Engaged in Integrated Reporting? Evidence across multiple organizations

Abstract

Purpose: The purpose of this paper is twofold: i) to provide evidence on geographic and firm-level characteristics within organizations using Integrated Reporting (<IR>) methodology to communicate their business model to stakeholders; ii) to shed light on the contend of integrated reports of organizations that have been recognized as leading practice by a reputable award process or through benchmarking.

Design/methodology/approach: Secondary analysis of data (descriptive and inferential statistics) is used for a sample of 224 organizations (79 classified as <IR> Reference Reporters and 145 as <IR> Regular Reporters) across 26 countries (2011 to mid-2015). Content analysis is used for <IR> Reference Reporters.

Findings: Evidence for the first objective suggests that compared with <IR> Regular Reporters, the majority of the <IR> Reference Reporters are from Europe, are larger, have a higher market value, are more profitable and less leveraged. Evidence for the second objective reveals that the guiding principles, fundamental concepts and content elements of the most recent integrated report published by each <IR> Reference Reporter (leading practice) seem less than expected.

Research limitations: <IR> Examples Database does not cover all of the organizations reporting according to the <IR> framework. Content analysis can be biased by authors' interpretations.

Practical Implications: Potential benefit both to researchers and to those involved in the reporting of financial and non-financial information using the <IR> tool.

Originality/value: Contribution to the international debate on the evolution from sustainability to integrated reporting, providing evidence on geographies and firm-level characteristics of organizations using <IR> to better communicate, and providing the most prominent information disclosed by Reference Reporters.

Key words: Integrated reporting; IIRC; <IR> Reference Reporters; <IR>Regular Reporters; financial reporting, tool of communication.

1. Introduction

Integrated reporting <IR> can be defined as a process that results in an organization communicating about how its strategy, governance, performance and prospects lead to short-, medium-, and long-term value creation (IIRC, 2013). Gianfelici et al. 2016 refer to <IR> as a representation of a new frontier of external corporate reporting. Conceptually, integrated reporting (<IR>)[i] adds extra information to the current financial reporting model. <IR> is aimed at providing a complete picture of the company, including a demonstration of its stewardship and how it can create and sustain value requiring integrated thinking skills.

The origins of integrated reporting go back to the sustainability report[ii]. The latter is defined as a report published by a company or organization in which the economic, environmental and social impacts of its everyday activities are properly communicated to stakeholders. Although not mandatory for all companies, the use of both sustainability reports and corporate social responsibility reports is widespread (e.g., Gray et al., 2001; Kolk, 2004; Jensen and Berg, 2012; Owen, 2013). However, <IR> intends to be more comprehensive than its predecessors. Although it has emerged during an advanced phase of sustainability reporting, it remains in its initial phase (Dumay et al., 2016). Essentially, it implies a shift of thinking for corporate actors to better align notions of profit maximization with societal and environmental welfare. Additionally, it includes both long-term and broader thinking on aspects such as what is value, the value-creation process and the business model.

The reasons for the success (e.g., Adams, 2014) or failure (e.g., Flower, 2015) of this potential movement from sustainability reports to integrated reports are the subject of international debate. The main organization supporting this process and debate is the International Integrated Reporting Council (IIRC)[iii], which has established the framework, general principles and the guidelines to prepare integrated reports. The IIRC, which is a global coalition, promotes the idea that integrated reporting requires a different process of value creation, adding value to the traditional process. The increased value is explained by a more concise communication of the organization's strategy, governance and performance. In addition, the increased value demonstrates the links between financial performance and wider social, environmental and economic contexts. Finally, the increased value shows how organizations create value over the short, medium and long term (IIRC, 2016).

Although <IR> was intended to become the corporate reporting norm but different from other reports and communications in a number of ways (IIRC, 2013) (e.g., external financial reporting, income tax reporting, regulatory reporting, and internal reporting), research on the advantages, disadvantages, benefits or other effects caused by the use of <IR> to better communicate remain scarce (e.g., ACCA, 2011; Lodhia, 2015). The reason for this lack of research might be because <IR> is a recent trend (Kolk, 2008); consequently, only a relatively small number of organizations are producing fully integrated reports (e.g., Searcy and Buslovich, 2014).

Prior research has essentially focused both on aspects of the practical implementation of <IR> (e.g., ACCA, 2011; Lodhia, 2015) and on the importance of the link between business characteristics and stakeholder perspectives (e.g., Rensburg and Botha, 2014; Gianfelici et al., 2016). Nevertheless, Cheng et al. (2014) have identified avenues for future research, including value relevance, relation to capital markets, and the assurance of integrated reports. To guide these future research avenues, it is crucial to explore the "status quo" of <IR> to obtain insightful knowledge of aspects related to who is publishing integrated reports, where those reports are being published, and how those reports are being published. Similar issues also have been documented in previous <IR> literature about determinants of integrated reporting (e.g., Sierra-García et al., 2015; Vaz et al., 2016; Rivera-Arrubla et al., 2017). Our study also provides evidence of the geographic dispersion and firm characteristics of organizations using <IR> methodology to communicate their business models to other stakeholders. Our total sample only includes companies publishing integrated reports, and intends to overcome the research gap found about the comparison between those who prepare a regular integrated report and those who are considered the best one in that field (e.g., Ahmed Haji et al, 2017). The analysis, thus, presents an overview that compares <IR> Reference Reporters to <IR> Regular Reporters, consistent with our first objective. Subsequently, anchored in the second objective, we also offer an outline (obtained through a content analysis) and an index of the guiding principles, fundamental concepts and content elements disclosed in the most recent integrated reports by organizations classified as <IR> Reference Reporters by the International Integrated Reporting Council (IIRC).

Our sample is constructed from IIRC Examples Database, which includes companies preparing <IR> or using their framework. We have a total of 224 organizations, 79 that are classified as “Reference” and 145 as “Regular”. The first part of the paper includes both groups of organizations and presents results for 5 years. Then, in the second part, only the 79 <IR> reference reporters are stand out, based on the most recent reference report published in the sample period. Among all those that are the best, we looked into the items they disclosed.

