Determinants of forward-looking disclosure in integrated reporting

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Abstract
Purpose – This paper aims to examine the nature and extent of forward-looking disclosures in early examples of integrated reporting and to investigate the determinants of those disclosures.

Design/methodology/approach – The sample for research involved 55 non-financial companies whose reports are available in the Integrated Reporting Examples Database for the year 2014. The authors used content analysis to investigate the quantitative and qualitative forward-looking disclosures among early adopters of integrated reporting. The forward-looking disclosure index (FLDI) was categorized into two main groups, quantitative and qualitative, including 30 items in total. Multivariate ordinary least squares regression was used to investigate the associations proposed in the research hypotheses.

Findings – The authors determined that the majority of the entities tended to provide qualitative forward-looking disclosures rather than quantitative. Further, the findings showed that gender diversity and firm size are positively related to forward-looking disclosures, whereas leverage is negatively related to forward-looking disclosures. Contrary to expectations, the authors did not find a significant impact created by board size, board composition, profitability or industry on forward-looking disclosures.

Originality/value – The research contributes to the current integrated reporting and forward-looking disclosure literature. To the best of the authors’ knowledge, there is no prior study that has investigated forward-looking disclosures in integrated reports. This study contributes to the current literature by examining the determinants of forward-looking disclosures by categorizing them as quantitative and qualitative. Further, this research adds empirical findings to the literature on the association found between female directors and forward-looking disclosures.

Keywords Voluntary disclosure, Corporate governance, Integrated reporting, Board gender diversity, Forward-looking disclosure

Paper type Research paper

1. Introduction
Listed companies are required to publish annual statements that present their financial situation and a corporate governance report that shows their governance level (Garcia-Sánchez et al., 2013). Companies also voluntarily publish sustainability and social reports, which comprise their non-financial performance regarding social and environmental issues. Preparing social responsibility or sustainability reports as separate non-financial reports rather than publishing a unique integrated report creates information dissemination and confusion for the stakeholders (Ioana and Adriana, 2014). The solution to this problem would be to create a single report providing a clear link between the financial and non-financial issues (Cheng et al., 2014).

The International Integrated Reporting Council (IIRC), formed in 2010, proposed the production of a separate report that will integrate financial and non-financial information
In this sense, integrated reporting has emerged as a new reporting paradigm to provide a more comprehensive view of the entity, rather than the traditional financial report, by combining the financial and non-financial dimensions of the corporate performance (Brown and Dillard, 2014). Integrated reports would contain, in a composite, organized and cohesive form, information on the financial performance, the organization’s strategy, the corporate governance, the social and environmental context in which it operates and its long-term outlook (Adams and Simnett, 2011; Garcia-Sánchez et al., 2013; van Bommel, 2014). Although the indented primary users of integrated reports are either providers of capital or investors, an integrated report should be designed to outline the benefit to all stakeholders, including employees, customers, suppliers, regulators and policymakers who are interested in the organization’s ability to create value over the short, medium or long term (Busco et al., 2013).

Several reasons influence the decisions of companies to issue integrated reports for information disclosure. Firms are encouraged to increase transparency voluntarily to meet stakeholder expectations (Oliveira et al., 2010). Publishing integrated reports promotes greater transparency regarding the company by means of providing the information needed by stakeholders to assess long-term prospects in a clear and concise form (Garcia-Sánchez et al., 2013). Further, the development of integrated reporting creates strategic tools for firms seeking to correlate financial with non-financial performances (Ioana and Adriana, 2014), to legitimize themselves, to enhance their corporate reputation (Ioana and Adriana, 2014), to identify opportunities (Frias-Aceituno et al., 2014), to optimize the use of corporate resources (Oliveira et al., 2010) and to decrease the cost of capital (Frias-Aceituno et al., 2014).

Information published in company reports can be categorized mainly into two groups: “backward-looking information” and “forward-looking information” (Hussainey, 2004). Backward-looking information refers to past financial results and their related disclosures (Aljifri and Hussainey, 2007). On the other hand, forward-looking disclosure refers to current plans and future forecasts that provide information about the company’s future prospects (Alkhatib, 2014). Traditional annual reports are generally retrospective and do not offer future prospects or crucial risks that may be relevant in the future (Jensen and Berg, 2012). Shareholders and other stakeholders require public companies to disclose information regarding their future prospects, as the economic environment is too dynamic to rely only on backward-looking information (Beretta and Bozzolan, 2004; Menicucci, 2013). At this point, forward-looking disclosures would be beneficial for all stakeholders, comprising future projections on both financial (i.e. future capital expenditures, earnings targets, cash flow forecasts and the next year’s sales) and non-financial items (i.e. risks and uncertainties) (Aljifri and Hussainey, 2007; Bravo, 2016).

Integrated reporting guidelines emphasize on the importance of cohesive and multidimensional reporting, which communicates the factors that influence organizational value over time (Atkins and Maroun, 2015). Future orientation is described as one of the key guiding principles of the IIRC’s integrated reporting framework (Steyn, 2014). Further, outlook is contained within the eight content elements described in this framework (IIRC, 2013, p. 5). Thus, integrated reports help to make organizations accountable for their future financial and non-financial performance to all of their stakeholders (Abeysekera, 2013).

This study was motivated by the goal of analyzing the voluntary disclosure of forward-looking information in early examples of integrated reporting. The research sought to answer two related questions to understand the role of integrated reports in disclosing forward-looking information:
RQ1. What is the nature and extent of forward-looking disclosures in integrated reporting?

RQ2. What are the determinants of forward-looking disclosures in integrated reports?

Our findings indicated that most of the early adopters of integrated reporting are more likely to disclose future estimations regarding their financial and non-financial figures in qualitative terms instead of quantitative. The results of the study also showed that board gender diversity and firm size significantly and positively impact the total, quantitative and qualitative forward-looking disclosures. In addition, leverage has a significant and negative influence on qualitative forward-looking information. Contrary to expectations, we failed to determine a significant impact created by board size, board composition, profitability and industry on forward-looking disclosures.

This research makes contributions to the literature in several ways. Most empirical studies of forward-looking disclosure have focused mainly upon annual reports or sustainability reports. However, integrated reports are gaining importance as a medium for corporate communication and disclosure. To the best of the authors’ knowledge, this is the first study investigating the determinants of forward-looking disclosure in integrated reports. As well, our study contributes to the current literature by classifying forward-looking disclosures as both quantitative and qualitative. Further, this research adds empirical findings to the literature on the association between board gender diversity and forward-looking disclosures.

The remainder of the paper is structured as follows: Section 2 describes the notions of integrated reporting and forward-looking disclosure; Section 3 explains the theoretical framework and presents the literature review and the hypotheses; Section 4 summarizes the research design, and Section 5 discusses the results. Finally, Section 6 concludes the paper.

2. Integrated reporting and forward-looking disclosure

Integrated reporting is a new approach to reporting which will result in exhibiting a more holistic view of organizations by integrating economic, social and environmental issues, rather than focusing only upon traditional financial statements (Lodhia, 2015). An integrated report aims to present the interrelation between the financial and non-financial dimensions of performance and how these interrelations create or destroy value for shareholders and other stakeholders (Eccles and Armbrester, 2011). Thus, the presentation of an integrated report extends the information contained in conventional financial statements (Garcia-Sánchez et al., 2013) and provides a richer picture of the organization (Owen, 2013).

There are two types of information in company reports: backward-looking information (i.e. past financial results and their related disclosures) and forward-looking information (i.e. current plans and future forecasts) (Aljifri and Hussainey, 2007). Traditional annual and sustainability reports are retrospective and do not present future targets or crucial risks that may be relevant in the future (Jensen and Berg, 2012). In contrast to traditional reporting, integrated reporting is oriented toward the future and provides an acknowledgement of the interconnections between the financial and non-financial drivers of performance (Higgins et al., 2014). Hence, performance metrics are rebalanced away from the common short-term outlook of traditional annual reports toward a medium to long-term outlook through integrated reporting (Jensen and Berg, 2012).

