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Evaluating Business Model Disclosures in the Integrated Report

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ABSTRACT

Purpose – This paper assesses the extent to which integrated thinking has been applied in the construction of business models by exploring business model disclosures in the integrated reports of a sample of companies listed on the JSE[1] for their 2016 financial years.

Methodology – This paper uses a content analysis to identify disclosure themes in the integrated reports.

Findings – The correlations between disclosure themes evidence the absence of integrated thinking in the construction of business models.

Research limitations – Since the sample consists of only listed companies, it may not be possible to generalize the results to non-listed companies. Furthermore, the absence of a framework governing business model disclosures may negate the comparability amongst integrated reports.

Originality/Value – This paper adds to the limited body of knowledge on integrated reporting and integrated thinking. It also sheds light on how one of the key principles of King IV is being interpreted and applied in a South African context, which is a relatively new area of study.

Keywords: business model, integrated thinking, disclosures, correlations

[1] Johannesburg Stock Exchange

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1. Introduction

1.1 Statement of the problem

The business model is a vital tool for any organisation (Chesbrough, 2010, Sukhari and de Villiers, 2018). Prior research has tried to find ways to encourage sustainable corporate innovation (Bocken et al., 2014, Osterwalder, 2004). According to the Institute of Directors (IOD) (2016), sustainable development and the business model are amongst others, inseparable elements of the value creation process (IOD, 2016). A key aspect of a sustainable competitive advantage entails the embedding of stakeholder aspects into the business model (Bocken et al., 2014). As a result, given that the integrated report functions as a key communication tool between the organisation and stakeholders (Eccles and Saltzman, 2011, Osterwalder, 2004), and that integrated reporting requires disclosures over an organisation's business model (Sukhari and de Villiers, 2018), it is expected to find certain critical disclosures in the section of the integrated report dealing with an organisation's business model.

1.2 Purpose

The purpose of this study is to examine business model disclosures in the integrated reports of a sample of companies listed on the JSE for their 2016 financial year, in order to assess whether or not integrated thinking is being applied in the construction of business models.

1.3 Significance of the study

This research contributes to the limited body of work on the causes and consequences of integrated reporting - which is an outcome of integrated thinking (IOD, 2016, Moolman et al., 2016) - as called for by de Villiers et al. (2017). This paper also adds to the growing body of literature on integrated reporting in general (Del Baldo, 2017, Guthrie et al., 2017, Dumay and Dai, 2017, Lai et al., 2017). It also aims to identify whether or not business models are constructed according to triple context strategies (see Institute of Directors, 2016). This is important for shedding light on how one of the key principles in King IV is being interpreted and applied by South African listed companies, a relatively new area of study.

According to Morris et al. (2005), despite market opportunities, innovative business ideas and appropriate resourcing, business failure may still occur in the absence of a sound business model. The design of a business model is a crucial decision for entrepreneurs and changing a business model to ensure that it remains effective for dealing with future challenges is a difficult yet critical

task for managers to complete (Zott and Amit, 2010, Osterwalder, 2004). This study emphasises the significant role which integrated thinking plays in designing a business model appropriate for the sustainability of the organization. This research responds to the call by Adams and McNicholas (2007) for further research pertaining to the drivers of organisational change and sustainable performance. This research may also provide a basis for a future longitudinal study on changes in the business model. Prior research has already analysed changes in business model and strategy disclosures after the introduction of integrated reporting requirements (see Sukhari and de Villiers (2018)), however, a limitation from this prior study is that the sample size comprised of the 20 top ranking companies according to the EY quality rankings (Sukhari and de Villiers, 2018). This paper overcomes this limitation by using a larger, non-bias sample consisting of the JSE top 40 companies.

1.4 Assumptions, limitations, delimitations

Only the integrated reports of companies listed on the JSE have been examined. This is because one of the JSE listing requirements is to comply with King IV (JSE, 2013), and one of the requirements of this code of corporate governance is for the company to prepare integrated reports (IOD, 2016). Non-listed companies cannot be examined as their financial statements are not publically available.

Companies might not disclose all of the information pertaining to their business model because of the absence of a standardised framework governing the disclosures pertaining to the business model (Morris et al., 2005). This may negate the comparability among integrated reports and is an inherent limitation of research which relies on coding integrated reports to obtain data on corporate reporting and behaviour (de Villiers et al., 2017, McNally et al., 2017).

2. Literature Review

2.1 The business model

The business model is described as the “heart of the business” and is the process followed by an entity to transform inputs into outputs and outcomes (IIRC, 2013c). The Integrated Reporting Framework defines a business model as “a system of inputs, value-adding activities and outputs that aims to create value over the short, medium and long term” and defines strategy as “strategic

objectives together with the strategies to achieve them" (IIRC, 2013c, p. 33). "Business model, strategy, business concept, revenue model, and economic model are often used interchangeably" (Morris et al., 2005, p. 726). Casadesus-Masanell and Ricart (2010) refer to the business model as a reflection of the realised strategy of the firm.

It is useful to distinguish between a business model and a strategy. According to Philipson (2016), a business model encompasses a firm's logic and the manner in which the firm operates in order to create value for stakeholders, whereas strategy refers to the type of business model selected for the organisation to compete in the market. This is explained in more detail as follows:

> *A strategy is a contingent plan of action as to what business model to use. […] Thus, strategy entails designing business models (and redesigning them as contingencies occur) to allow the organisation to reach its goals* (Casadesus-Masanell and Ricart, 2010, p. 204).

It follows that every organisation, by making choices, has a business model. Yet not every organisation has a plan to address the contingencies/consequences which arise from these choices: not every organisation has a strategy (Casadesus-Masanell and Ricart, 2010).

A business model encompasses two elements, namely management's choices as to how the organisation is to operate, and the consequences which result from these choices (Casadesus-Masanell and Ricart, 2010). Examples of choices which management makes include which remuneration policies and pricing strategies to implement. The consequence of these choices will be the willingness of workers to exert effort in their duties, and the volume of sales made respectively (Casadesus-Masanell and Ricart, 2010). The choices made by management are grouped into three categories: governance structure, policies (pertaining to the organisation's operations) and assets (pertaining to tangible resources) (Casadesus-Masanell and Ricart, 2010).

2.1.1 Constructing a business model

Casadesus-Masanell and Ricart (2010) refer to a good business model as one which identifies who the customers of the organisation are, what the values of these identified customers are and how the organisation can deliver value to them at a reasonable cost. "The functions of a business model are to: articulate the value proposition, identify a market segment, define the structure of the value chain, estimate the cost structure and profit potential, describe the position of the firm within the value network, and formulate the competitive strategy" (Casadesus-Masanell and

Ricart, 2010, p. 201). This is consistent with the business model outlined by Philipson (2016) which consists of customers and the relationships with them, income streams and cost structures, as well as key resources and activities.

The business model can be seen as an explanation of how an organisation works (Casadesus-Masanell and Ricart, 2010). The issue which emerges is that this refers to almost everything a business entails. By analysing the business model from too broad a perspective, focus is lost on what a business model actually is, thereby overlooking important details (Casadesus-Masanell and Ricart, 2010, Philipson, 2016). By analysing the business model in too much detail, there is a risk that the "bigger picture" of the overall functions of the business model will not be seen (Casadesus-Masanell and Ricart, 2010).

Strategy and business model are comprehensible in that a third party is able, on inspection of the organisation's business model, to determine what an organisation's strategy is (Casadesus-Masanell and Ricart, 2010). A business model should present a system which results in monetising value delivered to customers. Customers ultimately define their perceived value of the product which will materialise into exchange value being realised on sale of the product (Philipson, 2016). Since a business model essentially encompasses the financial and operational foundation of the organisation, the starting point should be value-creation for the customer, followed by the business model being constructed around the delivery of that identified value (Philipson, 2016).

The essence of business model design is the "purposeful weaving together of interdependent activities" (Zott and Amit, 2010, p. 218). Zott and Amit (2010) define a business model as the governance of transactions over the value-creation process by means of exploiting business opportunities. It follows that transactions involve the interaction of activities: this is referred to as an activity system. From management's perspective, a business model entails outlining the structure of the value chain by defining the activities which convert the input into output. This conceptualises the manner in which the organisation delivers value to its stakeholders at a reasonable cost. *Figure 1* depicts three distinct activities a business model should outline: economic activities, operational activities, and strategic activities.

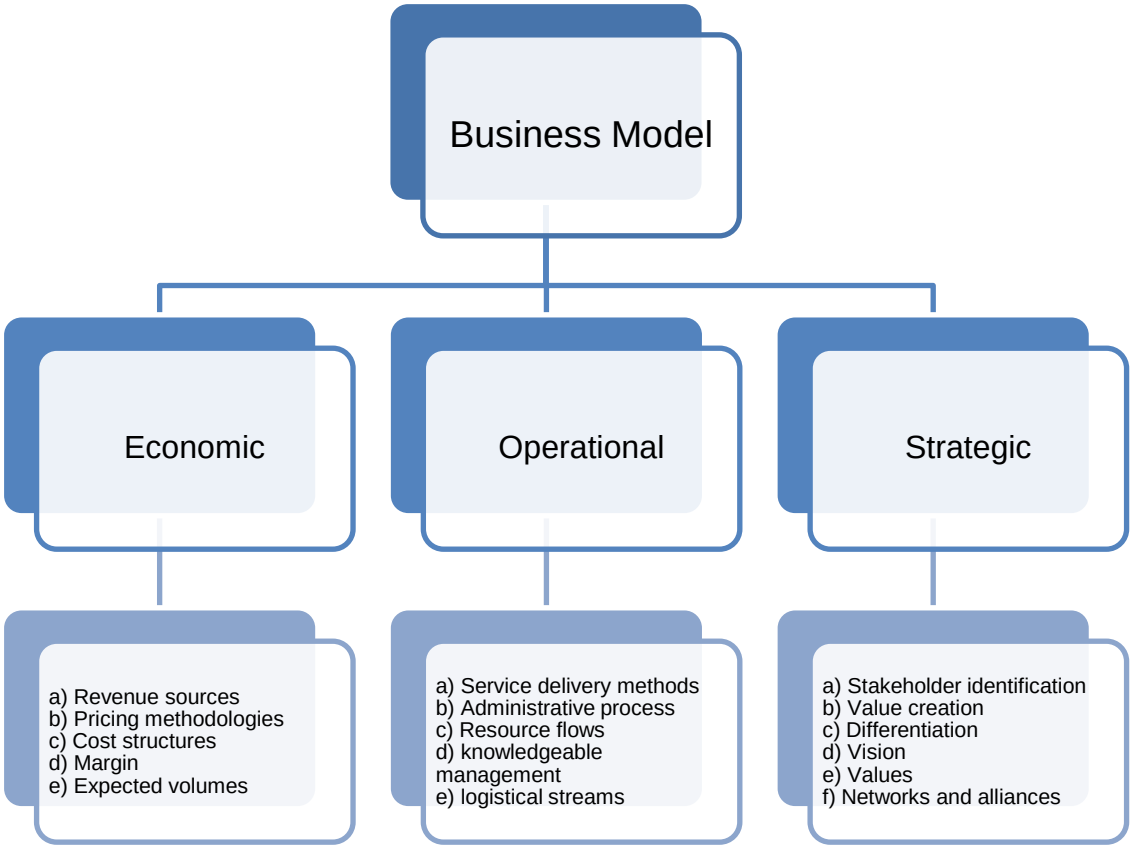


Figure 1 - Aspects of the business model from an internal perspective adapted from Morris et al. (2005)

2.1.2 Business model as a sustainable competitive advantage

Competitive advantages, according to Morris et al. (2005) can arise from superior execution of activities within the value chain, superior coordination amongst activities, or superior management within the value network. Having identified these competitive advantages, the organisation can then enhance these, in this way strengthening its position in the market. These advantages will simultaneously become the focus for the internal value chain (Morris et al., 2005). A frequent issue with competitive advantages is that they are easily replicated because competitors can easily imitate the same traits, ultimately resulting in the competitive advantage being short-lived (Bocken et al., 2014, Philipson, 2016). The sustainability of a competitive advantage may, however, be achieved if the advantage were to be embedded in the organisation as a whole. An advantage is derived through the manner in which activities are configured to complement one another (Morris et al., 2005). Competitors will no longer be able to replicate the competitive advantage through merely imitating one or two similar traits but would, instead, only successfully obtain the advantage through replication of the entire organisational system. The extensive

number of resources required in cloning another organisation's system will deter competitors from attempting to clone another organisation's competitive advantage – effectively creating a sustainable competitive advantage (Philipson, 2016). This shows that the business model represents an area for differentiation from competitors.