Our main findings indicate that the majority of <IR> reporters are from South Africa, the United Kingdom, Spain and the Netherlands. Then, the set of reporters were split into two different groups using the same methodology as IIRC did in their Example database in order to answer to the first objective of the paper: those classified as Reference reporters (due to their recognition as leading practice by a reputable award process or through benchmarking) and all the others, classified as Regular reporters. In both groups (Reference Reporters and Regular Reporters), organizations show a predominant tendency to choose a Big 4 auditing firm to provide auditing assistance to their financial reporting. However, the majority of companies classified as Reference Reporters are from Europe, are larger, have higher market value, and are more profitable but less leveraged. Afterwards, the second objective, shedding light only on the content of the <IR> of those organizations that are considered the best examples, the paper points out that the principles most often mentioned by Reference Reporters include connectivity of information, strategic focus and future orientation, and conciseness. The content elements most often disclosed were strategies, business models, organizational overviews, and risks/opportunities. A disclosure index based on the structure of the integrated report of the <IR>Reference Reporters is also constructed, and a top-three best organizations ranked by size (measured by market capitalization) presenting information about guiding principles and content elements are made known.

The paper is organized as follows. The “Prior literature on integrated reporting” provides the definition and the most important literature related to this research topic. The “Research” section provides the methodology, sample and method used to obtain our results. The “Results and discussion” section illustrates the main findings. The last section provides “Conclusions”.

2. Prior literature on integrated reporting

The many key streams of research on corporate sustainability reporting have been clearly described (Searcy and Buslovich, 2014). However, Kolk (2008) had already called attention to the increasing trend towards <IR>. Although the concept of <IR> is in its infancy (Dumay et al., 2016), countries such as South Africa are requiring listed companies to publish this type of reporting (Cheng et al., 2014). Moreover, some countries have made other advances towards encouraging the publication of reports on environmental, social and governance issues but have not yet made <IR> mandatory (EY, 2012).

Research on <IR> is also emerging. Recent studies have attempted to demonstrate the importance of the link between business characteristics and stakeholder perspectives (Gianfelici et al. 2016). Consequently, as noted by Cheng et al. (2014), there are many avenues for future research, namely, in the field of value relevance, its relation to capital markets, and the external assurance of integrated reports. Both performance measures and the assurance of integrated reports have also been identified as presenting promising research opportunities (Dumay et al., 2016). However, research on <IR> has not covered those two topics. The extant literature has essentially focused on external reporting (e.g., Brown and Dillard, 2014; Cheng et al., 2014), management control/strategy to support integrated thinking (Beattie and Smith, 2013; Doni and Gasperini, 2014; Dumay and Dai, 2014; Lodhia, 2015), the influence of the legal framework (Frías-Aceituno, Rodriguez-Ariza, and García-Sanchez, 2013a, 2013b) and national cultural systems on <IR> development (García-Sánchez, Rodríguez-Ariza, and Frías-Aceituno, 2013), <IR>'s potential determinants (Jensen and Berg, 2012), accountability and governance (Frías-Aceituno, Rodriguez-Ariza, and García-Sanchez, 2013a, 2013b; Meintjes and Grobler, 2014), the characteristics of lobbying parties and the determinants of their behaviour towards the IIRC (Reuter and Messner, 2015), and the determinants associated with the use of the <IR> as a corporate reporting model for sustainability information (Vaz et al., 2016).

These prior studies indicate an increasing concern (at least theoretically) about both <IR> and its impact on the company's business model, on society in general and on stakeholders in particular. Organizations that embrace a long-term corporate culture of sustainability outperform their peers in terms of reputation, net income, and stock price (Eccles et al., 2014). Organizations operating in countries with similar cultural systems adopt homogeneous patterns of behaviour regarding <IR> (García-Sánchez et al., 2013), and an increasing number of organizations have voluntarily begun to produce integrated reports (Eccles and Saltzman, 2011). The reason for this development is that many such organizations find that financial reporting alone no longer satisfies the needs of shareholders, customers, communities, and other stakeholders for information about overall organizational performance (GRI, 2013; Hughen et al., 2014). Prior research provides evidence that financial analysts use corporate sustainability disclosures to forecast future financial performance (Dhaliwal et al. 2012), and this information is being increasingly used by investors to analyse management quality and its implications for the potential to grow the value of the business (Eccles et al. 2011).

The majority of the past research used case/field studies or descriptive/normative methodologies to advance insights into how <IR> research is developing (Dumay et al., 2016). For example, Lueng et al. (2016) illustrate how standards and guidelines for corporate social responsibility can help a company in its <IR> process, whereas Rivera-Arrubla, Zorio-Grima and García-Benau (2017) propose a disclosure index to assess the application level of two (of seven) IR principles and two (of eight) content elements of integrated reports, examining the index's determining factors (through an index) as applied to a specific case. Ahmed Haji and Mahbood Hossain (2016) also analysed a disclosure index that included only South African companies, concluding that the substance of organizational reports has not really improved. However, research on the decision relevance of <IR> and on the association of <IR> with capital markets is almost absent (Cheng et al., 2014) and does not use a wide range of organizations reporting under the <IR> framework. Gianfelici et al. (2016) is a good example of an exception.

The theoretical frameworks commonly used in <IR> research have included institutional theory and stakeholder theory (Jensen and Berg, 2012; Frías-Aceituno et al., 2013; Vaz et al., 2016; Riviera-Arruba et al., 2017). Institutional theory has been used to motivate and justify the work conducted, using both firm-level (e.g., Frías-Aceituno et al. 2013b) and country-level factors (e.g., Jensen and Berg 2012; Frías-Aceituno et al. 2013a; Vaz et al., 2016) to identify dynamics for engaging in <IR>. With the rising number of voluntary or mandatory adopters of <IR> over time, opportunities to enlarge the amount of quantitative research will be intensified. In line with institutional theory, research on <IR> commonly used the new institutional theory of DiMaggio and Powell (1983) and the concept of institutional isomorphism. Institutional isomorphism is useful in understanding modern organizational life and occurs through a mechanism of coercive, normative and mimetic isomorphism. Coercive isomorphism relates to how institutions exert power over organizations to adopt specific internal structures and procedures, thus sanctioning misbehaviour. Regulation of sustainability issues or even <IR> (such as in South Africa) is a good example of this phenomenon. Normative isomorphism relates to the educational requirements and professional training/professional bodies' recommendations for proper professional values and attitudes (for example, the IIRC framework, general principles and guidelines). Finally, mimetic isomorphism exists when organizations adopt internal structures and procedures identical to those considered to be the most successful and legitimate. In the field of <IR> potential differences in the reporting behaviour of companies classified as "Reference Reporters" and companies classified as "Regular Reporters" can encapsulate pieces of mimetic behaviour.