IIRC’s framework identifies six types of capital, namely, financial, manufactured, intellectual, human, social and relationship and natural. The main objective of the integrated report is to enhance accountability regarding those capitals and provide an understanding
of the interrelatedness and trade-offs between them (Busco et al., 2013; Haji and Hossain, 2016). However, the integrated reporting framework does not require organizations to strictly adopt the six categories of capital listed above and rather suggests the use of identified types as a benchmark (Busco et al., 2013). Further, IIRC’s framework comprises eight content elements incorporating organizational overview and external environment, governance, business model, risks and opportunities, strategy and resource allocation, performance, outlook and the basis of preparation and presentation. This requires the company to disclose their future outlook, which includes future objectives, how these objectives will be achieved and what constitutes the challenges and obstacles in the way of achieving these objectives (Steyn, 2014). An integrated report also highlights anticipated changes over time and provides information about the organization’s expectations regarding the external environment in the short, medium and long term, how that could affect the organization and how the organization is currently equipped to respond to critical challenges and uncertainties (IIRC, 2013, p.28). In essence, the integrated report highlights the opportunities and challenges that may occur in the short, medium, and long term and their possible effect on the organization’s financial and non-financial performance.

Academic researchers have provided arguments regarding the advantages of forward-looking information disclosure. First, disclosing forward-looking information mitigates information asymmetry, which arises when some entities possess private information about the firm that is not available to investors and other stakeholders (Uyar and Kilic, 2012). Further, forward-looking disclosures relative to future operations, plans, strategies and financial targets are useful in estimating expected cash flows and the future value of companies (Celik et al., 2006). As backward-looking information is insufficient for investors to forecast possible opportunities and risks, forward-looking information plays a crucial role in their investment decisions (Menicucci, 2013; Bravo, 2016).

On the other hand, entities may hesitate to share company-specific risks and future prospects for several reasons. For instance, releasing forward-looking information may increase indirect costs incurred in the sharing of proprietary information that could be used by competitors (Kent and Ung, 2003). Therefore, companies may avoid disclosing forward-looking information because of fears regarding the possible negative impact of such disclosures on their competitive position (Uyar and Kilic, 2012). Further, it might be difficult to predict corporate future performance with accuracy because of uncertainties related to the future (Aljifri and Hussainey, 2007). The potential inaccuracy of future projections decreases the incentives of managers to disclose quantitative and forward-looking information because of litigation costs (Healy and Palepu, 2001; Oliveira et al., 2011).

3. Theory, literature review and hypotheses development
3.1 Theoretical framework
Previous studies examining the impact of company characteristics on forward-looking disclosures have explored various propositions provided by agency theory (Jensen and Meckling, 1976) and signaling theory (Spence, 1973) by focusing on information asymmetry. Those two theories are used together to understand the determinants of forward-looking disclosures (Elzahar and Hussainey, 2012).

Agency theory purports that the separation of ownership and management leads to agency costs by way of the assumption of information asymmetry between principals (shareholders) and agents (managers) (Jensen and Meckling, 1976). Information asymmetry is assumed to arise where agents are in possession of superior information as opposed to their principals (An et al., 2011). Agency theory uses voluntary disclosure as a mechanism for decreasing information asymmetry. Based upon this theory, the disclosure of forward-
looking information mitigates information asymmetry and decreases agency costs (Hassanein and Hussainey, 2015). In this regard, to reduce information asymmetry and agency costs, entities may report a higher level of forward-looking information, which will sustain a better assessment of the future performance of companies.

Another theory used to understand the determinants of the forward-looking disclosure is signaling theory. Signaling theory was originally developed by Spence (1973) to explain uncertainty in workforce markets. In the context of this theory, information disclosure can be considered to be a signal to capital markets to mitigate information asymmetry, to reduce financing costs and to enhance corporate value (Gallego-Álvarez et al., 2011). Signaling theory therefore suggests that managers disclose a significant level of information within company reports to send specific signals to the potential users of those reports (Elzahar and Hussainey, 2012). Hence, to reduce information asymmetries, entities may convey signals to their audience by disclosing forward-looking information.

3.2 Literature and hypotheses
A number of prior studies have focused on the association between forward-looking disclosure and stock return volatility. In this regard, Kent and Ung (2003) investigated the voluntary disclosure of future earnings covering a sample of Australian listed companies. Their findings showed that larger companies with less volatile earnings tend to disclose more future earnings information compared to smaller companies with high volatile earnings. In addition, Bravo (2016) examined whether forward-looking disclosures and corporate reputation reduce the stock return volatility. The findings of this research revealed that forward-looking disclosures have a significant impact on capital markets and that corporate reputation moderates this impact.

Most of the prior studies have focused on the conventional determinants of forward-looking disclosures such as firm size, profitability, leverage and industry. Celik et al. (2006) investigated the determinants of forward-looking disclosures of Turkish companies listed on Borsa Istanbul. Their research results showed that firm size and foreign offers have a positive relationship with forward-looking disclosures. However, the variables of ownership structure, profitability, the percentage of institutional investors and the level of foreign investment have a negative effect on forward-looking disclosures. Uyar and Kilic (2012) also examined the determinants of the forward-looking disclosures for Turkish listed companies. The findings of their study revealed that firm size and auditor size have a significant and positive impact on the forward-looking disclosure level.

Several other researchers investigated the relationship between corporate governance mechanisms and the forward-looking disclosures’ level. For instance, O’Sullivan et al. (2008) analyzed the relationship between a firm’s corporate governance characteristics (i.e. board autonomy, independent ownership and audit quality) and the forward-looking information disclosed in its annual reports for the years of 2000 and 2002. They found a positive association between forward-looking disclosure and the efficacy of the corporate governance system in 2000 but not the same findings for the year 2002. Their results suggest that increasing the effectiveness of corporate governance mechanisms does not improve forward-looking disclosures, as expected. Similarly, Elzahar and Hussainey (2012) documented that corporate governance characteristics do not have a significant impact on narrative risk disclosures of a sample of UK non-financial companies. Wang and Hussainey (2013) also examined the association between corporate governance and the forward-looking disclosures of a sample of UK companies. Contrary to O’Sullivan et al. (2008) and Elzahar and Hussainey (2012), the results of their study showed that corporate governance mechanisms have a significant impact on voluntary disclosure decisions of companies.
Further, Al-Najjar and Abed (2014) investigated the influence of corporate governance mechanisms on forward-looking information disclosure for non-financial UK companies during the financial crisis period. Their research findings provided evidence that the independence of audit committee and blockholder ownership variables were related to the level of voluntary disclosure of forward-looking disclosure only before the financial crisis. In addition, using a sample of Chinese listed companies, Qu et al. (2015) determined that effective corporate governance mechanisms have a vital role in improving information disclosure quality and reducing the information asymmetry. With a similar sampling, Liu (2015) revealed that high levels of foreign ownership, more independent directors and more financial expertise within the audit committee may enhance the disclosure incentives of managers or may strengthen the monitoring mechanisms, leading a company to disclose a higher level of forward-looking information. In addition, the study of Ho and Taylor (2013) demonstrated that enhanced corporate governance mechanisms are related to more extensive disclosure of corporate strategies, financial information, forward-looking information and corporate social responsibility information. Although there is no prior research examining the extent of forward-looking disclosures in integrated reports, a number of studies investigated the reporting practices of early adopters. For instance, Setia et al. (2015) documented that integrated reporting in South Africa has resulted in an increase in the extent of disclosure of human, social and relational, natural and intellectual capital information. Stubbs and Higgins (2014) determined that early adopters of integrated reporting in Australia did not change their reporting processes or structures radically, but rather made some changes in their disclosure mechanisms that supported previous sustainability reporting. Haji and Anifowose (2016) determined that early examples of integrated reporting in South Africa lack key integrated reporting aspects such as connectivity of information, reliability and completeness and trade-offs between multiple capitals. Further, Haji and Hossain (2016) found that award-winning integrated reporters in South Africa are increasingly conforming to reporting language in existing integrated reporting framework guidelines. However, the disclosures are generic rather than company-specific and lack substance. Hence, their research presented that the adoption of integrated reporting has not enhanced the quality of organizational reports. Similarly, Haji and Anifowose (2017) denoted a significant increase in the overall amount of company disclosures after the adoption of integrated reporting practices in South Africa. However, company reports failed to provide meaningful disclosures on the interdependencies and trade-offs between the capitals or the components of a capital.