2.2 Integrated reporting

2.2.1 Background Information

Integrated reporting has been in effect for 7 years (Rinaldi et al., 2018). This form of reporting intended to communicate to users a holistic image of the organisation as well as to promote integrated long-term thinking (Moolman et al., 2016). It was also developed to provide a mechanism for the combatting of corruption and the eradication of social inequalities (du Toit, 2017). There are, however, a number of challenges.

Integrated reporting has not been used to put an end to thinking in silos. Instead it is utilised as a tool to enhance the reputation and legitimacy of companies (du Toit, 2017, Solomon and Maroun, 2012, Adams and McNicholas, 2007). According to De Villiers and van Staden (2006), legitimisation may entail altering the type or volume of disclosures in order to protect the reputation of the business (Deegan et al., 2002, Dube and Maroun, 2017, Dumay, 2018). Another major challenge in the preparation of integrated reports is that management may be preparing these reports with the intention of obtaining awards such as the EY Excellence in Integrated Reporting Awards or the Integrated Reporting Awards from Chartered Secretaries Southern Africa (Barth et al., 2017). This is consistent with the findings of McNally et al. (2017) which identify impression management as one of the recurring issues being dealt with when preparing integrated reports. Impression management refers to the act of avoiding the perception that the social and environmental aspects are not eroding the profit margins of the organisation (Bansal and Clelland, 2004, Hoque, 2017). Further issues with preparing integrated reports pertain to the uncertainty around knowing what to report on in the integrated reports, as well as to the impact which the push-down approach has during the reporting stage (Stubbs and Higgins, 2014). The push-down approach to integrated reporting refers to the decision, made by directors, to adopt integrated reporting without consideration of how management and the accounting systems had to change in order to facilitate integrated reporting (McNally et al., 2017, Dumay, 2018). Coupled with South Africa lacking a culture of stakeholder engagement, preparers of the integrated report struggle to identify the relevant information to disclose (McNally et al., 2017).

To assist the preparer in identifying relevant information for presentation in the integrated report the International Integrated Reporting Committee (IIRC) has developed a framework to guide the preparation of integrated reports. Other frameworks such as the Global Reporting Initiative (GRI) also provide guidance, however not pertaining to aspects of the business model (GRI, 2015). Section 2.2.2 discusses the contents of the IIRC's framework.

2.2.2 The framework

There are seven principles which guide the preparation of the integrated report (IIRC, 2013c). These are summarised and explained in the table below:

Principle	Explanation
Strategic focus and future orientation	The integrated report should provide insight into the organisation's strategy and risks, past and future performance, trade-off between short-term and long-term interests, as well as how the six capitals impact on the organisation's ability to create value.
Connectivity of information	To depict a holistic image of the organisation, financial and non-financial information, qualitative and quantitative information, management information, as well as the interdependencies among the six capitals should be presented in the integrated report. This should be logically structured and well presented: clear and understandable language should be used, as well as cross-referencing. Integrated thinking in the organisation's activities will translate to well-linked information in the integrated report.
Stakeholder relationships	Integrated thinking, combined with regular stakeholder engagement, will allow for a more thorough consideration of the legitimate needs of stakeholders. These stakeholders provide valuable insights into matters which are important to the organisation. For this to be achieved,

Principle	Explanation
	the organisation needs to obtain an understanding of how stakeholders perceive value.
Materiality	Material maters have the capacity to impact on the value-creation process. The organisation will have to prioritise matters and determine which matters to disclose. These matters can be positive or negative and be either financial or non-financial information. Materiality is very subjective, and to be most effective it should be integrated into the organisation's management processes. Understanding the values of key stakeholders is vital to the identification of material matters.
Conciseness	Conciseness applies the concept of materiality. The information in the integrated report must be sufficient to meet users' needs without burdening them with irrelevant information. This can be achieved through the use of a logical structure, plain language, the use of cross-referencing to avoid repetition, and the omission of highly generic disclosures.
Reliability and completeness	Information in the integrated report should be free from material error. This can be achieved through the use of internal and external auditors, strong internal controls, and stakeholder engagement. There should be no bias in the information communicated. To provide a balance, the organisation can report against their forecasts and projections. With regards to information being complete, the organisation should ensure that it does not disclose too much information so as to avoid disclosing sensitive information pertaining to competitive advantages.
Consistency and comparability	Information in the integrated report should be comparable not only to that of prior years but also to information from other organisations. This is achieved through the

Principle	Explanation
	consistent application of reporting policies and KPIs[2], and the use of benchmark data and ratios.

Table 1 – The seven principles to preparing an integrated report.

Adapted from IIRC (2013c)

The integrated reporting framework further refers to intertwined content elements which include, inter alia:

- the conditions under which the organisation operates
- how the organisational structure enables the value-creation process
- the organisations exposure to risks and opportunities
- the strategies of the organisation
- the organisation's performance and
- The organisation's process for selecting content to be included in the integrated report.

(IIRC, 2013c)

Another important content element, particularly pertaining to this paper, is that the integrated reporting framework requires communication over the business model the organisation uses (IIRC, 2013c, Oliver et al., 2016). The combination of these aspects into one framework can, potentially, promote integrated thinking in an organisation (IIRC, 2013c, IOD, 2016). King IV principle 4 states:

> *The governing body should appreciate that the organisation's core purpose, its risks and opportunities, strategy, business model, performance and sustainable development are all inseparable elements of the value creation process (IOD, 2016, p. 48).*

The disclosures required by the Integrated Reporting Framework strive to depict a holistic and comprehensive image of an organisation's sustainable value-creating process through the use of financial and non-financial capitals (Maroun, 2017, Moolman et al., 2016).

Figure 2 depicts how the various forms of capital influence the business model. The integrated reporting framework is being used by organisations to communicate an elaborative story of the value-creation with the resources of the company clearly (Guthrie et al., 2017).

[2] Key performance indicators

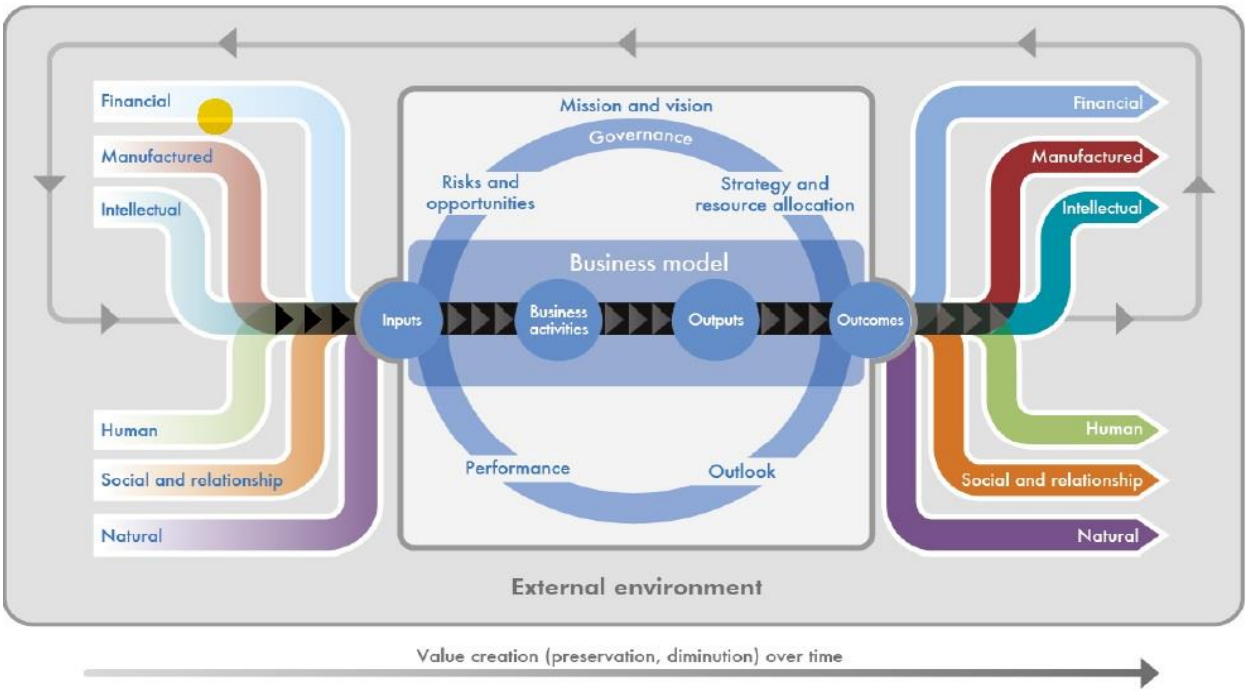


Figure 2 – Integration between the capitals, value creation and the business model (IIRC, 2013c).

The input into an organisation is the six capitals on which the organisation is materially dependent. The six capitals are the financial; manufactured; intellectual; human; social and relationship and the natural capitals.

The financial capital refers to the funds available to an organisation which were made available through debt, equity, grants, investments or operations. The manufactured capital entails physical assets and the infrastructure used for the production of goods or the rendering of services. Intellectual capital encompasses knowledge-based intangible assets such as patents or copyrights or even tacit knowledge. Human capital entails the competencies, capabilities and experiences of people. Social and relationship capital refers to the relationship dynamic between the organisation and the communities and stakeholders. Natural capitals are the renewable and non-renewable resources which influence the organisation's ability to generate value.

The six capitals may potentially also serve as a source of differentiation for the organisation. The organisation's business activities (such as marketing or production) will convert this input into output in the form of products, services and waste (IIRC, 2013c). Whilst the interconnectedness between an organisation's outcomes and their inputs communicates the need for a sustainable,

integrated business model (IIRC, 2013c); it also highlights the importance integrated thinking plays in designing such a business model which is sustainable.

