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Integrated Reporting Assessment from the User's Perspective Using the Integrated Report Quality Index

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Abstract. The last decades have seen a shift in the corporate reporting model, moving from financial disclosure to the triple bottom line approach, including information about financial, environmental and social capital, also referred to as a sustainability reporting. These changes have been driven by stakeholder pressure on corporate transparency and emerging disclosure regulation. The International Integrated Reporting Council aimed to add value to sustainability reporting by developing integrated reporting (IR), seeking not only to combine financial and non-financial reporting but to show connectivity between them and provide a clear picture of how the company can create and sustain value over the short, medium and long term. This approach has been followed by a great number of corporations since its initiation in 2010. Given that the IR framework is rather principles-based, the quality of such reports differs from company to company. The main objective of this paper is to assess the quality of IR from the user's perspective. We analyse companies listed in IBEX 35 and compare the evolution of the IR quality in 2016 and 2019. To do so, an index was developed measuring the quality of the integrated report based on elements such as visuality, navigability, technological elements and business model description. Our findings show that while, in 2016, companies operating in critical sectors tended to have a generally higher IR quality, there were no significant differences in 2019 between companies operating in critical and non-critical sectors, and the general quality has decreased in favour of the quantity of information.

Keywords: IBEX 35, integrated reporting, International Integrated Reporting Council, sustainability reporting, quality aspects.

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1. INTRODUCTION

Sustainability reporting is gaining momentum on a global level. Over the last decade, the number of companies paying attention to sustainability concerns and providing information about their environmental and social performance alongside their financial performance has significantly increased (Serafeim, 2014). This phenomenon of transparency is still attracting the attention of both academics and society, as can be seen in the evolution of sustainability reporting standards and practices. The KPMG Survey of Sustainability Reporting 2020, analysing the 100 largest companies in 52 countries, revealed that 80 percent provided a sustainability report, while the sustainability reporting rate of the world's 250 largest companies is 96 percent. As sustainability disclosure had been established for longer in Europe than in other regions, European companies tended to have higher quality of sustainability reports (KPMG, 2020). Despite the fact that there are many standards providing some guidance on how to report on sustainability issues, there is no one internationally recognized and generally accepted standard for sustainability disclosure as there is for financial reporting. However, international institutions such as Global Reporting Initiative (GRI) and International Integrated Reporting Council (IIRC) represent a significant step towards unification in this matter. The GRI guidelines, established in 1997, are perhaps the most developed sustainability reporting standards based on the triple bottom line indicators (economic, environmental and social); for more than a decade, it has been the leading reporting framework for sustainability disclosure worldwide (Ballou et al., 2006; KPMG, 2020; Roca & Searcy, 2012).

The IIRC developed the integrated reporting (IR) framework with the aim of covering the information needs of the twenty-first century, taking into account all stakeholders, not just shareholders, by combining different strands of reporting into one coherent whole. The idea of IR is ultimately built upon sustainability reporting, but it aims to take the reporting to a higher level. The main goals are to show the connection between economic, environmental and social performance and to explain how the company is able to create and sustain value over time. The vision of the IIRC is that in the near future a company will prepare only one report, an integrated report, instead of separate financial reports, sustainability reports, management reports, etc. IR is intended to be a concise communication of how a company creates and sustains value in the short, medium and long term. In 2010, a pilot programme was launched in South Africa where all listed companies had to prepare an integrated report, based on the King Code of Governance for South

Africa 2009 (IoD, 2009). Many companies all around the world also signed up voluntarily.

The Non-Financial Reporting Directive (Directive 2014/95/EU) requires large companies to publish non-financial information to allow all stakeholders to evaluate their non-financial performance and to promote responsible business practices (EUR-Lex, 2014). In April 2021 the Commission adopted a proposal for a new Corporate Sustainability Reporting Directive that would amend the existing Directive 2014/95/EU (EUR-Lex, 2021). Recently the European Financial Reporting Advisory Group (EFRAG, 2021) has started to work on the EU Sustainability Reporting Standards in order to address the challenge of the EU comprehensive sustainability reporting.

Given that it is a principles-based approach, detailed guidance on how to report in accordance with the IR framework is missing. As a result of that, IR has evolved somewhat disjointedly, and so the quality of such a report differs not only from country to country, but even from company to company. A problem still present after almost a decade is that companies struggle to prepare their integrated report to add some value for stakeholders who will use it.

As the IR approach is rather open and the framework is supposed just to guide companies in terms of general content and principles, a simple look at whether or not the company reports in compliance with the IIRC guidelines is not sufficient to assess the reporting practices of a particular company, and a closer examination of the quality of such a report is of greater interest. Nevertheless, there is an absence of a common understanding of IR quality and a mechanism to measure it. Various authors have pointed out the importance of developing a comprehensive model which will focus on the primary goal of the IR – effective communication to outside parties (Cooray et al., 2020; Malola & Maroun, 2019; Pistoni et al., 2018; Pozzoli & Gesuele, 2016). In this study, we have developed an Integrated Report Quality Index by integrating technological and conceptual aspects of the IR.