3.2.1 Board size. The collapse of several companies (i.e. Enron, Worldcom, Xerox and Tyco) has focused attention on corporate governance mechanisms (Al-Najjar and Abed, 2014). The implementation of certain corporate governance mechanisms and standards will improve financial reporting quality, disclosure transparency and the extent of voluntary disclosure (O'Sullivan et al., 2008; Al-Najjar and Abed, 2014). A board of directors is a corporate governance mechanism that determines policies and strategies to be followed by managers (Akhtaruddin et al., 2009). Because of the monitoring role of boards of directors, firms with effective boards may impact management decisions to enhance information disclosure. Hence, the characteristics of a board may significantly impact company disclosures.

Board size represents the total number of executive and non-executive members on the board of directors (Wang and Hussainey, 2013). There is no clear consensus in the prior literature regarding the association between board size and company disclosures. According to Wang and Hussainey (2013), a very large board is generally ineffective compared to smaller boards owing to communication- and coordination related problems. Those
problems may hamper management’s ability to monitor and control their process (Siregar and Bachtar, 2010) and decrease the quality of financial disclosure (Said et al., 2009). On the other hand, Amran et al. (2014) asserted that board size is viewed as one of the major determinants of board effectiveness. In this sense, an effective board can mitigate managerial opportunism, which may result in higher sustainability reporting quality (Amran et al., 2014). Therefore, a large board is expected to be an effective governance mechanism enhancing transparency and voluntary company disclosures (Akhtaruddin et al., 2009). In particular, large boards may have a greater diversity that includes financial expertise and experience that may impact the voluntary disclosure decisions of managers and therefore extend forward-looking disclosures (Elzahar and Hussainey, 2012; Wang and Hussainey, 2013).

Empirical findings relating to the link between board size and forward-looking disclosures is also inconclusive. For example, Cheng and Courtenay (2006), Uyar et al. (2014) and Kiliç et al. (2015) found an insignificant association between board size and voluntary corporate disclosures. Similarly, Elzahar and Hussainey (2012) documented an insignificant association between board size and forward-looking disclosures. To the contrary, Akhtaruddin et al. (2009) found that board size enhances company disclosures. Further, Qu et al. (2015) reported that board size has a significant and positive influence on the quality of information disclosure. In addition, Wang and Hussainey (2013) found that board size has a positive association with voluntary forward-looking statements. Thus, we expect to find that larger boards are more effective by directing management to make forward-looking disclosures and suggest the following hypothesis:

**H1.** There is a positive relationship between board size and the level of forward-looking information disclosed in integrated reports.

### 3.2.2 Board composition.

The effectiveness of corporate governance mechanisms in reducing agency problems depends upon the composition of boards of directors (Akhtaruddin et al., 2009). Boards are generally composed of executive and non-executive (independent) members.

Board composition is defined as the percentage of independent directors to the total number of directors (Hossain and Reaz, 2007). From an agency perspective, boards with a higher proportion of independent directors are more effective in monitoring and controlling management and are more successful in directing management toward long-term value (Jizi et al., 2014). The remuneration of independent directors is not tied to a firm’s short-term financial performance, unlike the remuneration of other members of the board (Jizi et al., 2014). As independent directors are less aligned with company management, they may have a greater tendency to encourage companies to disclose higher levels of voluntary information (Michelon and Parbonetti, 2012). Therefore, if independent directors dominate a board, they may have the power to force management to disclose more forward-looking information (Wang and Hussainey, 2013).

Prior literature on the effectiveness of independent directors presents inconclusive findings (Kakabadse et al., 2010). For instance, O’Sullivan et al. (2008), Elzahar and Hussainey (2012), Uyar and Kiliç (2012) and Al-Najjar and Abed (2014) found that percentage of independent directors has an insignificant impact on forward-looking disclosures. On the other hand, Qu et al. (2015) detected that companies with a high number of independent directors disclosed precise sales forecasts. In addition, Wang and Hussainey (2013) reported that board independence is significantly associated with disclosures relating to earnings forecasts. Similarly, Liu (2015) determined that the proportion of independent
directors is positively related to forward-looking disclosures. Taking the perspective of agency theory and the above discussions, we suggest the following hypothesis:

\[ H2 \]. There is a positive relationship between board independence and the level of forward-looking information disclosed in integrated reports.

3.2.3 Board gender diversity. Board diversity refers to the variation among board members relative to their several characteristics, such as gender, age, race, personalities, learning styles, education, expertise and skills (Coffey and Wang, 1998). Board members with different characteristics may introduce a wide range of knowledge and skills that foster different perspectives and ideas to boards (Harjoto et al., 2015). For instance, gender diverse boards may bring more perspectives and opinions to board discussions, leading the board to make better decisions (Barako and Brown, 2008; Bear et al., 2010). According to Bear et al. (2010), women directors often stimulate more participative communication among board members; hence, gender diverse boards may better assess the needs of the stakeholders. In this regard, the inclusion of different perspectives on boards could enhance a company’s ability to manage the needs of different groups of stakeholders, including creditors, lenders, investors, analysts and auditors (Harjoto et al., 2015). Further, Frías-Aceituno et al. (2013a) noted that board gender diversity has a positive impact on the voluntary disclosure of holistic information. Based upon the arguments discussed above, we expect a positive association between gender diversity and the level of forward-looking disclosures, and propose the following hypothesis:

\[ H3 \]. There is a positive relationship between board gender diversity and the level of forward-looking information disclosed in integrated reports.

3.2.4 Firm size. Firm size is one of the most widely used variables to understand the extent of company disclosures. A number of reasons have been listed in the recent literature proposing a positive association between firm size and forward-looking disclosure.

First, larger entities face a higher level of agency costs associated with high-level information asymmetry compared to small companies (Celik et al., 2006). Second, larger entities have more resources to afford the cost of producing information compared to smaller ones (Aljifri and Hussainey, 2007). Third, larger firms use capital markets more extensively than smaller ones, and this aspect increases the importance of integrating disclosed information to interact with different stakeholders (Frias-Aceituno et al., 2013b). Further, larger companies disclose more information regarding potential future earnings compared to smaller companies, possibly because of their relatively stable earnings performance (Kent and Ung, 2003).

Most of the empirical studies have documented a positive association between firm size and forward-looking disclosure (Kent and Ung, 2003; Celik et al., 2006; Flostrand and Ström, 2006; O’Sullivan et al., 2008; Uyar and Kilic, 2012; Ho and Taylor, 2013; Wang and Hussainey, 2013; Al-Najjar and Abed, 2014; Liu, 2015). From the arguments presented above and prior research findings, we expect that firm size has a positive impact on forward-looking disclosures and propose the following hypothesis:

\[ H4 \]. A positive relationship exists between firm size and the level of forward-looking information disclosed in integrated reports.

3.2.5 Profitability. The relationship between company disclosures and profitability have been generally hypothesized as positive in prior literature. The proponents of positive association claim that the most profitable companies can devote more resources to information disclosure to make their operations known to the public (Garcia-Sánchez et al., 2013). Another argument
supporting this relationship is the tendency of highly performing companies to present increased discussion and analysis of their favorable results to investors (Hassanein and Hussainey, 2015). Signaling theory also purports that companies generally tend to disclose more information when they perform well, as information disclosure is a strategic means of sending positive signals to the capital market (Inchausti, 1997; Qu et al., 2015). Therefore, profitable companies disclose information that would distinguish themselves from less successful companies and reduce their capital costs (Frias-Aceituno et al., 2014). Given these arguments, a number of studies have documented a positive and significant relationship between profitability and the level of forward-looking disclosures (Alkhatib, 2014; Liu, 2015; Qu et al., 2015). Thus, we expect a positive association between profitability and forward-looking disclosures and suggest the following hypothesis:

H5. A positive association exists between profitability and the level of forward-looking information disclosed in integrated reports.