2.3. Construction of the data collection instrument

The objective of a business is to create value for its stakeholders (IOD, 2016, Casadesus-Masanell and Ricart, 2010). This encompasses the financial and operational foundation of the organisation. It follows that value creation will form the core of the business model (Philipson, 2016). Yet, before value can be created for these stakeholders, the organisation first needs to identify its target customers and key stakeholders (Discussed in Section 2.1.1). The organisation also needs to identify what value the stakeholders seek and how the organisation intends to create this value (Casadesus-Masanell and Ricart, 2010). The following disclosures will ideally be found under the business model disclosures of the integrated report:

- Identification of key stakeholders
- Identification of target customers
- Explanation of what value the identified customers seek
- Explanation of the value chain structure

According to Maroun (2017), Moolman et al. (2016), the integrated report also strives to present a holistic image of the value created in the process of utilizing financial and non-financial capitals. Clear communication of the organisation's value-creation process through the use of its resources is not only at the core of integrated reporting but also at the core of the business model (Guthrie et al., 2017, Moolman et al., 2016, Casadesus-Masanell and Ricart, 2010). Active consideration over the inter-connectedness of the organisation's operating units and the six capitals is referred to as integrated thinking (IIRC, 2013c) which results in actions which consider value-creation in the short-, medium- and long-term (IIRC, 2013c). The following disclosures will ideally be found in the business model section of the integrated report:

- Acknowledgment of the dependence on the financial capital
- Acknowledgment of the dependence on the manufacturing capital
- Acknowledgment of the dependence on the human capital
- Acknowledgment of the dependence on the social capital
- Acknowledgment of the dependence on the intellectual capital
- Acknowledgment of the dependence on the natural capital
- Reflection on the short-, medium- and long-term time horizons and

- Brief outline of key resources.

The function of the business model is to provide an estimate of the cost structure, profit potential and income streams of the organisation (Casadesus-Masanell and Ricart, 2010, Philipson, 2016). The following will ideally be found under the business model disclosures of the integrated report:

- Outline of the cost structure and
- Outline of the revenue structure

According to Philipson (2016), the business model encompasses the operational foundation of the organisation. Additionally, competitive advantages are generally short-lived due to the ease with which competitors can replicate them (Morris et al., 2005). The sustainability of competitive advantages may be ensured by embedding them into the core of the organisation as a whole, such as in the business model or operating activities of the organisation (Philipson, 2016, Bocken et al., 2014, Morris et al., 2005). The following disclosures would ideally be found under the business model disclosures of the integrated report:

- Brief outline of core activities and
- Formulation of the competitive strategy

An outcome of integrated thinking is sustainable value-creation (IIRC, 2013c). According to Maroun (2017), the Integrated report should convey the connection between financial and non-financial performance measures and the organisation's exposure to risks in the sustainable value-creation process (de Villiers et al., 2017). The following disclosures would ideally be found under the business model disclosures of the integrated report:

- Brief identification of key risks
- Consideration over the triple-bottom-line[3] factors and
- Identification of KPIs

According to the IIRC (2013c), the organisation's strategy and business model should be linked with, amongst others, the changes in the external environment in which the organisation operates. This is substantiated by Guthrie et al. (2017) which states that first-order and second-order changes stem from disturbances in the environment in which the organisation operates. The

[3] Social, environmental and economic aspects

following disclosures would ideally be found under the business model disclosures of the integrated report:

- Outline of the regulatory environment and
- Overview of the general operating/macro-economic environment

At the core of the organisation is the business model (IIRC, 2013c). The business model utilised the six capitals as inputs. Through the organisation's business activities these inputs are then converted into outputs in the form of products, services and waste (IIRC, 2013c). A distinction is drawn between outputs and outcomes. Outcomes (which can be either internal or external, as well as positive or negative) are the effects which the outputs have on the inputs/capitals. According to IIRC (2013c), the integrated report should disclose key inputs, business activities, outputs and outcomes. The following disclosures would ideally be found under the business model disclosures of the integrated report:

- Analysis of the interaction between inputs, processes and outputs and
- Distinction between output and outcome

According to IOD (2016), when an organization sets its strategy, the governing body should take cognizance of the impact the strategy will have on the six capitals which serve as the inputs into the organisation's operations (IOD, 2016, IIRC, 2013c). The following disclosure would ideally be found under the business model disclosures of the integrated report:

- Sensitivity analysis

For quantified triple-bottom-line disclosures to be useful to stakeholders, they need to be adequately linked to the organisation's business model (Solomon and Maroun, 2012, McNally et al., 2017). Quantification of sustainability targets assists in explaining the value creation process and is also indicative of higher quality corporate reporting (McNally et al., 2017, Solomon and Maroun, 2012). The following disclosure would ideally be found under the business model disclosures of the integrated report:

- Quantification

Although this instrument has been derived from prior literature, it is validated by comparison to the disclosure checklist of a recent study conducted by Sukhari and de Villiers (2018).

2.4 Integrated thinking

Integrated thinking is defined by the IIRC (2013c) as:

> *… the active consideration by an organisation of the relationships between its various operating and functional units and the capitals that the organisation uses or affects. Integrated thinking leads to integrated decision-making and actions that consider the creation of value over the short, medium and long term* (IIRC, 2013c, p. 2).

Changes within the organisation which arise because of the adaptation of the integrated framework should be evident not only in management behaviour, but also in several processes within the organisation. Integrated reporting is supposed to extend beyond a mere disclosure compliance exercise (Guthrie et al., 2017). The integrated report should be a document which clarifies the linkage between financial and non-financial performance measures, ties these to the organisation's risks, strategies and processes and elaborates on how this is managed in order to achieve sustainable returns (Maroun, 2017). In order to achieve such integration in the value creation process, it may be necessary to rework the business model as a response to external influences (IIRC, 2013c).

Since the definition of integrated thinking involves relationships between various units within the organisation which form part of the business model (see *Figure 2*), the presence of strong correlations between disclosures pertaining to these various units (which make up the disclosure checklist instrument) should evidence integrated thinking. For example, *Figure 2* illustrates that the six capitals are the inputs into the organisation's operations, whilst the outcome is the impact which the organisation's activities have on the six capitals (IIRC, 2013c). If integrated thinking were to be applied, strong correlations between disclosures acknowledging the dependency on the six capitals, outlining the core activities of the organisation and distinguishing between output and outcome would be expected. This is because the respective company would understand that it is only able to generate outcomes by managing *all* of its capitals effectively rather than only financial capital. At the same time, if integrated thinking is being applied, the company would not only be concerned with increasing outputs and, in turn, revenue. It would focus on whether or not its outputs result in outcomes which are economically, socially and environmentally acceptable (McNally and Maroun, 2018, Al-Htaybat and von Alberti-Alhtaybat, 2018).

Similarly, the definition of integrated thinking entails actions which create value over the short, medium and long-term (IIRC, 2013c). If integrated thinking were evident, strong correlations

would be expected to be found between business model disclosures explaining the value chain structure, disclosures reflecting on the short-, medium- and long-term time aims, and disclosures briefly outlining the core activities of the organisation. Because the business model should entail these critical disclosure themes (see Section 2.3), business model disclosures can be used as a proxy to assess whether or not organisations are using integrated thinking.

3. Methodology

3.1 Population and sampling

The population is the listed companies on the JSE. Purposive sampling was used to select the sample (Creswell and Clark, 2017). The sample consists of the JSE top 40 companies for the year 2016. These are the 40 largest companies in terms of market capitalization and are selected because of their significance (Marx and Mohammadali-Haji, 2014, Holman et al., 2010). They are also the companies which are predominantly monitored by investors as a benchmark for the JSE (JSE, 2013). These companies are most likely to have established systems for integrated reporting because of the JSE listing requirements to comply with King IV and to produce integrated reports (JSE, 2013). Prior to the implementation of integrated reporting frameworks, business model disclosures were almost non-existent. Subsequent to the implementation of these reporting requirements, business model disclosures were assessed as being of a high quality (Sukhari and de Villiers, 2018). An expansion of the sample size, or the inclusion of companies with lower quality integrated reports (as determined through the rankings awarded by Ernst and Young (2016)) is unlikely to yield different results, according to Sukhari and de Villiers (2018).

The 2016 financial year was selected as not all 2017 integrated reports are available. This is not a longitudinal study, so only the one most recent financial year was examined as this afforded the companies the longest time possible to reflect the potential criteria this study aims to identify.

3.1.1 Sample population

Name	Industry	Market Capitalisation
British American Tobacco	Consumer Goods	R 1 893 579 968 230
Naspers	Consumer Services	R 980 936 678 399
Compagnie Financière Richemont	Consumer Goods	R 442 290 600 000
BHP Billiton	Basic Materials	R 382 622 926 563

Steinhoff	Consumer Goods	R	330 469 123 922
MTN	Telecommunications	R	263 757 894 575
Sasol	Basic Materials	R	258 712 374 070
Firstrand	Financial Services	R	251 529 441 965
Vodacom	Telecommunications	R	249 827 476 600
Standard Bank	Financial Services	R	206 802 840 146
AngloAmerican	Basic Materials	R	198 170 965 440
Old Mutual	Financial Services	R	189 503 618 123
Aspen Pharmacare	Health Care	R	165 326 962 368
Mediclinic	Health Care	R	155 949 183 129
Sanlam	Financial Services	R	130 768 238 210
Remgro	Financial Services	R	122 518 548 184
Barclays Africa Group	Financial Services	R	122 143 917 830
AngloGold	Basic Materials	R	109 173 591 605
Angloplatinum	Basic Materials	R	99 046 066 271
Mondi	Basic Materials	R	98 413 190 924
Shoprite	Consumer Services	R	95 280 064 387
Nedbank	Financial Services	R	92 429 370 394
Woolworths	Consumer Services	R	87 887 175 433
RMB Holdings	Financial Services	R	79 408 306 013
Discovery	Financial Services	R	79 309 923 385
Intu	Financial Services	R	76 351 958 799
Brait SE	Financial Services	R	72 861 445 658
Growthpoint	Financial Services	R	71 546 877 639
Tigerbrands	Consumer Goods	R	69 631 089 246
Capitec	Financial Services	R	68 798 059 645
Reinet	Financial Services	R	67 932 843 856
Investec	Financial Services	R	59 071 657 763
Mr Price	Consumer Services	R	52 799 150 250
Bidvest	Financial Services	R	46 517 210 162
Netcare	Health Care	R	45 569 874 909
Kumba Iron Ore	Basic Materials	R	35 751 543 114
MMI	Financial Services	R	35 631 606 062
Impala Platinum	Basic Materials	R	34 681 539 442
Imperial	Logistics	R	31 117 695 257

Exxaro	Basic Materials	R	24 158 471 967

Table 2 – Sample Set.

3.2 Data collection

A content analysis was used to examine and identify themes in the narrative/descriptive disclosures of companies' integrated reports (Leedy and Ormrod, 2005, Brennan et al., 2010). The source of the data was the respective integrated reports from the sample companies (Discussed in Section 3.1).

3.3 Analysis plan

A thematic content analysis was used to analyse business model disclosures. Thematic content analysis involves the search for certain identified themes common to a specific topic with the aim of determining possible trends and patterns (Steenkamp & Northcott, 2007). The themes chosen for this purpose are derived from the prior literature (see Section 2) and listed in Appendix 1 (Guest, MacQueen, & Namey, 2011).

