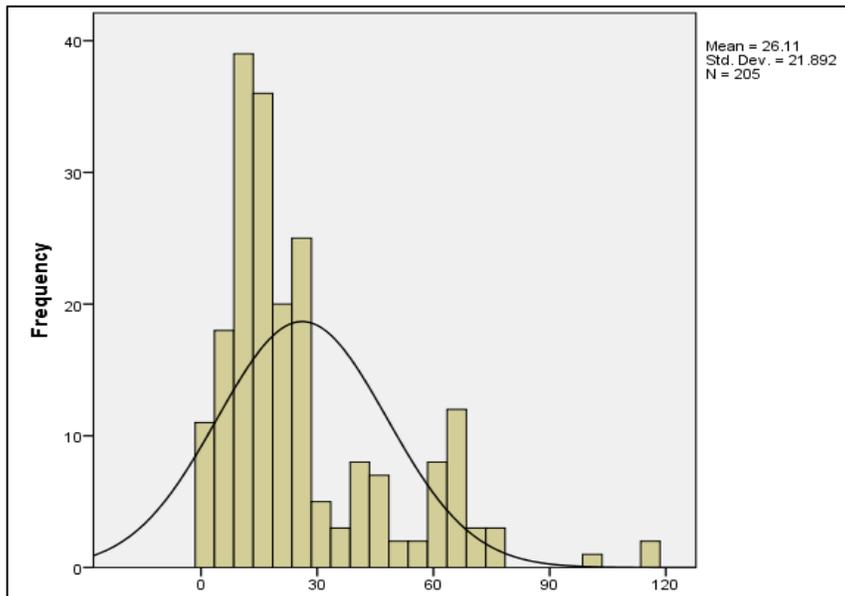


Figure 7.3: Distribution of number of full years listed

The average profitability of the sample, based on return on average assets, was 8.35 per cent for the latest financial year, ending at least three months before 1 July 2012. The standard deviation was large, at 15.74 per cent. The minimum for this variable was a loss of 98.44 per cent (Bauba Platinum Ltd). The loss percentages of the bottom five performers were winsorized to the loss of the sixth worst performer, whose loss was 19.38 per cent. Kumba Iron Ore Ltd was the most profitable company, at 80.21 per cent. The profit percentages of the best five performers were winsorized to the profit of the sixth best performer (34.64 per cent). Figure 7.4 presents the untransformed distribution of the sample's profitability.

Mohamed and Basuony (2014:72) reported an average return on assets of 3.5 per cent for companies listed in Qatar, Oman and Bahrain. Turrent and Ariza (2012:20) found

³⁵ These three companies are therefore excluded whenever an analysis was done with the FR_STAB9_lag_IDF variable, as they had less than a full year's trading in the July 2010-June 2011 year. The FR_STAB9_lag_IDF variable only included full years' trading as already explained.

an average return on assets for Mexican companies of 11 per cent, whilst that of Spanish companies' returns was five per cent. Alali and Romero (2012:164) reported a return on assets of 7.5 per cent for Argentinian companies. These are given as examples, but a comparison of profitability is not very insightful here, as sample sizes and collection periods differ widely between the different studies (market and economic conditions also changed). These metrics are compared in context when the regression results of this study are compared to prior studies later on in this chapter.

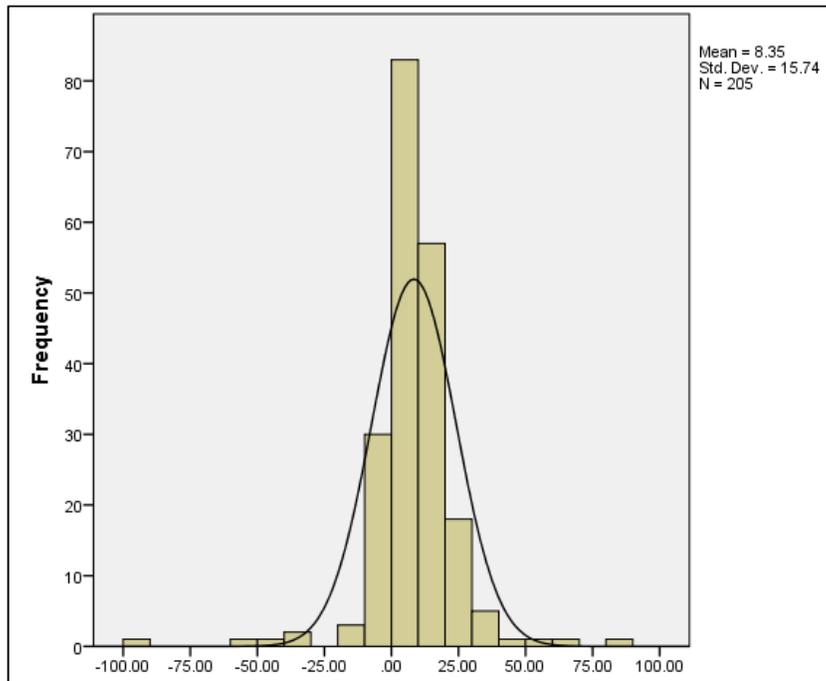


Figure 7.4: Distribution of return on average assets

The debt-to-equity ratio of the sample was 2.47 on average for the latest financial year, ending at least three months before 1 July 2012. The company with the lowest ratio was RMB Holdings Ltd, and that with the highest ratio was Fairvest Property Holdings Ltd (it is not unusual for listed property developers to be highly geared – for example, Growthpoint Property Ltd has the next highest debt-to-equity ratio of 31.96). The standard deviation was large at 11.81. When I excluded the two upper outliers, the mean improved to 1.51 and the standard deviation improves to 2.21, but the normal curve was still distorted, as can be seen in Figure 7.5. Note that the natural logarithm transformation was successful in improving the distribution, including all 205 data points. Histograms of all the transformed variables are available in Appendix D.

Mohamed and Basuony (2014:72) reported an equity-to-assets ratio of 0.54, which translates into a debt-to-equity ratio of 0.85 for Qatar, Oman and Bahrain. For Egyptian companies, Samaha *et al.* (2012:153) found a debt-to-equity ratio of 1.51. A debt-to-asset ratio of 0.66 was reported for Iranian companies by Ghasempour and Yusof (2014:49). These are given as examples, but a comparison of leverage is not very insightful here, as the sample sizes and collection periods differed widely between the different studies, and market and economic conditions changed. These metrics are compared in context when the regression results of this study are compared to prior studies later on in this chapter.

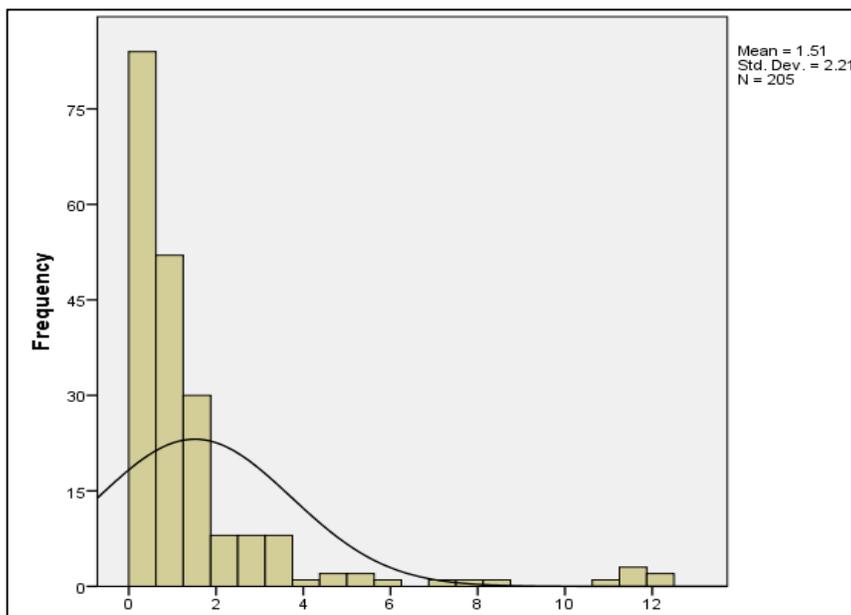


Figure 7.5: Debt-to-equity ratio (excluding Fairvest and Growthpoint)

7.2.2. Categorical variables

Table 7.2 contains the frequencies for the categorical control variables. Each variable is discussed separately.

Considering **ownership concentration** first, it is clear that 20.5 per cent of the companies in the sample are controlled by one shareholder, either directly, or, in total, indirectly. In a further 21 per cent, one shareholder holds, or more shareholders hold, a minimum of 25 per cent of the shares. These are extremely high levels of concentration, which support prior assessments by Orsagh, Schacht and Allen (2013), Steyn and Stainbank (2013) and the JSE (2014). Similarly, high concentrations were

found for Canadian companies by Cormier *et al.* (2010), where shareholders owning ten per cent or more constituted 59 per cent of the ownership structure (Cormier *et al.*, 2010:334). The present study's ownership concentration measure from the Orbis database started very high, at 25 per cent, which understates the percentage concentration, compared to Cormier's study, which started at ten per cent.

Table 7.2: Descriptive statistics: Categorical variables

Variable	N	%
OC (Ownership concentration):		
Controlled	42	20.5
One or more >25%	43	21.0
None >25%	120	58.5
Industry:		
Basic materials	42	20.5
Consumer goods	22	10.7
Consumer services	42	20.5
Financials	40	19.5
Industrials	47	22.9
Technology	12	5.9
Big4 auditors:		
Big4 auditor	169	82.4
Non-Big4 auditor	36	17.6
Dual listed:		
Dual listed	48	23.4
Only JSE	157	76.6
ISSUE (Issued new shares in the previous 24 months):		
Additional equity listed	59	28.8
No additional equity listed	146	71.2

Regarding **industry**, there was a good distribution between the six industries – only 'Consumer goods' and 'Technology' were on the low side, but still had more than five companies each, satisfying the minimum requirement for analysis between categories. The vast majority (82.4 per cent) of companies in the sample were audited by a **Big4 audit firm**. This is comparable to the findings of Mohamed and Basuony (2014:72), who reported Big4 auditing for 80 per cent of their sample in Qatar, Oman and Bahrain,

and the findings of Alali and Romero (2012:164), who reported 75 per cent for Argentinian companies. However, Samaha *et al.* (2012:154) reported the use of Big4 audit firms for only 49.2 per cent of Egyptian firms with websites. Nurunnabi and Hussain (2012:28) similarly found that only 54 per cent of Bangladeshi firms were audited by a Big4 audit firm.

In terms of **dual listing**, most of the companies were listed on the JSE only (76.6 per cent), but just under a quarter (23.4 per cent) was also listed on additional exchanges. Egyptian companies had a much lower rate (14.8 per cent) of dual listing (Samaha *et al.*, 2012:154). Cormier *et al.* (2010:334) reported that 45 per cent of Canadian companies (excluding financial companies) were dual listed in the US.

Additional equity was listed in the previous 24 months by 28.8 per cent of the companies in the present study's sample. Jankensgård (2015:15) reported that 14.4 per cent of Swedish companies in his sample raised new equity in the previous year and 5.4 per cent issued corporate bonds. New financing (debt or equity) were raised by nine per cent of Canadian firms (Cormier *et al.*, 2010:334).

In the next section, I discuss the comparison of mean DS between the categorical variables in the model in order to establish whether there are significant differences between the mean DS of the groups.

7.3. Comparison of mean disclosures scores of categorical variables

The comparisons of the mean DS of the categorical variables were done by way of one-way analysis of variance (ANOVA). Before ANOVAs can be used, certain assumptions have to be satisfied. The first assumption is independence of groups. This requirement was satisfied by the manner in which the sample was selected. Each company in the sample was independent from the others, and the companies' scores did not depend on each other. The second assumption is that the dependent continuous variable is normally distributed. In Section 5.7 Regression model, I described how the normality of DS was verified. The first two assumptions apply to all the ANOVAs in this section, and are not addressed again. The last assumption is homogenous variances within each group. This was tested with Levene's test and the test score is reported separately in each discussion.

Table 7.3 shows that the mean DS for the ‘Controlled’ group was 37.43 per cent, which was lower than for the other two groups. Both the ‘One or more >25%’ and ‘None >25%’ performed marginally better than the sample average of 39.78 per cent. The assumption of homogenous variances in each group was accepted (Levene $F(2, 202) = .001, p > 0.01$). The one-way ANOVA test score ($F(2, 202) = 0.794, p > 0.05$) indicates that there were no significant differences between the average DS of the different ownership concentration groupings. Thus, it seems that ownership concentration did not play a role in the quality of the online IR practices. This is assessed again in the multivariate analysis.

Table 7.3: Disclosure score and ownership concentration

DS	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Controlled	42	0.3743169	0.13924917	0.02148661	0.04098	0.61066
One or more >25%	43	0.4027831	0.13902051	0.02120043	0.14754	0.66393
None >25%	120	0.4042350	0.13311304	0.01215150	0.08197	0.66393
Total	205	0.3978009	0.13548196	0.00946247	0.04098	0.66393

There is a range of disclosure scores between the different industries, as can be seen in Table 7.4. Companies in the ‘Basic materials’ industry performed the best, with an average DS of 43.61 per cent. As one of the main sectors contributing to South Africa’s GDP (see Section 4.2 Characteristics of the Johannesburg Stock Exchange (JSE)) and one subject to a lot of political and societal scrutiny, it is important that these companies are very transparent in their communications. The lowest mean was found for the ‘Technology’ industry, which was also the smallest. It is very interesting that this sector performed almost five per cent worse than the sample average, when one would intuitively expect the technology sector to be better at using technology to communicate with investors than other sectors would be.

The assumption of homogenous variances within each industry was accepted (Levene $F(5, 199) = 0.001, p > 0.01$). The one-way ANOVA test score ($F(5, 199) = 1.383, p > 0.05$) indicates that there was no statistically significant difference between the disclosure behaviour of the different industries. Bowen’s (2006) suggestion that consumer

companies experience a conflict between their online selling and IR intentions on their websites, is therefore rejected in the South African context as the ‘Consumer goods’ and ‘Consumer services’ companies did not perform significantly different to any of the other companies in terms of IR quality. The finding of no statistically significant difference between industries is tested again in the presence of other variables in Section 7.5 Multivariate analyses (full model) and Section 7.7.3 Consumer goods and services companies only.

Table 7.4: Disclosure score and industry

DS	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Basic materials	42	0.4360851	0.14439780	0.02228106	0.15984	0.66393
Consumer goods	22	0.3891580	0.12659495	0.02699013	0.14754	0.61066
Consumer services	42	0.4088603	0.13887545	0.02142895	0.11885	0.61475
Financials	40	0.3943648	0.13024294	0.02059322	0.08197	0.59426
Industrials	47	0.3730380	0.13283640	0.01937618	0.04098	0.66393
Technology	12	0.3493852	0.12184206	0.03517277	0.20902	0.58197
Total	205	0.3978009	0.13548196	0.00946247	0.04098	0.66393

Table 7.5 indicates that there was a difference of 14 percentage points between the DS of companies audited by one of the Big4 audit firms and the DS of those audited by one of the other JSE-accredited audit firms. The assumption of homogenous variances within each auditor type was rejected (Levene $F(203) = 7.501$, $p < 0.01$). The Independent Samples Test score was thus obtained assuming no equal variances, and the test result ($t(62.955) = -7.316$, $p < 0.01$) indicated that there was a statistically significant difference between the disclosure behaviour of companies audited by a Big4 firm and that of those audited by other firms. This seems to confirm that auditing firms with a higher local and international reputation influence their clients to improve their voluntary disclosure on the Internet as well. Whether this significance holds up in a multivariate scenario is tested again later.

As Table 7.5 shows, dual-listed companies had a mean DS that was 12 percentage points better than the DS of companies listed only on the JSE. The assumption of homogenous variances within each group was accepted (Levene $F(203) = 0.049$, $p > 0.01$). The Independent Samples Test score was thus obtained assuming equal

variances, and the test ($t(203) = -5.785, p < 0.01$) indicated that there were statistically significant differences between the disclosure behaviour of companies listed on more than one exchange and those listed only on the JSE. Companies that were dual-listed on foreign exchanges probably have more foreign institutional investors who expect these companies to engage in the same level of IR as companies listed in the US or UK. Whether this significance holds up in a multivariate scenario is tested again later.

Table 7.5: Disclosure score and auditor, listing status and new issues of shares

DS	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Non-Big4 Auditor	36	0.2811931	0.09951160	0.01658527	0.08197	0.59836
Big4 Auditor	169	0.4226404	0.12919451	0.00993804	0.04098	0.66393
Total	205	0.3978009	0.13548196	0.00946247	0.04098	0.66393
Listed on JSE only	157	0.3696878	0.12429015	0.00991943	0.08197	0.61885
Dual listed	48	0.4897541	0.13084472	0.01888581	0.04098	0.66393
Total	205	0.3978009	0.13548196	0.00946247	0.04098	0.66393
No additional equity issued	146	0.4021727	0.13791730	0.01141412	0.11885	0.66393
Additional equity issued	59	0.3869825	0.12976948	0.01689455	0.04098	0.58607
Total	205	0.3978009	0.13548196	0.00946247	0.04098	0.66393

Lastly, from Table 7.5, we can see that the mean DS between companies that issued new equity during the last 24 months and those that had no new equity issues did not differ much. The assumption of homogenous variances within each group was accepted (Levene $F(203) = 0.983, p > 0.01$). The Independent Samples Test score was thus obtained assuming equal variances, and the test ($t(203) = 0.726, p > 0.01$) indicated that there were no statistically significant differences between the disclosure behaviour of companies that recently issued new equity and that of those that did not. Whether this insignificance holds in a multivariate scenario is tested again later.

Correlations between all the variables in the regression model is presented and discussed in the following section.

7.4. Univariate analyses

Table 7.6 contains the univariate correlations. I discuss the correlations below, looking at the dependent variable (DS) column first.

The measure of shareholder familiarity, proxied by the stability measure (FR_STAB9_lag_IDF) was moderately correlated with DS and significant at a 0.01 level. The sign was also as expected; the more stable the shareholding, the lower the quality of the IR practices.

The association for size (natural logarithm of market capitalisation) was strongly positive and significant at a 0.01 level, and in conformance with expectation. Larger companies have more slack resources to spend on their online presence and other disclosure features. Size had the largest correlation from all the variables.

Industry was only weakly negatively correlated with the DS and significant at a 0.05 level.

Profitability was only weakly positively significant at a 0.05 level. In line with the Independent Samples T-test, the use of Big4 auditors and being dual-listed were moderately positively correlated with disclosure, and significant at a 0.01 level.

OC, LNAGE, LNDE_Pub and ISSUE were not significantly associated with online IR quality. These findings are consistent with the prior literature, which reported conflicting significance for these variables and online IR quality.

There were also correlations between the independent variables, which raises the issue of collinearity. Fortunately, there was no perfect collinearity between any of the independent variables. The highest correlation, -0.563, was between FR_STAB9_lag_IDF and LNCAP062012 ($p < 0.01$), which is still below 0.9, the point at which collinearity becomes a problem (Field, 2009:233). The use of Big4 auditors was also moderately correlated with LNCAP062012 and significant at a 0.01 level. This is consistent with the practice that large companies are audited by Big4 auditors. The other independent variables were only weakly correlated with each other.

Interestingly, OC was only weakly ($r = -0.203$) correlated with ownership stability, although significant at a 0.01 level. The negative sign of the association was expected; the more dispersed ownership becomes, the more the stability decreases as trading in a share increases with the increase in dispersion. The Variance Inflation Factors are reported later, with the multivariate regression.