3.2.6 Leverage. The ratio of leverage is a proxy for the financial risk of the firms (Patton and Zelenka, 1997). A highly leveraged firm faces a higher cost of capital, because debt implies higher risk (Karim et al., 2006). According to the context of agency theory, highly leveraged firms disclose voluntary information to reduce agency costs and therefore, the cost of capital (Jensen and Meckling, 1976). Further, firms with higher leverages may tend to disclose more forward-looking information: to decrease risk premiums in required rates of return on equity (Aljifri and Hussainey, 2007); to satisfy their creditors’ information needs (Wang and Hussainey, 2013); and to reassure their shareholders (Aljifri and Hussainey, 2007). A significant number of empirical studies have also reported a positive association between leverage and forward-looking disclosures (O'Sullivan et al., 2008; Aljifri and Hussainey, 2007; Wang and Hussainey, 2013). In this sense, we anticipate that firms with higher leverages disclose more forward-looking information. Thus, the following hypothesis is proposed:

H6. A positive association exists between leverage and the level of forward-looking information disclosed in integrated reports.

3.2.7 Industry. Different industries have different characteristics relating to competition, growth opportunities and risks (Gao et al., 2005). Different industries will also face unique constraints in their environments (Elzahar and Hussainey, 2012). Hence, firms operating in the same sector will adapt similar patterns of behavior regarding disclosed information (Frias-Aceituno et al., 2013b).

Several studies documented a significant association between the industry and forward-looking disclosures. For instance, Celik et al. (2006) and Qu et al. (2015) determined that there was a significant association between industry and forward-looking information disclosure. In addition, Elzahar and Hussainey (2012) stated that industrial company’s reports make more risk disclosure compared to service companies. The findings of their study revealed that the entities in the service and finance industries disclose more forward-looking information compared to manufacturing companies. Further, Cohen et al. (2012) reported that there was an industrial impact on non-financial company disclosures. Therefore, the following hypothesis is proposed:

H7. The forward-looking disclosure level in integrated reports differs between companies operating in the manufacturing industry or service industry.
4. Research design

4.1 Sample selection

The sample used in this study comprised all non-financial firms whose reports were available on the Integrated Reporting Examples Database, which is accessible from the IIRC official website, for the year 2014. There was a total of 75 reports during the data collection period. The financial and insurance companies were eliminated from the sample because of significant differences in their financial reporting practices.

The final sample for this research consisted of 55 companies, taking into consideration that it was the utmost number of firms that were accessible for this study frame.

The reports belonged to firms from several industries, including industrial (24 per cent), consumer services (23 per cent), basic materials (13 per cent), consumer goods (13 per cent), utilities (9 per cent), telecommunications (7 per cent), oil and gas (5 per cent), health care (4 per cent) and technology (2 per cent). Further, the sample covers entities from various locations, including Europe (45 per cent), Africa (38 per cent), Asia (9 per cent), Australia (4 per cent), North America (2 per cent) and South America (2 per cent).

4.2 Dependent variables

A content analysis approach was used to investigate the total, quantitative and qualitative forward-looking disclosures of companies by using a forward-looking disclosure index (FLDI). We developed the FLDI largely based upon the disclosure indices adopted by Ho and Taylor (2013) and Liu (2015). We also checked future projection items in other studies to clarify our disclosure index to obtain an objective data collection process (Robb et al., 2001; Kent and Ung, 2003; Hossain et al., 2005; O’Sullivan et al., 2008; Uyar and Kilic, 2012; Chen et al., 2014; Qu et al., 2015). Milne and Adler (1999) and Haniffa and Cooke (2005) discovered that a data collection instrument is more reliable if constructed with well-specified categories and decision rules. To set up certain decision rules and coding rules, we randomly selected three reports from the sample and checked the items. The applicability of items was ensured with this preliminary test. We achieved a disclosure index that includes expectations of financial information (i.e. capital expenditure plans, expected cash flows, targets for earnings and expected profitability) and discussions on non-financial information (i.e. expected market share, growth opportunities, planned production volume, political risks and environmental risks). The final disclosure index included a comprehensive list of 30 items, consisting of 15 quantitative disclosure items and 15 qualitative disclosure items, which is presented with examples and sample statements in the Appendix.

The most usual ways to achieve reliability in content analysis is by presenting the use of multiple coders and either reporting that the discrepancies between them are few or that those differences have been discussed and resolved (Milne and Adler, 1999). On the other hand, the use of a single coder who has undergone a sufficient period of training would be an alternative way to sustain reliability in content analysis (Milne and Adler, 1999). Haniffa and Cooke (2005) also pointed out that a single coder would ensure consistency in content analysis. In this research project, one author who had previous experience with content analysis carried out the coding process. Krippendorff (2013) identified stability as one of the types of reliability, indicating the consistency of coding results by a single coder over time. To address this issue, all reports are read twice by the same author in two separated coding periods.
To determine whether a sample company disclosed forward-looking disclosure items within its integrated report, all narrative sections of the integrated report (e.g. chairman’s statement, directors’ report, operating review, discussion and analysis) were examined. The existence or absence of each item was measured as a dichotomous variable with a non-weighted disclosure approach. According to this approach, if the company disclosed a certain item at least once, the score was assigned as 1, 0 otherwise. If a disclosure item was mentioned more than once in the report, it counted as one item. On the other hand, some sentences included more than one item. Hence, a company received a score ranging from 0 to 30 depending upon the number of items disclosed. The total FLDI score for each company was calculated as the ratio of the value of the total number of items disclosed to the maximum possible items a firm can disclose. This approach has been used in many prior studies (Akhtaruddin et al., 2009; Uyar and Kilic, 2012; Ho and Taylor, 2013; Chithambo and Tauringana, 2014; Kiliç et al., 2015). We classified forward-looking statements as quantitative and qualitative. An item is identified as quantitative if it includes numerical expressions, monetary values or measurable information. Therefore, the quantitative FLDI (QUANFLDI) was measured as the proportion of quantitative items disclosed to the maximum quantitative items (i.e. 15 items) a firm can disclose. The qualitative FLDI (QUALFLDI) was also measured by dividing the qualitative items disclosed by the maximum qualitative items (i.e. 15 items) a firm can disclose. All of the dependent variables (FLDI, QUANFLDI and QUALFLDI) were treated as continuous variables in the statistical analysis as they are expressed as a percentage. The FLDI is mathematically represented as:

\[ FLDI = \sum_{i=1}^{t} f_i \]

where:
- \( f_i = 0 \) or 1, as follows:
  - \( f_i = 0 \) if the disclosure item is not found;
  - \( f_i = 1 \) if the disclosure item is found; and
- \( t \) = the maximum number of forward-looking disclosure items a firm can disclose in the integrated report (i.e. 30 items).

Table I demonstrates the disclosure level of forward-looking items in integrated reports. The most reported items were growth opportunities (qualitative) (94.55 per cent), industry or market risks (qualitative) (94.55 per cent), environmental risks (qualitative) (87.27 per cent), investment projects (qualitative) (85.45 per cent), planned products and research and development (qualitative) (85.45 per cent), environmental risks (quantitative) (85.45 per cent), financial risks (qualitative) (81.82 per cent), expected profitability (qualitative) (78.18 per cent), earning targets (qualitative) (74.55 per cent) and political risks (qualitative) (72.73 per cent). Nonetheless, the least disclosed items were advertising and publicity plans (quantitative) (5.45 per cent), expected market share (quantitative) (5.45 per cent), share price (quantitative) (7.27 per cent), political risks (quantitative) (9.09 per cent), industry or market risks (quantitative) (16.36 per cent), share price (qualitative) (18.18 per cent) and expected cash flows (quantitative) (21.82 per cent). Our results demonstrated that the integrated reports generally failed to provide forward-looking information in quantitative terms. This finding is in compliance with prior studies that presented the tendency of...
companies to disclose qualitative forward-looking information rather than quantitative (e.g. Kent and Ung, 2003; Uyar and Kilic, 2012). It should also be noted that most of the early adopters of integrated reporting provided quantitative and qualitative discussions on environmental issues.