In order to identify the information concerning business models in the selected companies' integrated reports, the table of contents of each report was used to identify the relevant sections of the reports. These are typically labelled "business model", "value creation" or "about the group"[4]. The integrated reports were also searched for key phrases to ensure that no applicable parts of the integrated reports were excluded from the analysis. Examples of key phrases are: "business model" and "how we create value".

Once the applicable sections of the integrated reports had been identified, each part was read several times to a gain a sense of its content and structure (Steenkamp and Northcott, 2007). The objective was to understand how the companies were defining and explaining their business model as a whole. The researcher then analysed specific disclosures in detail. For this purpose, individual sentences, diagrams or sentences/labels in diagrams served as the unit of analysis. The identification of themes is less likely to be accurate when using keywords or phrases because of the contextual importance when interpreting disclosure themes (Brennan et al., 2010).

[4] Based on a pilot analysis conducted on 10 integrated reports

The themes in Appendix 1 were used as a disclosure checklist to record the different business model disclosures found in each integrated report. To limit the degree of researcher subjectivity, the researcher used a binary coding system. Where a disclosure was located, a value of 1 was recoded. Where a specific theme has not been covered, a value of 0 was assigned. The final result was a frequency table highlighting the number of times each disclosure had been addressed in the applicable sections of the companies' integrated reports. The frequencies were recorded in total for each theme and after controlling for repetition (Leedy and Ormrod, 2005).

In keeping with the exploratory nature of this paper and because of the relatively small sample size, inferential statistics were not used (Brennan et al., 2010). Following a similar approach to Brennan et al. (2010), Usher and Maroun (2018), Van Liempd and Busch (2013), descriptive statistics and frequency plots were used to identify commonly disclosed items, aspects of companies' business models which were not being reported and how disclosures vary among the companies under review. This was complemented by the use of a Spearman's rho correlation analysis to highlight inter-relationships among disclosure themes[5], corroborated by Kendall's tau-B. The Kruskal-Wallis test was also performed to identify whether there is a change in frequency of certain disclosures as integrated reporting quality increases. This was done by stratifying the sample according to market capitalisation and environmental impact. This was to control for the possibility that company size as well as environmental and social impact may be influencing business model reporting (see Michelon et al. (2015)).

As explained in Section 2.4, the concept of integrated thinking should inform how companies report on their business models (IIRC, 2013c). The outcome of this is a disclosure checklist for elements of the business model which lists items which, if disclosed as part of a company's business model, should be indicative of the application of integrated thinking (IOD, 2016). An increase in the quantum of disclosure, in the number of themes being disclosed and in correlations among disclosure themes should be indicative of more detailed business model reporting and provide evidence of the possible application of an integrated approach to reporting on a company's business model (Guthrie et al., 2017, Solomon and Maroun, 2012) (see Section 2.4). This is especially true if integrated reports include detailed examples addressing each of the disclosure themes listed in Appendix A.

[5] The intention was not to test a specific hypothesis and/or deterministic relationship. As a result, analysis of variances or regression modelling was not appropriate for analysing the data.

3.4 Validity[6] and reliability

The researcher acknowledges that the proposed analysis is inherently subjective. This is characteristic of interpretive research (Leedy and Ormrod, 2005, Brennan et al., 2010). This was necessary for evaluating qualitative disclosures and did not compromise the validity and reliability of the study (Usher and Maroun, 2018). As this study avoided the use of artificial circumstances, the results could be generalized to other contexts, adding to the validity of the study (Leedy and Ormrod, 2005). By omitting well-controlled experimental circumstances, this study did not try to demonstrate a cause-and-effect relationship but whether the individual disclosure themes are related (Gordon and Porter, 2009, Leedy and Ormrod, 2005).

The business model section of the integrated report was codified through an iterative process, using the checklist disclosure from Appendix 1 to tabulate the frequency of each disclosure. To ensure the completeness of the disclosure checklist, initial analyses of the data drove later data collection. This iterative process of moving back and forth between data collection and analysis is referred to as the constant comparative method (Leedy and Ormrod, 2005). The completeness of the disclosure checklist was also grounded in the comprehensiveness of the literature review. After thoroughly scrutinizing the material, the researcher could identify specific characteristics to be studied (Leedy and Ormrod, 2005). Additionally, the use of sentences as opposed to key phrases for the identification of themes, as discussed under Section 3.3 further enhanced the reliability of the study, as qualitative validity concerns itself with the accuracy of the collected data (Creswell and Clark, 2017).

4. Analysis and results

4.1 Descriptive Statistics

Figure 3 illustrates the frequency of each disclosure item, detailed in *Appendix 1*, identified in the business model sections of the integrated reports[7] of the 40 sample companies. *Figure 3* has also been prepared by drawing a distinction between direct disclosure and cross-referenced disclosure. Cross-referenced disclosures refer to instances in which the business model section

[6] Validity in this context refers to both internal and external validity
[7] After having controlled for differences in report title, the results presented below are qualitatively similar (these tests are untabulated)

of the integrated report referred the researcher to another section of the document with the disclosure item still being recorded as being presented.

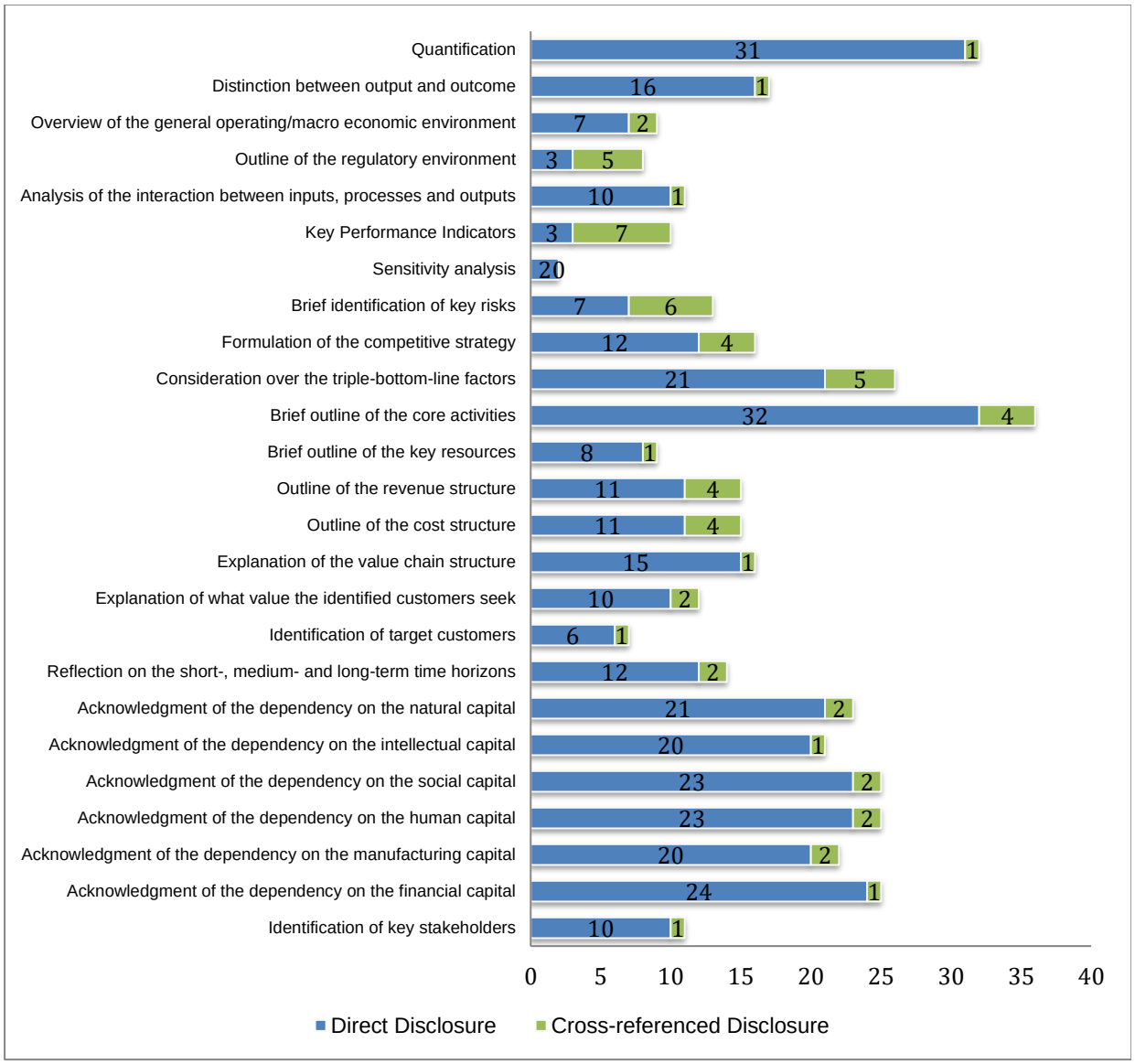


Figure 3 – Frequency chart for disclosure items.

A brief outline of the core activities was the most common disclosure (90% frequency). The business models contained an element of quantification (80% of the time), not being limited to a specific section of the business model. Another frequently disclosed factor was the consideration over the triple-bottom-line factors. This was present 65% of the time. The acknowledgement of the organisation's dependency on each of the six capitals was disclosed relatively consistently,

averaging a frequency of 59%. A distinction between output and outcome (42.5%); brief identification of key risks (32.5%); formulation of the competitive strategy (40%); outline of the cost and revenue structure (37.5%); explanation of the value chain structure (40%) and a reflection on the short-, medium- and long-term time horizons (35%) were present in some organisations' explanation of their business model. Only two companies included a sensitivity analysis.

It is to be expected that a brief outline of the core activities is the most commonly disclosed theme. This is because the various definitions of a business model commonly entail this disclosure element in the form of phrases such as "value-adding activities" (IIRC, 2013c), "manner in which the firm operates" (Philipson, 2016) and "how the organisation is to operate" (Casadesus-Masanell and Ricart, 2010) as discussed in Section 2.1. The other disclosure themes are less frequently disclosed, possibly due to the different definitions of the business model being less coherent in this regard. This reiterates the fact that there is limited guidance pertaining to disclosures provided by frameworks such as IOD (2016), GRI (2015), IIRC (2013c).

The results show that KPIs and an outline of the regulatory environment were the two themes mostly cross-referenced in the business model. The frequency of cross-referencing for all other disclosure themes was very limited. The lack of many cross-references found in this study indicate the absence of integrated thinking. However, according to McNally et al. (2017) and Solomon and Maroun (2012), even if there had been many instances of cross-referencing, whilst this could possibly be indicative of integration between financial and non-financial information, this is often done for presentation purposes only. Section 4.2 discusses the various correlations between the disclosure themes.

4.2 Correlations

In order to evaluate the correlations between the various disclosure items in the business model section of the integrated reports, a Spearman's rho correlation matrix was generated. Non-parametric statistical methods have been used in the evaluation of the data because an untabulated plot of disclosure items and Kolmogorov Simonov test revealed that the data were not normally distributed. The non-parametric correlations were confirmed by a Kendall's tau-b correlation matrix. For the purpose of the analysis, absolute correlations greater than 0.7 were classified as strong. A correlation between 0.5 and 0.7 was classified as moderate to strong and

a correlation between 0.3 and 0.5 was classified as weak. Correlations weaker than 0.3 were ignored. This classification schematic is consistent with the approach generally followed in exploratory studies. See, for example, Feng et al. (2017), Soni et al. (2015). The blue shading in *Figure 4* depicts the strong correlations, whereas the orange and green shadings represent moderate to strong and weak correlations respectively.