Chapter 7 – Results and discussion of the regression model

Table 7.6: Univariate correlations (Pearson, two-tailed)

Variable	DS	FR_STAB9_lag_IDF	LNCAP0620_12	OC	Industry	LNAGE	RoaA_win	LNDE_Pub	Big4 Auditors	Dual Listed	ISSUE
DS	1										
FR_STAB9_lag_IDF	-0.521**	1									
LNCAP0620_12	0.665**	-0.563**	1								
OC	0.079	-0.203**	0.005	1							
Industry	-0.168*	0.021	-0.212**	0.185**	1						
LNAGE	-0.093	-0.009	0.018	-0.107	-0.036	1					
RoaA_win	0.149*	-0.068	0.286**	0.078	-0.104	-0.069	1				
LNDE_Pub	0.058	-0.155*	0.039	0.043	0.243**	0.093	-0.167*	1			
Big4 Auditors	0.398**	-0.239**	0.404**	-0.037	-0.158*	0.036	0.107	-0.093	1		
Dual Listed	0.376**	-0.101	0.352**	-0.032	-0.284**	0.066	-0.062	-0.055	0.225**	1	
ISSUE	-0.051	0.034	-0.090	0.115	0.038	-0.142*	-0.159*	-0.028	-0.046	-0.046	1

** Correlation significant at a 0.01 level (2-tailed).

* Correlation significant at a 0.05 level (2-tailed).

In order to explore the relationship between DS, stability and size (which are all highly correlated with each other) further, I performed a double sort, as applied by Heflin, Moon and Wallace (2016:76), Kaniel *et al.* (2012:264) and Wang and Zhang (2015:494). This allows a researcher to create groups of the dependent variable based on increasing measures of two explanatory variables. For the present study, the DS was conditioned on size and stability. This should highlight at which levels of stability size has the greatest influence on the DS. First, I ranked the cases in ascending order based on the lagged 2003 to 2011 average stability ratio. The ranking was from low stability (short-horizon investors that trade often) to high stability (long-horizon investors that stay invested). The sample was then divided into three equal terciles, based on stability rank. Next, within each tercile, I sorted the data from large to small, based on size (market capitalisation in R billions). The data within each tercile was then divided into three equal terciles again, based on size. Nine groups were thus created, based on stability/size combinations. Next, I used a one-way ANOVA to determine whether there were significant differences in the DS of the groups. Table 7.7 presents the mean DS of each group. There are wide variations in the DS of the groups. Group 11 (low stability and large size) had the highest DS (53.39 per cent), and Group 33 (high stability and small size) had the lowest DS (25.13 per cent). The DS of large, actively traded companies was therefore more than double the DS of stable small companies. The t-test reported a statistically significant difference at a 0.001 level.

Table 7.7: Mean disclosure score of double-sorted stability and size groups

DS	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
11	22	0.5339046	0.10258916	0.02187208	0.27049	0.66393
12	23	0.4713115	0.11744373	0.02448871	0.24590	0.66393
13	22	0.4603204	0.11565932	0.02465865	0.23770	0.61066
21	22	0.4649776	0.10506618	0.02240019	0.27869	0.61066
22	23	0.3654669	0.12597893	0.02626842	0.11885	0.58607
23	23	0.3082680	0.08240343	0.01718230	0.14754	0.44262
31	22	0.3984724	0.11277804	0.02404436	0.11885	0.60246
32	23	0.3262651	0.09828098	0.02049300	0.18443	0.54098
33	22	0.2513040	0.09426981	0.02009839	0.04098	0.42213
Total	202	0.3972164	0.13599201	0.00956836	0.04098	0.66393

The variances within groups were homogenous (Levene $F(8, 193) = 1.027, p > 0.01$) and the one-way ANOVA test score indicated that there were indeed statistically significant DS differences between the groups ($F(8, 193) = 16.602, p < 0.05$). I then used post-hoc tests (Tukey HSD) to identify between which groupings the significant differences occurred. For the sake of brevity, only the differences between terciles three and one are displayed here. The full output for the post-hoc tests for all nine groups is set out in Appendix D. Table 7.8 displays the mean DS in a three-by-three matrix.

Table 7.8: Multiple comparisons: Disclosure score, stability and size

		Size terciles			Mean DS	Difference	Sig.	
		Large	Medium	Small				
		1	2	3	1-3			
Stability terciles	Low	1	0.53390	0.47131	0.46032	0.48851	0.07358	0.357
	Medium	2	0.46498	0.36547	0.30827	0.37957	0.15671	0.000
	High	3	0.39847	0.32627	0.25130	0.32535	0.14717	0.000
	Mean DS		0.46578	0.38768	0.33996	0.39781		
	Difference	1-3	0.13543	0.14504	0.20902			
	Sig.		0.001	0.000	0.000			

As can be seen from Table 7.8, as the stability of the shareholder profile increased (and there is less trading), the DS decreased, and the decrease was significant for all market capitalisation groupings (columns 1 to 3). Looking across stability profiles, disclosure scores decreased as the companies became smaller. However, these decreases were only significant for the medium and high stability terciles (rows 2 and 3). The post-hoc test found no statistical difference between the disclosure scores of the largest companies and the smallest companies in the low stability (high turnover, active trading) tercile. The results imply that at low levels of stability (short-horizon investors), disclosure by companies was better, irrespective of companies' sizes. Whilst Bushee and Noe (2000) documented that changes in disclosure quality led to changes in shareholder type (based on investment horizon), the present study found, cross-sectionally, that having more short-horizon investors (low stability), calculated over a lagged nine-year period, was associated with higher disclosure quality. This could be explained by the likelihood that short-horizon investors are not familiar with the company, and therefore pressure the company for more information (quantity and frequency). Long-horizon investors, on the other hand, are familiar with the company,

do not intend to make short-term trading gains and invest in their own information gathering, therefore the pressure on companies to increase voluntary disclosure is less. The associations of all the independent variables are assessed together in the multivariate analyses below.

7.5. Multivariate analyses

The purpose of the OLS regression was to test the hypothesis of the present study. It is appropriate to present the form of the hypothesis again:

$H_0 =$ *There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).*

Table 7.9 presents the results of the OLS regression containing the associations of all the independent variables in multivariate analysis (using the 'Enter' function). All the independent variables in the model explained 51.8 per cent jointly of the variability of the online IR DS. The F-statistic was large and the model was significant at a 0.001 level. The adjusted R^2 compared favourably with that in studies of comparative size, for example, by Abdelsalam *et al.*'s (2010:336) model for UK companies (35.8 per cent), Cormier *et al.*'s (2007:20) model for Canadian companies (45.3 per cent), Boubaker *et al.*'s (2012:144) model for French companies (51.3 per cent) and Dolinšek *et al.*'s (2014:853) model for Slovenian companies (38.9 per cent).

In testing the shareholder familiarity hypothesis (proxied by the **stability measure**), it was pertinent to look at the t-statistic of -2.975 for FR_STAB9_lag_IDF, which was significant at a 0.005 level. For practical significance, I looked at the standardized coefficients: if FR_STAB9_lag_IDF improves (deteriorates) with one standard deviation, voluntary disclosure quality decreases (improves) by $0.191 \times 0.136 = 0.0259$, or 2.6 percentage points. That was a change of 6.5 per cent on the mean DS of the 202 companies of 39.72 per cent. The significance of stability found in the univariate correlation analyses was also confirmed in the multivariate analyses. The significance of stability as a predictor also survived the inclusion of size as a predictor. This confirmed the findings in Table 7.8; differences in DS of the 'High' and 'Low' stability groupings were significant across all three size groupings, whilst size (difference between 'Large' and 'Small' groupings) was only significant in the 'Medium' and 'High' stability groups.

As the OLS results indicate a significant relationship between the two proxies, DS and shareholder stability, I therefore rejected the null hypothesis of no relationship between shareholder familiarity and voluntary communications quality. Furthermore, the negative sign of the coefficient was consistent with the theory of shareholder familiarity – the higher the stability in the investor profile, the lower the voluntary disclosure quality. Shareholder stability was therefore a significant predictor of online IR quality in JSE-listed companies and the association was negative.

Table 7.9: Full regression model

Dependent Variable: DS ENTER	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics
	B	Std. Error	Beta			Lower Bound	Upper Bound	VIF
Constant	-0.211	0.100		-2.119	0.035	-0.462	-0.011	
FR_STAB9_lag_IDF	-0.026	0.009	-0.191	-2.975	0.003	-0.043	-0.009	1.721
LNCAP062012	0.029	0.005	0.480	6.251	0.000	0.020	0.039	2.459
Controlled	-0.009	0.019	-0.028	-0.504	0.615	-0.026	0.043	1.260
One or more >25%	-0.008	0.017	-0.025	-0.486	0.628	-0.061	0.076	1.128
Consumer goods	-0.038	0.026	-0.086	-1.440	0.151	-0.089	0.014	1.505
Consumer services	-0.010	0.023	-0.030	-0.447	0.655	-0.055	0.035	1.926
Financials	-0.055	0.025	-0.161	-2.200	0.029	-0.105	-0.006	2.236
Industrials	-0.018	0.023	-0.055	-0.786	0.433	-0.062	0.027	2.065
Technology	-0.008	0.033	-0.014	-0.243	0.808	-0.074	0.058	1.408
LNAGE	-0.021	0.008	-0.131	-2.516	0.013	-0.038	-0.005	1.132
RoaA_win	-0.001	0.001	-0.069	-1.103	0.271	-0.002	0.001	1.623
LNDE_Pub	0.008	0.006	0.071	1.314	0.191	-0.004	0.020	1.211
Big4 Auditors	0.050	0.020	0.140	2.531	0.012	0.011	0.089	1.284
Dual Listed	0.050	0.018	0.158	2.728	0.007	0.014	0.087	1.399
ISSUE	-0.007	0.015	-0.023	-0.453	0.651	-0.037	0.023	1.088
Adjusted R ²					0.518			
F-statistic (15, 186)					15.429			
P-value					0.000			

It comes as no surprise that **size (market capitalisation)** was a significant predictor. It was highly significant at a 0.001 level. The positive sign of the association was in accordance with theory. Prior literature found size to be significantly positively associated with any voluntary disclosure, be it in annual reports, ESG or CSR reports or IR. Larger companies have more slack resources to devote to disclosure practices and therefore their disclosure quality is higher. Secondly, larger companies are also

under more public scrutiny and therefore have a greater need to prove legitimacy and ensure stakeholder engagement. Market capitalisation was also a significant positive predictor of online IR for Debreceeny *et al.* (2002), Bollen *et al.* (2006), Marston and Polei (2004), Kelton and Yang (2008), AbuGhazaleh *et al.* (2012), Samaha *et al.* (2012), Bozcuk (2012), as well as Ghasempour and Yusof (2014). For practical significance, look at the standardized coefficients; if the natural log of market capitalisation increases (decreases) with one standard deviation, voluntary disclosure quality will improve (decrease) by $0.480 \times 0.136 = 0.0653$, or 6.5 percentage points. That was a change of 16.4 per cent on the mean disclosure score of the 202 companies of 39.72 per cent. Therefore, market capitalisation was a significant predictor of online IR quality of JSE-listed companies. The association was positive. Table 7.8 shows that the size effect was most noticeable in 'Medium' and 'High' stability companies. In highly traded (low stability) companies, market capitalisation had no effect on disclosure quality.

The multivariate finding for **ownership concentration** was in agreement with findings in the univariate analyses, which indicated no significant differences in the disclosure score of the three ownership groups. Ownership concentration was not a significant predictor of online IR quality of JSE-listed companies. This agrees with the finding of Abdelsalam *et al.* (2010:20) of no significance for block-holdings greater than five per cent. Other studies reported contradictory findings for ownership concentration, as summarised in Table 7.10. Cormier *et al.* (2010:336), Kelton and Yang (2008:77), Dâmaso and Lourenço (2011:352), Dolinšek *et al.* (2014:850) as well as Turrent and Ariza (2012:21) all found significant negative associations. By contrast, AbuGhazaleh *et al.* (2012:220), Alali and Romero (2012:166) and Andrikopoulos *et al.* (2013:149) reported significant positive associations for ownership concentration and online disclosure quality.

One possible explanation for the conflicting findings for ownership concentration and disclosure quality lies in the investment horizon of institutional investors, as originally classified by Bushee (1998). Bear in mind that in most equity markets the large shareholders are represented by institutional shareholders such as pension funds and other asset management funds, and not by individuals or other companies. A growing number of studies have found that the impact on companies' policies and actions

differs, based on the investment horizon of its institutional investors and not so much on the size of the holdings (Bushee, 1998, 2001; Wang, 2011; Derrien, Kecskés & Thesmar, 2013; Ramalingegowda, 2014; Huang & Petkevich, 2016). In robustness tests, Huang and Petkevich (2016:1046/7) found that in concentrated ownership companies *and* dispersed ownership companies, there are still significant differences between the coefficients for long-horizon and short-horizon investors, when they modelled the investing and financing behaviour of companies.

Table 7.10: Comparison of ownership concentration findings in prior studies

Authors	Country	Measure of concentration	Sample mean: % of shares held	Significance
Abdelsalam <i>et al.</i> (2007:20)	UK	Block-holding > 5%	31	None
Cormier <i>et al.</i> (2010:336)	Canada	Block-holdings > 10%	59	Negative
Kelton and Yang (2008:77)	US	Block-holding > 5%	20	Negative
Dâmaso & Lourenço (2011:352)	UK	Largest shareholder	16	Negative
Dolinšek <i>et al.</i> (2014:850)	Slovenia	Largest 10 shareholders	87	Negative
Turrent & Ariza (2012:21)	Mexico Spain	Controlling shareholding	54 49	Negative
AbuGhazaleh <i>et al.</i> (2012:220)	Jordan	Institutional shareholders >5%	37	Positive
Alali & Romero (2012:166)	Argentina	Majority shareholdings	68	Positive
Andrikopoulos <i>et al.</i> (2013:149)	Shipping companies (US, UK, Singapore and Norway)	Largest shareholder	33	Positive

The univariate analyses set out in Table 7.6 show that the correlation between ownership concentration and shareholder stability (the present study's measure for shareholder familiarity, which can also double as a measure of investment horizon) is low ($r=-0.203$)³⁶, but significantly negative at a 0.01 level. To explore this relationship further, I ran a one-way ANOVA on stability per ownership concentration category.

³⁶ The coding in the dataset for ownership concentration was 1 = Controlled, 2 = One or more >25%, and 3 = None >25%. The negative correlation therefore means that as the companies becomes less

From Table 7.11, it is clear that the mean stability for the 'Controlled' category is 1.722, compared to the 'None >25%' category's 1.584. The assumption of homogenous variances in each group was thus accepted (Levene $F(2,199) = 3.028$, $p > 0.01$). The one-way ANOVA test score ($F(2,199) = 3.402$, $p < 0.05$) indicated that there were significant differences between the average stability ratios of the different ownership concentration categories. Tukey HSD post-hoc tests were conducted to establish where the differences lay. It was found that 'Controlled' and 'None >25%' were significantly different from each other, but 'One or more >25%' was not different from the other two categories. I therefore concluded that for JSE-listed companies, ownership concentration was not a significant driver of online IR quality, as the predictive value lay in the stability measure (or investment horizon).

Table 7.11: Mean stability per ownership concentration category

STAB9_lag		N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Controlled	(1)	41	1.7217493	0.29656661	0.04631592	0.73830	1.99867
One or more >25%	(2)	42	1.6449488	0.22710307	0.03504276	1.01865	1.92822
None >25%	(3)	119	1.5838408	0.31856304	0.02920263	0.58716	1.99857
Total		202	1.6245377	0.30099046	0.02117762	0.58716	1.99867

Table 7.9 also reveals that none of the **industries** was significant, except 'Financials'. As these are dummy variables, with 'Basic materials' as a reference category, the practical implication is that the average DS of 'Financials' companies was $1 \times -.055 = -0.055$ or 5.5 percentage points lower, *ceteris paribus*, than 'Basic materials' companies, and was significant at a 0.05 level. This significance for the 'Financials' industry was somewhat different from the univariate results, as the one-way ANOVA indicated no significant difference between the industry categories. It seems that the presence of the other predictors raised the negative significance of 'Financials'. Although insignificant, the coefficients of the other four industries were also negative. The finding from the multivariate analyses was thus that the quality of the online IR practices of 'Basic materials' companies was higher than that of other industries. This

concentrated, the stability measure decreases –there is more trading or change in the identity of shareholders. This is consistent with the claim that more dispersed shareholdings improve liquidity or turnover of the share.

can be explained by legitimacy theory, as extractive industries are much more reliant on society's acceptance of their activities, and as a large contributor to the GDP, these companies are under scrutiny from the financial press and regulators.

Listing age was also found to be a significant predictor of DS at a 0.05 level. The association was negative, meaning that companies that were listed more recently (initial public offering) were better at online IR practices. These companies had more recent exposure to dealing with sponsors, institutional shareholders and the press, and were therefore more likely to be attuned to the communication requirements. The present study's findings are in agreement with those of Gandía (2008) and AbuGhazaleh *et al.* (2012). Looking at the standardized coefficients in Table 7.9, it is clear that if the natural logarithm of age increases (decreases) with one standard deviation, voluntary disclosure quality will decrease (improve) by $0.131 \times 0.136 = 0.0178$, or 1.8 percentage points. This coefficient has no real life significance for company management, as a company cannot alter its listing date. The coefficient is more relevant for predictive purposes. I therefore concluded that for JSE-listed companies, listing age was a significant negative predictor of online IR practices.

Table 7.9 also reflects that **profitability** is not significant in predicting online IR quality for JSE-listed companies. This finding is consistent with studies by Marston and Polei (2004), Abdelsalam *et al.* (2007), Gandía (2008), Desoky (2009), Dâmaso and Lourenço (2011), Uyar (2012), Nurunnabi and Hossain (2012), Turrent and Ariza (2012), and Ghasempour and Yusof (2014), who found no significance for profitability as a predictor of online disclosure quality. For JSE-listed companies, in the presence of other stronger predictors, profitability is not a significant predictor.

Leverage was also not significant as predictor of online IR quality in the present study's model. The prior literature reports conflicting findings for leverage as a predictor. This study's findings of no significance agree with those of Alali and Romero (2012), Samaha *et al.*, (2012), Turrent and Ariza (2012), Fuertes-Callén *et al.* (2014) and Mohamed and Basuony (2014). For JSE-listed companies, in the presence of other stronger predictors, leverage was not a significant predictor.

Having a **Big4 auditor** was a significant positive predictor for DS in the present study's model. As shown in Table 7.9, it was significant at a 0.05 level. This confirmed the t-test finding of significant differences (14 percentage points) between the disclosure scores of the two categories of auditors and the moderate correlation in the univariate analyses in Table 7.6. However, this was still an unusual finding, as JSE-listed companies can only appoint auditors from the Schedule 15 list of accredited auditors and advisors (JSE, 2011b). A probable explanation for this is the fact that the accredited auditors and advisors are appointed based on factors such as their skills and their IFRS knowledge. IFRS knowledge pertains to prescriptive disclosures and not voluntary disclosures, which is the area investigated for this study. It therefore seems that non-Big4 audit firms are less successful at exerting influence on their clients to improve voluntary disclosure practices (the question of whether non-Big4 audit firms even see this as a mandate is perhaps an area for further investigation). Furthermore, normative isomorphism can explain why the disclosure scores of Big4 clients were significantly better, as the local Big4 audit firms follow the practices of their international offices. The present study's findings agree with those of Bonsón and Escobar (2006), Kelton and Yang (2008), Boubaker *et al.* (2012), and Nurunnabi and Hossain (2012), who found positive associations for Big4 audit firms. From a practical point of view, *ceteris paribus*, changing from a non-Big4 auditor to a Big4 auditor (categorical dummies) should improve the disclosure score with five percentage points (1×0.05). I therefore conclude that for JSE-listed companies, having a Big4 auditor was a significant positive predictor of online IR quality.