4.3 Independent variables

Board size was measured by the natural logarithm of board size. The independent variable of board composition was captured by the proportion of independent directors to the total number of directors on the board. The independent variable of board gender diversity was represented by the proportion of female directors to the total number of directors on the board. The variable of firm size was defined as the natural logarithm of total assets. The variable of profitability (return on assets, ROA) was measured by the proportion of net income to the total assets. Further, the leverage was measured as the ratio of total liabilities to the total assets. The industry variable in this research was measured as a dichotomous categorization of industries into manufacturing and service. Table II presents the dependent and independent variables examined in this study and their operational definitions.
4.4 Research model
To investigate the associations proposed in research hypotheses, we performed a multivariate ordinary least squares (OLS) regression. The following three models are represented as follows:

Model 1: FLDI

\[ FLDI = \beta_0 + \beta_1 BSIZE + \beta_2 BINDP + \beta_3 GENDER + \beta_4 SIZE + \beta_5 ROA + \beta_6 LEV + \beta_7 IND + \epsilon \]

Model 2: QUANFLDI

\[ QUANFLDI = \beta_0 + \beta_1 BSIZE + \beta_2 BINDP + \beta_3 GENDER + \beta_4 SIZE + \beta_5 ROA + \beta_6 LEV + \beta_7 IND + \epsilon \]

Model 3: QUALFLDI

\[ QUALFLDI = \beta_0 + \beta_1 BSIZE + \beta_2 BINDP + \beta_3 GENDER + \beta_4 SIZE + \beta_5 ROA + \beta_6 LEV + \beta_7 IND + \epsilon \]

5. Results and discussion
5.1 Descriptive statistics
Table III provides descriptive statistics of dependent and independent variables. The extent of total forward-looking disclosures varied greatly among sample companies, from 0.10 to 0.90 with a mean of 0.49. The average scores of quantitative and qualitative forward-looking disclosures were 0.31 and 0.62, respectively.
As Table III shows, the board size ranged from 4.00 to 16.00 with a mean of 10.64. In addition, the average of the percentage of independent directors was 0.59. Further, the mean percentage of female directors was 0.24 with a minimum of 0.00 and a maximum of 0.58. The average of total assets (in logarithms) was 22.63. The profitability ratio (ROA) ranged from −0.17 to 0.30 with a mean of 0.05. Furthermore, the mean of leverage was 0.56 with a minimum of 0.10 and a maximum of 1.25. Companies belonging to the service or manufacturing industries comprised 32.73 and 67.27 per cent of the sample, respectively.

Table IV presents the results of Spearman correlation analysis for the dependent and independent variables. The results indicated that firm size has a weak, positive and statistically significant impact on forward-looking disclosures ($r = 0.30, p < 0.05$) and qualitative forward-looking disclosures ($r = 0.28, p < 0.05$); however, the other independent variable had no significant impact on forward-looking disclosure or qualitative forward-looking disclosure. In addition, quantitative forward-looking disclosure had no statistically significant impact on the independent variables at 5 per cent per cent significance level.

### 5.2 Multivariate statistical analysis
VanVoorhis and Morgan (2007) suggested a reasonable sample size of 50 for correlation and regression as being the statistical rule of thumb for selection of sample sizes to obtain sufficient power for detecting associations. Angrist and Pischke (2009) stated that the Huber
and White standard error estimator performs well for a sample size of 50 or more. Thus, considering the sample size in this study, we performed OLS regression analysis with the Huber and White estimator to obtain robust standard errors.

Initially, the preprocessing of the data was undertaken, and as the sample had no missing data, there was no need for imputation. Also, Z-score (greater than 3.29) and Mahalanobis $D^2$ values were evaluated to detect the univariate and multivariate outliers, respectively. The results indicated that there was no outlier. Finally, there was no issue of collinearity. As a result of the preprocessing of the data, the sample size was 55.

To determine whether there was a high correlation among the independent variables, the multicollinearity assumption was examined (Table V). The results indicated that the variance inflation factor (VIF) ranged between 1.12 and 1.79, which is significantly lower than the threshold value of 10 (Hair et al., 2010).

The OLS regression analysis results for Models 1, 2, and 3 are provided in Table VI. The dependent variables are total forward-looking disclosure (Model 1), quantitative forward-looking disclosure (Model 2) and qualitative forward-looking disclosure (Model 3). The detailed OLS results for determining the aforementioned dependent variables and board size, board independence and gender diversity are shown in Tables VII-IX.

In addition, the normality assumption of the regression model (OLS) that impacts the validity of all tests ($p$, $t$ and $F$) is that residuals behave “normal”. The residual normality issue was investigated using the Shapiro–Wilk test in which the null hypothesis is that errors have a normal distribution. The results indicated that the errors of Model 1 were normally distributed ($W$-stat = 0.984, $Z = -0.467, p = 0.68$), the errors of Model 2 were normally distributed ($W$-stat = 0.987, $Z = -0.919, p = 0.82$) and the errors of Model 3 were normally distributed ($W$-stat = 0.990, $Z = -1.359, p = 0.91$).

Finally, another important assumption is that the variance in the residuals has to be homoskedastic or constant. To test the homoskedasticity of the errors, the Breusch–Pagan test (also known as the Cook–Weisberg score test) was used for each model. The results indicated that the residuals in Model 1 ($\chi^2 = 0.31, df = 1, p-value = 0.58$), Model 2 ($\chi^2 = 1.37, df = 1, p-value = 0.24$) and Model 3 ($\chi^2 = 1.93, df = 1, p-value = 0.16$) are homoscedastic. Thus, the errors of each model have constant variance.

The results indicated that board size has no significant association with total forward-looking disclosure, quantitative and qualitative forward-looking disclosures. Hence, $H1$ was rejected. This result is consistent with that reported by Cheng and Courtenay (2006), Elzahar and Hussainey (2012), Uyar et al. (2014) and Kiliç et al. (2015), who documented an insignificant association between board size and company disclosures. According to de Andres and Vallelado (2008), larger boards may have a significant role in limiting the discretionary power of managers. In this respect, companies with larger boards may be

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>Tolerance (1/VIF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER</td>
<td>1.79</td>
<td>0.558389</td>
</tr>
<tr>
<td>BINDP</td>
<td>1.71</td>
<td>0.58572</td>
</tr>
<tr>
<td>BSIZE</td>
<td>1.31</td>
<td>0.764447</td>
</tr>
<tr>
<td>SIZE</td>
<td>1.3</td>
<td>0.763822</td>
</tr>
<tr>
<td>LEV</td>
<td>1.3</td>
<td>0.769325</td>
</tr>
<tr>
<td>IND</td>
<td>1.29</td>
<td>0.775774</td>
</tr>
<tr>
<td>ROA</td>
<td>1.12</td>
<td>0.895116</td>
</tr>
</tbody>
</table>

Table V. Test of collinearity

Note: VIF: variable inflation factor
#### Table VI.
Regression analysis results of Models 1, 2 and 3