Nevertheless, stakeholder theory is directly related to accounting professionals and the creation and development of an integrated financial report (Smith, 2015). This theory has been used (e.g., García-Sanchéz et al., 2013) to analyse whether companies operating in countries with a shared national culture tend to adopt similar patterns regarding <IR>

adoption, recognizing that there is a broad range of agents (not just shareholders and creditors) who are interested in companies' approaches to <IR>. Vaz et al. (2016) present a strong justification for why stakeholder theories provide a rationale for a reporting framework based on <IR>. According to stakeholder theory, organizations have incentives to promote a constant dialogue with their relevant stakeholders (Freeman, 1984), i.e., stakeholders that exert power over an organization and supply resources that are vital to its long-term success. The most visible organizations are particularly scrutinized by their relevant stakeholders to assess corporate reputation. Consequently, managers attempt to manage stakeholders' perceptions of corporate reputation through corporate social responsibility disclosure (Vaz et al., 2016). In the field of <IR>, the assessment of firm characteristics and their connection to integrated reporting patterns can be useful to explain reporting practices through the lens of stakeholder theory.

This exploratory study presents an overview of the characteristics (such as companies' geographic dispersion and firm characteristics) of organizations that use the <IR> methodology to communicate their business models to other stakeholders. It also present the patterns (such as guiding principles, fundamental concepts, and content elements) of those <IR> that has been considered as reference. Therefore, although with no absolute results, we believe that this study adds to both institutional (in particular, the first objective) and stakeholder (especially, the second objective) theories, as also prior research did, elucidating the identity and location of the organizations reporting through this new communication tool, along with how this reporting is accomplished.

3. Research

3.1 Methodology

This research has been conducted by applying descriptive analysis and inference to *integrated reports* included in the Integrated Reporting Examples Database (<IR> Examples Database), also known as the Emerging Integrated Reporting Database available from IIRC (IIRC, 2015a). The database contains examples of emerging practice in <IR> that illustrate how organizations are currently reporting concise information about "how their strategy, governance, performance and prospects, in the context of their external environment, lead to the creation of value over the short, medium and long term" (IIRC, 2015a). Thus, the database include companies that have either produced a report that references the IIRC and/or the <IR> Framework or are influenced by the Framework through participation in <IR> Networks (IIRC; 2015a).

This database was recently used by Rivera-Arrubla et al (2017) and Gianfelici et al. (2016), which also give us confidence in the sample retrieved. The database is open access and contains examples of emerging practice in <IR> that illustrate how organizations are communicating concise information. Thus, using the <IR> Examples Database[iv] we can more accurately guarantee the most recent guidelines used to prepare integrated reporting. Content analysis was applied to collect information disclosed in those integrated reports. We also used the Thompson Reuters DataStream Database to retrieve financial data necessary to conduct this study, especially data related to firm-level characteristics.

3.2 Sampling and sample period

Organizations began publishing <IR> in 2011. Thus, data were collected from 1 January 2011 until mid-July 2015, and this study was developed after the latter date. We started by collecting the list and reports of those organizations included in the <IR> Examples Database available in open access through the IIRC website. According to the IIRC website, this list can also include organizations that are influenced by the framework through participation in <IR> debates. We adopted the same procedure as the <IR> Examples Database. No quality assessment was involved in compiling this list. This is our total sample of *<IR> Reporters*, and it contains 224 different organizations.

Furthermore, using the prior sample of *<IR> Reporters*, we collected a list that included the organizations whose reports have been recognized as embodying the leading practice either through a reputable award process[v] or through benchmarking (IIRC, 2015a). We used exactly the same list as the IIRC did, excluding companies that were not publicly listed in a stock exchange or data were not available. This list contains 79 different organizations from the original 224, and we call this list our sample of *<IR> Reference Reporters*. In summary, from the sample of 224 organizations classified as *<IR> Reporters*, two different subsamples are formed: one including only the 79 organizations classified as *<IR> Reference Reporters* (35%) and the other including the remaining 145 organizations classified as *<IR> Regular Reporters* (65%), as set forth in Table 1[vi]. Our sample period covers 2011 to 2015, totalling 1,120 firm-year observations (395 for *<IR> Reference Reporters* and 725 for *<IR> Regular Reporters*). The total sample or the subsamples will be used alternatively according to the types of analyses underlined in the following sections.

[Table 1]

3.3 Method

Rivera-Arrubla et al. (2017) state that given the novelty of integrated reports, there is no specific theoretical foundation for the motivations to voluntarily publish an integrated report. Even so, recent papers support and contribute to well stablished theories, namely, institutional theory and stakeholder theory (e.g., Jensen and Berg, 2012; Frías-Aceituno et al., 2013; Vaz et al., 2016; Riviera-Arruba et al., 2017). Our exploratory study also does.

First, to achieve the first paper's goal - an overview of the characteristics of organizations that use the <IR> methodology to communicate their business models to other stakeholders - we created a list of several variables to capture geographic dispersion and firm characteristics. Geographic dispersion variables are used because future research could analyse behaviour patterns in different country environments that either require or encourage the shift from more traditional financial reports to novel <IR> thinking and disclosures. Firm characteristic variables are also constructed because notwithstanding the fact that they are used as a firm-level factor to engage in <IR>, they can also act as variable controls to analyse the impact of some of these variables in firm performance, market value or any other relevant research field. Other researchers also used geographies (e.g., Sierra-García et al., 2015; Frias-Aceituno et al., 2014; Vaz et al., 2016), company size (e.g., Frías-Aceituno et al., 2013a, 2013b; Sierra-Garcia et al., 2015; Vaz et al., 2016), industry (e.g., Sierra-Garcia et al., 2015; Gianfelici et al., 2016; Vaz et al., 2016), profitability (e.g., Frías-Aceituno et al., 2013a; Frías-Aceituno et al., 2014) and external assurance (Sierra-García et al., 2015; Vaz et al., 2016) in their studies on the determinants of/motivations for prepare <IR>. We use similar (or equivalent to) and additional variables to compare different groups within those who are already engaged in <IR>.

The variables assigned to geographic dispersion were *country* (identifying the country in which the report was presented) and *continent dispersion* (aggregating the reporters' countries of by continent). The source of the data was the <IR> Examples Database, and we collect this information for the total sample of <IR> Reporters.