Having a **listing on another exchange** was also found to be a significant positive predictor of the disclosure score. This was also in agreement with the t-test, which found significant differences between the two categories. Dual-listed companies have to comply with the additional disclosures required by foreign exchanges, especially those in the US. Furthermore, these companies have to deal with information requests from foreign institutional investors, analysts and the press, who expect the same level of service as from the other companies listed on those exchanges. The present study's findings agree with those of Debreceeny *et al.* (2002), Bollen *et al.* (2006), Desoky (2009), Cormier *et al.* (2010), and Fuertes-Callén *et al.* (2014). *Ceteris paribus*, listing on another exchange (categorical dummies) appeared to improve the disclosure score with five percentage points (1×0.05). However, practically, management should

consider another listing for other reasons (improved liquidity, improved price informativeness, increased analyst following, access to capital), rather than merely to improve their disclosure (which would follow), which may come at an increased cost, even for large companies. I therefore conclude that for JSE-listed companies, having another listing is a significant positive predictor of online IR quality.

Listing additional shares (seasoned equity offering) during the previous 24 months was found to be an insignificant factor in predicting the online IR practices of JSE-listed companies. This agreed with the t-test finding of no significant differences between the two categories. The prior literature on the significance of this predictor is inconclusive. The present study's findings agree with those of Kelton and Yang (2008), Cormier *et al.* (2010), AbuGhazaleh *et al.* (2012), as well as Jankensgård (2015), who found no significant relationship with new issues of shares. For JSE-listed companies I found that, in the presence of other stronger predictors, listing a new issue of shares was not a significant predictor of online IR quality.

7.6. Final model

As a last step, I ran the regression model in 'Stepwise' mode to determine a final reduced model, which includes only the predictors that remained statistically significant at a 0.05 level or better, with a 95 per cent confidence level. A similar process was followed by Bonsón and Escobar (2006), Bozcuk (2012), Dolinšek *et al.* (2014), Gandía (2008), and Samaha and Abdallah (2012). The final model is set out in Table 7.12.

Table 7.12 contains all the statistically significant predictors from the full model, except that 'Financials' was now omitted. In the final model, industry was therefore not a significant predictor. The adjusted R^2 of the model was 0.524, with an F-statistic (5, 196) of 45.32. The F-statistic was large and the model was significant at a 0.001 level.

Table 7.12: Stepwise reduced regression model

Dependent Variable: DS STEPWISE	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
Constant	-0.168	0.088		-1.906	0.058	
LNCAP062012	0.026	0.004	0.417	6.335	0.000	1.833
FR_STAB9_lag_IDF	-0.032	0.008	-0.236	-3.972	0.000	1.490
Dual Listed	0.058	0.017	0.182	3.444	0.001	1.178
Big4 Auditors	0.049	0.019	0.139	2.606	0.010	1.210
LNAGE	-0.019	0.008	-0.119	-2.446	0.015	1.005
Adjusted R2					0.524	
F-statistic (5, 196)					45.32	
P-value					0.000	

The final model for online IR practices of JSE-listed companies is therefore the following:

$$DS = \alpha + \beta_1 FR_STAB9_lag_IDF + \beta_2 LNCAP062012 + \beta_5 LNAGE + \beta_8 Big4Auditor + \beta_9 DualListed + \varepsilon$$

For the present study's sample of JSE-listed companies, it therefore seems that larger, younger, dual-listed companies that are audited by a Big4 auditor and that have a profile of unstable investors (which is less familiar with the company) had higher quality online IR practices.

In the next section, I present additional robustness tests to test the veracity of the model and its predictors.

7.7. Robustness tests

7.7.1. Only JSE-listed (excluding dual-listed) companies

Dual-listed companies by nature have foreign investors whose trading behaviour on the JSE might be different from that of investors in South Africa; for example, they might buy into or sell out of South African companies for political risk reasons, or to gain a portfolio spread between developing and emerging markets that does not apply equally to local investors. I therefore ran another regression for companies that were listed on the JSE only. The number of companies in the sample listed on the JSE only

was 157, less three companies that had been trading for less than one year in 2010/1, which was excluded. There were enough data points, so the full model was run without the dual-listed variable. The results are presented in Table 7.13.

The model lost some of its strength compared to the original model in Table 7.9. It explained 39.1 per cent of the variability in the online IR practices of companies listed only on the JSE. The F-statistic was 8.018, which was also lower than that of the full model, but it was still significant at a 0.001 level. More importantly though, shareholder stability was still a significant negative predictor of voluntary disclosure practices at a 0.05 level. The other significant variables in the final model (Table 7.12) were also significant, namely market capitalisation, listing age and using a Big4 auditor.

Table 7.13: Regression model for companies listed on the JSE only

Dependent Variable: DS ENTER	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
Constant	-0.100	0.117		-0.857	0.393	
<i>FR_STAB9_lag_IDF</i>	-0.026	0.012	-0.189	-2.260	0.025	1.764
<i>LNCAP062012</i>	0.026	0.006	0.419	4.552	0.000	2.124
Controlled	0.004	0.022	0.014	0.199	0.842	1.277
One or more >25%	-0.023	0.021	-0.073	-1.083	0.281	1.156
Consumer Goods	-0.052	0.033	-0.132	-1.594	0.113	1.724
Consumer Services	-0.010	0.029	-0.033	-0.346	0.730	2.347
Financials	-0.049	0.033	-0.151	-1.485	0.140	2.601
Industrials	-0.016	0.028	-0.059	-0.585	0.559	2.525
Technology	-0.022	0.039	-0.045	-0.568	0.571	1.612
<i>LNAGE</i>	-0.035	0.012	-0.204	-2.914	0.004	1.232
RoaA_win	-0.001	0.001	-0.085	-1.058	0.292	1.623
LNDE_Pub	0.001	0.007	0.009	0.140	0.889	1.161
<i>Big 4 Auditors</i>	0.059	0.021	0.200	2.803	0.006	1.275
Issued New Shares prev 24 months	-0.004	0.018	-0.016	-0.235	0.814	1.118
Adjusted R ²					0.391	
F-statistic (14, 139)					8.018	
P-value					0.000	

Selecting only cases for which 'Dual-Listed' = Only JSE

When the regression was run in 'Stepwise' mode (untabulated), the R^2 increased slightly to 0.408, but the F-statistic (4, 149) increased to 27.309, which was large and significant at a 0.001 level. In the reduced model for companies listed on the JSE only, stability, market capitalisation, using Big4 auditors and listing age were significant predictors, all at a 0.01 level. These were the same predictors as in the final model, excluding dual-listing status.

7.7.2. Excluding companies in the financial industry

Many studies have excluded companies in the financial industry from their analyses, as these companies are subject to different reporting regimes and have different capital structures (Gandía, 2008; Kelton & Yang, 2008; Desoky, 2009; Cormier et al., 2010; Boubaker *et al.*, 2012; Fuertes-Callén *et al.*, 2014; Ghasempour & Yusof, 2014; Jankensgård, 2015). A separate robustness test was run without financial industry companies in the regression. The number of companies in the sample excluding such companies was 165, less two non-financial companies that had been trading for less than one year in 2010/1, which were excluded. There were enough data points, so the full regression model was run, without the 'Financials' variable. The results are presented in Table 7.14.

The model increased in strength compared to the original model in Table 7.9. It now explained 53.1 per cent of the variability in the online IR practices of JSE-listed companies that are not in the financial industry. The F-statistic (14, 148) was 14.121, which is slightly lower than that of the full model, but it was still significant at a 0.001 level. In this robustness test, shareholder stability was once again a significant negative predictor of voluntary disclosure practices at a 0.01 level. Market capitalisation, listing age and using a Big4 auditor remained significant.

Interestingly, leverage became a significant predictor at a 0.05 level. The association was positive, which conforms to the theory that more highly leveraged companies disclose more voluntarily to retain investors' confidence and to reduce their cost of debt (Sengupta, 1998). The present study's finding is also consistent with the finding of Andrikopoulos *et al.* (2013) for shipping companies. The practical significance, based on the standardized coefficient, is that as the natural logarithm of the debt-equity ratio increases (decreases) with one standard deviation, the disclosure score increases with

0.137 x 0.137 = 0.0188, or 1.9 percentage points. That is a 4.7 per cent increase on the mean disclosure score of 39.79 per cent, of all companies, excluding companies in the financial industry.

Table 7.14: Regression model excluding companies in the financial industry

Dependent Variable: DS ENTER	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
Constant	-0.190	0.111		-1.717	0.088	
FR_STAB9_lag_IDF	-0.025	0.009	-0.184	-2.597	0.010	1.741
LNCAP062012	0.030	0.005	0.486	5.805	0.000	2.422
Controlled	-0.020	0.020	-0.059	-0.979	0.329	1.250
One or more >25%	-0.012	0.020	-0.035	-0.608	0.544	1.149
Consumer Goods	-0.045	0.027	-0.114	-1.710	0.089	1.524
Consumer Services	-0.022	0.024	-0.070	-0.925	0.356	1.952
Industrials	-0.026	0.023	-0.086	-1.115	0.267	2.079
Technology	-0.021	0.034	-0.041	-0.625	0.533	1.470
LNAGE	-0.026	0.009	-0.167	-2.914	0.004	1.142
RoaA_win	-0.001	0.001	-0.054	-0.824	0.411	1.491
LNDE_Pub	0.019	0.009	0.137	2.238	0.027	1.295
Big4 Auditors	0.049	0.022	0.134	2.236	0.027	1.239
Dual-Listed	0.058	0.021	0.177	2.748	0.007	1.436
Issued New Shares prev 24 months	-0.020	0.018	-0.065	-1.130	0.260	1.139
Adjusted R ²					0.531	
F-statistic (14, 148)					14.121	
P-value					0.000	

Selecting only cases for which 'Financials' = 0

When the regression was run in 'Stepwise' mode (untabulated), the R² reduced slightly to 0.524, but the F-statistic (4, 158) increased to 45.518, which is large and significant at a 0.001 level. In the reduced model, only stability, market capitalisation, being dual-listed and listing age were significant predictors, all at a 0.01 level. Neither leverage, nor having a Big4 auditor was significant in the reduced model when companies in the financial industry were excluded. Insignificant findings for auditor type are not unusual, and agree with similar findings by Alali and Romero (2012), AbuGhazaleh *et al.* (2012) and Samaha *et al.* (2012).

7.7.3. Consumer goods and services companies only

In the description of the sample selection (Section 5.5 Sample), I indicated that the third tranche of companies selected for inclusion was all the consumer goods and services companies. The rationale was to have a census of one complete industry's online IR practices in order to negate the effect of industry differences between companies. As the number of constituents in each industry was too low, I decided to group 'Consumer goods' and 'Consumer services' together, and this gave me 64 companies to work with. One of the companies had been listed for less than a full year in 2010/1, and was excluded from the regression analyses.

The number of independent variables in the full model, excluding industry, was ten. To avoid violating the OLS requirement of at least ten cases per independent variable (I would need 100 companies), I ran this robustness regression only on the variables indicated as significant in the final model (Table 7.12) in Section 7.6 Final model.

From Table 7.15 it can be seen that the model decreased slightly in strength compared to the final model in Table 7.12. It now explained 42.7 per cent of the variability in the online IR practices of JSE-listed consumer goods and services companies. The F-statistic (5, 57) was 10.222, and the model was still significant at a 0.001 level. In this robustness test, market capitalisation, listing age and being dual-listed remained significant.

However, shareholder stability no longer met the criteria for statistical significance ($p = 0.119$), although the direction of the association (negative) was still consistent with the proposed theory of shareholder familiarity. For practical significance, if the `FR_STAB9_lag_IDF` decreases (increases) with one standard deviation, the disclosure score increases (decreases) with $0.181 \times 0.135 = 0.0244$ or 2.4 percentage points. That is a 6.1 per cent increase on the average DS of consumer goods and services companies of 40.28 per cent. The lack of significance for stability may probably be attributed to a lack of power in the analysis to find significance because the number of cases in the regression was too small, or there was a lack of variability in the stability profile of consumer goods and services companies.

Table 7.15: Regression model for consumer goods and services industries

Dependent Variable: DS ENTER	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			VIF
Constant	-0.028	0.162		-0.173	0.864	
FR_STAB9_lag_IDF	-0.022	0.014	-0.181	-1.582	0.119	1.412
LNCAP062012	0.022	0.007	0.378	3.042	0.004	1.669
LNAGE	-0.041	0.014	-0.290	-2.999	0.004	1.010
Big 4 Auditors	0.041	0.039	0.111	1.060	0.294	1.194
Dual Listed	0.079	0.037	0.224	2.125	0.038	1.206
Adjusted R ²					0.427	
F-statistic (5, 57)					10.222	
P-value					0.000	

Selecting only cases for which 'Consumer goods' and 'Consumer services' = 1

Using a Big4 auditor was also not statistically significant for the prediction of online IR quality in the consumer goods and services industry, even though the sign of the association was in conformance with theory. The finding of insignificance was also reported by Alali and Romero (2012), AbuGhazaleh *et al.* (2012) and Samaha *et al.* (2012).

7.8. Summary and conclusion

This chapter described the outcome for the second primary objective, namely to determine the drivers or predictors of the online IR practices of JSE-listed companies, and specifically whether shareholder stability is significantly associated with disclosure quality.

Descriptive results were presented to provide a clear overview of the data. The average for shareholder stability (the proxy for familiarity) was 1.62, which indicated that, for this sample, the shareholder base was very stable. This agrees with the finding of a low turnover on the JSE by the WEF (2012) and the JSE (2014). The average market capitalisation was R31 billion, and companies were listed for an average of 26 years. The sample companies had an average profitability of 8.4 per cent and debt was 2.5 times the value of equity. A fifth of the companies were directly or indirectly controlled, whilst another fifth had one or more shareholders that held 25 per cent of the outstanding shares or more. There was a good distribution between the six industry

sectors. Big4 auditors audited 82 per cent of the companies and 23 per cent of the sample was listed on another stock exchange as well. Only 29 per cent of sample companies had issued new capital during the previous 24 months.

One-way ANOVAs for the categorical variables in the model indicated no significant differences between the disclosure scores of the individual categories for ownership concentration, industry group and issuing new equity during the previous 24 months. However, auditor type and dual-listed status did display significant differences in disclosure scores. Large Pearson correlations were reported between disclosure scores, stability, and market capitalisation respectively that were significant at a 0.01 level. Auditor type and dual-listed status had a medium strength correlation with disclosure score, significant at a 0.01 level. Weak correlations were found for industry and profitability, although still significant at a 0.05 level. A large correlation was reported between stability and market capitalisation, although this was still below 60 per cent, which reduced the concern regarding collinearity. VIFs reported in the regression analyses confirmed no serious multi-collinearity between the independent variables.

A further three-by-three analysis of the relationship between disclosure score, stability and market capitalisation was presented, together with one-way ANOVAs. The stability and market capitalisation variables were double sorted in ascending order and then grouped into terciles. Across all three market capitalisation groups, the mean disclosure score between the 'High' and 'Low' stability groups were statistically significant. However, in the 'Low' stability group (high share turnover) there was no significant difference between the mean disclosure score of the 'Large' and 'Small' market capitalisation groups. For the 'Medium' and 'High' stability groups, there was a significant difference once again between the 'Large' and 'Small' market capitalisation groups' mean disclosure score. Size therefore influenced the disclosure scores only in the 'Medium' and 'High' stability groups. The average disclosure score of 'Large' companies with 'Low' stability was 53 per cent, compared to the average disclosure score of 'Small' companies with 'High' stability of 25 per cent ($p < 0.001$).

The OLS regression model developed for this study was significant at a 0.001 level and explained 51.8 per cent of the variability in JSE-listed companies' online IR quality.

The OLS regression model was also used to test the hypothesis that shareholder stability is associated with voluntary disclosures, controlling for 14 other independent variables. The null hypothesis of no association was rejected, as stability was found to be a significantly negative predictor of online IR practices of JSE-listed companies ($p = 0.005$). This finding confirms the present study's hypothesis that where the shareholder profile of a company is stable – most shareholders have a long investment horizon – the demand for a rich information environment is less intense, as shareholders are familiar with their investee company. This familiarity can be the result of the long relationship with the management, the cumulative information disclosed by the company over a long time and the capability of the investors to generate their own high-quality information on the investee and its market (reducing the need for public voluntary disclosure by the investee). Company management therefore have a reduced need to signal to, and concomitantly also cater to the lower need for information from long-horizon investors.

Ownership concentration was not significant as a predictor. This confirms the findings of the univariate analysis, which found no significant differences between the disclosure score of the three ownership concentration categories. Prior literature found that institutional ownership (which mostly accounts for concentration) affects companies' policies and behaviours differently, based on the institutional investor's investment horizon. Significant differences in stability (which can proxy for investment horizon) were found between 'Controlled' and 'None >25%', but not between 'One or more >25%' and the other two categories. I therefore concluded that stability explains disclosure better than ownership concentration.

A final model was generated by using a stepwise regression in order to crystalize the number of significant variables for a predictive model. For the present study's sample of JSE-listed companies, it therefore seems that larger, younger, dual-listed companies that are audited by a Big4 auditor and that have an unstable profile of investors (short-horizon investors who are less familiar with the company) have higher quality online IR practices.

Lastly, robustness tests were conducted with three different regression models. In the stepwise model for companies listed on the JSE only, stability, market capitalisation,

Big4 auditors and listing age were significant predictors. These were the same predictors as the final model, excluding dual-listing status. In the stepwise model for all industry sectors excluding companies in the financial industry, only stability, market capitalisation, dual-listing and listing age were significant predictors. The last regression was run on all the companies in the consumer goods and services industry. Market capitalisation, listing age and dual-listing status were significant. The stability measure was no longer statistically significant, although it might still be practically significant. The negative sign for the stability variable was still consistent with the shareholder familiarity hypothesis. Furthermore, the low number of cases reduced the power of the analysis to pick up smaller significant differences. In the next chapter, I present the summary, conclusions, and recommendations for further study.

CHAPTER 8

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1. Introduction

In the final chapter, I present an overview of the research conducted for this study. The research problems are revisited briefly and the methodology employed to reach the research objectives is described. Thereafter I summarise the main findings and the conclusions reached. Next, I highlight the contributions of the study and make recommendations. I then conclude with suggestions for further study.

8.2. Research problems and objectives

Agency theory posits that managers of companies (agents) act in their own self-interest unless measures are instituted by shareholders (principals) to protect their interests. Shareholders therefore incur agency costs, for example, by employing auditors to monitor the behaviour of management, or by instituting bonus schemes linked to the share price. In any agency relationship, information asymmetry is also relevant – shareholders and other potential investors or capital providers do not have the same information about the company's prospects and risks as management has. Adverse selection results from a situation where investors who have less credible information to their disposal offer lower prices when they buy. Management therefore has an incentive to disclose additional voluntary information about the company's risks and prospects to the capital market, in an effort to reduce information asymmetry. A vast body of literature has empirically established that companies that reduce information asymmetry through increased voluntary disclosure experience reductions in their cost of capital, and increased liquidity and share prices. Increased visibility via good IR programmes also achieves the same benefits in terms of the investor recognition hypothesis and signalling theory.