Correlations

		Spearman's rho																									
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24	T25	IRQ
Kendall's tau b	T1	1,000	0,289	0,209	.345*	.345*	0,199	0,186	0,267	0,161	0,231	-0,023	0,152	.489**	.368*	0,277	.378*	.503**	0,178	0,109	0,293	0,012	0,145	0,198	0,085	.389*	0,136
	T2	0,282	1,000	.856**	.981**	.981**	.736**	.895**	-0,105	-0,180	0,018	-0,020	0,071	0,108	.340*	0,221	0,274	0,171	.363*	0,308	0,284	0,308	0,113	-0,205	.597**	0,278	.639**
	T3	0,203	.846**	1,000	.879**	.879**	.713**	.958**	-0,179	-0,116	0,086	0,067	0,218	0,134	.329*	0,268	0,283	0,218	.367*	0,303	0,198	.353*	0,236	-0,070	.613**	0,265	.676**
	T4	.339*	.971**	.878**	1,000	1.000**	.764**	.917**	-0,062	-0,187	-0,002	-0,043	0,125	0,161	.382*	0,281	0,277	0,195	.404**	0,291	.330*	0,278	0,176	-0,143	.607**	.339*	.638**
	T5	.339*	.971**	.878**	1.000**	1,000	.764**	.917**	-0,062	-0,187	-0,002	-0,043	0,125	0,161	.382*	0,281	0,277	0,195	.404**	0,291	.330*	0,278	0,176	-0,143	.607**	.339*	.638**
	T6	0,197	.719**	.707**	.757**	.757**	1,000	.758**	-0,038	-0,085	-0,017	-0,175	0,142	0,055	0,090	0,273	0,245	0,285	.412**	-0,017	.336*	0,202	0,278	-0,036	.485**	.351*	.409**
	T7	0,180	.885**	.957**	.916**	.916**	.751**	1,000	-0,212	-0,139	0,057	0,031	0,187	0,103	0,310	0,272	0,306	0,182	.455**	0,298	0,173	.327*	0,215	-0,094	.671**	0,289	.634**
	T8	0,257	-0,102	-0,170	-0,059	-0,059	-0,035	-0,202	1,000	.469**	-0,167	0,226	-0,070	.372*	0,111	0,110	0,273	.455**	0,099	0,059	.345*	-0,017	0,297	.357*	-0,233	0,282	-0,028
	T9	0,158	-0,176	-0,112	-0,180	-0,180	-0,083	-0,134	.455**	1,000	0,300	.409**	0,244	.361*	0,118	0,169	.346*	.381*	-0,013	0,188	0,080	-0,003	.423**	.367*	-0,141	0,043	-0,053
	T10	0,225	0,016	0,081	-0,003	-0,003	-0,016	0,053	-0,161	0,296	1,000	.360*	0,282	0,273	-0,035	.381*	.321*	0,229	0,119	0,087	-0,205	0,080	0,081	0,001	0,025	0,152	-0,093
	T11	-0,022	-0,023	0,065	-0,044	-0,044	-0,171	0,029	0,219	.400*	.348*	1,000	0,254	0,126	0,098	0,221	.435**	0,181	0,113	.360*	0,116	.341*	0,208	0,151	-0,109	0,109	0,059
	T12	0,145	0,068	0,211	0,121	0,121	0,138	0,181	-0,069	0,235	0,272	0,240	1,000	.537**	0,139	.331*	.373*	-0,056	0,156	0,035	0,240	-0,041	.360*	0,296	0,052	0,228	0,108
	T13	.474**	0,103	0,129	0,152	0,152	0,053	0,099	.360*	.349*	0,264	0,120	.520**	1,000	0,289	0,288	.450**	.341*	.318*	0,035	.398*	-0,140	.360*	.459**	-0,037	.334*	0,159
	T14	.358*	.331*	.317*	.368*	.368*	0,087	0,298	0,108	0,115	-0,038	0,095	0,133	0,277	1,000	0,290	0,297	0,268	0,304	.411**	0,298	.339*	.362*	0,138	0,274	.335*	.427**
	T15	0,271	0,212	0,258	0,272	0,272	0,267	0,262	0,105	0,165	.366*	0,212	.314*	0,273	0,283	1,000	.446**	0,301	0,275	-	0,275	0,122	0,299	0,253	0,219	.497**	0,162
	T16	.356*	0,266	0,270	0,266	0,266	0,232	0,293	0,258	.330*	.303*	.416**	.347*	.422**	0,286	.420**	1,000	.387*	.326*	0,243	0,296	0,261	.466**	0,295	0,292	0,309	0,248
	T17	.477**	0,164	0,205	0,183	0,183	0,270	0,171	.427**	.359*	0,214	0,173	-0,052	.310*	0,256	0,280	.360*	1,000	.369*	0,114	0,180	0,280	0,201	0,170	0,139	0,268	0,136
	T18	0,172	.341*	.345*	.379*	.379*	.394**	.427**	0,092	-0,013	0,118	0,106	0,148	.306*	0,292	0,263	.305*	.335*	1,000	0,048	.452**	0,168	.416**	0,047	0,287	0,298	0,252
	T19	0,108	0,304	0,297	0,285	0,285	-0,017	0,292	0,058	0,186	0,085	.356*	0,034	0,034	.406*	-	0,233	0,110	0,046	1,000	-0,131	.428**	0,135	0,137	.351*	0,096	.347*
	T20	0,286	0,274	0,190	.318*	.318*	.327*	0,166	.334*	0,076	-0,198	0,112	0,226	.376*	0,287	0,264	0,278	0,172	.428**	-0,128	1,000	-0,083	.537**	0,284	-0,127	.357*	0,187
	T21	0,012	0,306	.349*	0,274	0,274	0,197	.323*	-0,017	-0,004	0,079	.339*	-0,038	-0,132	.332*	0,117	0,255	0,268	0,159	.424**	-0,080	1,000	-0,041	-0,054	.523**	0,130	.398*
	T22	0,141	0,109	0,227	0,169	0,169	0,270	0,207	0,287	.414**	0,080	0,201	.341*	.341*	.351*	0,287	.446**	0,187	.395**	0,132	.509**	-0,040	1,000	.505**	0,050	.335*	0,160
	T23	0,193	-0,199	-0,067	-0,137	-0,137	-0,034	-0,090	.350*	.357*	-	0,146	0,277	.440**	0,134	0,241	0,281	0,163	0,044	0,134	0,274	-0,052	.493**	1,000	-0,099	.332*	-0,030
	T24	0,082	.596**	.605**	.599**	.599**	.475**	.662**	-0,226	-0,138	0,024	-0,112	0,051	-0,034	0,269	0,210	0,286	0,134	0,270	.347*	-0,122	.522**	0,048	-0,096	1,000	0,108	.591**
	T25	.387*	0,272	0,260	.334*	.334*	.349*	0,284	0,273	0,042	0,147	0,106	0,219	.323*	.328*	.487**	0,292	0,256	0,286	0,095	.346*	0,127	.326*	.321*	0,105	1,000	0,266
	IRQ	0,119	.578**	.604**	.570**	.570**	.364*	.566**	-0,022	-0,047	-0,083	0,052	0,094	0,139	.376**	0,138	0,209	0,120	0,218	.313*	0,170	.358*	0,136	-0,028	.532**	0,236	1,000

Figure 4 – Correlation matrix.

Figure 5 summarises the number of strong, moderate and weak correlations per *Figure 4*.

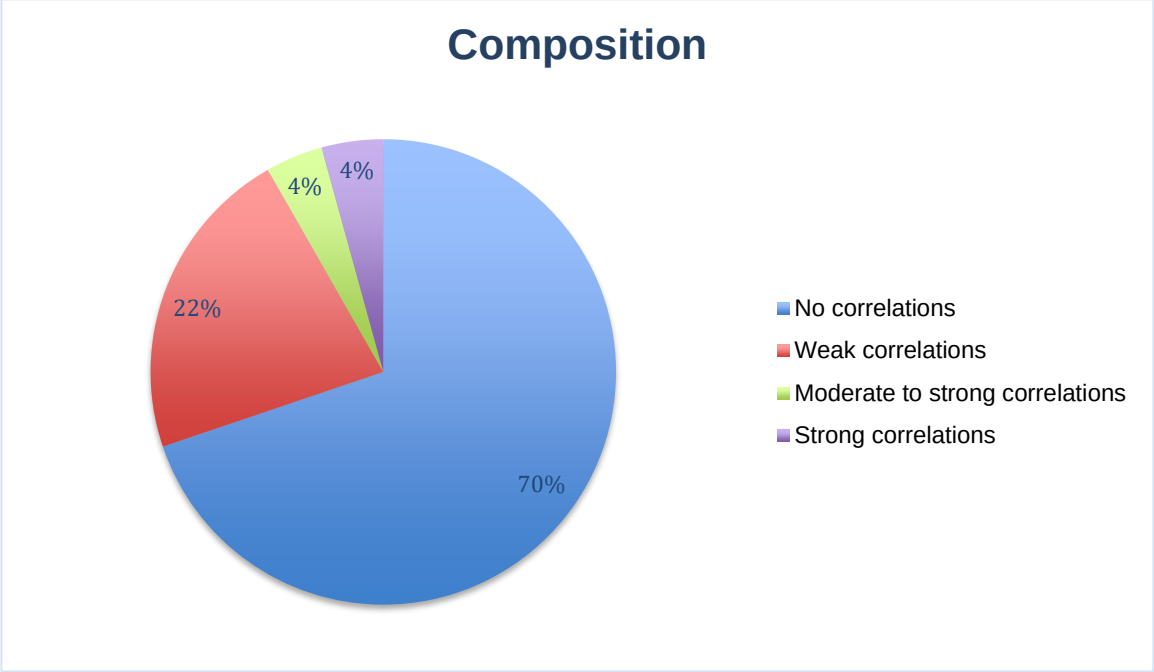


Figure 5 – Composition of correlation types.

4.2.1 Strong correlations

The only strong correlations (r_s > 0.7) were between the individual disclosures acknowledging dependency on each of the six capitals. This is to be expected, given that the intellectual, social, natural, human, manufacturing and financial capital have already been grouped together in the past, being collectively referred to as "the capitals", the "broad base of capitals" (IIRC, 2013c) or the "six capitals" (IOD, 2016). Their correlations may also be due to the recent shift from financial capitalism to inclusive capitalism[8], having reframed the nature of environmental and social disclosures (IOD, 2016, IIRC, 2013c).

The manner in which an organisation manages its six capitals is relevant for the strategic requirements of the organisation (van Zijl et al., 2017). According to McNally et al. (2017), the focus on the interconnectedness among the six capitals allows for an organisation to develop a better understanding of its strategy, which enables the organisation to change its systems, processes and operations, contributing to greater sustainability. In this way, the correlations among the six capitals suggest that organisations are beginning to follow a more integrated

[8] Inclusive capitalism involves the integrated thinking among the six capitals in order to create value in the short-, medium- and long-term IOD 2016. King IV Report on Governance for South Africa. South Africa: LexisNexis (Pty) Ltd.

approach to thinking about their business models and reporting to stakeholders (Ernst and Young, 2016). It should, however, be noted that the six capitals do not show strong correlations with the other disclosures making up the framing of companies' business models. This is in line with McNally et al. (2017) who state that preparers of integrated reports have found it difficult to find the link between disclosures over the formulation of competitive strategy and any disclosures acknowledging the dependency on the six capitals, challenging the view that integrated reporting goes hand-in-hand with integrated thinking.