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>OLS regression</th>
<th>Beta regression</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FLDI QUANFLDI QUALFLDI</td>
<td>FLDI QUANFLDI QUALFLDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSIZE</td>
<td>0.0033 (0.26) 0.0027 (0.26) 0.0071 (0.59) 0.029 (0.38) 0.064 (1.09) 0.053 (1.26)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BINDP</td>
<td>-0.13 (-0.96) -0.089 (-0.62) -0.17 (-1.23) -0.20 (-0.49) -0.69 (-0.87) -0.40 (-0.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENDER</td>
<td>0.70*** (3.23) 0.77*** (2.82) 0.17 (1.23) 0.20 (0.49) 0.69 (0.87) 0.40 (0.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.04*** (3.83) 0.042*** (2.97) 0.044*** (3.70) 0.12*** (3.64) 0.14*** (2.14) 0.13*** (2.63)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.018 (-0.05) -0.25 (0.70) -0.36 (0.35) -2.88 (1.60) 0.69 (0.49)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.19 (-1.60) -0.18 (-1.16) -0.18 (-1.74) -0.60 (-1.63) -1.17* (-1.71) -0.81* (-1.67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>0.037 (0.73) 0.093 (1.52) -0.022 (-0.43) 0.027 (0.18) 0.25 (0.89) -0.10 (-0.50)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.54* (-1.88) -0.69** (-2.06) -0.29 (-1.05) -3.42*** (-4.27) -4.81*** (-2.89) -2.81** (-2.33)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>55 55 55 55 55 55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.26 0.22 0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breusch–Pagan Test</td>
<td>0.31 (1) 1.37 (1) 1.93 (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>χ² (df)</td>
<td>0.58 0.24 0.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: t statistics in parentheses; *p < 0.10; **p < 0.05; ***p < 0.01 (two-tailed); FLDI: total forward-looking disclosure; QUANFLDI: quantitative forward-looking disclosure; QUALFLDI: qualitative forward-looking disclosure
### Table VII. Regression analysis results (dependent variable: FLFDI)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSIZE</td>
<td>0.0094 (0.81)</td>
<td>0.0033 (0.26)</td>
<td>0.0033 (0.26)</td>
<td>-0.13 (-0.96)</td>
</tr>
<tr>
<td>BINDP</td>
<td>0.053 (0.39)</td>
<td>-0.015 (-0.65)</td>
<td>0.044*** (3.83)</td>
<td>0.037 (0.73)</td>
</tr>
<tr>
<td>GENDER</td>
<td>0.25 (1.20)</td>
<td>0.70*** (3.23)</td>
<td>0.70*** (3.23)</td>
<td>-0.19 (-1.60)</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.13 (1.20)</td>
<td>0.96</td>
<td>0.96</td>
<td>0.037 (0.73)</td>
</tr>
<tr>
<td>ROA</td>
<td>0.018 (0.05)</td>
<td>0.018 (0.05)</td>
<td>0.018 (0.05)</td>
<td>0.037 (0.73)</td>
</tr>
<tr>
<td>LEV</td>
<td>0.19 (1.60)</td>
<td>0.19 (1.60)</td>
<td>0.19 (1.60)</td>
<td>0.037 (0.73)</td>
</tr>
<tr>
<td>IND</td>
<td>0.037 (0.73)</td>
<td>0.037 (0.73)</td>
<td>0.037 (0.73)</td>
<td>0.037 (0.73)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.39*** (2.98)</td>
<td>0.46*** (5.16)</td>
<td>0.43*** (7.37)</td>
<td>-0.54* (-1.88)</td>
</tr>
</tbody>
</table>

*N* 55 55 55 55  

*R*² 0.02 0.00 0.03 0.26  

**Notes:** *t* statistics in parentheses; *p* < 0.10; ***p* < 0.01 (two-tailed)

### Table VIII. Regression analysis results (dependent variable: QUANFLDI)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSIZE</td>
<td>0.0059 (0.43)</td>
<td>0.0027 (-0.19)</td>
<td>0.0027 (-0.19)</td>
<td>-0.689 (-0.62)</td>
</tr>
<tr>
<td>BINDP</td>
<td>0.039 (0.24)</td>
<td>0.77*** (2.82)</td>
<td>0.77*** (2.82)</td>
<td>-0.25 (-0.60)</td>
</tr>
<tr>
<td>GENDER</td>
<td>0.28 (1.09)</td>
<td>0.042*** (2.97)</td>
<td>0.042*** (2.97)</td>
<td>0.093 (1.52)</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.25 (1.58)</td>
<td>0.29*** (2.74)</td>
<td>0.29*** (2.74)</td>
<td>0.18* (1.74)</td>
</tr>
<tr>
<td>ROA</td>
<td>0.093 (1.52)</td>
<td>0.093 (1.52)</td>
<td>0.093 (1.52)</td>
<td>0.093 (1.52)</td>
</tr>
<tr>
<td>LEV</td>
<td>0.18* (1.74)</td>
<td>0.18* (1.74)</td>
<td>0.18* (1.74)</td>
<td>0.18* (1.74)</td>
</tr>
<tr>
<td>IND</td>
<td>0.17* (1.23)</td>
<td>0.17* (1.23)</td>
<td>0.17* (1.23)</td>
<td>0.17* (1.23)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.52*** (4.52)</td>
<td>0.59*** (7.90)</td>
<td>0.57*** (11.07)</td>
<td>-0.65** (-2.06)</td>
</tr>
</tbody>
</table>

*N* 55 55 55 55  

*R*² 0.00 0.00 0.03 0.22  

**Notes:** *t* statistics in parentheses; **p* < 0.05; ***p* < 0.01 (two-tailed)

### Table IX. Regression analysis results (dependent variable: QUALFLDI)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSIZE</td>
<td>0.010 (0.99)</td>
<td>0.0071 (0.59)</td>
<td>0.0071 (0.59)</td>
<td>-0.17 (-1.23)</td>
</tr>
<tr>
<td>BINDP</td>
<td>0.055 (0.48)</td>
<td>0.17* (1.05)</td>
<td>0.17* (1.05)</td>
<td>0.022 (-0.43)</td>
</tr>
<tr>
<td>GENDER</td>
<td>0.21 (1.30)</td>
<td>0.58*** (3.00)</td>
<td>0.58*** (3.00)</td>
<td>-0.18* (-1.74)</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.21 (1.30)</td>
<td>0.040*** (3.70)</td>
<td>0.040*** (3.70)</td>
<td>-0.022 (-0.43)</td>
</tr>
<tr>
<td>ROA</td>
<td>0.022 (-0.43)</td>
<td>0.25 (0.70)</td>
<td>0.25 (0.70)</td>
<td>0.022 (-0.43)</td>
</tr>
<tr>
<td>LEV</td>
<td>0.18* (-1.74)</td>
<td>0.18* (-1.74)</td>
<td>0.18* (-1.74)</td>
<td>0.022 (-0.43)</td>
</tr>
<tr>
<td>IND</td>
<td>0.022 (-0.43)</td>
<td>0.022 (-0.43)</td>
<td>0.022 (-0.43)</td>
<td>0.022 (-0.43)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.52*** (4.52)</td>
<td>0.59*** (7.90)</td>
<td>0.57*** (11.07)</td>
<td>-0.29 (1.05)</td>
</tr>
</tbody>
</table>

*N* 55 55 55 55  

*R*² 0.02 0.00 0.03 0.24  

**Notes:** *t* statistics in parentheses; *p* < 0.10; ***p* < 0.01 (two-tailed)
more likely to disclose voluntary information to their stakeholders. On the other hand, larger boards might decrease the quality of financial disclosures as they may not act efficiently because of the lack of communication and coordination (Said et al., 2009). Therefore, while the monitoring capacity of a board increases with more directors, this benefit may be outweighed by costs related to ineffective communication and slow decision-making (John and Senbet, 1998).

Further, the findings indicated that board independence has no significant impact on the total forward-looking disclosure, quantitative and qualitative forward-looking disclosures. Thus, H2 is rejected. Our finding is in compliance with the results of O’Sullivan et al. (2008), Elzahar and Hussainey (2012), Uyar and Kilic (2012) and Al-Najjar and Abed (2014), who also failed to find a significant effect created by board independence on forward-looking disclosures. This insignificant association may be due to several reasons. First, the effectiveness of independent directors may depend upon the institutional systems and business cultures in which a company operates (Kakabadse et al., 2010). For instance, independent directors do not hold strong positions in Chinese boards, which are dominated by insiders (Kakabadse et al., 2010). This insignificant association between board independence and company disclosures raises the question of whether the independent directors have a restricted role in the reporting practices of organizations as they are not involved in daily company operations (Amran et al., 2014).

The findings showed a positive and statistically significant relationship between gender diversity and total ($\beta = 0.70, p < 0.01$), quantitative ($\beta = 0.77, p < 0.01$) and qualitative ($\beta = 0.58, p < 0.01$) forward-looking disclosures. Thus, H3 was accepted. Thus, board gender diversity is significantly and positively associated to the extent of the forward-looking disclosures presented in integrated reports. Our findings are consistent with those reported by Barako and Brown (2008), Rao et al. (2012) and Frias-Aceituno et al. (2013a). According to Barako and Brown (2008), board diversity has become a vital component of corporate governance in recent years. Supporting this argument, Carter et al. (2003) purported that board diversity enhances board independence, because directors with diverse gender, ethnicity, experience and backgrounds will ask differing questions that might not be asked by directors with more similar backgrounds. In this vein, board independence would impact the accountability of the entities positively and thus increase the extent of company disclosures (Rao et al., 2012).