The investors' investment horizon also plays an important role in companies' actions. Companies with large groups of institutional shareholders with a short-term focus tend to manage earnings by cutting R&D and advertising spending in order to meet analysts' quarterly earnings forecasts. They may overlook profitable long-term investments in favour of projects with quicker pay-back periods. Such a focus on the short-term by

management damages the long-term growth and health of companies. Prior research has found that increasing voluntary disclosure tends to attract short-horizon investors (transient investors), with a concomitant potential negative effect on the company's long-term health. Companies with a short-term focus tend to underperform in returns, compared to those that focus on long-term sustainable growth. On the other hand, companies with more long-horizon (dedicated) investors, tend to have better governance structures, which in themselves may lead to improved communication, especially if one considers that normative isomorphism plays a role in the field of disclosure. Companies therefore need to strike a balance between reducing information asymmetry (with reduced cost of equity benefits) by increasing voluntary disclosure, and attracting the wrong type of shareholder.

Most initial prior research on information asymmetry and voluntary disclosure was conducted on companies that were listed on exchanges in the US, the UK and Europe, and that are actively traded and have high free float percentages. Research that is more recent has emerged from Eastern Europe, the Indian subcontinent and other Asian countries. These emerging markets are smaller and less liquid, and there is greater shareholding by block-owners, families and governments. Investor protection, reporting standards and governance are low.

The JSE is unique as an equity market in two ways:

- In general, (excluding the blue chip companies), it has a high ownership concentration and low turnover compared to developed countries' exchanges.
- South Africa is consistently rated in the top three in the world by the WEF for the quality of its financial reporting, stock market regulation, governance and protection of investors' rights (even higher than the UK, the US and other developed countries).

Therefore, even though South Africa is an emerging market, its stock market, auditors and financial regulators operate in the same league as those in the G-20 countries. The JSE is therefore an interesting setting for studying voluntary disclosure behaviour.

This study focuses on company websites and Internet-enabled communication tools as a channel for voluntary disclosure. The reason for focusing on company webpages is that they provide *prima facie* evidence of a company's policy regarding transparency

and equitable access for all investors, not just for investment professionals and institutional shareholders. The JSE Listings Requirements and the Companies Act no. 71 of 2008 allow for the dissemination of information to investors via company websites. The Integrated Reporting Framework (IIRC, 2013) also requires wider reporting in respect of the long-term sustainability of companies and their risk management. The OECD recommends that companies decide on a disclosure policy; especially large companies should employ an IR specialist to handle communications with investors and other stakeholders. The IRS in the UK proclaims that the role of IR officers is to ensure that the value creation process of the company is communicated properly to the capital market and thereby to ensure optimal pricing of the share.

The following research problems were therefore identified:

- The quality of IR practices of middle-tier and smaller companies in South Africa is unknown.
- Download speeds for South Africa averaged 1,16 Mbps (megabits per second) in January 2008, after the prior last study by Nel and Baard (2007), versus 3,22 Mbps in June 2012 (Ookla, 2014), and 5.6 Mbps for South Africa in the second quarter of 2016 (Akamai, 2016:40). The growth in bandwidth and online users means that companies can reach a wider audience of retail investors with their online IR programmes. Companies will be able to use bandwidth-intensive technologies such as videos, online conference calls with analysts, webcasts of presentations and interactive stock charting more widely and efficiently as bandwidth capacity increases for both companies and private investors. This is low-hanging fruit for reducing information asymmetry for the benefit of private (retail) investors. We do not know if companies have improved their online IR practices since the last study in 2007 to take advantage of the faster broadband speeds.
- Prior literature on explanatory variables are based on research either in the US, the UK or Europe, or in countries in the Middle East, South Asia or South America, or China and Egypt. It is not clear whether existing models would sufficiently explain the behaviour of JSE-listed companies.
- Empirical studies report that reductions in the cost of capital, improvements in liquidity and increased analyst following are associated with higher quality IR. However, evidence from prior studies on online IR practised by JSE-listed companies indicates that even amongst large companies, best practices for online

IR are largely ignored. We do not know what factors are present in the South African context that explain the lack of uptake of best practices in online IR (based on prior research).

This study had two primary objectives:

- to determine the quality of the voluntary communications of JSE-listed companies as manifested by their online IR practices.
 - as a secondary objective, to reach a conclusion regarding the stage of development of South African IR (using Hedlin's model); and
- to develop a regression model that explains the quality of the online IR practices of JSE-listed companies and to test the thesis hypothesis.

After considering various factors (identified by the prior literature) that affect voluntary disclosure quality, I proposed another factor, namely investors' familiarity with the investee company. This hypothesis was based on the argument that long-term shareholders might be satisfied with a poorer public disclosure environment because they are already familiar with the investee company's risks and rewards, and management's record of accomplishment over the long period of the investment relationship. Long-horizon investors' information environment therefore consists of the information that they have gathered themselves, and that cumulatively provided publicly by the investee company.

I proposed the following hypothesis in the null format:

H₀ = There is no association between voluntary communications quality (proxied by online IR quality) and shareholder familiarity (proxied by shareholder stability).

The next section summarizes the research methodology and findings for the research objectives.

8.3. Research methodology and main findings regarding the research objectives

8.3.1. Quality of online investor relations practices of JSE-listed companies

To determine the quality of JSE-listed companies' online IR practices, content analysis of a sample of companies' websites was conducted. The sample was selected from companies listed on the JSE's main board in three tranches: companies listed for longer than 10 years, companies in the top 100 according to market capitalisation, and companies belonging to the consumer goods and services sector. The total number of companies with active websites in the composite sample was 205 companies of different sizes and in different industries.

The content and formats of information on the websites were assessed using a checklist. The checklist was based on the guidelines of Loranger and Nielsen (2009), and was verified for validity and completeness against the IRS of the UK's guidelines (2012) and a previous study on users' information requirements for annual reports (Beattie & Pratt, 2002). The checklist consisted of 201 information, presentation format and usability items. For presentation formats unique to the Internet, such as HTML pages and videos, a higher score of '2' was assigned if they were used. PDF format documents and information were scored '1' if they were present. Due to the heavier weighting for newer technologies, the total available points was 244. The checklist was converted to a LimeSurvey online format. Various controls in the survey, as well as further guidance for certain items, ensured that errors in assessing the websites were minimised. The survey results were exported to MS Excel, which also eliminated capturing errors.

Two factors determined the timing of the content analysis. Firstly, a systemic shock was given to the disclosure environment in South Africa, namely the implementation of the King III Code (IoD, 2009) which required that an integrated report be produced for all financial years beginning on or after 1 March 2010 on an apply-or-explain basis. I assumed that IR departments would leverage the information generating process for their Integrated Report and communicate the same information on the IR webpages of the company (if they had not been disclosing it before in any case). As with any new process, time is required to improve compliance. I therefore decided that 2011 would

be too soon to investigate the online IR practices of the JSE-listed companies after this regulatory change.

Secondly, I had to find funding to carry out the content analysis. Prior studies in South Africa (Roberts, 1999; Venter, 2002; Barac, 2004; Nel & Baard, 2006, 2007) limited their studies to the largest 40 or 100 companies. In the present study, I wanted to capture behaviours across different sized companies. To increase the strength of the regression analyses, I wanted a much larger sample. Moreover, for comparative purposes, the website content analysis had to take place in as short a time as possible. Given the extensive checklist, this required more than one person to do the content analyses. The progress of the study was therefore delayed until funding could be obtained. In 2012, funding was received from Unisa's Master and Doctoral Support Programme. The content analysis therefore took place from July 2012 to mid-September 2012.

The total average online IR score for all 205 companies was a disappointing 39.78 per cent, with a relatively large standard deviation (13.55 per cent), indicating a wide array of practices. The top 100 companies performed slightly better, with an average of 47.85 per cent. However, it was unsatisfactory that 49 of the top 100 companies scored below 50 per cent, with the lowest score reported as 11.89 per cent. The mean score for the top 50 companies per market capitalisation was 50.5 per cent versus 28.3 per cent for the bottom 55 companies. Companies with smaller market capitalisation did not seem to be making an effort to use their websites to communicate with investors. (Apart from size, further factors that are associated with disclosure quality were identified by the multivariate analyses.) Comparing results from this study to those of other international studies, South African companies performed better than companies in other emerging and developing economies, but performed worse than companies in advanced economies (much larger market capitalisation), where size is probably the main differentiator.

There was also large variability in the compliance rate between the different categories. The categories that achieved the best scores were 'Getting to corporate information' (96 per cent) and 'General usability' (76 per cent). These categories contain guidelines that are synergized from the rest of the company's website design, and the high scores

are therefore not surprising. The low overall mean score is mostly due to low ratings for the categories 'Presentations to investors' (19 per cent), 'Contacting the IR department' (19 per cent), *Calendar* (31 per cent), and the 'Shareholder information' (33 per cent). These categories also had high standard deviations, reflecting wide dispersion in practices between companies. The top 100 companies performed between nine and 11 per cent better in these categories, but still scored below 50 per cent.

A secondary objective was to form an opinion on the development stage of the online IR of JSE-listed companies. Despite advances in Internet technologies and available bandwidth, the findings indicated that many companies were still not using the unique features of the Internet for communication. PDF-format annual and integrated reports were almost twice as prevalent as their HTML equivalents. Four categories, which contained the most guidelines relating to technology and usability, actually had modes of zero for their frequency distribution: 'Share charts' (33 per cent), 'Calendar of IR events' (43 per cent), 'Presentations to investors' (15 per cent) and 'Contacting the IR department' (49 per cent). It was disappointing, given the low scores in the other categories, that just under half of the IR departments did not attempt to make themselves available for visitors to the website. Given the low adoption rate of Internet technology, I concluded that JSE-listed companies in the present study's sample had not yet moved towards the third stage of Hedlin's (1999) model for online IR practices.

8.3.2. Regression model of online investor relations practices of JSE-listed companies

The second primary objective was to determine what the drivers or predictors of the online IR practices of JSE-listed companies were, and specifically to test the hypothesis that shareholder familiarity (proxied by shareholder stability) is significantly associated with disclosure quality. For this purpose, an OLS regression model was specified. The dependent variable, online IR DS, was obtained from the content analysis part of the study. Shareholder stability was the test variable, and control variables were identified from prior studies. All the continuous independent variables needed to be transformed to obtain a better distribution. Information about the companies was obtained from INETBFA and Bureau van Dijk.

One-way ANOVAs were presented for the DS and the categorical variables in the model. Ownership concentration, industry group, and issuing new equity during the previous 24 months did not appear to drive significant differences between the disclosure scores of the individual categories. However, differences in auditor type and dual-listed status did display significant differences in disclosure scores. Large Pearson correlations were reported between DS, stability, and market capitalisation respectively, and these were significant at a 0.01 level. Auditor type and dual-listed status had a medium strength correlation with DS, significant at a 0.01 level. Weak correlations were found for industry and profitability, although these were still significant at a 0.05 level. A large correlation was reported between stability and market capitalisation, albeit still below 60 per cent, which reduced the concern for collinearity. VIFs reported in the regression analyses confirmed no serious multi-collinearity between the independent variables.

A further three-by-three analysis of the relationship between DS, stability, and market capitalisation was presented, together with one-way ANOVAs. Across all three market capitalisation groups, the difference in the mean DS between the most stable and least stable groups was statistically significant. However, within the least stable group (high share turnover) there was no significant difference between the mean DS of the three market capitalisation groups. For the 'Medium' and 'High' stability groups, there was once again a significant difference between the 'Large' and 'Small' market capitalisation groups. Size therefore influenced the disclosure scores only in the 'Medium' and 'High' stability groups.

The hypothesis that shareholder stability is associated with voluntary disclosures was tested in the OLS regression in the presence of 14 other control variables. The null hypothesis of no association was rejected, as stability was found to be a significantly negative predictor of the online IR practices of JSE-listed companies. The full model explained 51.8 per cent of the variation in the disclosure score of JSE-listed companies and was significant at a 0.001 level. The regression also indicated that having a large market capitalisation, not being in the financial sector, having a more recent initial listing, being audited by a Big4 firm and multiple stock exchange listings are associated with better online IR practices.

Ownership concentration was not significant in the model. This was in line with the univariate analyses, which found that ownership concentration had almost no correlation with the disclosure score (7.9 per cent) and was only weakly correlated with stability (-20.3 per cent). In most stock exchanges, institutional shareholders, such as pension funds and asset managers, constitute the bulk of the ownership concentration statistics. However, prior literature has found that institutional owners' investment horizon affects companies' policies and behaviours differently, and not the size of their holding *per se*. In the present study's model, the stability measure (a nine-year average) could also proxy for investment horizon. The one-way ANOVA results indicate that there were significant differences between the average stability ratios of the three ownership concentration categories. Tukey HSD post-hoc tests found that 'Controlled' and 'None >25%' were significantly different from each other, but 'One or more >25%' was not different from the other two categories. I concluded that stability (or long-horizon investors) explained disclosure better than ownership concentration.

The regression was then run with the 'Stepwise' method in order to crystalize the number of significant variables for a predictive model. For the present study's sample of JSE-listed companies, it seemed that larger, younger, dual-listed companies that were audited by a Big4 auditor and that had a profile of unstable investors (which are less familiar with the company) had higher quality online IR practices. Ownership concentration was once again not a significant predictor. The final model explained 52.4 per cent of the variability of the disclosure score, significant at a 0.001 level.

Lastly, robustness tests were conducted with three different regression models. In the 'Stepwise' model for companies listed on the JSE only, stability, market capitalisation, the use of Big4 auditors, and listing age were significant predictors. These are the same predictors as those in the final model, excluding dual-listing status. In the stepwise model for all industry sectors, excluding 'Financials', only stability, market capitalisation, dual-listing and listing age were significant predictors. The last regression was run on all the companies in the consumer goods and services industry. Market capitalisation, listing age and dual-listing status were significant. The stability measure was no longer statistically significant, although it might still be practically significant. Furthermore, the low number of cases reduced the power of the analysis to pick up smaller significant differences.

8.4. Contribution

This study's primary contribution is in extending knowledge about the association between investors' investment horizon and voluntary disclosure quality. The association between investment horizon and other areas of company behaviour (R&D, takeovers, investing in certain assets) has been confirmed in prior studies. This study investigated the association between long-horizon investors and companies' voluntary disclosure behaviour. Bushee and Noe (2000) also investigated this relationship, but from the other direction. Their study's hypothesis was that disclosure quality attracts different investor clientele (based on horizon). Bushee and Noe (2000) found that increasing disclosure quality attracts short-horizon speculative investors. They argued that dedicated long-horizon investors are *neutral* to public information quality, due to private channel access (at the time of their study). In the post-Reg FD environment (prohibiting private channel disclosure), Serafeim (2015) found a *positive* association between integrated reporting quality (a form of voluntary disclosure for countries other than South Africa) and long-horizon investors. Furthermore, FCLT (2015) and Huang and Petkevich (2016) argue that long-horizon investors also engage in their own superior information-gathering and are therefore not solely reliant on management's disclosures. The literature is therefore inconclusive regarding the association between investment horizon and voluntary disclosure quality (disclosures made by company management).

This study attempted to provide a tentative answer to the question of whether long-horizon investors (such as pension funds and asset managers), in the post-Reg FD era with reduced/no access to private information from companies, with their own information gathering processes, are still highly dependent on information provided publicly by companies. The present study's hypothesis was that long-horizon investors are familiar with the investee company and its management and therefore I addressed the relationship from the other direction, namely from investment horizon to disclosure quality. Stability (or having a preponderance of long-horizon investors) was found to be negatively associated with disclosure quality, whilst controlling for a host of other company characteristics associated with disclosure quality. This confirmed the hypothesis that the more long-horizon investors the company has, the weaker its public information milieu.

Although it is always difficult to prove causality, the use of a lagged stability measure that created a temporal difference between the shareholder profile and the disclosure behaviour demonstrated a plausible relationship from investment horizon (stability) to disclosure quality. In addition, the stability measure was calculated over nine years, which gives a better indication of the long-term shareholder profile of a company. As South Africa's legal system is highly rated for the protection of minority shareholders and the JSE is highly rated for its efficiency, I have assumed that private disclosures did not occur on a large scale (if at all). Furthermore, due to long-horizon investors' longstanding investment relationship with the investee company, they are familiar with the investee company's risks and rewards, and management's record of accomplishment. Long-horizon investors' own information gathered and that cumulatively provided by the investee company over the years reduced their demands on management for ever-increasing public disclosures. If one considers that long-horizon institutional investors, such as pension funds and asset managers are sophisticated investors, the present study's findings that they are satisfied with a poorer public information environment also agree with that of Kalay (2015:994) who found that more Newswire disseminations and higher IR scores were positively related to higher levels of less sophisticated investors.

Despite the findings of extensive research on the economic benefits of increased voluntary disclosure in general (see Section 2.2.1 Economic motives), and of online IR in particular (see Section 3.6 Benefits for the company from having an IR programme), these benefits may not hold true in all circumstances. From a cost-benefit perspective, this gives support to boards of directors to resist demands for increased public disclosure, as the cost (the gathering cost as well as the proprietary cost) may be greater than the benefits from lower cost of equity or improved liquidity of the share. Therefore, the boards (with the help of their IR officer) should determine what type of investment horizon clientele they wish to attract (see Section 2.2.5.2 Shareholders' investment horizon) as well as the information needs of their target or ideal institutional shareholders and other block-holders.

Another theoretical contribution of this study is the finding that ownership concentration is not significant as a predictor of voluntary disclosure behaviour. In the South African

setting, with its high ownership concentrations, it is more important to look at the investor horizon (stability of ownership).

The study also adds to the general literature regarding voluntary disclosure (online or not), the extent to which companies practise it, and empirical evidence of factors driving this disclosure behaviour. Lastly, it is the first study that covered mid-tier and small companies of the JSE in a study on disclosure behaviour, which provides a better overview of behaviour than just focusing on the largest companies.

8.5. Practical recommendations from the study

The following practical suggestions are offered:

- Financial managers should liaise closely with the company's IR practitioners. An analysis should be done according to Bushee's (1998) classification of the types of investors that the company current has. Considering the effect on cost of equity and price volatility, the company should then decide what type of investor clientele it wants to attract – transient or dedicated investors and/or quasi-indexers.
- IR practitioners should then engage with the target or ideal shareholders to determine what information should be provided, in what format and how regularly, keeping in mind that selective, private disclosures are not allowed. The target shareholders' information needs should be balanced against the cost of producing and publishing the information. If long-horizon investors are satisfied with existing disclosure levels, it might not be necessary to improve disclosure. By catering to the target shareholders' information needs, their stake in the company should increase (assuming sound underlying investment fundamentals) and the holdings of the 'undesirable' shareholders should decrease.
- Where improved disclosure is requested by investors, the developers of corporate websites could ensure that they harness all the capabilities of the Internet and hardware and software technologies in order to facilitate the assimilation of information in the most effective and efficient way for investors and at the same time in a cost-effective manner for companies as the preparers.

8.6. Suggestions for future research

This was a cross-sectional study based on 2011/2 data. The initial findings can be enhanced by repeating the content analysis and then following a difference-in-differences design by comparing the results between the two periods (Bushee & Miller,

2012; Ittner, 2014; Li & Yang, 2015). This approach could provide further corroborative evidence for the shareholder familiarity hypothesis and could strengthen claims of causation in future studies.

Another reason to repeat the content analysis is that information technology continues to change rapidly, and companies may have adjusted their practices since 2012. Such a future study should focus especially on companies in the low stability (i.e. high share turnover) tercile and those in the top size tercile, as they scored better in the current study and are less susceptible to influence by long-horizon shareholders.