Oliver et al. (2016) mention that integrated thinking entails consideration over how the six capitals link to the organisation's inputs, processes and how this translates into outputs and outcomes. The lack of strong correlations among these capitals and disclosures analysing the interaction among inputs, processes and outputs and disclosures distinguishing between outputs and outcomes shows that integrated thinking has not been applied when constructing the business models (cf McNally and Maroun, 2018; Adams and McNicholas, 2007). The *EY Excellence in Integrated Reporting Awards 2016* points out that one of the weaknesses identified in the integrated reports was that there was generally no clear distinction between output and outcome. According to IIRC (2013c) and Oliver et al. (2016), integrated thinking is evidenced if management commits to a sustainability culture and if KPIs are embedded into the organisational practices. Because of the absence of strong correlations among KPI disclosures and disclosures analysing the interaction between inputs, processes and outputs, there is no evidence of integrated thinking being applied. Sukhari and de Villiers (2018) mention that companies stand to benefit from reconstructing their disclosures to evidence stronger correlations between these variables. It is interesting to note that according to Sukhari and de Villiers (2018), disclosures which are still falling short are: disclosures distinguishing between the short-, medium- and long-term time horizons and disclosures over the competitive strategy of the organisation.

If management directs more attention to environmental and social issues, their ability to manage sustainability issues through their operations and strategies is strengthened (Oliver et al., 2016). The disclosures over triple-bottom-line factors were not frequently presented (65%), which may be why there are not strong correlations between triple-bottom-line considerations, disclosures outlining the competitive strategy, and disclosures analysing the interaction among inputs, processes and outputs. The absence of strong correlations between these disclosures may also be why the *EY Excellence in Integrated Reporting Awards 2016* stated that strategies to achieve

the strategic objectives of the organisations were often found to be lacking (cf Ernst and Young, 2016, Sukhari and de Villiers, 2018).

4.2.2 Moderate to strong correlations

A brief outline of cost structure showed a moderate to strong correlation to a brief outline of the revenue structure ($r_s = 0.537$). The two disclosures communicate the profit margins of a company and, taken together, are important for understanding a company's financial capital because investors are primarily concerned with the maximisation of financial capital (McNally et al., 2017, de Villiers et al., 2017, IIRC, 2013c, GRI, 2015). This is communicated through the combination of these two disclosure items.

All disclosure items from the data collection instrument were also tested for correlations against the quality rankings per the *EY Excellence in Integrated Reporting Awards 2016*. Moderate to strong correlations ($r_s = 0.591$-0.676) were found between the integrated reporting quality[9] and the disclosure acknowledging the dependency on the financial ($r_s = 0.639$), manufacturing ($r_s = 0.676$), human ($r_s = 0.638$), social ($r_s = 0.638$) and natural ($r_s = 0.634$) capitals as well as between integrated reporting quality and the disclosure distinguishing output from outcome ($r_s = 0.591$). The *EY Excellence in Integrated Reporting Awards 2016* states that their plan is based on the integrated reporting framework which, as discussed in Section 2.2, addresses the distinction between output and outcome and the six capitals (Ernst and Young, 2016). This explains the correlations between integrated reporting quality and acknowledgment of the dependency on the various capitals and the disclosure distinguishing between output and outcome. It may, however, be premature to conclude that this is because business model disclosures reflect integrated thinking. Section 4.2.3 discusses the various weak correlations between business model disclosures and the EY quality scores.

4.2.3 Weak correlations with statistical significance

Integrated reporting quality was found to have a weak correlation with the disclosures pertaining to the interaction between inputs, processes and outputs ($r_s = 0.398$) and disclosures outlining the key resources ($r_s = 0.427$). The interaction between inputs, processes and outputs is an explanation of how the organisation creates value for customers (IIRC, 2013c) whilst the key

[9] These scores have been calibrated for accuracy by BARTH, M. E., CAHAN, S. F., CHEN, L. & VENTER, E. R. 2017. The economic consequences associated with integrated report quality: capital market and real effects. *Accounting, Organizations and Society,* 62**,** 43-64. to provide a consistent measure of integrated reporting quality among companies.

resources function as the input to the business' operations. The mark plan of the *EY Excellence in Integrated Reporting Awards 2016* entails an explanation of how value is created (Ernst and Young, 2016). The correlations show that resources are not being framed in terms of the six capitals but are only seen as economic resources. The *EY Excellence in Integrated Reporting Awards 2016* plan also looks at whether risks and opportunities are disclosed in the integrated report (Ernst and Young, 2016). It would be expected to identify a correlation between integrated reporting quality and disclosures identifying key risks to which the organisation is exposed. No correlation was present.

Sensitivity analysis is often used as a critical decision-making tool because it takes cognisance of forward-looking information. The *EY Excellence in Integrated Reporting Awards 2016* plan aims to identify strategic forward-looking information and information over risks. This may be why integrated reporting quality was found to correlate weakly ($r_s = 0.347$) with disclosures of sensitivity analysis. The sensitivity analysis correlated weakly ($r_s = 0.428$) with the disclosures analysing the interaction between inputs, processes and outputs. This is because the sensitivity analysis pertained to the key operational drivers of the companies. According to van Zijl et al. (2017), forward-looking analysis pertaining to the six capitals is rarely provided in reports. PwC (2015) also emphasises the lack of information with a "future outlook" in the reports and found risk disclosures to be considerably underdeveloped. Assuming that the sensitivity analysis is forward-looking explains why there were no noteworthy correlations identified between disclosing a sensitivity analysis and the six capitals or between the sensitivity analysis and key risks.

A weak correlation ($r_s = 0.332$) was found between any form of quantification of any amount in the business model and disclosures over the general operating/macro-economic environment. This is due to the fact that disclosures over the general operating environment usually encompassed information such as the market share of the company, population and gross domestic product of the various countries in which the organisations operated. Quantifications were also found to correlate ($r_s = 0.357$) weakly with disclosures on KPIs. This is due to KPIs often being in the form of financial targets/ratios or carbon emission targets. The absence of strong correlations between KPIs and the six capitals ($r_s = 0.166$-0.327), as well as between the former and sensitivity analysis disclosures ($r_s = -0.128$), suggests that KPIs and forward-looking analysis are one-dimensional and are not framed in terms of the six capitals. The *EY Excellence in Integrated Reporting Awards*

2016 states that one of the weaknesses identified in the integrated reports is a lack of meaningful KPIs (Ernst and Young, 2016).

Further weak correlations were found between quantification and the acknowledgment of the dependency on the human capital ($r_s = 0.339$) and social capital ($r_s = 0.339$), as well as between quantification and disclosures briefly outlining the core activities ($r_s = 0.497$). Companies were found to quantify the number of employees employed (human capital), as well as how much they spend during the year on CSR[10] projects (social capital). According to de Villiers et al. (2017), one of the challenges of preparing an integrated report is quantifying non-financial data. This may be why there are no strong or moderate to strong correlations between quantification and any of the disclosure themes.

The identification of stakeholders was found to correlate ($r_s = 0.503$) to the formulation of the competitive strategy. As mentioned earlier in Section 1.1, according to Bocken et al. (2014), for a strategy to provide a competitive advantage which is sustainable, requires stakeholder aspects to be embedded into the business model. This means business models should align the interests of all stakeholder groups, whilst seeing the environment and society as key stakeholders (Bocken et al., 2014). According to the IIRC (2013c), social capital entails the relationship between the organisation and its stakeholders. This explains why a weak correlation ($r_s = 0.345$) between stakeholder disclosures and social capital disclosures was found in the business models of the sample companies. According to McNally et al. (2017), a holistic management approach allows stakeholder expectations to be met while ensuring that the strategy and outcomes of the organisation are aligned with the expectations of society (IOD, 2016). The fact that disclosures identifying stakeholders and disclosures formulating the competitive strategy are not strong correlations and, given the absence of correlations between stakeholder identification and other key disclosure themes (such as the distinction between outputs and outcomes), suggest that stakeholder engagement is superficial and that there is a lack of integrated thinking being applied in the construction of business models.

Consideration of the triple-bottom-line factors showed a weak correlation ($r_s = 0.373$-0.450) to disclosures outlining the cost and revenue structure. The correlation confirms the strong emphasis which is placed on economic perceptions of performance, notwithstanding the introduction of a

[10] Corporate social responsibility

six capital model in the integrated reporting framework (IIRC, 2013) and King IV (IOD, 2016) (see also Dumay et al., 2017). Financial profits comprise only one of the three elements making up the triple-bottom-line. IOD (2016) defines strategy as "the setting of the organisation's short-, medium- and long-term direction towards realising its core purpose and values" (IOD, 2016, p. 17). This can be broken down into the following disclosures: reflection on the short-, medium- and long-term time horizons; identification of target customers; explanation of what value the identified customers seek; explanation of the value chain structure; brief outline of core activities; consideration over triple-bottom-line factors and formulation of the competitive strategy. All of these disclosure items correlate weakly with one another (r_s = 0.321-0.469). This shows that a broader understanding of the triple-bottom-line is lacking. The fact that there is no strong correlation amongst these disclosure items indicates the absence of integrated thinking in the construction of the business model.

According to IOD (2016), the governing body should consider how the proposed strategy impacts on the six capitals. This matter concerns itself with the following disclosures: identification of key risks; formulation of the competitive strategy; acknowledgement of the dependency on the six capitals. Disclosures over the key risks faced by organisations were found to correlate weakly to the acknowledgment of the dependency on the six capitals as well as disclosures over the formulation of the competitive strategy (r_s = 0.363-0.455). This may be due to the risks over the availability, quality and affordability of the six capitals (IIRC, 2013b, Moolman et al., 2016, de Villiers et al., 2017).

4.3 Additional analysis

The Kruskal-Wallis test (see *Table 3*) showed that there is a statistically significant change in the frequency of only six disclosures as integrated reporting quality increases[11]. These disclosures are:

- acknowledgment of the dependency on the financial (H = 14.019, p < 1%),
- manufacturing (H = 17.243, p < 1%), human (H = 14.499, p < 1%), social (H = 14.499, p < 1%) and natural capitals (H = 14.321, p < 1%)
- and disclosures distinguishing between output and outcome (H = 16.834, p < 1%).

[11] For the purpose of this test, the frequency of individual business model disclosures is the dependent variable and integrated reporting quality is the independent variable. Integrated reporting quality is per the *EY Excellence in Integrated Reporting* report

The Jonckheere-Terpstra test showed that the changes are a positive sign. This means that, as integrated reporting quality increases, the frequency in disclosures for the above themes increases. This is most likely as result of the *EY Excellence in Integrated Reporting Awards 2016* mark plan which supports the correlations in the Section 4.2.2.