Firm characteristics were captured using the most common variables used in well-established research on accounting matters, including the following: (1) *Size*, measured by an organization's total assets and its market capitalization at the end of the fiscal year, given information about the magnitude and economic importance of organizations engaged in <IR>; (2) *Industry*, based on Industry Classification Benchmark (ICB) codes, to have an idea of which sectors are leading in <IR>; (3) *Profitability*, captured by Earnings Before Interest and Taxes (EBIT), because earnings are one important indicator of ability to create value; (4) *Leverage*, dividing total debt by total shareholder equity, because valuable and profitable firms in all industries need to be financed; and (5) *Auditing*, i.e., if an organization's financial statements are audited by a Big 4 auditing firm or any other auditing firm, which is usually seen as an indicator of trustworthiness of the organization's financial information—indeed, all of the Big 4 auditing firms are publishing documents about <IR> and signalling that they can provide assurances for the <IR> process. These data were retrieved from Thompson Reuters DataStream database for all of the organizations included in our sample with the <IR> reporters for each year between 2011 and 2015, totalling 6 years of firm-year observations. Inferential statistics tests will be applied to determine whether there is a statistically significant difference between the mean in the two unrelated groups (<IR> Reference Reporters versus <IR> Regular Reporters)[vii].

Next, to achieve the second goal – to shed light on the contend of integrated reports of those "reference" organizations that have been recognized as leading practice by a reputable award process or through benchmarking - we have examined only the most recent integrated report published by each organization classified as an <IR> Reference Reporter (i.e., the subsample with 79 organizations). We collected information using a technique consistent with content analysis based on data published in IIRC database. We analysed information on the guiding principles, fundamental concepts and content elements included in the integrated report based on the IIRC's published guidelines. To summarize and provide a general basis of the presentation of those principles, fundamental values and elements that are included in the integrated reports of the *<IR>Reference Reporters* (considered the best ones) we adapted the methodology followed by Rivera-Arrubla et al. (2017) and created an index. In our study, the index measures whether the *<IR>Reference Reporter* disclosed the seven guiding principles, the two fundamental values and the eight elements within the integrated report. We calculate the index attributing 1 if the item is presented in the integrated report and 0 otherwise. A total of 17 points can be obtained, equivalent to the total items belonging to the structure of the integrated report. All points are, thus, converted to a percentage scale (17 points = 100%), revealing the percentage of items of the IIRC framework included in the <IR> Reporter Reference´s integrated report. As Rivera-Arrubla et al. (2017) did in their study, we present the top-three companies (ranked by size) with the better disclosure index.

4. Results and discussion

i) Number of Reference Reporters and Reports

Table 1 provided information about the number of organizations classified as *<IR> Reference Reporters* and classified as *<IR> Regular Reporters* in 224 organizations publishing <IR> from 2011 to 2015. An organization's classification as a Reference Reporter for one year does not mean that it will be classified as such in later years. Figure 1 intends to show the number of reference reports that are available per year. That notwithstanding, an increasing number of reports are published by *Reporters* that have the characteristics of Reference Reporters. The reason for the relative paucity of Reference Reporters in 2015 is that organizations published their reports at the beginning of 2016. Therefore, it takes time for the IIRC not only to decide whether organizations are Reference Reporters but also to distribute its various awards and recognitions.

[Figure 1]

The tendency to increase the number of reference reports is aligned with the IIRC's policies and plans to disseminate <IR> more widely. The IIRC is currently conducting an implementation review of the International <IR> Framework that is designed to inform the ongoing development of guidance to support <IR> implementation.

ii) Geographic dispersion

Table 2 (column 1) presents the results for the geographic dispersion of organizations whose reports use the <IR> framework. Africa is represented in our sample with 113 organizations out of 224 (approximately 50% of the total reporters), followed by Europe with 78 organizations (35%). The remaining organizations are located in Asia (14 reporters, 6%), South America (8 reporters, 4%), North America (7 reporters, 3%) and Australia (4 reporters, 2%).

[Table 2]

A detailed dispersion by country is also shown. All of Africa's 113 reporters are located in South Africa. This is not an anecdotal report: Integrated Reports have been mandatory for every organization listed on the Johannesburg Securities Exchange (JSE) since 1 March 2010 (Hoffman, 2012). According to Hoffman (2012), JSE-listed organizations in South Africa have generally responded in a positive and pro-active manner; furthermore, even a number of State-Owned Entities have embraced <IR>. Good initiatives and support for <IR> are also found in the most recent Report on Corporate Governance for South Africa (Institute of Directors in Southern Africa, 2016), published by the Institute of Directors in Southern Africa (with sponsorship from the Big 4 auditing firms) and known as the King IV report (following up on the organization's King III report). The King IV report acknowledges the shift from siloed reporting to <IR>.

The United Kingdom is the second country presenting a higher number of <IR> Reporters with 30 organizations, representing approximately 13% of our total sample. The UK's Financial Reporting Council (FRC) has published a work titled Guidance on the Strategic Report, which represents the first step in the group's "programme of work to promote clear and concise reporting from which investors can, with justifiable confidence, draw conclusions about a company's performance, position and prospects" (FRC, 2014). The Strategic Report, together with the FRC's guidance, is consistent with <IR> and is one of the leading worldwide initiatives to allow businesses to communicate concise, relevant and focused information. No other country has more than 12 reporters. This overview is different from GRI (2013,p.5), which related to a survey of self-declared pioneers in the preparation of integrated reports. That report indicates that the Netherlands (in second position), Brazil and Australia closely followed South Africa between 2010 and 2012. In recent years, supported by the IIRC database, the situation has changed: the numbers outlined in Table 2 do not reflect self-declared reporters, instead reporting effect-oriented preparers of integrated reports. There likely is no single justification for this movement. Instead, the evidence indicates that either government support or stock-exchange initiatives encourage reports that reflect integrated thinking[viii]. South Africa is also appointed by Vaz et al. (2016) and by Sierra-García et al. (2015) as the country/region where the probability of publishing an integrated report is higher and this characteristic is analysed as a determinant of <IR>.

Table 2 (Column 2) reveals that notwithstanding South Africa be the country with more integrated reporters included in the IIRC Examples Database, United Kingdom (Europe) is the country (continent) with more reference reporters, with 24 (40) out of 30 (78) organizations that have either been assessed by experts as leading practice or received an award for demonstrating leading practice in <IR>.

iii) Firm characteristics

Size

Size was analysed through the information about “total assets” and “market capitalization” collected from the DataStream database for each organization included in the sample.