The current study only investigated the disclosure behaviour of companies listed on the JSE's main board. The study could be extended to companies listed on the JSE's Alternative Exchange, the Venture Capital board and the Development Capital board. Their disclosure behaviour might be different, as they are still growing (and need capital), are deemed riskier investments, and need to establish a reputation with the capital market.

Investor familiarity was proxied by a rough inverted measure of the nine-year average annual turnover of the company's shares. Future studies could endeavour to obtain detailed information about the length of time that individual investors (or at least the largest ones) are invested in a company. This will provide a more refined measure of the investor stability or investment horizon.

As discussed in Section 7.5 Multivariate analyses, having a Big4 auditor had a significant positive association with the sample companies' IR disclosure scores, even though this study focused on voluntary disclosure. The views of JSE-accredited auditors can be obtained on whether they play a role in their clients' preparation of voluntary information provided on the IR website of a company, and how they influence the process, if at all.

Lastly, the results of the content analysis (see Section 6.3 Main findings per category) highlighted various areas where companies generally underperformed, such as 'Presentations to investors' and 'Contacting the IR department'. It seemed that IR departments were reluctant to engage with investors and other stakeholders on their

company website. This study's findings could be enhanced with a qualitative follow-up study. IR officers of companies that had a DS lower than the median score could be surveyed to elicit views on their role in communicating the company's investment case. An investor clientele approach could be taken to confirm whether the lower DS arose from the need or desire to cater only to long-horizon investors' reduced information needs, or to a lack of IR resources and support from top management.

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APPENDIX A – ETHICAL CLEARANCE



Ref #: 2014/CAS/0007

**RESEARCH ETHICS REVIEW COMMITTEE:
COLLEGE OF ACCOUNTING SCIENCES**

Ms L Esterhuysen (student number 36770051)

Supervisor: Prof HC Wingard (staff number 1100017)

This is to certify that the application for ethics clearance submitted by
L Esterhuysen (36770051)
for the study

*Information asymmetry, voluntary disclosures and liquidity – evidence from JSE listed
companies' online investor relations practices*

In the fulfillment of the Degree of DCompt has been **approved**.

The application for ethics clearance for the above-mentioned research was reviewed by the CAS Research Ethics Review Committee on 19 May 2014 in compliance with the Unisa Policy on Research Ethics. **Ethical clearance has been granted**. Please be advised that the research ethics review committee needs to be informed should any part of the research methodology as outlined in the Ethics Application (Ref. Nr.: 2014/CAS/0007), change in any way.

The Research Ethics Review Committee wishes you all the best with this research undertaking.

Kind regards,

Prof HC Wingard

Chair: CAS Research Ethics Review Committee
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18 June 2014

Prof E Sadler

Executive Dean
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APPENDIX B – LIST OF COMPANIES

	TICKER	FULL NAME	TICKER	FULL NAME	
1	1TM	1TIME HOLDINGS LTD	48	CKS	CROOKES (CROOKES BROS LTD)
2	ABL	ABIL (AFRICAN BANK INVESTMENTS)	49	CLH	CITYLDG (CITY LODGE HTLS LTD ORD)
3	ACL	ARCMITTAL (ARCELORMITTAL SA LTD)	50	CLS	CLICKS (CLICKS GROUP LTD)
4	ACP	ACUCAP (ACUCAP PROPERTIES LTD)	51	CMH	CMH (COMBINED MOTOR HLDGS LTD)
5	ADH	ADVTECH (ADVTECH LTD)	52	CML	CORONAT (CORONATION FUND MNGRS LD)
6	ADI	ADAPTIT (ADAPTIT HOLDINGS LTD)	53	CND	CONDUIT (CONDUIT CAPITAL LTD)
7	ADR	ADCORP (ADCORP HLDGS LTD ORD)	54	CNL	CONTROL (CONTROL INSTRUMENTS GRP)
8	AEG	AVENG (AVENG LTD)	55	COH	CURRO HOLDINGS LIMITED
9	AFE	A E C I (A E C I LTD ORD)	56	COM	COMAIR (COMAIR LTD)
10	AFR	AFGRI (AFGRI LTD)	57	CPI	CAPITEC (CAPITEC BANK HLDGS LTD)
11	AFX	AFROX (AFRICAN OXYGEN LTD ORD)	58	CRG	CARGO (CARGO CARRIERS LTD)
12	AGL	ANGLO (ANGLO AMERICAN PLC)	59	CRM	CERAMIC (CERAMIC INDUSTRIES LTD)
13	AIP	ADCOCK (ADCOCK INGRAM HLDGS LTD)	60	CSB	CASHBIL (CASHBUILD LTD)
14	ALT	ALTECH (ALLIED TECHNOLOGIES)	61	CUL	CULINAN (CULLINAN HOLDINGS ORD)
15	AMA	AMAPS (AMALGAMATED APPL HLD LTD)	62	CVN	CONVERGE (CONVERGENET HOLDINGS LTD)
16	AME	AME (AFRICAN MEDIA ENTERTAIN)	63	CZA	COAL (COAL OF AFRICA LTD)
17	AMS	AMPLATS (ANGLO AMERICAN PLAT LTD)	64	DAW	DAWN (DISTRIBUTION AND WAREHSG)
18	ANG	ANGGOLD (ANGLOGOLD ASHANTI LTD)	65	DCT	DCENTRIX (DATACENTRIX HOLDINGS LTD)
19	APK	ASTRAK (ASTRAK LTD)	66	DGC	DIGICORE (DIGICORE HOLDINGS LTD)
20	APN	ASPEN (ASPEN PHARMACARE HLDGS.)	67	DLV	DORBYL (DORBYL LTD ORD)
21	AQP	AQUARIUS (AQUARIUS PLATINUM LTD)	68	DRD	DRDGOLD (DRDGOLD LTD)
22	ARI	ARM (AFRICAN RAINBOW MINERALS)	69	DST	DISTELL (DISTELL GROUP LTD)
23	ARL	ASTRAL (ASTRAL FOODS LTD)	70	DSY	DISCOVERY (DISCOVERY HOLDINGS LTD)
24	ART	ARGENT (ARGENT INDUSTRIAL LTD)	71	DTA	DELTA (DELTA EMD LTD)
25	ASA	ABSA (ABSA GROUP LIMITED)	72	DTC	DATATEC (DATATEC LTD)
26	ASR	ASSORE (ASSORE LTD)	73	EHS	EHSV (EVRAZ HIGHVELD STEEL & V)
27	ATN	ALTRON (ALLIED ELECTRONICS CORP)	74	ELR	ELBGROUP (ELB GROUP LTD ORD)
28	AVI	A V I (AVI LTD)	75	EOH	EOH (EOH HOLDINGS LTD)
29	AVU	AVUSA LTD (NOW TIMES MEDIA GROUP) TMG	76	EPS	EASTPLATS (EASTERN PLATINUM LTD)
30	BAT	BRAIT (BRAIT SE)	77	EXL	EXCELL (EXCELLERATE HLDGS LTD)
31	BAU	BAUBA (BAUBA PLATINUM LTD)	78	EXX	EXXARO (EXXARO RESOURCES LTD)
32	BAW	BARWORLD (BARLOWORLD LTD)	79	FBR	FAMBRANDS (FAMOUS BRANDS LTD)
33	BDM	BUILDMAX (BUILDMAX LTD)	80	FSR	FIRSTSTRAND (FIRSTSTRAND LTD)
34	BEL	BELL (BELL EQUIPMENT LTD)	81	FVT	FAIRVEST (FAIRVEST PROPERTY HLDGS)
35	BIL	BHPBILL (BHP BILLITON PLC)	82	GDO	GOLDONE (GOLD ONE INTERNATIONAL L)
36	BLU	BLUETEL (BLUE LABEL TELECOMS LTD)	83	GFI	GFIELDS (GOLD FIELDS LTD)
37	BRT	BRIMSTON (BRIMSTONE INVESTMNT CORP)	84	GGM	GOLIATH (GOLIATH GOLD MINING LTD)
38	BSR	BASREAD (BASIL READ HLDGS LTD)	85	GIJ	GIJIMA (GIJIMA GROUP LTD)
39	BTI	BATS (BRITISH AMERICAN TOB PLC)	86	GND	GRINDROD (GRINDROD LTD)
40	BVT	BIDVEST (BIDVEST LTD ORD)	87	GRF	GROUP 5 (GROUP FIVE LTD ORD)
41	CAC	CAFCA (CAFCA LTD)	88	GRT	GROWPNT (GROWTHPOINT PROP LTD)
42	CAT	CAXTON (CAXTON CTP PUBLISH PRINT)	89	HAR	HARMONY (HARMONY G M CO LTD)
43	CBH	COUNTRY BIRD HLDGS LTD	90	HCI	HCI (HOSKEN CONS INVEST LTD)
44	CCL	COMPCLAR (COMPU CLEARING OUTS LTD)	91	HDC	HUDACO (HUDACO INDUSTRIES LTD)
45	CCO	CAPCO (CAPITAL&COUNTIES PROP PL)	92	HWA	HWANGE (HWANGE COLLIERY LD ORD)
46	CDZ	CADIZ (CADIZ HOLDINGS LTD)	93	HWN	HOWDEN (HOWDEN AFRICA HLDGS LTD)
47	CFR	COMPAGNIE FIN RICHEMONT	94	HYP	HYPROP (HYPROP INVESTMENTS LTD)

TICKER	FULL NAME	TICKER	FULL NAME
95	IFH IFA HOTELS AND RESORTS	143	PHM PHUMELELA (PHUMELELA GAME LEISURE)
96	ILA ILIAD (ILIAD AFRICA LTD)	144	PIK PICKNPAY (PIK N PAY STORES LTD)
97	ILV ILLOVO (ILLOVO SUGAR LTD)	145	PMM PREMIUM (PREMIUM PROPERTIES LTD)
98	IMP IMPLATS (IMPALA PLATINUM HLGS LD)	146	PMV PRIMESERV (PRIMESERV GROUP LTD)
99	ING INGENUITY (INGENUITY PROPERTY INV L)	147	PNC PINNACLE (PINNACLE TECH HLDGS LTD)
100	INL INVLTD (INVESTEC LTD)	148	PPC PPC (PRETORIA PORT CEMNT)
101	IPL IMPERIAL (IMPERIAL HOLDINGS LTD)	149	PPE PURPLE (PURPLE CAPITAL LTD)
102	ITE ITLTILE (ITALTILE LTD)	150	PSG PSG (PSG GROUP LIMITED)
103	IVT INVICTA (INVICTA HOLDINGS LTD)	151	RBP RBPLAT (ROYAL BAFOKENG PLATINUM)
104	JDG JDGROUP (JD GROUP LTD)	152	RBW RAINBOW (RAINBOW CHICKEN LTD)
105	JSC JASCO (JASCO ELECTRONICS HLDGS)	153	RDF REDEFINE (REDEFINE PROPERTIES LTD)
106	JSE JSE (JSE LTD)	154	REI REINET (REINET INV SOC ANON)
107	KAP KAP (KAP INTERNATIONAL HLDGS)	155	REM REMGRO (REMGRO LTD)
108	KGM KGMEDIA (KAGISO MEDIA LTD)	156	RLO REUNERT (REUNERT ORD)
109	KIO KUMBA (KUMBA IRON ORE LTD)	157	RMH RMBH (RMB HOLDINGS LTD)
110	LBH LIB HOLD (LIBERTY HOLDINGS LTD ORD)	158	RMI RMIH (RAND MERCHANT INS HLDGS)
111	LEW LEWIS (LEWIS GROUP LTD)	159	RNG RANGOLD (RANGOLD AND EXP CO)
112	LHC LIFEHC (LIFE H CARE GRP HLDGS LT)	160	RTO REX TRUE (REX TRUEFORM CLOTH ORD)
113	LON LONMIN (LONMIN P L C)	161	SAB SAB (SABMILLER PLC)
114	MAS MASNITE (MASONITE AFRICA LTD ORD)	162	SAP SAPPI (SAPPI LTD)
115	MDC MEDCLIN (MEDICLINIC INTERNATIONAL)	163	SBK STANBANK (STANDARD BANK GROUP LTD)
116	MFL METROFILE (METROFILE HOLDINGS LTD)	164	SBV SABVEST (SABVEST LTD)
117	MMG MICROMEGA (MICROMEGA HOLDINGS LTD)	165	SCL SACOIL (SACOIL HOLDINGS LD)
118	MMI MMI HLDGS (MMI HOLDINGS LTD)	166	SDH SECDATA (SECUREDATA HOLDINGS LTD)
119	MND MONDILTD (MONDI LTD)	167	SER SEARDEL (SEARDEL INVEST CORP LTD)
120	MPC MR PRICE (MR PRICE GROUP LTD)	168	SFN SASFIN (SASFIN HOLDINGS LTD)
121	MRF MERAPE (MERAPE RESOURCES LTD)	169	SHF STEINHOFF (STEINHOFF INTERNL HLDGS)
122	MSM MASSMART (MASSMART HOLDINGS LTD)	170	SHP SHOPPRIT (SHOPPRITE HLDGS LTD ORD)
123	MST MUSTEK (MUSTEK LTD)	171	SKJ SEKUNJALO (SEKUNJALO INVESTMENTS LD)
124	MTA METAIR (METAIR INVESTMENTS ORD)	172	SLM SANLAM (SANLAM LTD)
125	MTN MTN GROUP (MTN GROUP LTD)	173	SNT SANTAM (SANTAM LTD)
126	MUR M&R HLD (MURRAY AND ROBERTS H ORD)	174	SNU SENTULA (SENTULA MINING LTD)
127	NCS NICTUS (NICTUS BEPERK)	175	SNV SANTOVA (SANTOVA LIMITED)
128	NED NEDBANK (NEDBANK GROUP LTD)	176	SOL SASOL (SASOL LTD)
129	NHM NORTHAM (NORTHAM PLATINUM LTD)	177	SOV SOVFOOD (SOVEREIGN FOOD INVEST LD)
130	NPK NAMPAK (NAMPAK LTD ORD)	178	SPA SPANJAARD (SPANJAARD LTD)
131	NPN NASPERS-N- (NASPERS LTD -N-)	179	SPG SUPRGRP (SUPER GROUP LTD)
132	NT1 NET1UEPS (NET 1 UEPS TECH INC)	180	SPP SPAR (THE SPAR GROUP LTD)
133	NTC NETCARE (NETCARE LIMITED)	181	SUI SUNINT (SUN INTERNATIONAL LTD)
134	NWL NUWORLD (NU-WORLD HOLDINGS LTD)	182	SUR SPURCORP (SPUR CORPORATION LTD)
135	OCE OCEANA (OCEANA GROUP LTD)	183	TAS TASTE HLDGS LTD
136	OCT OCTODEC (OCTODEC INVEST LTD)	184	TBS TIGBRANDS (TIGER BRANDS LTD ORD)
137	OML OLDMUTUAL (OLD MUTUAL PLC)	185	TFG TFG (THE FOSCHINI GROUP LTD)
138	OMN OMNIA (OMNIA HOLDINGS LTD)	186	TKG TELKOM (TELKOM SA LTD)
139	PAM PALAMIN (PALABORA MINING CO ORD)	187	TMT TREMATON (TREMATON CAPITAL INV LTD)
140	PET PETMIN (PETMIN LTD)	188	TON TONGAAT (TONGAAT HULETT LTD)
141	PFG PNR FOODS (PIONEER FOODS GROUP LTD)	189	TPC TRNPACO (TRANSPACO LTD)
142	PGR PERGRIN (PEREGRINE HOLDINGS LTD)	190	TRE TRENCOR (TRENCOR LTD)

	TICKER	FULL NAME
191	TRU	TRUWTHS (TRUWORTHS INTERNATIONAL)
192	TSH	TSOGO SUN (TSOGO SUN HOLDINGS LTD)
193	TSX	TRNSHEX (TRANS HEX GROUP LTD)
194	UUU	URONE (URANIUM ONE INC)
195	VIL	VILLAGE (VILLAGE MAIN REEF LTD)
196	VLE	VALUE (VALUE GROUP LTD)
197	VMK	VERIMARK HOLDINGS LTD
198	VOD	VODACOM (VODACOM GROUP LTD)
199	WBO	WBHO (WILSON BAYLY HLM-OVC ORD)
200	WHL	WOOLIES (WOOLWORTHS HOLDINGS LTD)
201	WIL	WILDERNESS HOLDINGS LTD
202	WNH	WINHOLD (WINHOLD LTD ORD)
203	YRK	YORK (YORK TIMBER HLDGS LTD)
204	ZCI	ZCI (ZCI LTD)
205	ZSA	ZURICH SA (ZURICH INSURANCE CO S A)

APPENDIX C – CHECKLIST

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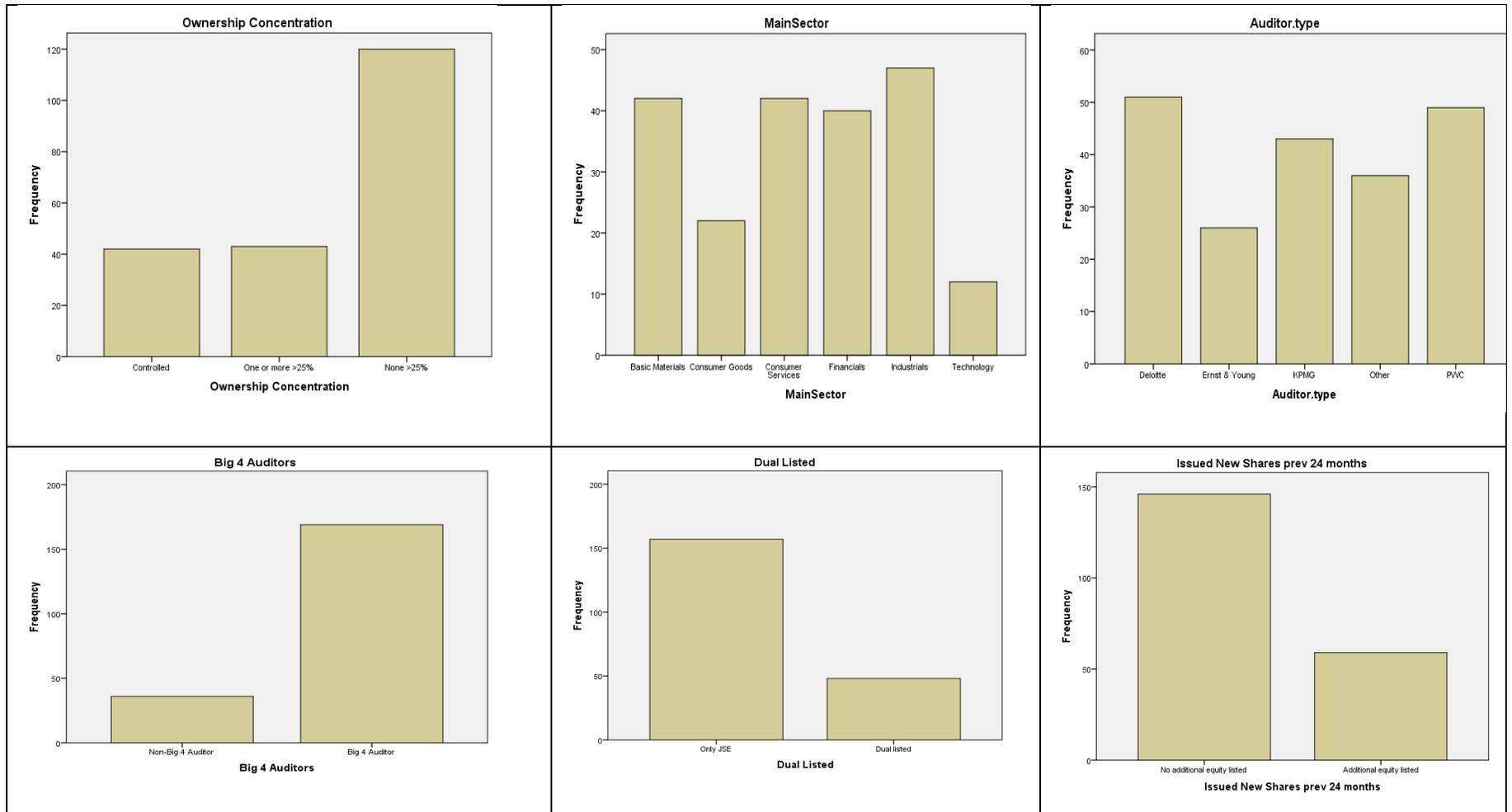
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Sources used:

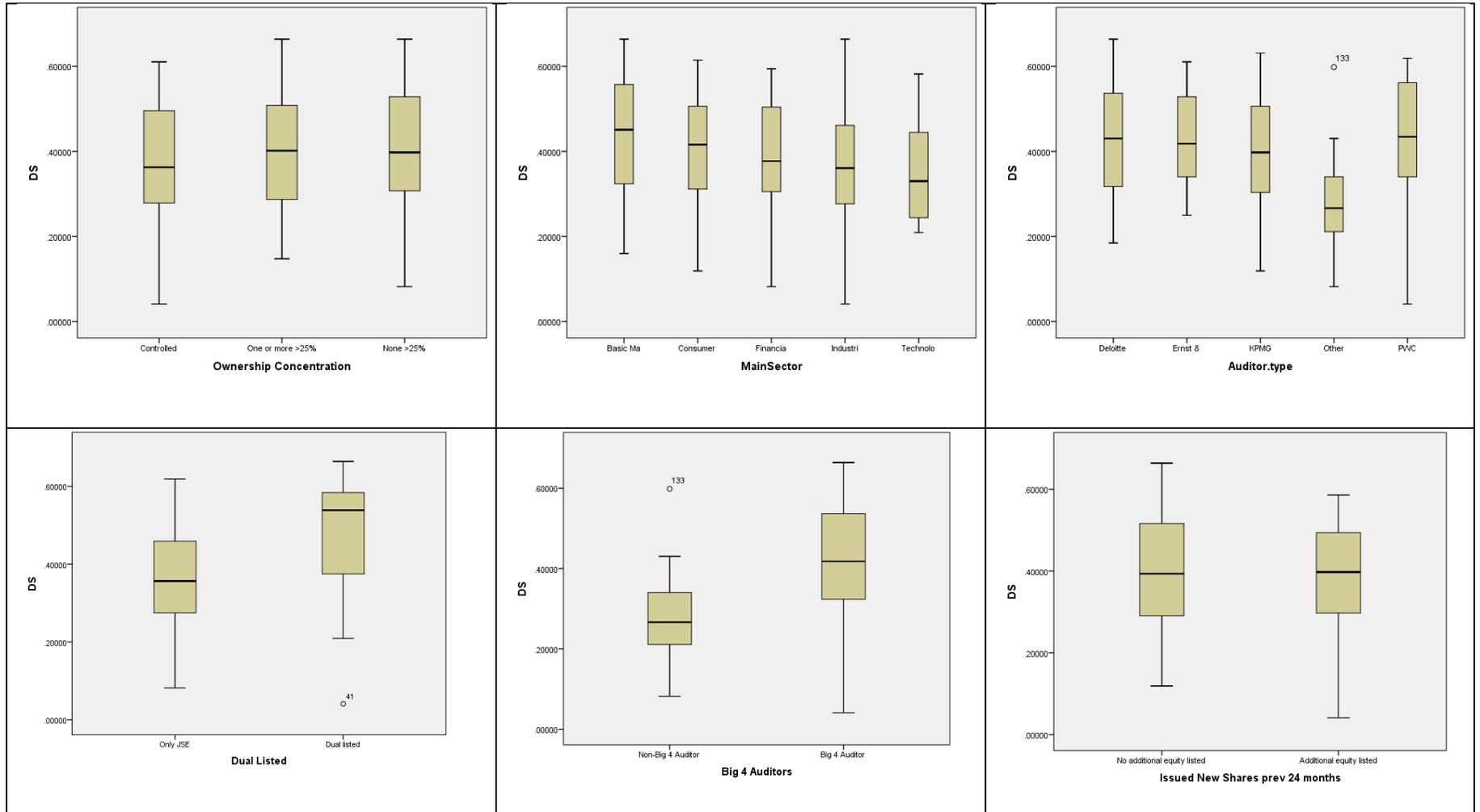
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APPENDIX D – STATISTICAL OUTPUTS

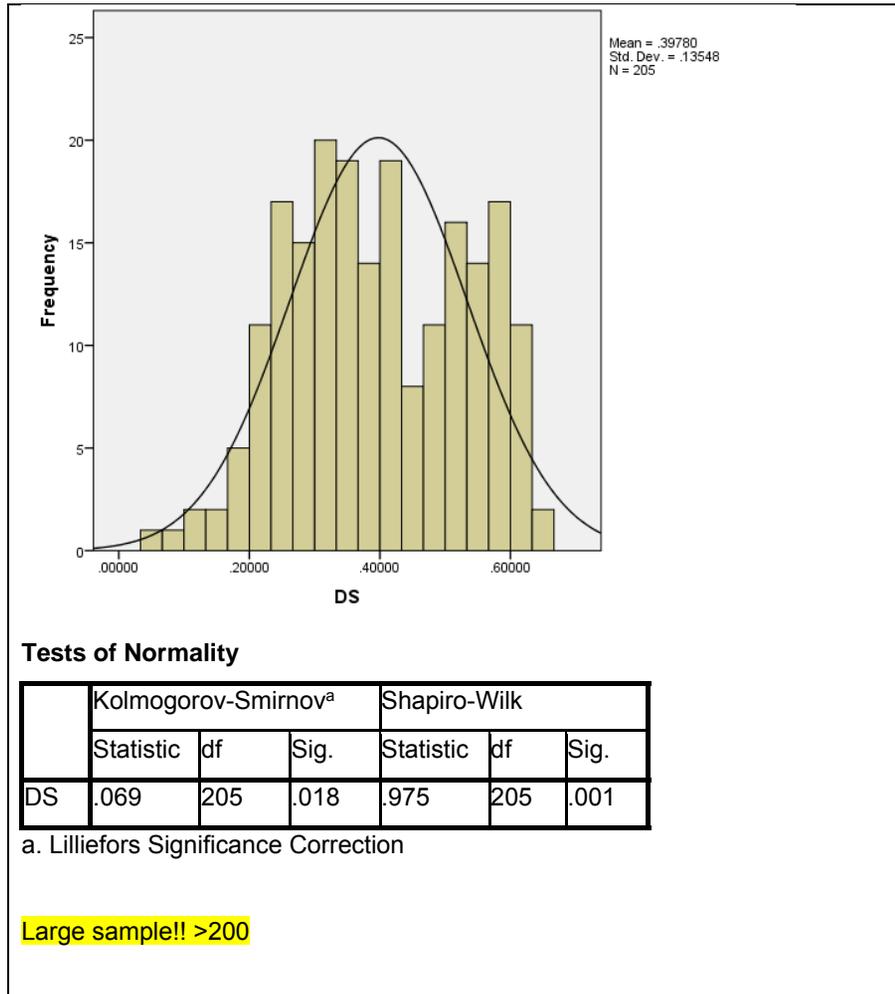
Distributions



APPENDIX D – STATISTICAL OUTPUT CONT.



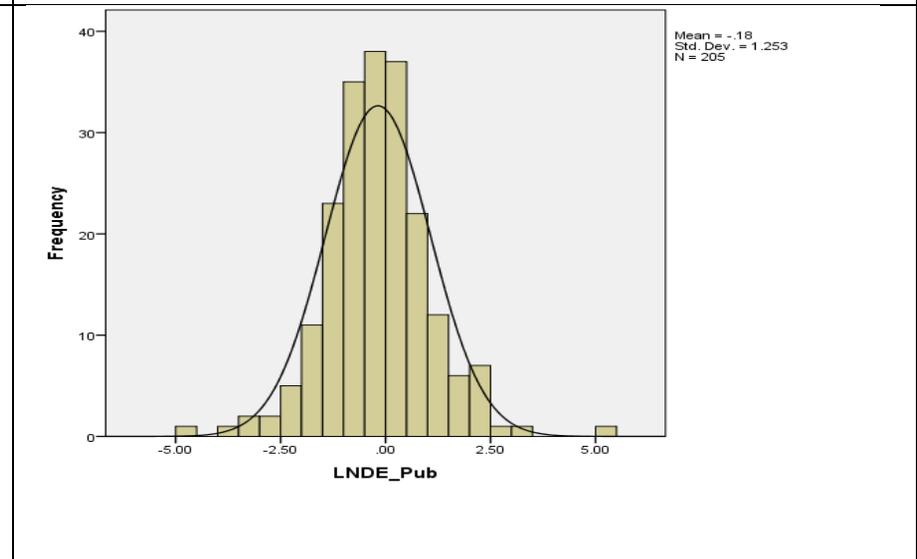
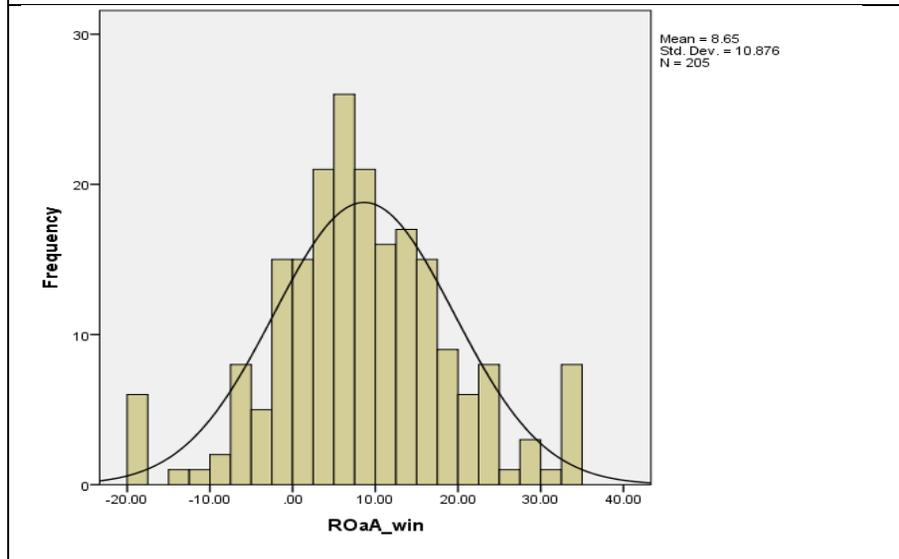
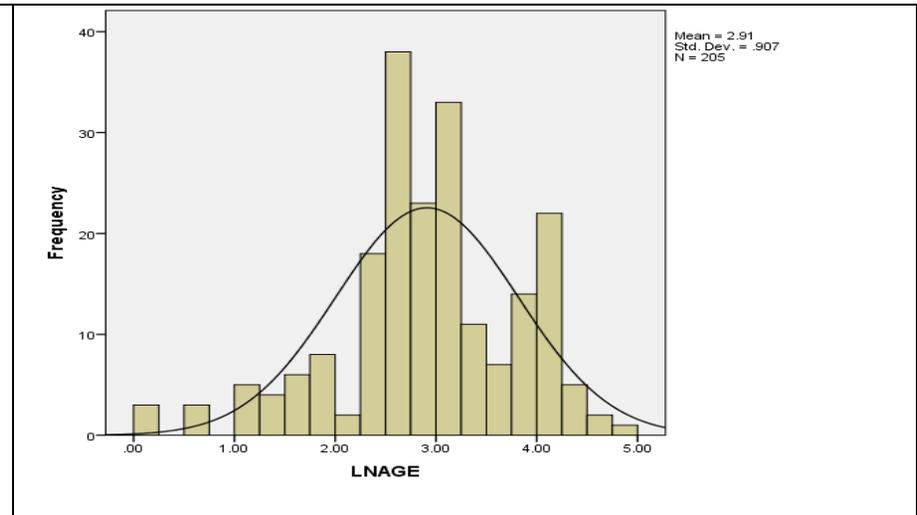
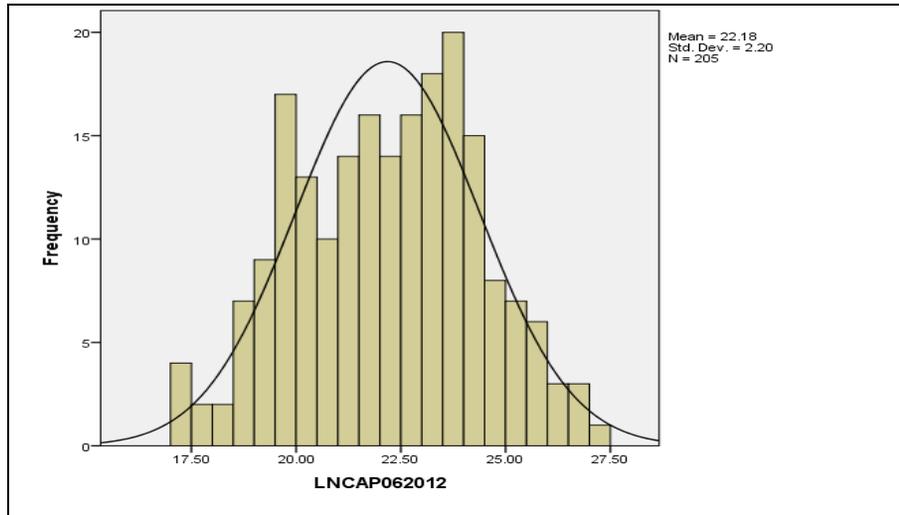
APPENDIX D – STATISTICAL OUTPUT CONT.



Descriptives

		Statistic	Std. Error	
DS	Mean	.3978009	.00946247	
	95% Confidence Interval for Mean	Lower Bound .3791441 Upper Bound .4164577		
	5% Trimmed Mean	.3995124		
	Median	.3975410		
	Variance	.018		
	Std. Deviation	.13548196		
	Minimum	.04098		
	Maximum	.66393		
	Range	.62295		
	Interquartile Range	.22131		
	Skewness	-.036	.170	0.212
	Kurtosis	-.848	.338	2.51

APPENDIX D – STATISTICAL OUTPUT CONT.



APPENDIX D – STATISTICAL OUTPUT CONT.

Oneway ANOVAs

Oneway: DS by OC

Descriptives

DS	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Controlled	42	.3743169	.13924917	.02148661	.3309238	.4177100	.04098	.61066
One or more >25%	43	.4027831	.13902051	.02120043	.3599989	.4455673	.14754	.66393
None >25%	120	.4042350	.13311304	.01215150	.3801738	.4282962	.08197	.66393
Total	205	.3978009	.13548196	.00946247	.3791441	.4164577	.04098	.66393

Test of Homogeneity of Variances

DS

Levene Statistic	df1	df2	Sig.
.001	2	202	.999

ANOVA

DS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.029	2	.015	.794	.454
Within Groups	3.715	202	.018		
Total	3.744	204			

APPENDIX D – STATISTICAL OUTPUT CONT.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DS

	(I) Ownership Concentration	(J) Ownership Concentration	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Controlled	One or more >25%	-.02846613	.02942196	.598	-.0979349	.0410027
		None >25%	-.02991803	.02431438	.437	-.0873272	.0274911
	One or more >25%	Controlled	.02846613	.02942196	.598	-.0410027	.0979349
		None >25%	-.00145190	.02410405	.998	-.0583645	.0554607
	None >25%	Controlled	.02991803	.02431438	.437	-.0274911	.0873272
		One or more >25%	.00145190	.02410405	.998	-.0554607	.0583645
Bonferroni	Controlled	One or more >25%	-.02846613	.02942196	1.000	-.0994932	.0425609
		None >25%	-.02991803	.02431438	.660	-.0886150	.0287789
	One or more >25%	Controlled	.02846613	.02942196	1.000	-.0425609	.0994932
		None >25%	-.00145190	.02410405	1.000	-.0596411	.0567373
	None >25%	Controlled	.02991803	.02431438	.660	-.0287789	.0886150
		One or more >25%	.00145190	.02410405	1.000	-.0567373	.0596411

APPENDIX D – STATISTICAL OUTPUT CONT.

Homogeneous Subsets

DS

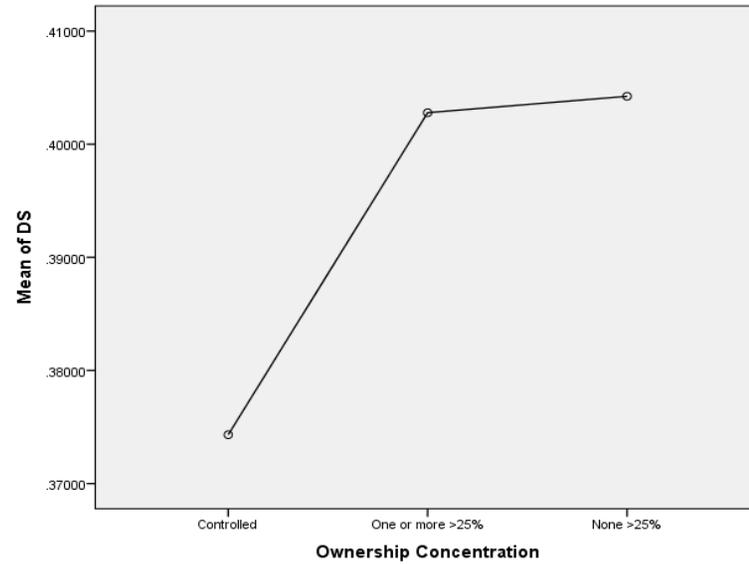
Ownership Concentration		N	Subset for alpha = 0.05
Controlled		42	.3743169
One or more >25%		43	.4027831
None >25%		120	.4042350
Sig.			.486

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54.153.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Means Plots



APPENDIX D – STATISTICAL OUTPUT CONT.