Disclosure Item	Kruskal -Wallis H[12]	Asymp. Sig.	Observed J-T Statistic	Asymp. Sig. (2-tailed)
Identification of key stakeholders	1.695	0.429	292.500	0.360
Acknowledgment of the dependency on the financial capital	14.019**	0.001	393.000	0.000
Acknowledgment of the dependency on the manufacturing capital	17.243**	0.000	412.000	0.000
Acknowledgment of the dependency on the human capital	14.499**	0.001	398.000	0.000
Acknowledgment of the dependency on the social capital	14.499**	0.001	398.000	0.000
Acknowledgment of the dependency on the intellectual capital	5.637	0.060	345.000	0.021
Acknowledgment of the dependency on the natural capital	14.321**	0.001	399.000	0.000
Reflection on the short-, medium- and long-term time horizons	0.404	0.817	262.000	0.952
Identification of target customers	0.876	0.645	254.000	0.705
Explanation of what value the identified customers seek	1.591	0.451	239.000	0.436
Explanation of the value chain structure	4.488	0.106	271.500	0.827
Outline of the cost structure	2.450	0.294	282.000	0.600
Outline of the revenue structure	1.985	0.371	288.000	0.485
Brief outline of the key resources	7.114	0.029	340.500	0.009
Brief outline of the core activities	0.711	0.701	287.000	0.411
Consideration over the triple-bottom-line factors	3.676	0.159	306.000	0.245
Formulation of the competitive strategy	0.328	0.849	283.500	0.576
Brief identification of key risks	1.815	0.404	299.000	0.291
Sensitivity analysis	3.079	0.214	288.000	0.113

[12] Integrated report quality per EY is used as the grouping variable.

Key performance indicators	3.541	0.170	295.500	0.299
Analysis of the interaction between inputs, processes and outputs	4.450	0.108	330.000	0.034
Outline of the regulatory environment	1.693	0.429	291.500	0.325
Overview of the general operating/macro-economic environment	0.170	0.918	255.000	0.758
Distinction between output and outcome	16.834**	0.000	378.000	0.001
Quantification	2.456	0.293	309.000	0.122

Table 3 – Kruskal-Wallis test.

A Mann-Whitney U test (see *Table 4*) was performed to determine whether there is a statistically significant difference in disclosure themes as the size of the companies (in terms of market capitalisation) changes. For this purpose, the sample was stratified so that the largest 20 companies in terms of market capitalisation were classified as large whereas the smallest 20 companies in terms of market capitalisation were classified as a small. The frequency of individual business model disclosure themes is treated as a dependent variable. The two size categories are the grouping variable. The results demonstrated no statistically significant findings, meaning that the size of the company alone does not contribute to changes in disclosure themes.

The Mann-Whitney U test was also performed to determine whether business model disclosures are affected by the industry in which the companies operate. A high-impact industry was classified as any industry operating in the mining or industrial sector while other companies were classified as low-impact industries (Arena et al., 2015). Similar to the test above, the frequency of individual business model disclosure themes is treated as a dependent variable. The two environmental impact categories are the grouping variable. Again, there were no statistically significant findings, indicating that the industry alone does not impact on business model disclosures.

	Size	**Industry**
Disclosure Item	**Mann-Whitney U**	**Mann-Whitney U**
Identification of key stakeholders	192,500	121,500
Acknowledgment of the dependency on the financial capital	190,500	135,000
Acknowledgment of the dependency on the manufacturing capital	191,500	150,000
Acknowledgment of the dependency on the human capital	196,500	132,000
Acknowledgment of the dependency on the social capital	196,500	132,000
Acknowledgment of the dependency on the intellectual capital	175,500	139,500

Acknowledgment of the dependency on the natural capital	197,500	144,000
Reflection on the short-, medium- and long-term time horizons	173,500	141,000
Identification of target customers	172,000	145,500
Explanation of what value the identified customers seek	161,500	164,000
Explanation of the value chain structure	192,000	147,000
Outline of the cost structure	190,500	157,500
Outline of the revenue structure	190,500	114,000
Brief outline of the key resources	192,000	153,000
Brief outline of the core activities	181,500	168,000
Consideration over the triple-bottom-line factors	180,000	117,000
Formulation of the competitive strategy	181,500	152,000
Brief identification of key risks	191,000	164,500
Sensitivity analysis	198,500	160,000
Key performance indicators	180,500	146,000
Analysis of the interaction between inputs, processes and outputs	178,500	160,500
Outline of the regulatory environment	162,500	155,000
Overview of the general operating/macro-economic environment	171,000	165,000
Distinction between output and outcome	183,000	144,000
Quantification	191,500	132,000
Integrated reporting quality	195,000	154,000

Table 4 – Mann-Whitney U test.

It is important to note that these findings should be interpreted with care. Due to the inherently small sample size, these results are not necessarily generalisable. Nevertheless, for the sample of companies, these results were not in line with the researcher's expectations. Since high-impact companies have more to disclose with regards to their environmental and social impact, it was expected to find an increase in the frequency of disclosures such as triple-bottom-line disclosures and disclosures distinguishing between output and outcome (Deegan et al., 2002, Dumay, 2018). As a result, the original Kruskal-Wallis test (see *Table 3*) which examined the relationship between frequency of business model disclosures and integrated reporting quality was subject to two sensitivity tests. The first test entailed stratifying the sample into the largest 20 companies and smallest 20 companies in terms of their market capitalisation (see *Table 5*). The results showed that for the largest 20 companies, there is a statistically significant change in the frequency of only seven disclosures as integrated reporting quality increases. These disclosures are:

- acknowledgment of the dependency on the financial ($H = 11.250$, $p < 5\%$),

- manufacturing (H = 11.978, p < 5%), human (H = 11.630, p < 5%), social (H = 11.630, p < 5%), intellectual (H = 8.422, p < 5%) and natural capitals (H = 11.978, p < 5%) and
- disclosures distinguishing between output and outcome (H = 11.727, p < 5%).

With regards to the 20 smallest companies, the results showed that there is a statistically significant (although less significant) change in the frequency of only six disclosures as integrated reporting quality increases. These disclosures are:

- acknowledgment of the dependency on the financial (H = 8.076, p < 10%), manufacturing (H = 9.051, p < 10%), human (H = 8.076, p < 10%) and social capitals (H = 8.076, p < 10%);
- sensitivity analysis (H = 18.000, p < 1%) and
- disclosures distinguishing between output and outcome (H = 10.243, p < 5%).

This confirms the findings of the original Kruskal-Wallis analysis (see *Table 3*), where the same disclosure themes change as integrated reporting quality increases. However, the effects are more noticeable for the larger companies than for the smaller companies. This is shown in *Table 5*. The blue shading pertains to disclosure themes with a statistical significance of less than 5% whereas the green shading pertains to disclosure themes with a statistical significance of less than 10%. The pink highlights the respective Kruskal-Wallis H value for the statistically significant disclosure themes.

	20 largest companies		**20 smallest companies**	
Disclosure Item	**Kruskal-Wallis H**	**Asymp. Sig.**	**Kruskal-Wallis H**	**Asymp. Sig.**
Identification of key stakeholders	3,431	0,489	3,285	0,511
Acknowledgment of the dependency on the financial capital	11,250	0,024	8,076	0,089
Acknowledgment of the dependency on the manufacturing capital	11,978	0,018	9,051	0,060
Acknowledgment of the dependency on the human capital	11,630	0,020	8,076	0,089
Acknowledgment of the dependency on the social capital	11,630	0,020	8,076	0,089
Acknowledgment of the dependency on the intellectual capital	8,422	0,077	3,569	0,467

Acknowledgment of the dependency on the natural capital	11,978	0,018	6,506	0,164
Reflection on the short-, medium- and long-term time horizons	0,451	0,978	1,491	0,828
Identification of target customers	4,225	0,376	1,834	0,766
Explanation of what value the identified customers seek	4,027	0,402	4,089	0,394
Explanation of the value chain structure	3,667	0,453	7,531	0,110
Outline of the cost structure	2,710	0,608	2,686	0,612
Outline of the revenue structure	3,144	0,534	3,212	0,523
Brief outline of the key resources	5,088	0,278	5,107	0,276
Brief outline of the core activities	3,519	0,475	5,984	0,200
Consideration over the triple-bottom-line factors	3,183	0,528	4,731	0,316
Formulation of the competitive strategy	2,422	0,659	2,224	0,695
Brief identification of key risks	4,962	0,291	4,108	0,392
Sensitivity analysis	3,200	0,525	18,000	0,001
Key performance indicators	2,089	0,719	4,098	0,393
Analysis of the interaction between inputs, processes and outputs	3,429	0,489	6,549	0,162
Outline of the regulatory environment	1,705	0,790	1,026	0,906
Overview of the general operating/macro-economic environment	2,236	0,692	3,156	0,532
Distinction between output and outcome	11,727	0,019	10,243	0,037
Quantification	1,764	0,779	6,549	0,162

Table 5 – Kruskal-Wallis test stratified for market capitalisation.

The second sensitivity test stratified the sample into high-impact and low-impact industries and then considered how the relationship between integrated reporting quality and business model disclosures differed for the two groups (also using a Kruskal-Wallis test) (see *Table 6*). The high-impact industries showed no statistically significant results. For the low-impact industries, the results showed that there is a statistically significant change in the frequency of only five disclosures as integrated reporting quality increases. These disclosures are:

- acknowledgment of the dependency on the financial ($H = 10.419$, $p < 5\%$), manufacturing ($H = 11.203$, $p < 5\%$), human ($H = 10.204$, $p < 5\%$) and social capitals ($H = 10.204$, $p < 5\%$)
- and disclosures distinguishing between output and outcome ($H = 13.861$, $p < 1\%$).

The Jonckheere-Terpstra test showed that the change is a positive sign. This means that, as integrated reporting quality increases, the frequency in disclosures for the above themes increases. Again, this confirms the initial Kruskal-Wallis test (see *Table 3*). However, in this case the effects are more noticeable for the companies with a low environmental or social impact. This is consistent with Arena et al. (2015), De Villiers and van Staden (2006), according to whom high-impact industries are more selective about their environmental and social disclosures in order to frame the organisation in a more positive light. As a result, they are not increasing the extent of their business model reporting lest this give rise to additional stakeholder scrutiny.