The average of total assets (in thousands of euros) was computed for the two groups of reporters, <IR> Reference *versus* <IR> Regular, per year (2011-2015) and for the average of the pooled sample period. Figure 2 illustrates and Table 3 (Panels A and B) details the output. The size of <IR> Reporters (Table 3, Panel A, column 1) is larger than the size of <IR> Regulator reporters (Table 3, Panel A, column 2) both in any year and in the pooled sample. The Shapiro-Wilk test was used as our numerical means of assessing normality and results showed that the data significantly deviate from a normal distribution (not reported). Two procedures were thus applied: i) we create a new variable, normal score for size using Blom's formula, and we re-run the t-test for equality of the means of this new variable; and 2) we run non-parametric statistics for the original variable based on size and then perform Mann-Whitney U tests[ix]. Our conclusions are consistent: tests for the equality of the means of (Column 4) or the equality of the medians (Column 5) for the variable in use suggest that <IR> Reference Reporters and <IR> Regulator Reporters differed significantly in size.

[Figure 2]

[Table 3]

The same methodology was then applied to "market capitalization". Panel B of Table 3 presents the output. On average, the market capitalization is higher for organizations classified as <IR> Reference Reporters, and the tests for the equality of the means of (Column 4) or the equality of the medians (Column 5) for the variable in use suggest that <IR> Reference Reporters and <IR> Regulator Reporters differed significantly in size.

Prior studies (e.g., Frías-Aceituno et al., 2014) have suggested that large companies want to be even more visible in the market and in society overall. For that reason, they have taken action to increase the number of potential users of their financial information, "which would eventually generate a greater demand for information and pressure the company toward disclosure" (Frías-Aceituno et al., 2014:66) and found a positive effect of size and the production of an integrated company report. Other studies show mixed findings on size having an effect on the publication of information around <IR> (e.g., García-Sanchez et al., 2013; Sierra-García et al., 2015; Vaz et al., 2016). Although differences in the construction of samples and in the metrics used to get "size" variable, which can bias results (e.g., Vaz et al., 2016), our adds that compared with <IR> Regular Reporters, <IR> Reference reporters are larger. Researches not directly related to <IR> also found not only that larger companies are more likely to avoid negative regulatory and stakeholder attention by complying with new reporting requirements (Li et al., 2012; Ahmed Haji and Mohd Ghazali, 2013) but also that size has long been associated with financial and non-financial reporting practices (e.g., Camfferman and Cooke, 2002).

Industry dispersion

Our analysis of industry dispersion was conducted using ICB codes. Data were retrieved from the DataStream database, selecting information for the 224 organizations that are <IR> reporters.

Results are presented in Figure 3. The most representative industry is financial services, with 56 reporters. This sector includes banks[x], investment funds, insurance companies and real estate. It is followed by industrials, with 45 reporters, including companies that produce goods used in construction, manufacturing, agriculture and transportation. Moreover, it includes aerospace, industrial machinery, tools, construction, cement and metal fabrication. The remaining reporters are divided into basic materials (36 reporters), consumer services (24), consumer goods (18) and utilities (12). Technology, oil and gas, healthcare and telecommunications are industries with fewer than 10 reporters from the 224 organizations in the sample.

Our data are in line with both EY (2014) and GRI (2013) studies, who stated that the financial sector self-declares more integrated reports than any other sector, followed by the utilities, energy and mining sectors. With respect to the financial sector, Frias-Aceituno et al. (2014) interpret this commitment as a positive signal to stakeholders, projecting transparency and involvement in managing sustainable business models in this industry. Contrary to Gianfelici et al. (2016), Frias-Aceituno et al. (2014) and Vaz et al. (2016) showed no statistical influence of industry on the decision to prepare and release an integrated report. . However, all of them confirm that industry membership may have an impact on the content of integrated reports. We share their concerns, suggesting that the industry must be treated as a fundamental control variable with regard to all studies based on emerging reporting tools, including integrated reports.

[Figure 3]

Profitability

The analysis of profitability between the two groups of *<IR> Reporters* was based on the metric EBIT, also known as Operating Income. Data on this indicator of performance was retrieved from the DataStream database for each organization included in the sample. Using a procedure similar to Size, the average of EBIT (in thousands of euros) was calculated for the two groups of reporters, <IR> Reference Reporters *versus* <IR> Regular Reporters, per year (2011-2015) and for the average of the pooled sample period. Figure 4 depicts and Table 4 specifies the output. Using EBIT as a proxy for profitability, the performance of <IR> reporters (Table 4, column 1) is higher than the performance of <IR> Regulator Reporters (column 2) in any year and in the pooled sample. Again, the Shapiro-Wilk test allows us to consider the rejection of normality (not reported), and this variable was transformed in a normal score using Blom's formula. The independent sample T-test for the equality of the means of normal EBIT between the two groups was conducted (column 4), along with a non-parametric analysis using Mann-Whitney U tests for the equality of the medians (column 5). The results permit the rejection of the null hypothesis of the equality of the mean and the median on profitability. Organizations classified as *<IR> Reference Reporters* are more profitable than organizations classified as *<IR> Regulator Reporters*, and the differences on means and medians are statically significant.

[Figure 4]

[Table 4]

Frías-Aceituno et al. (2014) synthetize that information about profitability can be used as a manager's personal advantage, as an indicator of investment quality, and as a characteristic distinguishing a company from less successful companies, despite the weak acceptance of this indicator on the probability of supplying integrated information. García-Sanchez et al (2013) found that more profitable companies are more likely to present integrated reports. Our sample includes only integrated reporters, and our evidence seems to support the viewpoint of those authors—namely, that the most profitable companies not only tend to be those classified as <IR> Reference Reporters but are also likely to devote the most resources to improving their integrated reporting, with the goal of making their activities better known to the public.

Leverage

Leverage is analysed through total debt divided by shareholder equity. These two accounting measures were retrieved from the DataStream database for the sample period. Figure 5 shows and Table 5 displays detailed output relative to the level of leverage of both groups of reporters.

The amount of debt used to finance the organization's assets is lower for *<IR> Reference Reporters* (column 1, Table 5) then for *<IR> Regular Reporters* (column 2, Table 5). Using the same procedures applied to size and to profitability, the T-test for equality of the mean of the transformed-into-normal leverage variable (column 4) and the Mann-Whitney U test for the equality of the median of the original leverage variable (column 5) were performed. However, unlike size and profitability, the null of the quality of the means and medians was not rejected with acceptable levels of confidence.

[Figure 5]

[Table 5]

This evidence seems to corroborate Dong and Stettler (2011), who found that financial leverage is either weakly related to or not significantly associated with disclosure. The sparse prior studies on integrated reports also usually do not include leverage as a factor to explain engagement on <IR>. However, additional (unreported) tests reveal that results for leverage are sensitive to how leverage is computed, which could potentially bias future research when this variable is included as a control in studies of integrated reports.