Oneway: DS by Industry

Descriptives

DS	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Basic Materials	42		
Consumer Goods	22	.3891580	.12659495	.02699013	.3330289	.4452870	.14754	.61066
Consumer Services	42	.4088603	.13887545	.02142895	.3655836	.4521369	.11885	.61475
Financials	40	.3943648	.13024294	.02059322	.3527110	.4360185	.08197	.59426
Industrials	47	.3730380	.13283640	.01937618	.3340358	.4120402	.04098	.66393
Technology	12	.3493852	.12184206	.03517277	.2719705	.4268000	.20902	.58197
Total	205	.3978009	.13548196	.00946247	.3791441	.4164577	.04098	.66393

Test of Homogeneity of Variances

DS

Levene Statistic	df1	df2	Sig.
.563	5	199	.728

ANOVA

DS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.126	5	.025	1.383	.232
Within Groups	3.619	199	.018		
Total	3.744	204			

APPENDIX D – STATISTICAL OUTPUT CONT.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DS

	(I) Industry	(J) Industry	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Basic Materials	Consumer Goods	.04692712	.03548998	.772	-.0552022	.1490565
		Consumer Services	.02722482	.02942674	.940	-.0574563	.1119060
		Financials	.04172034	.02979230	.727	-.0440128	.1274535
		Industrials	.06304707	.02863342	.242	-.0193512	.1454453
		Technology	.08669984	.04414010	.367	-.0403219	.2137216
	Consumer Goods	Basic Materials	-.04692712	.03548998	.772	-.1490565	.0552022
		Consumer Services	-.01970229	.03548998	.994	-.1218316	.0824270
		Financials	-.00520678	.03579367	1.000	-.1082100	.0977965
		Industrials	.01611995	.03483502	.997	-.0841246	.1163645
		Technology	.03977273	.04839375	.963	-.0994897	.1790352
	Consumer Services	Basic Materials	-.02722482	.02942674	.940	-.1119060	.0574563
		Consumer Goods	.01970229	.03548998	.994	-.0824270	.1218316
		Financials	.01449551	.02979230	.997	-.0712376	.1002287
		Industrials	.03582225	.02863342	.811	-.0465760	.1182205
		Technology	.05947502	.04414010	.758	-.0675467	.1864968
	Financials	Basic Materials	-.04172034	.02979230	.727	-.1274535	.0440128
		Consumer Goods	.00520678	.03579367	1.000	-.0977965	.1082100
		Consumer Services	-.01449551	.02979230	.997	-.1002287	.0712376
		Industrials	.02132674	.02900898	.977	-.0621523	.1048057
		Technology	.04497951	.04438465	.913	-.0827460	.1727050

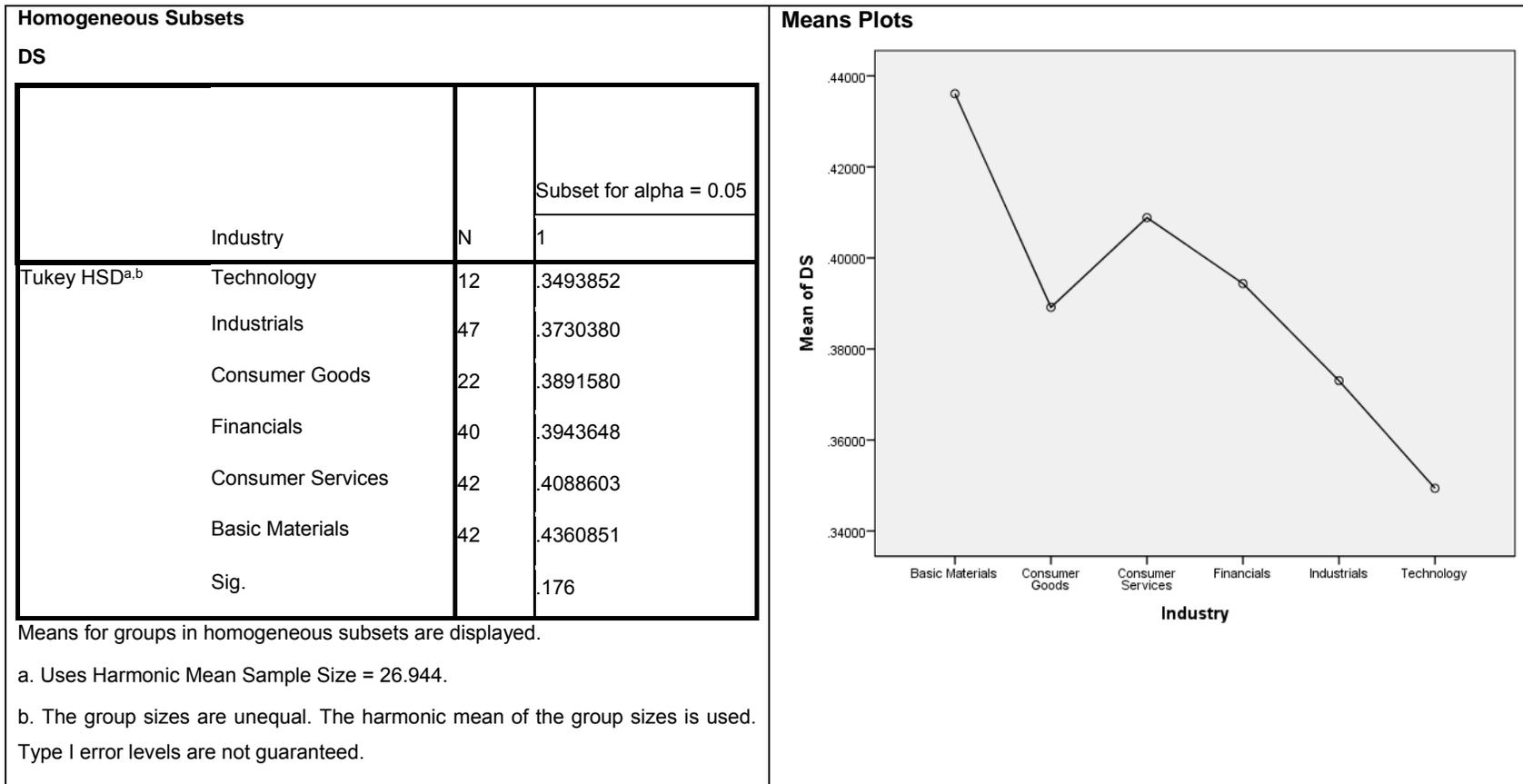
APPENDIX D – STATISTICAL OUTPUT CONT.

(I) Industry	(J) Industry	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
Industrials	Basic Materials	-.06304707	.02863342	.242	-.1454453	.0193512	
	Consumer Goods	-.01611995	.03483502	.997	-.1163645	.0841246	
	Consumer Services	-.03582225	.02863342	.811	-.1182205	.0465760	
	Financials	-.02132674	.02900898	.977	-.1048057	.0621523	
	Technology	.02365277	.04361523	.994	-.1018586	.1491641	
	Technology	Basic Materials	-.08669984	.04414010	.367	-.2137216	.0403219
		Consumer Goods	-.03977273	.04839375	.963	-.1790352	.0994897
		Consumer Services	-.05947502	.04414010	.758	-.1864968	.0675467
		Financials	-.04497951	.04438465	.913	-.1727050	.0827460
		Industrials	-.02365277	.04361523	.994	-.1491641	.1018586
Bonferroni	Basic Materials	Consumer Goods	.04692712	.03548998	1.000	-.0585155	.1523698
		Consumer Services	.02722482	.02942674	1.000	-.0602036	.1146533
		Financials	.04172034	.02979230	1.000	-.0467942	.1302349
		Industrials	.06304707	.02863342	.432	-.0220244	.1481185
		Technology	.08669984	.04414010	.763	-.0444428	.2178425
	Consumer Goods	Basic Materials	-.04692712	.03548998	1.000	-.1523698	.0585155
		Consumer Services	-.01970229	.03548998	1.000	-.1251449	.0857404
		Financials	-.00520678	.03579367	1.000	-.1115517	.1011382
		Industrials	.01611995	.03483502	1.000	-.0873768	.1196167
		Technology	.03977273	.04839375	1.000	-.1040077	.1835532
	Consumer Services	Basic Materials	-.02722482	.02942674	1.000	-.1146533	.0602036
		Consumer Goods	.01970229	.03548998	1.000	-.0857404	.1251449
		Financials	.01449551	.02979230	1.000	-.0740190	.1030101

APPENDIX D – STATISTICAL OUTPUT CONT.

(I) Industry	(J) Industry	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	Industrials	.03582225	.02863342	1.000	-.0492492	.1208937
	Technology	.05947502	.04414010	1.000	-.0716676	.1906177
Financials	Basic Materials	-.04172034	.02979230	1.000	-.1302349	.0467942
	Consumer Goods	.00520678	.03579367	1.000	-.1011382	.1115517
	Consumer Services	-.01449551	.02979230	1.000	-.1030101	.0740190
	Industrials	.02132674	.02900898	1.000	-.0648605	.1075140
	Technology	.04497951	.04438465	1.000	-.0868897	.1768487
Industrials	Basic Materials	-.06304707	.02863342	.432	-.1481185	.0220244
	Consumer Goods	-.01611995	.03483502	1.000	-.1196167	.0873768
	Consumer Services	-.03582225	.02863342	1.000	-.1208937	.0492492
	Financials	-.02132674	.02900898	1.000	-.1075140	.0648605
	Technology	.02365277	.04361523	1.000	-.1059305	.1532360
Technology	Basic Materials	-.08669984	.04414010	.763	-.2178425	.0444428
	Consumer Goods	-.03977273	.04839375	1.000	-.1835532	.1040077
	Consumer Services	-.05947502	.04414010	1.000	-.1906177	.0716676
	Financials	-.04497951	.04438465	1.000	-.1768487	.0868897
	Industrials	-.02365277	.04361523	1.000	-.1532360	.1059305

APPENDIX D – STATISTICAL OUTPUT CONT.



APPENDIX D – STATISTICAL OUTPUT CONT.

T-tests

T-TEST GROUPS=Big4Auditor(0 1)

/MISSING=ANALYSIS

/VARIABLES=DS

/CRITERIA=CI(.95).

Group Statistics

	Big 4 Auditors	N	Mean	Std. Deviation	Std. Error Mean
DS	Non-Big 4 Auditor	36	.2811931	.09951160	.01658527
	Big 4 Auditor	169	.4226404	.12919451	.00993804

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
DS	Equal variances assumed	7.501	.007	-6.185	203	.000	-.14144733	.02286856	-.18653771	-.09635696
	Equal variances not assumed			-7.316	62.955	.000	-.14144733	.01933483	-.18008545	-.10280921

APPENDIX D – STATISTICAL OUTPUT CONT.

T-TEST GROUPS=Dual_List(0 1)
 /MISSING=ANALYSIS
 /VARIABLES=DS
 /CRITERIA=CI(.95).

Group Statistics

Dual Listed		N	Mean	Std. Deviation	Std. Error Mean
DS	Only JSE	157	.3696878	.12429015	.00991943
	Dual listed	48	.4897541	.13084472	.01888581

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
DS	Equal variances assumed	.049	.825	-5.785	203	.000	-.12006630	.02075480	-.16098894	-.07914367
	Equal variances not assumed			-5.628	74.794	.000	-.12006630	.02133234	-.16256444	-.07756817

APPENDIX D – STATISTICAL OUTPUT CONT.

T-TEST GROUPS=IssuedNew(0 1)

/MISSING=ANALYSIS

/VARIABLES=DS

/CRITERIA=CI(.95).

Group Statistics

Issued New Shares prev 24 months		N	Mean	Std. Deviation	Std. Error Mean
DS	No additional equity listed	146	.4021727	.13791730	.01141412
	Additional equity listed	59	.3869825	.12976948	.01689455

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
DS	Equal variances assumed	.983	.323	.726	203	.469	.01519020	.02092474	-.02606750	.05644790
	Equal variances not assumed			.745	113.568	.458	.01519020	.02038891	-.02520173	.05558213

APPENDIX D – STATISTICAL OUTPUT CONT.

SORT CASES BY STAB9_lag (A).

SORT CASES BY Ticker (A).

ONEWAY DS BY STABcondMCAPb

/STATISTICS DESCRIPTIVES HOMOGENEITY

/PLOT MEANS

/MISSING ANALYSIS

/POSTHOC=TUKEY BONFERRONI ALPHA(0.05).

Oneway

Descriptives

DS	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
11	22	.5339046	.10258916	.02187208	.4884191	.5793901	.27049	.66393
12	23	.4713115	.11744373	.02448871	.4205250	.5220980	.24590	.66393
13	22	.4603204	.11565932	.02465865	.4090399	.5116009	.23770	.61066
21	22	.4649776	.10506618	.02240019	.4183939	.5115614	.27869	.61066
22	23	.3654669	.12597893	.02626842	.3109895	.4199442	.11885	.58607
23	23	.3082680	.08240343	.01718230	.2726341	.3439019	.14754	.44262
31	22	.3984724	.11277804	.02404436	.3484694	.4484754	.11885	.60246
32	23	.3262651	.09828098	.02049300	.2837653	.3687650	.18443	.54098
33	22	.2513040	.09426981	.02009839	.2095071	.2931009	.04098	.42213
Total	202	.3972164	.13599201	.00956836	.3783491	.4160836	.04098	.66393

APPENDIX D – STATISTICAL OUTPUT CONT.

Test of Homogeneity of Variances

DS

Levene Statistic	df1	df2	Sig.
1.027	8	193	.417

ANOVA

DS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.515	8	.189	16.602	.000
Within Groups	2.202	193	.011		
Total	3.717	201			

Post Hoc Tests

Multiple Comparisons							
Dependent Variable: DS							
	(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	11	12	.06259314	.03185350	.570	-.0373423	.1625286
		13	.07358420	.03220548	.357	-.0274555	.1746239
		21	.06892697	.03220548	.449	-.0321128	.1699667
		22	.16843776*	.03185350	.000	.0685023	.2683732
		23	.22563662*	.03185350	.000	.1257012	.3255721
		31	.13543219*	.03220548	.001	.0343925	.2364719
		32	.20763947*	.03185350	.000	.1077040	.3075749
		33	.28260060*	.03220548	.000	.1815609	.3836403

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
12	11	-.06259314	.03185350	.570	-.1625286	.0373423	
	13	.01099106	.03185350	1.000	-.0889444	.1109265	
	21	.00633383	.03185350	1.000	-.0936016	.1062693	
	22	.10584462*	.03149758	.026	.0070258	.2046634	
	23	.16304348*	.03149758	.000	.0642247	.2618623	
	31	.07283905	.03185350	.355	-.0270964	.1727745	
	32	.14504633*	.03149758	.000	.0462275	.2438651	
	33	.22000745*	.03185350	.000	.1200720	.3199429	
	13	11	-.07358420	.03220548	.357	-.1746239	.0274555
12		-.01099106	.03185350	1.000	-.1109265	.0889444	
21		-.00465723	.03220548	1.000	-.1056970	.0963825	
22		.09485356	.03185350	.078	-.0050819	.1947890	
23		.15205242*	.03185350	.000	.0521170	.2519879	
31		.06184799	.03220548	.601	-.0391917	.1628877	
32		.13405527*	.03185350	.001	.0341198	.2339907	
21	33	.20901639*	.03220548	.000	.1079767	.3100561	
	11	-.06892697	.03220548	.449	-.1699667	.0321128	
	12	-.00633383	.03185350	1.000	-.1062693	.0936016	
	13	.00465723	.03220548	1.000	-.0963825	.1056970	
	22	.09951079	.03185350	.052	-.0004246	.1994462	
	23	.15670965*	.03185350	.000	.0567742	.2566451	
	31	.06650521	.03220548	.500	-.0345345	.1675449	
	32	.13871250*	.03185350	.001	.0387771	.2386479	
	33	.21367362*	.03220548	.000	.1126339	.3147133	

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
22	11	-.16843776*	.03185350	.000	-.2683732	-.0685023	
	12	-.10584462*	.03149758	.026	-.2046634	-.0070258	
	13	-.09485356	.03185350	.078	-.1947890	.0050819	
	21	-.09951079	.03185350	.052	-.1994462	.0004246	
	23	.05719886	.03149758	.672	-.0416199	.1560177	
	31	-.03300557	.03185350	.982	-.1329410	.0669299	
	32	.03920171	.03149758	.945	-.0596171	.1380205	
23	33	.11416283*	.03185350	.013	.0142274	.2140983	
	11	-.22563662*	.03185350	.000	-.3255721	-.1257012	
	12	-.16304348*	.03149758	.000	-.2618623	-.0642247	
	13	-.15205242*	.03185350	.000	-.2519879	-.0521170	
	21	-.15670965*	.03185350	.000	-.2566451	-.0567742	
	22	-.05719886	.03149758	.672	-.1560177	.0416199	
	31	-.09020443	.03185350	.113	-.1901399	.0097310	
31	32	-.01799715	.03149758	1.000	-.1168160	.0808217	
	33	.05696397	.03185350	.690	-.0429715	.1568994	
	11	-.13543219*	.03220548	.001	-.2364719	-.0343925	
	12	-.07283905	.03185350	.355	-.1727745	.0270964	
	13	-.06184799	.03220548	.601	-.1628877	.0391917	
	21	-.06650521	.03220548	.500	-.1675449	.0345345	
	22	.03300557	.03185350	.982	-.0669299	.1329410	
	23	.09020443	.03185350	.113	-.0097310	.1901399	
	32	.07220728	.03185350	.368	-.0277281	.1721427	
	33	.14716841*	.03220548	.000	.0461287	.2482081	

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
	(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Bonferroni	32	11	-.20763947*	.03185350	.000	-.3075749	-.1077040
		12	-.14504633*	.03149758	.000	-.2438651	-.0462275
		13	-.13405527*	.03185350	.001	-.2339907	-.0341198
		21	-.13871250*	.03185350	.001	-.2386479	-.0387771
		22	-.03920171	.03149758	.945	-.1380205	.0596171
		23	.01799715	.03149758	1.000	-.0808217	.1168160
		31	-.07220728	.03185350	.368	-.1721427	.0277281
		33	.07496112	.03185350	.316	-.0249743	.1748966
		33	11	-.28260060*	.03220548	.000	-.3836403
	12		-.22000745*	.03185350	.000	-.3199429	-.1200720
	13		-.20901639*	.03220548	.000	-.3100561	-.1079767
	21		-.21367362*	.03220548	.000	-.3147133	-.1126339
	22		-.11416283*	.03185350	.013	-.2140983	-.0142274
	23		-.05696397	.03185350	.690	-.1568994	.0429715
	31		-.14716841*	.03220548	.000	-.2482081	-.0461287
	32		-.07496112	.03185350	.316	-.1748966	.0249743
	11		12	.06259314	.03185350	1.000	-.0407408
		13	.07358420	.03220548	.843	-.0308916	.1780600
		21	.06892697	.03220548	1.000	-.0355488	.1734028
		22	.16843776*	.03185350	.000	.0651038	.2717717
		23	.22563662*	.03185350	.000	.1223027	.3289706
	31	.13543219*	.03220548	.001	.0309564	.2399080	
	32	.20763947*	.03185350	.000	.1043055	.3109734	
	33	.28260060*	.03220548	.000	.1781248	.3870764	

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
12	11	-.06259314	.03185350	1.000	-.1659271	.0407408	
	13	.01099106	.03185350	1.000	-.0923429	.1143250	
	21	.00633383	.03185350	1.000	-.0970001	.1096678	
	22	.10584462*	.03149758	.034	.0036653	.2080240	
	23	.16304348*	.03149758	.000	.0608641	.2652228	
	31	.07283905	.03185350	.839	-.0304949	.1761730	
	32	.14504633*	.03149758	.000	.0428670	.2472257	
	33	.22000745*	.03185350	.000	.1166735	.3233414	
	13	11	-.07358420	.03220548	.843	-.1780600	.0308916
		12	-.01099106	.03185350	1.000	-.1143250	.0923429
21		-.00465723	.03220548	1.000	-.1091330	.0998186	
22		.09485356	.03185350	.118	-.0084804	.1981875	
23		.15205242*	.03185350	.000	.0487185	.2553864	
31		.06184799	.03220548	1.000	-.0426278	.1663238	
32		.13405527*	.03185350	.001	.0307213	.2373892	
33		.20901639*	.03220548	.000	.1045406	.3134922	
21	11	-.06892697	.03220548	1.000	-.1734028	.0355488	
	12	-.00633383	.03185350	1.000	-.1096678	.0970001	
	13	.00465723	.03220548	1.000	-.0998186	.1091330	
	22	.09951079	.03185350	.074	-.0038232	.2028447	
	23	.15670965*	.03185350	.000	.0533757	.2600436	
	31	.06650521	.03220548	1.000	-.0379706	.1709810	
	32	.13871250*	.03185350	.001	.0353786	.2420464	
	33	.21367362*	.03220548	.000	.1091978	.3181494	

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
(I) Stability conditioned on	(J) Stability conditioned on				95% Confidence Interval		
MCap by terciles	MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound	
22	11	-.16843776*	.03185350	.000	-.2717717	-.0651038	
	12	-.10584462*	.03149758	.034	-.2080240	-.0036653	
	13	-.09485356	.03185350	.118	-.1981875	.0084804	
	21	-.09951079	.03185350	.074	-.2028447	.0038232	
	23	.05719886	.03149758	1.000	-.0449805	.1593782	
	31	-.03300557	.03185350	1.000	-.1363395	.0703284	
	32	.03920171	.03149758	1.000	-.0629776	.1413811	
23	33	.11416283*	.03185350	.015	.0108289	.2174968	
	11	-.22563662*	.03185350	.000	-.3289706	-.1223027	
	12	-.16304348*	.03149758	.000	-.2652228	-.0608641	
	13	-.15205242*	.03185350	.000	-.2553864	-.0487185	
	21	-.15670965*	.03185350	.000	-.2600436	-.0533757	
	22	-.05719886	.03149758	1.000	-.1593782	.0449805	
	31	-.09020443	.03185350	.184	-.1935384	.0131295	
31	32	-.01799715	.03149758	1.000	-.1201765	.0841822	
	33	.05696397	.03185350	1.000	-.0463700	.1602979	
	11	-.13543219*	.03220548	.001	-.2399080	-.0309564	
	12	-.07283905	.03185350	.839	-.1761730	.0304949	
	13	-.06184799	.03220548	1.000	-.1663238	.0426278	
	21	-.06650521	.03220548	1.000	-.1709810	.0379706	
	22	.03300557	.03185350	1.000	-.0703284	.1363395	
	23	.09020443	.03185350	.184	-.0131295	.1935384	
	32	.07220728	.03185350	.882	-.0311267	.1755412	
	33	.14716841*	.03220548	.000	.0426926	.2516442	

APPENDIX D – STATISTICAL OUTPUT CONT.