	Low impact industries			**High impact industries**		
Disclosure Item	**Kruskal-Wallis H**	**Asymp. Sig.**	**Observed J-T Statistic**	**Kruskal-Wallis H**	**Asymp. Sig.**	**Observed J-T Statistic**
Identification of key stakeholders	3,089	0,543	169,000	2,000	0,736	28,000
Acknowledgment of the dependency on the financial capital	10,419	0,034	213,500	7,333	0,119	44,000
Acknowledgment of the dependency on the manufacturing capital	11,023	0,026	224,000	7,333	0,119	44,000
Acknowledgment of the dependency on the human capital	10,204	0,037	215,500	7,333	0,119	44,000
Acknowledgment of the dependency on the social capital	10,204	0,037	215,500	7,333	0,119	44,000
Acknowledgment of the dependency on the intellectual capital	4,388	0,356	184,500	5,343	0,254	41,000
Acknowledgment of the dependency on the natural capital	9,222	0,056	216,500	7,333	0,119	44,000
Reflection on the short-, medium- and long-term time horizons	3,465	0,483	135,000	3,667	0,453	33,000
Identification of target customers	3,029	0,553	131,000	5,000	0,287	33,000
Explanation of what value the identified customers seek	4,712	0,318	143,500	2,750	0,600	26,000
Explanation of the value chain structure	6,856	0,144	141,000	3,667	0,453	36,000
Outline of the cost structure	6,428	0,169	178,500	1,271	0,866	23,500
Outline of the revenue structure	3,506	0,477	174,000	4,400	0,355	28,000

Brief outline of the key resources	6,231	0,183	194,500	2,750	0,600	33,000
Brief outline of the core activities	3,525	0,474	162,000	4,125	0,389	32,500
Consideration over the triple-bottom-line factors	4,414	0,353	177,000	2,750	0,600	33,000
Formulation of the competitive strategy	1,082	0,897	145,000	7,417	0,115	39,000
Brief identification of key risks	5,066	0,281	169,000	2,833	0,586	37,500
Sensitivity analysis	6,000	0,199	163,500	5,000	0,287	33,000
Key performance indicators	3,232	0,520	163,500	3,034	0,552	33,500
Analysis of the interaction between inputs, processes and outputs	2,973	0,562	184,000	7,333	0,119	38,000
Outline of the regulatory environment	3,115	0,539	153,500	4,400	0,355	36,000
Overview of the general operating/macro-economic environment	3,584	0,465	137,000	3,667	0,453	33,000
Distinction between output and outcome	13,861	0,008	221,000	6,875	0,143	38,000
Quantification	2,972	0,563	166,500	6,875	0,143	36,000

Table 6 – Kruskal-Wallis test stratified for social and environmental impact.

5. Conclusion, recommendations and areas for future research

5.1 Summary of key findings

For brevity, key findings are summarised in *Table 7*.

Type of correlation	Summary of correlations
Strong correlations	Strong correlations were only identified among disclosures acknowledging the dependency on the individual six capitals. This is probably because of the emphasis being placed on the capitals collectively by various frameworks such as IIRC (2013c) and IOD (2016). These correlations may also be due to the recent shift from financial capitalism to inclusive capitalism. These correlations show that organisations are beginning to follow

	an integrated approach to thinking about their business models, as the interconnectedness between the six capitals allows for the organisations to change their systems and operations in order to enhance sustainability (McNally et al., 2017, Ernst and Young, 2016).
Moderate to strong correlations	Moderate to strong correlations were found between integrated reporting quality and disclosures acknowledging the dependency on the capitals, as well as between integrated reporting quality and disclosures distinguishing outputs from outcomes. This is probably due to the fact that the score sheets for the *EY Excellence in Integrated Reporting Awards 2016* follow the integrated reporting framework (Ernst and Young, 2016), a framework which places significant emphasis on these two disclosures. Disclosures distinguishing between output and outcome also showed moderate to strong correlations with disclosures acknowledging the dependency on the capitals, as well as with disclosures outlining the interaction between inputs, processes and outputs. The fact that these are not strong correlations points to the absence of integrated thinking being applied in the construction of business models.
Weak correlations	The most significant weak correlations can also be grouped with the six capitals. Disclosures acknowledging the dependency on the six capitals were found to correlate weakly with brief outline of key resources, indicating that resources are not being framed in terms of the six capitals, but only in terms of economics. A weak correlation was also identified between disclosures over the capitals and key risk disclosures. This is most likely due to the risks over the availability, quality and affordability of the six capitals (de Villiers et al., 2017, IIRC, 2013c, Moolman et al., 2016).

	Finally, according to IIRC (2013b), KPI are important in communicating how the organisation utilises the six capitals. However, the companies subject to test report only weak correlations between these aspects of their business model disclosures. Overall, the number of weak or null correlations relative to strong and moderate correlations (see *Figure 5*), as well as the nature of the disclosures which are only weakly correlated, means that an integrated thinking approach is suspicious.

Table 7 – Brief summary of key findings.

The Kruskal-Wallis tests (see Section 4.3) confirmed that, as integrated reporting quality increases, so too does the frequency of certain disclosures. These changes were more noticeable for larger companies than for smaller companies (based on market capitalisation). The outcome is consistent with the conclusion reached based on the correlations among business model disclosure themes (*Table 7* above). It appears that business model disclosures are being used as a tool for managing legitimacy. As is found by the prior research, larger companies have more to report to their stakeholders and increase the extent of non-financial reporting only in response to legitimacy-related pressures (Dube and Maroun, 2017, Deegan et al., 2002, van Zijl et al., 2017).

This conclusion is supported by the fact that changes in business model disclosures as the quality of integrated reports increases are more noticeable for companies with a lower environmental and social impact than for companies with a higher environmental and social impact. This is because high-impact companies (such as oil companies) are more selective about their environmental and social disclosures so as to not frame the organisation in a negative image (Arena et al., 2015, De Villiers and van Staden, 2006). They avoid providing too much detail in their business models in order to avoid attracting additional attention from regulators or other stakeholders (see De Villiers and van Staden, 2006).

5.2 Implications and recommendations

The results of this study have a number of implications. Firstly, according to IOD (2016) and Moolman et al. (2016), integrated reporting is an outcome of integrated thinking. In line with this, it can be expected to find strong correlations between business model disclosures to conclude that integrated thinking is being applied in the construction of business models. Yet the absence of strong correlations indicates the absence of integrated thinking, implying that the preparation of integrated reports is more of a tick-box exercise. This is supported by Adams and McNicholas (2007), who argue that most executives see sustainability reporting as a way of enhancing corporate legitimacy rather than promoting actual change.

This calls into question the validity of the statement made in IOD (2016) that integrated reporting is an outcome of integrated thinking. It seems as if organisations are simply following the guidance given by reporting frameworks such as the *International Integrated Reporting Framework* and *King IV*, as opposed to adopting the mindful application of these guiding frameworks. Morris et al. (2005) mention that the development of a sustainability reporting framework has led to organisational change. This may suggest that an additional framework applicable to business model disclosures may also spark organisational change, resulting in the application of integrated thinking. However, consideration needs to be given to the fact that companies may not disclose all of the pertinent information under their business model disclosures in order to protect confidential or strategic information (Morris et al., 2005). All the same, the correlations have indicated that businesses still appear to be operating in silos and that managers may need to revise their business models.

Secondly, cognisance must be taken of the fact that one of the challenges of preparing an integrated report is limited guidance provided by frameworks such as the IIRC (2013c) and GRI (2015). As mentioned earlier in Section 2.2.2, integrated reports should be comparable not only with prior periods, but also with other organisations (IIRC, 2013c). Yet the absence of a standardised framework for business model disclosures may have the consequence of organisations omitting certain disclosures (Morris et al., 2005) (see Section 1.5).

Finally, companies which scored better in the *EY Excellence in Integrated Reporting Awards 2016* have better business model disclosures but only in certain aspects (Sukhari and de Villiers, 2018). Even the top-scoring companies have significant room for improvement in their business model

disclosures. *Figure 3* shows that disclosures over strategy and value-creation were only present in 16/40 of the business models in the sample. This is corroborated by Ernst and Young (2016) which states that two particular areas of disclosure shortfalls are strategy and value creation. *Figure 3* illustrates that the disclosure distinguishing between output and outcome was only present in 17/40 of the business models. This is also supported by Ernst and Young (2016), which mentions that the disclosure distinguishing between output and outcome has significant areas for improvement.

5.3 Contribution and areas for future research

This research contributes to the limited body of knowledge regarding integrated reporting business model disclosures. More specifically, this research provides an understanding of the implementation of reporting guidelines, provided by various bodies, and the impact that these frameworks have on the perception of integrated thinking. This research further adds insights into business model disclosures for the JSE top 40 companies. The analysis of the data provides evidence that the objectives of integrated reporting, as envisaged by IOD (2016), are not being achieved. This research supports the findings of Adams and McNicholas (2007) in that preparers of the integrated reports see it as a compliance exercise.

As in any research of this type, there are limitations and areas for future research. This study is based on an inherently small sample size. It deals only with the JSE top 40 companies for a single financial year (2016). As a result, future areas for research can expand this sample set and incorporate multiple financial years to perform a longitudinal study. This research can also be expanded by performing a separate analysis on specific industries with a larger sample set, to determine whether integrated thinking is evident in specific industries. The results thereof may potentially explain why it was difficult to group many of the weak correlations identified in this study. Another future area of research is to determine whether a bottom up management approach results in better business model disclosures as opposed to a top down management approach. A qualitative study can also be done to establish whether or not preparers of the integrated reports are withholding information when disclosing aspects of their business model. Future areas for research may also be the replication of the Mann-Whitney U test with a larger sample size to allow for results to be generalised.

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Appendix 1 Construction of the data collection instrument

T1	Identification of key stakeholders	**(Casadesus-Masanell and Ricart, 2010)**
T2	Acknowledgment of the dependency on the financial capital	(Moolman et al., 2016, Maroun, 2017, IIRC, 2013c)
T3	Acknowledgment of the dependency on the manufacturing capital	(Maroun, 2017, Moolman et al., 2016, IIRC, 2013c)
T4	Acknowledgment of the dependency on the human capital	(Moolman et al., 2016, Maroun, 2017, IIRC, 2013c)
T5	Acknowledgment of the dependency on the social capital	(Moolman et al., 2016, Maroun, 2017, IIRC, 2013c)
T6	Acknowledgment of the dependency on the intellectual capital	(Moolman et al., 2016, Maroun, 2017, IIRC, 2013c)

T7	Acknowledgment of the dependency on the natural capital	(Moolman et al., 2016, Maroun, 2017, IIRC, 2013c)
T8	Reflection on the short-, medium- and long-term time horizons	(IIRC, 2013c)
T9	Identification of target customers	(Casadesus-Masanell and Ricart, 2010, Morris et al., 2005)
T10	Explanation of what value the identified customers seek	(Casadesus-Masanell and Ricart, 2010)
T11	Explanation of the value chain structure	(Casadesus-Masanell and Ricart, 2010, Morris et al., 2005)
T12	Outline of the cost structure	(Casadesus-Masanell and Ricart, 2010, Philipson, 2016, Morris et al., 2005)
T13	Outline of the revenue structure	(Philipson, 2016, Casadesus-Masanell and Ricart, 2010, Morris et al., 2005)
T14	Brief outline of the key resources	(Philipson, 2016)
T15	Brief outline of the core activities	(Casadesus-Masanell and Ricart, 2010, Philipson, 2016, Morris et al., 2005)
T16	Consideration over the triple-bottom-line factors	(Guthrie et al., 2017)
T17	Formulation of the competitive strategy	(Casadesus-Masanell and Ricart, 2010, IOD, 2016, Morris et al., 2005)
T18	Brief identification of key risks	(IOD, 2016, Maroun, 2017)

T19	Sensitivity analysis	(IOD, 2016)
T20	Key performance indicators	(De Villiers et al., 2016)
T21	Analysis of the interaction between inputs, processes and outputs	(IIRC, 2013c)
T22	Outline of the regulatory environment	(Guthrie et al., 2017)
T23	Overview of the general operating/macro-economic environment	(Guthrie et al., 2017, IIRC, 2013c)
T24	Distinction between output and outcome	(IIRC, 2013c)
T25	Quantification	(McNally et al., 2017, Solomon and Maroun, 2012)