Auditing and Assurance

Auditing services are one important aspect of the reporting process, helping control both the reporting and the communication of risk management information (EY, 2014). By controlling these variables, value creation may be maximized, enabling the company to better understand the risks of its business and therefore to implement controls to mitigate those risks. Externally, third parties may understand the key characteristics of the risk management model and how the organization responds to the most material.

Nevertheless, assurance services (beyond auditing financial statements) can be applied to all of the information that is used to manage, govern, transact with and invest in an organization. The market is serious about requiring more accountability and transparency from companies in all aspects of their business (KPMG, 2017). Assurance on non-financial information can help instil confidence in the important decisions that management makes on behalf of an organization, and the assurance of integrated reports is a new branch of services provided by traditional audit firms. Presently, auditing standards can be applied to some sections of an integrated report. However, there is no formalized assurance standard specifically for integrated reporting (Deloitte, 2015). Cheng et al. (2014) have called for more attention to this area of research.

External assurance has the potential to play a fundamental role in <IR>, primarily by transmitting confidence and increasing the reliability of the reports. Frías-Aceituno et al. (2013a), Frías-Aceituno et al. (2013b), García-Sanchez et al. (2013) and Vaz et al. (2016) provide evidence of no influence of external assurance on the presentation of an IR. In turn, Sierra-García et al. (2015) found the likelihood of disclosing an Integrated Reporting is positively associated to having Corporate Social Responsibility report assured but no effect comes from the external assurance provided by a Big 4 audit firm or any other certifier or consultant´s firm. Equivalent findings comes from Rivera-Arrubla et al. (2017), who tested the positive association between the type of auditor used (i.e., Big 4 or non-Big 4) for traditional financial statements and the level of disclosure of integrated reports (using the GRI framework for sustainability). They found no evidence that the variables of the type of auditor and the GRI application level were significantly associated with the disclosure index they constructed.

In our study, we compare the proportion of firms using Big 4 audit services applied to financial statements to the proportion of firms using non-Big 4 auditing firms within each group of <IR> Reporters. Table 6 reveals that approximately 92% of the *<IR> Reference Reporters* and 87% of the *<IR> Regular Reporters* use the Big 4 auditing firms more than other auditors to assure auditing quality and financial-accounting certification. Tests for the equality of proportions between groups enable us to conclude that despite the widespread use of Big 4 audit services, the proportion of *<IR> Reference Reporters* using KPMG, EY, Deloitte or PwC is higher and significantly different from *<IR> Regular Reporters.*

Afterwards, and considering that the total or limited assurance of <IR> and non-financial information remains in its initial phase (IIRC, 2015b), we applied a similar approach as Sierra-García et al. (2015). Namely, we looked into those integrated reports for which the probability of being assured would be higher, which in our sample are those classified as *<IR> Reference Reporters*. Based on the most recent integrated reports published in our sample period, our analysis (not tabulated) reveals that approximately 42% (33 reports of 79) present an independent third-party statement about (some of the) non-financial information disclosed in those integrated reports, and the vast majority (approximately 79%) choose the services of a traditional Big 4 auditing firm. While the variable "auditing" was collected Datastream, the "assurance" was hand collected from the most recent integrated report published by each <IR> Reference Reporting in the sample period. This result is in line with Sierra-García et al. (2015), who found that Big 4 auditing firms are also more requested to provide external assurance to corporate social responsibility reports.

[Table 6]

The results of this exploratory research on geographic dispersion and firm-level characteristics can be framed along with the normative and mimetic mechanisms of institutional theory. Organizations tends to follow the best theoretical practices (guided by frameworks) but only part are considered the most successful and legitimate as possible (supported in best practices). The results shows that organization preparing integrated reports that as considered as "Reference" are larger, more profitable and less leveraged that their counterparts, with differences also on the country where they are located.

iv) Content analysis of <IR> Reference Reporters

This section deals with the sample that includes only <IR> Reference Reporters. As they were prized with awards on the basis of criteria designed to rate the relative merits of their reports and aligned with <IR>, we looked into their guiding principles, fundamental values and content elements. We present (supported in graphics) the number of <IR> Reporters preparing and presenting the integrated reporting following the framework (IIRC, 2013) and we propose a disclosure index.

Guiding principles to be classified as an <IR> Reference Reporter according to the <IR> Framework

All of the Reference Reporters' reports must comply with seven guiding principles included in the IIRC Framework. However, it is not mandatory to disclose all of the principles, and reports may present either the seven principles or just one.

We analysed the most recent integrated report published by an <IR> Reference Reporter within the sample period. Specifically, we analysed 79 reports, one for each *<IR> Reference Reporter*. Analysing the content, we hand-collected the captions with the guidance principles disclosed. Figure 6 presents the output of the examination.

[Figure 6]

The most frequent principle disclosed and explained is the *Connectivity of Information*, presented in 46 of the 79 reference reports. The IIRC states an <IR> should provide a holistic picture of the combination, interrelatedness and dependencies between facts that affect the organization's ability to create value over time.

The second (and more recurrent) principle is *Strategic Focus and Future Orientation*, which is explained by 43 organizations. This principle presumes that a report should provide insight into the organization's strategy and how that strategy relates not only to the organization's ability to create value in the short, medium and long term but also to the organization's use of and effect on its capital.

C*onciseness* is another representative principle; it is mentioned in 41 reports. This principle states that every integrated report must be concise.

Stakeholder Relationships is the third most frequently appearing principle; it is mentioned in 35 reports. This guideline principle recommends that the reports provide insight into the nature and quality of the organization's relationships with the key stakeholders, including how and the extent to which the organization understands, considers and responds to their legitimate needs and interests.

Another principle is that of *Materiality*, mentioned in 24 reports. According to the IIRC, an <IR> should disclose information about matters that substantively affect the organization's ability to create value over the short, medium and long term.

Two guidelines are disclosed much less often. The first concerns *Reliability and Completeness*, which is detailed just in 7 out of the 79 reports. This guideline principle applauds the mention of material matters, both positive and negative, in a balanced way and without material error. The second concerns reports' *Consistency and Comparability*, which is detailed by just 6 reporters. This guideline proposes to publish reports on a consistent basis over time in a way that enables comparison with other organizations about their ability to create value over time.