The findings also revealed that firm size had a significant and positive impact on total ($\beta = 0.044, p < 0.01$), qualitative ($\beta = 0.042, p < 0.01$) and quantitative forward-looking disclosures ($\beta = 0.040, p < 0.01$) in each model. Thus, H4 was accepted. This finding supports many prior studies (Kent and Ung, 2003; Celik et al., 2006; Flostrand and Ström, 2006; Aljifri and Hussainey, 2007; O’Sullivan et al., 2008). A number of reasons could explain the positive relation between firm size and forward-looking disclosures. First, the cost of producing this type of information might be affordable for larger companies (Aljifri and Hussainey, 2007). Second, larger entities disclose more forward-looking information because of their relatively stable earnings in comparison to smaller companies (Kent and Ung, 2003). Stable performances may make it easier for large companies to make future projections, leading them to disclose information regarding those projections through communication channels. In addition, larger companies may disclose more information because they face higher agency costs and problems of information asymmetry (Frias-Aceituno et al., 2014). Therefore, to mitigate agency costs related to information asymmetry, large companies may be more likely to disclose a higher level of forward-looking disclosures to their stakeholders.

Additionally, the results showed that ROA had no significant impact on FLDI, QUANFLDI and QUALFLDI at 5 per cent significance level. Thus, H5 was not supported.
This finding is consistent with that reported by O’Sullivan et al. (2008), Elzahar and Hussainey (2012) and Uyar and Kilic (2012), who determined that there was an insignificant association between firm performance and forward-looking disclosures. Further, there was a negative and weak significant relationship between leverage and the qualitative forward-looking disclosures ($\beta = -0.22, p < 0.1$). This finding suggested that highly leveraged entities disclose less qualitative forward-looking information. Hence, H6 was rejected. Finally, the industry did not significantly impact forward-looking disclosures of the entities. Hence, H7 was rejected. This result is consistent with that reported by Aljifri and Hussainey (2007). This insignificant relationship shows that the differences between industries do not impact forward-looking disclosures.

Beta regression was also applied to confirm results obtained using OLS. Beta regression is utilized when the dependent variable is greater than 0 and less than 1, which was proposed by Ferrari and Cribari-Neto (2004). Therefore, since the dependent variables in our research model range between 0 and 1, we employed beta regression analysis. A complementary log-log link for the conditional mean and the square-root link for the conditional variance were specified, as they had the lowest Bayesian information criterion following the model selection process. The results of the beta regression analysis are provided in Table VI, showing that the results obtained using OLS and beta regression are consistent.

The individual impacts of board size, board independence and gender diversity on total, quantitative and qualitative forward-looking disclosure were also assessed (Tables VII-IX). The results showed that there was no statistically significant impact on the dependent variables.

6. Conclusion

Traditional company reports focus on the past performance of the company and generally lack revealing expectations and forecasts for future performance. It is expected that integrated reports will incorporate a reorientation of the focus of reporting from short-term, backward-looking retrospective information to long-term, forward-looking and prospective information (Adams and Simnett, 2011). Accordingly, this study examined the quantitative and qualitative forward-looking disclosure levels in the integrated reports. It also investigated the association between specific company characteristics and forward-looking disclosures.

The findings of this research revealed that the level of forward-looking disclosures greatly varied among early adopters of integrated reporting. Further, findings presented that the most disclosed items were qualitative discussions on growth opportunities, industry or market risks, environmental risks, investment projects, planned products research and development and financial risks. The results also showed that integrated reporters provided a substantial amount of quantitative disclosure on environmental issues, such as predictions on greenhouse gas (GHG) emissions, water waste and energy consumption. Nevertheless, most of the integrated reports failed to provide information on advertising and publicity plans; expected market share; share price; political risks; industry or market risks; expected cash flows; and growth opportunities in quantitative terms. Companies generally avoided disclosing quantitative and qualitative discussions on expected share price.

In addition to examining the forward-looking disclosure levels in integrated reports, the research investigated the determinants of those disclosures. The findings revealed that firm size has a significant and positive impact on forward-looking disclosures. Therefore, large-sized companies are willing to disclose voluntary information to minimize information asymmetry and therefore, agency costs. However, this study did not find any significant
association between forward-looking disclosures and profitability and industry. This research also shed light on the relationship between corporate governance characteristics (i.e. board size, board independence and board gender diversity) and the extent of forward-looking disclosures which would be useful for company managers. Our findings reported a positive influence through board gender diversity on forward-looking disclosures while failing to find a significant impact created by board size and board independence.

These findings have several implications for research. This study contributes to the emerging literature on integrated reporting by providing an examination of forward-looking disclosures in early examples of integrated reports. According to the knowledge of the authors, this is the first study examining the extent and nature of forward-looking disclosures in integrated reporting. An important contribution of this research to the literature is the investigation of determinants of forward-looking disclosures by categorizing them as quantitative and qualitative. This research also adds to prior research highlighting the relationship between board gender diversity and forward-looking disclosures.

The integrated reporting movement will have significant implications on accounting education. Organizations and managers need to understand this new reporting paradigm for the development of integrated reporting as a practice. This study provides a contribution to accounting education by singling out the role of integrated reporting in communicating forward-looking information.

This research will be helpful for policymakers and the IIRC by highlighting the forward-looking disclosure practices among early adopters of integrated reporting. There are no disclosure rules relative to whether and how to release forward-looking statements, such as profit targets within the annual reports, which is determined solely by managerial discretion (O’Sullivan et al., 2008). The latitude that managers have in choosing what to disclose and to what extent in narrative sections may encourage them to obscure the financial results (Hassanein and Hussainey, 2015). In addition, flexibility in determining the extent, length and type of forward-looking disclosures makes it difficult to audit and provide assurance. Therefore, forward-looking disclosures upon which financial analysts and investors rely on for their investment decisions remain largely unregulated and unaudited (Schleicher and Walker, 2010). The integrated report framework may solve this issue by clarifying the extent and type of the forward-looking disclosures to be published. More precise guidance would be useful for reporters, investors and auditors.

Another issue to be considered by the regulators is the assurance of integrated reports, which should incorporate the expected form of disclosures, such as narrative data, forward-looking information and combined financial and non-financial information (Simnett and Huggins, 2015). The current assurance provisions have significant deficiencies, as assurances in non-financial disclosures are remarkably limited (Haji and Hossain, 2016). The credibility of the disclosed qualitative and quantitative forward-looking information could be improved through an effective assurance of integrated reports.

The extent and determinants of quantitative and qualitative forward-looking information presented through integrated reports should also be of interest to managers. If an integrated report contains a significant amount of forward-looking non-financial information and reduces information asymmetry, then it may have value relevance to a company (Garanina and Dumay, 2017). Early examples of integrated reports generally failed to provide quantitative discussions on forward-looking information. Companies should consider integrated reporting as an appropriate framework for combining both qualitative and quantitative elements over a variety of time frames to offer a clearer insight into a business (Adams and Simnett, 2011; Owen, 2013). Companies should also consider the positive potential influence by female directors upon the extent of company disclosures.
The study has a number of limitations related to the following aspects: first, the sample of research involved a small number of entities because of the data access problem. Therefore, the small sample size limits the generalizability of the results. Second, as integrated reporting is mandatory in South Africa, company reports on the website, which we have used to determine sample reports, were mainly from this country. In this sense, future research could investigate forward-looking disclosures with wider samples that would allow an analysis of the differences in company disclosures based upon the country of origin. Third, this research does not present any potential improvements for forward-looking disclosures over time, as it investigated only one year’s data. Hence, future research could explore the relationship between firm characteristics and forward-looking disclosures in integrated reports by focusing on a longitudinal analysis. Another limitation is researcher subjectivity in applying manual content analysis.