Multiple Comparisons							
Dependent Variable: DS							
(I) Stability conditioned on MCap by terciles	(J) Stability conditioned on MCap by terciles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
32	11	-.20763947*	.03185350	.000	-.3109734	-.1043055	
	12	-.14504633*	.03149758	.000	-.2472257	-.0428670	
	13	-.13405527*	.03185350	.001	-.2373892	-.0307213	
	21	-.13871250*	.03185350	.001	-.2420464	-.0353786	
	22	-.03920171	.03149758	1.000	-.1413811	.0629776	
	23	.01799715	.03149758	1.000	-.0841822	.1201765	
	31	-.07220728	.03185350	.882	-.1755412	.0311267	
	33	.07496112	.03185350	.706	-.0283728	.1782951	
	33	11	-.28260060*	.03220548	.000	-.3870764	-.1781248
12		-.22000745*	.03185350	.000	-.3233414	-.1166735	
13		-.20901639*	.03220548	.000	-.3134922	-.1045406	
21		-.21367362*	.03220548	.000	-.3181494	-.1091978	
22		-.11416283*	.03185350	.015	-.2174968	-.0108289	
23		-.05696397	.03185350	1.000	-.1602979	.0463700	
31		-.14716841*	.03220548	.000	-.2516442	-.0426926	
32		-.07496112	.03185350	.706	-.1782951	.0283728	

*. The mean difference is significant at the 0.05 level.

APPENDIX D – STATISTICAL OUTPUT CONT.

Homogeneous Subsets

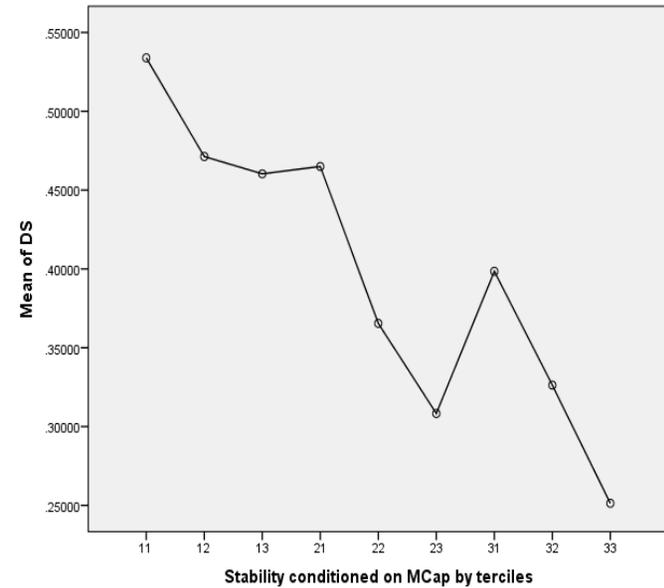
DS	Stability conditioned on MCap by terciles	N	Subset for alpha = 0.05					
			1	2	3	4	5	
Tukey HSD ^{a,b}	33	22	.2513040					
	23	23	.3082680	.3082680				
	32	23	.3262651	.3262651				
	22	23		.3654669	.3654669			
	31	22		.3984724	.3984724	.3984724		
	13	22			.4603204	.4603204	.4603204	
	21	22			.4649776	.4649776	.4649776	
	12	23				.4713115	.4713115	
	11	22					.5339046	
	Sig.		.318	.114	.053	.357	.343	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 22.433.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Means Plots



APPENDIX D – STATISTICAL OUTPUT CONT.

ONEWAY STAB9_lag BY OwnCon.BvD
 /STATISTICS DESCRIPTIVES HOMOGENEITY
 /PLOT MEANS
 /MISSING ANALYSIS
 /POSTHOC=TUKEY BONFERRONI GH ALPHA(0.05).

Oneway: Stability by ownership concentration

Descriptives								
Stability lag 9 years								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Controlled	41	1.7217493	.29656661	.04631592	1.6281413	1.8153572	.73830	1.99867
One or more >25%	42	1.6449488	.22710307	.03504276	1.5741785	1.7157191	1.01865	1.92822
None >25%	119	1.5838408	.31856304	.02920263	1.5260116	1.6416699	.58716	1.99857
Total	202	1.6245377	.30099046	.02117762	1.5827789	1.6662965	.58716	1.99867

Test of Homogeneity of Variances			
Stability lag 9 years			
Levene Statistic	df1	df2	Sig.
3.028	2	199	.051

ANOVA					
Stability lag 9 years					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.602	2	.301	3.402	.035
Within Groups	17.608	199	.088		
Total	18.210	201			

APPENDIX D – STATISTICAL OUTPUT CONT.

Post Hoc Tests

Multiple Comparisons							
Dependent Variable: Stability lag 9 years							
	(I) Ownership Concentration	(J) Ownership Concentration	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Controlled	One or more >25%	.07680046	.06530494	.469	-.0774096	.2310105
		None >25%	.13790851*	.05386643	.030	.0107092	.2651079
	One or more >25%	Controlled	-.07680046	.06530494	.469	-.2310105	.0774096
		None >25%	.06110805	.05338735	.488	-.0649600	.1871761
	None >25%	Controlled	-.13790851*	.05386643	.030	-.2651079	-.0107092
		One or more >25%	-.06110805	.05338735	.488	-.1871761	.0649600
Bonferroni	Controlled	One or more >25%	.07680046	.06530494	.723	-.0808710	.2344719
		None >25%	.13790851*	.05386643	.034	.0078541	.2679630
	One or more >25%	Controlled	-.07680046	.06530494	.723	-.2344719	.0808710
		None >25%	.06110805	.05338735	.761	-.0677897	.1900058
	None >25%	Controlled	-.13790851*	.05386643	.034	-.2679630	-.0078541
		One or more >25%	-.06110805	.05338735	.761	-.1900058	.0677897
Games-Howell	Controlled	One or more >25%	.07680046	.05807891	.387	-.0620749	.2156758
		None >25%	.13790851*	.05475361	.037	.0069562	.2688608
	One or more >25%	Controlled	-.07680046	.05807891	.387	-.2156758	.0620749
		None >25%	.06110805	.04561566	.377	-.0474033	.1696195
	None >25%	Controlled	-.13790851*	.05475361	.037	-.2688608	-.0069562
		One or more >25%	-.06110805	.04561566	.377	-.1696195	.0474033

*. The mean difference is significant at the 0.05 level.

APPENDIX D – STATISTICAL OUTPUT CONT.

Homogeneous Subsets

Stability lag 9 years

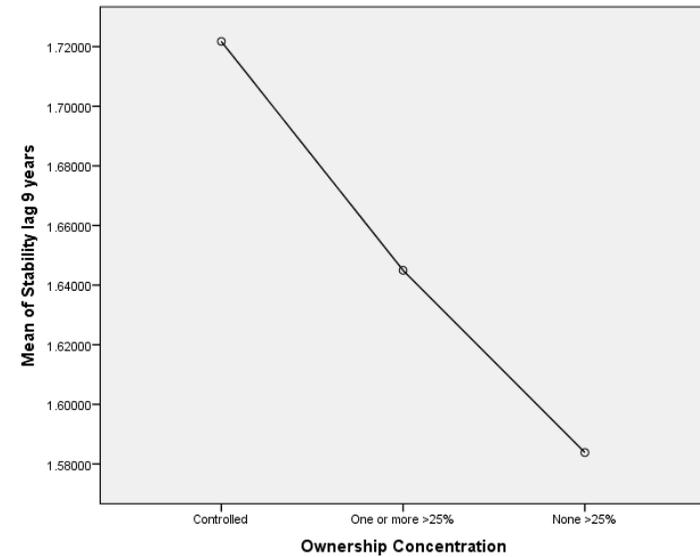
		Subset for alpha = 0.05		
Ownership Concentration	N	1	2	
Tukey HSD ^{a,b}	None >25%	119	1.5838408	
	One or more >25%	42	1.6449488	1.6449488
	Controlled	41		1.7217493
	Sig.		.542	.381

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 53.001.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Means Plots



APPENDIX D – STATISTICAL OUTPUT CONT.

```

Rank transformation of STAB
COMPUTE FR_STAB9_lag_IDF_0_1=IDF.NORMAL(RFR001,0,1).
EXECUTE.
FREQUENCIES VARIABLES=STAB9_lag RFR001 FR_STAB9_lag_IDF_0_1
  /STATISTICS=SKEWNESS SESKEW KURTOSIS SEKURT
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
RENAMED FR_STAB9_lag_IDF_0_1 to FR_STAB9_lag_IDF
    
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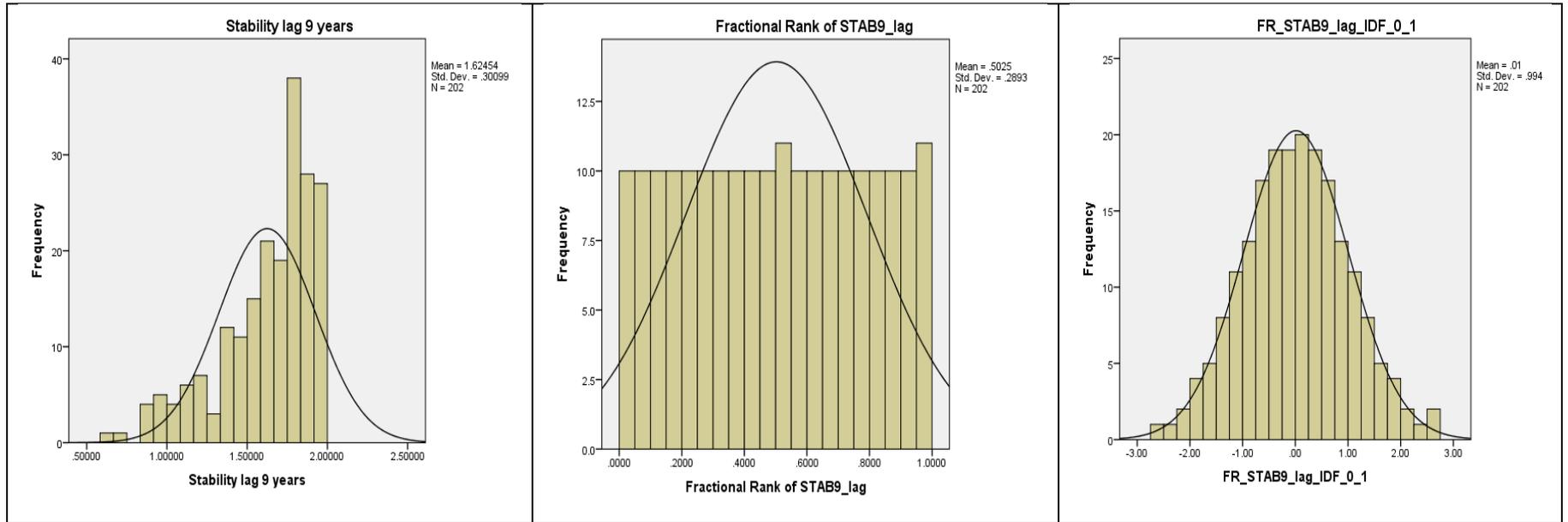
Frequencies

Statistics

		Stability lag 9 years	Fractional Rank of STAB9_lag	FR_STAB9_lag_IDF_0_1
N	Valid	202	202	202
	Missing	3	3	3
Skewness		-1.095	.000	.049
Std. Error of Skewness		.171	.171	.171
Kurtosis		.574	-1.201	-.172
Std. Error of Kurtosis		.341	.341	.341

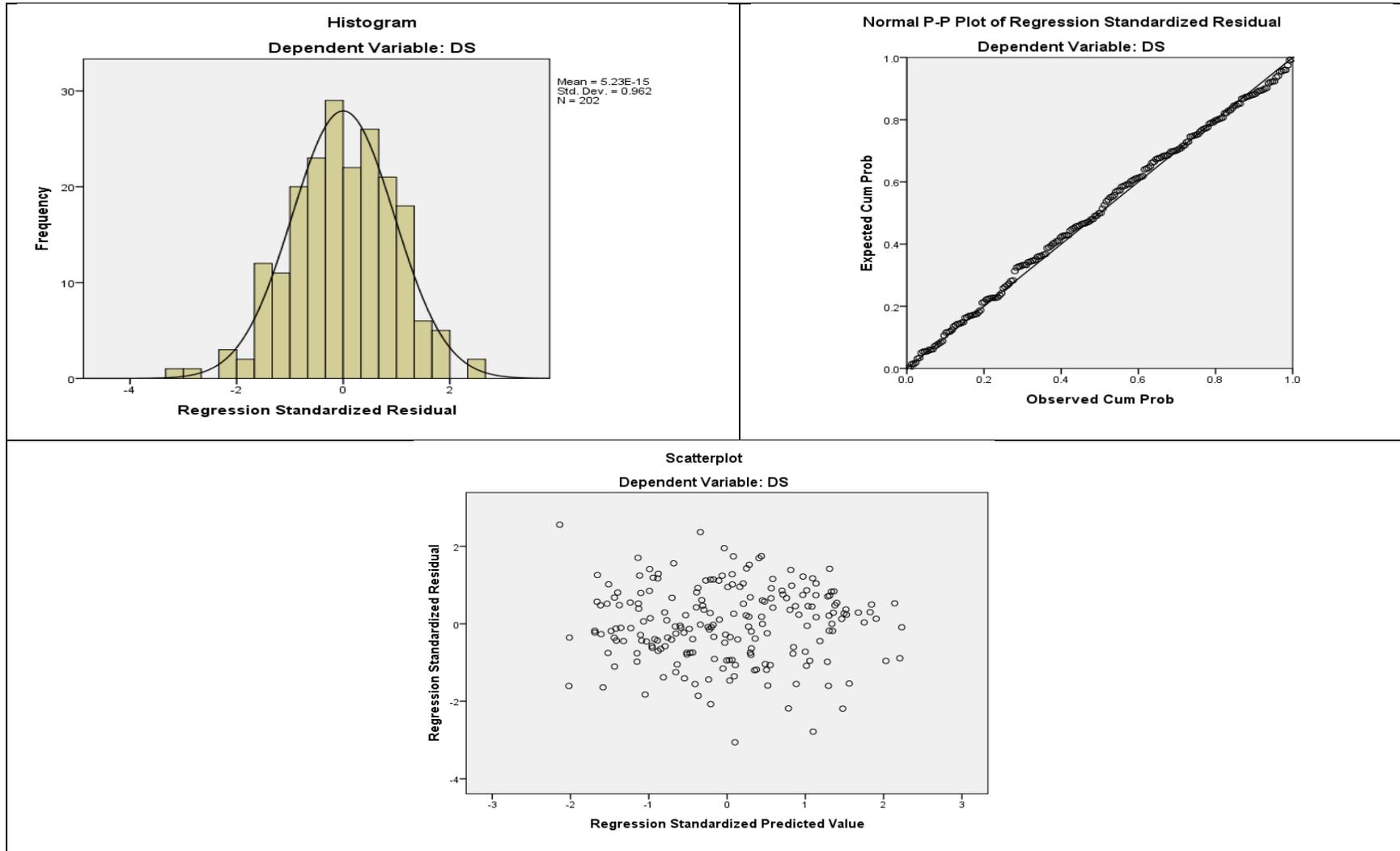
APPENDIX D – STATISTICAL OUTPUT CONT.

Histogram



APPENDIX D – STATISTICAL OUTPUT CONT.

Residuals of model



APPENDIX D – STATISTICAL OUTPUT CONT.

Breusch-Pagan heteroscedasticity tests

SPSSINC BREUSCH PAGAN DEPENDENT = DS

ENTER = FR_STAB9_lag_IDF LNCAP062012 Controlled Blockholders ConsG ConsS Fin Industrials Tech

LNAGE ROaA_win LNDE_Pub Big4Auditor Dual_List IssuedNew

/OPTIONS MISSING=LISTWISE

/SAVE.

Residual Heteroscedasticity Test Full sample

lm(formula = DS ~

FR_STAB9_lag_IDF+LNCAP062012+Controlled+Blockholders+ConsG+ConsS+Fin+Industrials+Tec

h+LNAGE+ROaA_win+LNDE_Pub+Big4Auditor+Dual_List+IssuedNew, na.action = na.omit)

Residual standard error: 0.09437

Degrees of freedom: 186

R-Squared: 0.5544

Adjusted R-Squared: 0.5185

Non-constant Variance Score Test

	ChiSquare	D.f	Sig.
Test Result	.020	1.000	.887

APPENDIX D – STATISTICAL OUTPUT CONT.

Residual Heteroscedasticity Test Alternative: residual regressed on predictors

SPSSINC BREUSCH PAGAN DEPENDENT = DS

ENTER = FR_STAB9_lag_IDF LNCAP062012 Controlled Blockholders ConsG ConsS Fin Industrials Tech

LNAGE ROaA_win LNDE_Pub Big4Auditor Dual_List IssuedNew

VARIANCEMODEL=FR_STAB9_lag_IDF LNCAP062012 OwnCon.BvD Industry LNAGE ROaA_win LNDE_Pub

Big4Auditor Dual_List IssuedNew

/OPTIONS MISSING=LISTWISE

/SAVE.

lm(formula = DS ~

FR_STAB9_lag_IDF+LNCAP062012+Controlled+Blockholders+ConsG+ConsS+Fin+Industrials+Tec

h+LNAGE+ROaA_win+LNDE_Pub+Big4Auditor+Dual_List+IssuedNew, na.action = na.omit)

Residual standard error: 0.09437

Degrees of freedom: 186

R-Squared: 0.5544

Adjusted R-Squared: 0.5185

Non-constant Variance Score Test

	ChiSquare	D.f	Sig.
Test Result	11.761	15.000	.697