Fundamental concepts: Value creation and the six capitals

The IIRC highlights two fundamental concepts that are underlined in integrated reports: *Value Creation* and the *six capitals*. Both concepts are comprehensible only if the importance of the organizations' *business model* is also well understood. The business model is the concept supporting the definition and execution of an organization's strategy. It leads the process through which an organization creates sustainable value over time, based on the theory of multiple capitals. The framework argues for the existence of six capitals: natural, social and relationship, human, intellectual, manufactured, and financial. Climent and Hollander (2014) argue that capitals store value needed by organizations to create sustainable profit and societal prosperity. Moreover, these values can be transformed, increased or decreased through the organization's activities and outputs. For reporting purposes, an organization should identify only the individual capitals that materially contribute to or affect the value-creation process and the long-term viability of its business model.

The *Value Creation process* should be analysed with respect to how an organization creates value not only for its shareholders but also for society as a whole by means of a sustainable strategy. This notion calls for organizations to factor decisions, trade-offs and choices into their business model. For example, if an organization wants to reduce its dependence on natural capital, it may have to tap its financial capital to invest in the human capital capable of achieving this goal. *Value Creation* (or destruction) encompasses not only the products and services produced by the organization but also the external factors that increase or decrease the value of the capitals used (IIRC, 2016; Climent and Hollander, 2014). *Value Creation* (or destruction) occurs both through an increase or decrease in the value of the organization's tangible and intangible assets and in the creation of positive or negative impacts for the community (externalities) that can then provide feedback about the organization's value. The technical literature provides some good examples of summaries and task forces' outputs both to support the preparation of a good integrated report and to explain the value-creation process[xi].

Table 7 shows the number and percentage of reports detailing *Value Creation* and the six capitals. All of the reference reports (100%) present a section that both points out their complete awareness of the importance of the value-creation process and explains their own process. However, only 27 reports (34% of the 79 reports) link to the six capitals to explain their process.

[Table 7]

Content elements

The IIRC considers content elements an important aspect, primarily to differentiate <IR> Reference Reporters from outstanding reporters, that is, reporters that (usually) have presented an integrated report but have failed in their indication of the content elements.

Because the <IR> is a reporting tool used to communicate, understand and measure the value creation process, the objective is both to disclose and to provide better information than traditional reports. Therefore, and according to the IIRC, an <IR> should disclose the following elements: organizational overview and external environment; business model, risks and opportunities; strategy and resource allocation, governance; performance; outlook and basis of presentation. We looked at the 79 reference reports (the most recent for each <IR> Reference Reporter) and chose reports that clearly identified those content elements.

Results are presented in Figure 7. The most-often revealed element is *Strategy and Resource Allocation*, which is detailed in 19 reports. This element presumes that an organization's report presents both the organization's objective and the approach and strategy used to achieve it.

[Figure 7]

The following element often mentioned by reporters is an organization's own *Business Model*, declared by 18 reporters. This element assumes that the reporter explains its business model, arguing that it is resilient. Rivera-Arrubla et al. (2017) also concluded that this element was above the mean in their index of disclosure.

Organizational overview and external environment and *Risks and opportunities* are detailed in 16 reports. The element of *Organizational overview and external environment* addresses the question of what the organization wants to do and describes the circumstances under which the organization operates. The element of *Risks and opportunities* relates to identifying how the organization intends to maximize opportunities and mitigate or manage risks.

Performance is the next most commonly mentioned element; it is described in 12 reports. *Performance* assumes that organizations explain not only how they performed against their strategy but also—and in concrete terms—which key outcomes are produced in terms of capitals.

Finally, the least-disclosed elements are *Governance*, *Outlook* and *Basis of Presentation*, represented by 7, 4 and 4 organizations respectively. *Governance* presupposes that the organization explains its governance structure and how that structure supports the organization's ability to create value in the short, medium and long term. However, because organizations are usually required to prepare a governance report, especially if they are listed, the information can be presented in a report other than the integrated one. With respect to *Outlook*, it is supposed that the organization identifies the challenges and uncertainties that it may encounter while pursuing its strategy, along with other potential implications for its business model and its future performance and outcomes. Finally, *Basis of Presentation* implies the explanation of the determination of material matters based on characteristics such as KPIs.

To provide a general basis of the presentation of principles, fundamental values and elements that are included in the integrated reports of the *<IR>Reference Reporters*, considered the best ones, we follow an approach used by Rivera-Arrubla et al. (2017) and created a disclosure index. As explained, a total of 17 points (based on the percentage of items of the IIRC framework included in the <IR> Reporter Reference´s integrated report) can be obtained.

Table 8 reports the results. Considering all the items together, panel A points that the global index ranges from 5.9% to 64.7%, with mean of 30.5% and standard deviation of 12.4. Divided into the three main parts, fundamental values have the better mean (66.5%) - remember that the totality of the *<IR> Reference Reporters* disclosed about the importance of the value creation process - followed by the guidelines (33.3%) and the content elements (29.7%). The top-three companies ranked by size (based on market capitalization) with the higher disclosure index are presented in Panel B. The three are from United Kingdom and Australia, belong to different industries and only one is external assured.

[Table 8]

Taking into consideration all of the value and richness of information that a company could include in its integrated report, it seems that organizations are disclosing less information than expected. Our results are not directly comparable with Rivera-Arrubla et al. (2017) because they present more detailed index but just for some parts of the structure of integrated reports. Based on both studies, and consequently, through the lens of stakeholder theory, we believe managers have an opportunity to better fill stakeholders' perceptions of corporate status through integrated reporting disclosure. This evidence is also in line with Ahmed Haji and Mahbood Hossain (2016), who examined the content of integrated reports of South African companies and concluded that their disclosures are generic (as opposed to company-specific), and lack substance, and "(…) despite some cursory references to multiple capitals and wider value creation, the adoption of IR practice, and the embedded multiple capitals framework, has not really improved the substance of organisational reports" (p.3).

We offer details about who is engaged on integrated reporting (as Rivera-Arrubla et al., 2017, also did for their results). Panel A of Table 9 presents, ranked by size (based on market capitalization), the top-three larger companies that included in the integrated report detailed information about each guiding principle and each content element.

[Table 9]

As can be seen, the majority of the largest <IR> Reference Reporters disclosing information about each guiding principle are located in United Kingdom followed by Australia, and belong to basic materials, financial services and oil and gas industries. These findings are quite different from Rivera-Arrubla et al. (2017), which permit us to suggest that the way as the index is created can bias the final results. Three of the thirteen organizations included in Panel A have required external assurance to their integrated report. Panel B presents the same information but for each content element. Again, United Kingdom stands out, followed by Australia and also by South Africa. Clearly, the largest *<IR> Reference Reporters* disclosing information about their content elements come from financial services' industry. Ten of the nineteen organizations included in Panel B have the integrated report assured by an external entity and, in future researches, as suggested by Sierra-García et al. (2015: p.301) "(…) the assurance of the IR as such should be looked into as a way of increasing the credibility of these stand-alone reports"

5. Conclusions

This research was undertaken to present evidence on the geographic dispersion and firm characteristics of organizations using Integrated Reporting (<IR>) methodology to communicate their business models to other stakeholders.