References


## Table AI.
Forward-looking index

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<tr>
<th>Number</th>
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<th>Source (2014 integrated reports)</th>
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</thead>
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<tr>
<td>1</td>
<td>Advertising and publicity plan(s) (quantitative)</td>
<td>Planned advertising and publicity expenditure, advertising budget, and planned marketing expenditure etc.</td>
<td>“Outlook for 2015: marketing and corporate costs: $95-100 million”</td>
<td>AngloGold Ashanti, p. 118</td>
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<td>2</td>
<td>Advertising and publicity plan(s) (qualitative)</td>
<td>Qualitative discussions on advertising and publicity plans</td>
<td>“… we will promote aggressive marketing activities to increase the brand power…”</td>
<td>Asahi, p. 43</td>
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<td>3</td>
<td>Capital expenditure plan(s) (quantitative)</td>
<td>Projected capital expenditures</td>
<td>“We expect capital expenditure, excluding acquisitions and asset exchanges, to be around $20 billion in 2015”</td>
<td>BP, p. 23</td>
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<td>4</td>
<td>Capital expenditure plan(s) (qualitative)</td>
<td>Qualitative discussions on capital expenditure plans and capital projects</td>
<td>“Our capital expenditure will fall in the year ahead as we complete projects…”</td>
<td>Marks &amp; Spencer, p. 3</td>
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<tr>
<td>5</td>
<td>Expected cash flows (quantitative)</td>
<td>Expected cash flows, next year’s cash flows, and anticipated cash flows before interest etc.</td>
<td>“In the Medium-Term Management Plan 2015, we plan to generate ¥400.0 billion or higher in operating cash flow during the three years through 2015”</td>
<td>Asahi, p. 33</td>
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<td>6</td>
<td>Expected cash flows (qualitative)</td>
<td>Qualitative discussions on expected cash flows</td>
<td>“We are projecting the business to be cash flow positive in 2015”</td>
<td>Barloworld, p. 71</td>
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<td>7</td>
<td>Earnings target (quantitative)</td>
<td>Next years’ earnings and expected revenues</td>
<td>“Our 2015 revenue outlook range for equipment Southern Africa is 20.0 billion Rand to 22.0 billion Rand…”</td>
<td>Barloworld, p. 67</td>
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<td>8</td>
<td>Earnings target (qualitative)</td>
<td>Qualitative discussions on earnings target</td>
<td>“We will endeavor to improve the earning power of the entire Group…”</td>
<td>Asahi, p. 15</td>
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<td>9</td>
<td>Financial risks (quantitative)</td>
<td>Quantitative discussions on financial risks, including age of financial assets that are past due, maximum exposure to credit risk, and maturity analysis</td>
<td>“The Group targets an average centrally managed debt maturity of at least five years with no more than 20% of centrally managed debt maturing in a single rolling year”</td>
<td>British American Tobacco, p. 41</td>
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<td>Financial risks (qualitative)</td>
<td>Qualitative discussions on financial risks, including credit risks and liquidity risks</td>
<td>“The Group may face significant financial penalties, including the payment of interest…”</td>
<td>British American Tobacco, p. 33</td>
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<td>11</td>
<td>Growth opportunities (quantitative)</td>
<td>The impact(s) of future growth opportunities, including expected increase in demand, projected customer satisfaction, entrance into new markets, entrance into new business lines, and products or services etc.</td>
<td>“Broadband Infraco is therefore perfectly poised to respond to demand which is expected to grow annually by 39% between 2015 and 2020”</td>
<td>Broadband Infraco, p. 15</td>
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<td>12</td>
<td>Growth opportunities (qualitative)</td>
<td>Qualitative discussions on opportunities for growth, changes in demand, projected customer satisfaction, entrance into new markets, entrance into new business lines, and products or services etc.</td>
<td>“… we see opportunities arising from the continued adoption of smart phones around the world; growth in mobile computing…”</td>
<td>ARM, p. 53</td>
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<td>13</td>
<td>Industry or market risks (quantitative)</td>
<td>Quantitative impact(s) of industry or market risks, foreign exchange rates, interest rates, inflation, currency valuation, and a rise in the price of a key commodity</td>
<td>“Customers are very willing to switch suppliers. Price and margin risks exist in the low double-digit million euro range if energy costs cannot be passed on to customers.”</td>
<td>EnBW, p. 77</td>
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<td>14</td>
<td>Industry or market risks (qualitative)</td>
<td>Qualitative discussions on industry trends, competitors and their positions within the industry, competitive advantages and disadvantages, intensity of competition in the industry, changes in customer preferences</td>
<td>“… In the next four years, we anticipate a gradual increase in oil prices…”</td>
<td>Eni, p. 7</td>
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<td>15</td>
<td>Investment projects</td>
<td>Expected investments for companies’ planned new projects, expected usage of funds for companies’ planned new investment projects, and schedule or time table of usage of funds for planned new investment projects etc.</td>
<td>“... 100 million Rand will be invested in the upgrade of locomotive production lines...”</td>
<td>Transnet, p. 80</td>
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<td>16</td>
<td>Investment projects</td>
<td>Qualitative discussions on difficulties related with planned investment projects, contingency plans related to planned investment projects, and companies’ advantages in relation to planned investment projects etc.</td>
<td>“We expect four major projects to come on stream in 2015-two in Angola and one each in Australia and Algeria.”</td>
<td>BP, p. 24</td>
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<td>17</td>
<td>Expected market share</td>
<td>Predictions on growth or shrinkage in market share</td>
<td>“2015 targets: domestic market share: 74.9% (flat), 57.2% (long)”</td>
<td>ArcelorMittal, p. 14</td>
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<td>18</td>
<td>Expected market share</td>
<td>Qualitative discussions on expected market share</td>
<td>“... this strategy will enable Broadband Infraco to capture and grow market share...”</td>
<td>Broadband Infraco, p. 12</td>
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<td>19</td>
<td>Political risks</td>
<td>The impact(s) of political risks in quantitative terms, increases in taxes, trade tariffs, wage levels, and labor laws etc.</td>
<td>“... Eni is projecting that the oil-linked index of the procurement costs set by the Authority could determine a loss to Eni up to €480 million.”</td>
<td>Eni, p. 90</td>
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<td>20</td>
<td>Political risks</td>
<td>Qualitative discussion on political risks (general), political factors affecting future business, specific regulatory implications that may impact companies’ prospects, and legislation affecting industry in which the company operates, etc.</td>
<td>“The indicators to be used in the 4th cycle of the tariff revision for distributors will be determined in 2015.”</td>
<td>Iberdrola, p. 41</td>
</tr>
<tr>
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<tr>
<td>21</td>
<td>Planned products research and development (quantitative)</td>
<td>Planned research and development expenditure, quantitative forecast on research and development expense, projected ratio of research and development expenses to sales, expected number of patents and licenses etc.</td>
<td>“...for the next four years estimated at €47.8 billion that will be directed for 90% to exploration and development of hydrocarbon reserves...”</td>
<td>Eni, p. 5</td>
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<tr>
<td>22</td>
<td>Planned products research and development (qualitative)</td>
<td>Qualitative discussion on future products/services research and development activities</td>
<td>“...Hyundai E&amp;C has a plan to develop source technology related to new growth and future products...”</td>
<td>Hyundai, p. 45</td>
</tr>
<tr>
<td>23</td>
<td>Expected profitability (quantitative)</td>
<td>Expected profits, expected profitability, and predictions on profitability measures such as ROA, return on equity (ROE), or return on investment (ROI) etc.</td>
<td>“...At that time we plan to deliver an additional $4 billion of incremental earnings before interest and taxes (EBIT) (compared to 2012)...”</td>
<td>AngloAmerican, p. 2</td>
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<td>24</td>
<td>Expected profitability (qualitative)</td>
<td>Qualitative discussions on expected profits, expected profitability, and predictions on profitability measures etc.</td>
<td>“...then we may hope for reaching a loss-free operating level already within one-two years”</td>
<td>Rosatom, p. 39</td>
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<tr>
<td>25</td>
<td>Sales target (quantitative)</td>
<td>Planned sales, sales forecasts, sales trend, planned export volumes, backlog increase or decrease, new orders down or up, and planned production volume etc.</td>
<td>“...Production is expected to decline to a range of 20,000 to 25,000 tones in 2015, as a consequence of the rebuild of Barro Alto’s two furnaces, thereafter increasing to between 40,000 and 45,000 tones in 2016”</td>
<td>AngloAmerican, p. 58</td>
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<td>26</td>
<td>Sales target (qualitative)</td>
<td>Qualitative discussions on firms’ planned sales, sales forecasts, sales trend, and planned production volume etc.</td>
<td>“...we plan to enhance logistics infrastructure and strengthen sales...”</td>
<td>Omron, p. 21</td>
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<tr>
<td>27</td>
<td>Share price (quantitative)</td>
<td>Predictions on share price or earning per share</td>
<td>“...we set the new targets of approximately ¥290 for earnings per share...”</td>
<td>Omron, p. 21</td>
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</table>
About the authors

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