A serious debate around <IR> has been waged for no more than five years, and <IR> Reporting is a considered a new tool for disclosing corporate information covering diverse areas from governance to financial accounting based on both financial and non-financial data. Empirical studies have been insufficient to identify the benefits, the advantages and the disadvantages of this new method of communication. Even so, the IIRC, a coalition organization supporting and developing useful tools, guidelines and principles to be used by reporters, is encouraging the <IR> and promoting a events to explain the movement to this new thinking. One of the resources released by the IIRC is the <IR> Examples Database, also known as Emerging Integrated Reporting Database, which we used as the source of information about organizations that have been publishing integrated reports.

Covering a period sample from 2011 to mid-2015, our sample was composed of 224 organizations, 79 of which were classified as <IR> Reference Reporters and 145 of which were classified as <IR> Regular Reporters. To be classified as an <IR> Reference Reporter, an organization must prepare an integrated report that has been recognized as representing a leading practice either through a reputable award process or through benchmarking according to the <IR> Example Database (we make no judgement of this approach – we simply applied the same classification used by the IIRC).

Most <IR> Reporters are from South Africa, followed by the United Kingdom, Spain and Netherlands. Europe is the second continent (after Africa, whose leading role is attributed to South Africa) with a higher number of reporters using this new communication tool and United Kingdom is the one where the majority of the <IR> reference Reporters, are located.

The <IR> Reference Reporters are significantly larger (either in assets allocated to business or in market capitalization) and more profitable than their counterparts. They are also less leveraged, although the difference is not statistically significant. Both groups predominantly choose Big 4 auditing firms to provide assurances of their financial reporting.

A deeper analysis of the most recent <IR> published by each <IR> Reference Reporter reveals that the connectivity of information, strategic focus and future orientation, and conciseness are the three main principles that are mentioned the most often. However, these three principles are not present in every report. Reliability and completeness, along with consistency and comparability, are the guiding principles mentioned the least often by <IR> Reference Reporters, apparently because of the characteristics of this type of report. Almost all such reporters describe the value-creation process, but only slightly more than one-third disclose all of the six capitals contributing to that value. The most-often revealed content elements are strategy (and resource allocation), the business model, the organizational overview (and external environment), and risks and opportunities. However, these content elements are revealed by fewer than half of the <IR> Reference Reporters. To summarize and provide a general disclosure index, <IR> Reference Reporters provide a global mean index about 30%. Better opinions aside, it seems that organizations are disclosing less than expected.

Our research suffers from several limitations. First, the <IR> Example Database does not cover all of the organizations reporting according to the <IR> framework published by IIRC, only those who voluntarily sent their reports to the database. Second, the content analysis can be biased by the authors' interpretations when conducting the content analysis. Nonetheless, our study will encourage new research around topics suggested in the prior literature: many emergent themes require deeper analysis. We showed that there is diversity in number, geography, size, profitability, assurance and quality of reports that permits transformation from the childhood stage to the maturity stage in the research on integrated reports.

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[i] From this point onwards, <IR> means “Integrated Reporting”, which encompasses the process founded on integrated thinking that results in a periodic integrated report.

[ii] A synthesis of the emerging field of integrated reporting can be found in Morros (2016).

[iii] The organizational structure of the IIRC consists of a Board that takes responsibility for approving the <IR> framework; a Council that provides guidance, strategic insights and credibility to the IIRC's work; a working group that develops the <IR> framework and promotes its adoption; and a permanent secretariat staff. The council members include chief executives of the AICPA, CIMA, EY, PWC, Grant Thornton, IASB, BDO, KPMG, the Institute of Internal Auditors, Deloitte and IFAC.

[iv] The GRI database could be another tool to create a sample with companies preparing sustainability reports. However, GRI framework for preparing sustainability reports is different from the IIRC framework for preparing integrated reports. Issuers of integrated reports are usually focused on sustainability, but not all issuers of sustainability reports can be considered issuers of integrated reports. For instance, in 2011 approximately 20% of reports based on GRI guidelines were self-declared as integrated by the reporting entities (Rivera-Arrubla et al., 2017). The GRI, although it is a co-founder of IIRC, also recognizes that just 52 organizations (of 519) published a self-declared "integrated report" for each of the three years studied (2010-2012). This represents approximately 10% of the reports available in the GRI Database at that time (GRI, 2013). At the time the present study started, we decided to choose the IIRC database, as Gianfelici et al. (2016) and Rivera-Arrubla et al (2017) also did.

[v] The awards and recognitions considered, using data collected in IIRC Examples Database, were the following: the Australasian Reporting Awards, the EY Excellence in Integrated Reporting Awards, PwC's Building Public Trust Excellence in Reporting Awards, the CSSA Integrated Reporting Awards, the WICI (Japan) Awards for Integrated Reporting, the Nkonki Top 100 JSE Listed Companies Integrated Reporting Awards and the Sijthoff Prize.

[vi] The names, countries and ICB industry codes of the organizations classified in both categories can be requested from the corresponding author.

[vii] If we find that either one or both of the <IR> Reporters' data are not approximately normally distributed and groups sizes differ greatly, we do the following: (1) transform our result using Blom´s formula so that the data become normally distributed; or (2) run the Mann-Whitney U test, which is a non-parametric test that does not require the assumption of normality.

[viii] According to IIRC (2013, p.2), integrated thinking is "the active consideration by an organization of the relationships between its various operating and functional units and the capitals that the organization uses or

affects. (…) [and] takes into account the connectivity and interdependencies between the range of factors that affect an organization's ability to create value over time (…).The more that integrated thinking is embedded into an organization's activities, the more naturally will the connectivity of information flow into management reporting, analysis and decision-making [which] leads to better integration of the information systems that support internal and external reporting and communication, including preparation of the integrated report.

[ix] For ease of presentation and readability, detailed statistics are not reported; only the conclusions of the inferential are considered.

[x] Lodhia (2015) presented the transition to integrated reporting using a case study approach conducted in a customer-owned bank.

[xi] See, for example, the document prepared by the Chartered Institute of Management Accountants (CIMA), the International Federation of Accountants (IFAC) and PricewaterhouseCoopers (PwC), available in http://integratedreporting.org/wp-content/uploads/2013/03/Business_Model.pdf)