Thus, the main objective of the paper is to analyse the quality of IR from the user's perspective. In order to do that, an index has been created to reflect different quality aspects of the report. In addition, the evolution of the report quality has been analysed, comparing panel data from 2016 and 2019.

This research study contributes to the literature in three main aspects. One of the main contributions of this study and our motivation is to provide a different approach to IR quality assessment in the era of new technologies. Secondly, we are

aware that nowadays there is a need to reduce/filter the information instead of adding more content. Therefore, we also want to highlight that just putting more information into the integrated report does not necessarily mean a higher quality of a report. Finally, to our best knowledge there are no similar research papers that combine both content and technological aspects.

The next sections of our paper are organized as follows. Section 2 provides the literature review and focuses on previous research in the area of integrated reporting. Section 3 summarizes the data and the methodology utilized and presents Integrated Report Quality Index we have developed. The empirical results are presented in section 4. Discussion of the results is in Section 5. Finally, the research is concluded in Section 6.

2. LITERATURE REVIEW

Numerous theories have been applied by academics intending to give meaning to the existence of sustainable initiatives and transparency of companies. Some scholars have stated that the propensity of companies to engage in sustainability initiatives and report on them can be explained by legitimacy theory (Branco & Rodrigues, 2006; Deegan, 2002; Gray et al., 1995). According to legitimacy theory, companies strive to be perceived as 'good citizens' in order to legitimize their activities and prove that their practices are in compliance with the norms, values and expectations of society (Suchman, 1995). Deegan (2002) contended that legitimacy might be gained by being transparent about environmental and social issues related to the company. Thus, through this legitimization process, a company seeks approval (or perhaps avoidance of sanctions) from different groups of stakeholders. This social approval goes hand in hand with the quality of the message presented by the company.

In order to understand the need for sustainability engagement and transparency of companies better, it is worth mentioning the paradigm of the shifting role of the corporation in society. This alternative view of the role of the corporation in society was introduced by Serafeim (2014) and reflects the increasing concentration of economic activity and power in the world's largest corporations. Due to the concentration of economic activity, there is a handful of large corporations with enormous economic, environmental and social impact. Many multinational corporations seem either to realize and assume that responsibility or to find themselves under pressure from the society. As a consequence of this, various environmental and social initiatives have been launched as a part of their

sustainability behaviour, together with increased transparency of these activities, and the well-known 'doing well by doing good' has been introduced (Margolis & Walsh, 2003). Over the last few years, this has been imprinted into the legislation; thus, the previously voluntary disclosure of sustainability issues became obligatory, in particular for large companies.

Although sustainability reporting used to have a mostly voluntary character, an increased number of countries, mainly within the EU, are now making such disclosure mandatory. The EU updated its regulation on non-financial disclosure on 22 October 2014, when the EU Council adopted a new Directive 2014/95/EU related to non-financial disclosure by large companies and groups in the EU. It amends the previously adopted Directive 2013/34/EU on annual financial statements, consolidated financial statements, and related reports by certain types of company (EUR-Lex, 2014). The main objective of the new Directive is to seek more transparency by establishing minimal requirements regarding the extent of the non-financial information that should be made available to the public. However, it still ensures an adequate degree of freedom regarding the extent and content of the sustainability report. Thus, companies are free to choose the reporting framework. In compliance with the Directive, they are required to disclose information regarding their existing policies on environmental, social, employee, human rights, anti-corruption and bribery matters, including a description of the outcomes of their policies, relevant non-financial key performance indicators, and main risks related to these matters (EUR-Lex, 2014).

The EU Directive has recently been translated into national laws by most of the member countries. Spain approved Royal Decree Law 18/2017 (BOE, 2017), which was the antecedent of Law 11/2018 of 28 December, which modifies the Commercial Code, the revised text of the Capital Companies Law approved by Royal Legislative Decree 1/2010 of 2 July, and Law 22/2015 of 20 July on auditing of accounts in the matter of non-financial information and diversity. The new law requires large companies to provide certain non-financial information by referring to international standards or national initiatives (BOE, 2018). The companies concerned should have started applying the regulation for the reporting year 2019. Based on the new regulation in relation to non-financial disclosure, we might expect that the focus of companies would be mainly on compliance with the new legislation. Hence, despite the latest trend, increased interest in the new concept of reporting, IR, might not be their priority.

Whether it is because 1) large companies simply try to legitimate themselves as other peers do; 2) they are convinced of the positive effect of IR by taking into account and covering the information needs of all stakeholders; or 3) they are forced by new regulation to be more transparent about environmental, social and governance issues, the key point in reporting should be an efficient message delivery and providing a certain quality of information to the report's users.

Also, the IIRC identifies two main goals for IR: improved information for outside providers of financial capital and better internal decision-making (Barth, 2017). Despite the obvious importance of the integrated reporting quality (IRQ), there is no common understanding or mechanism to measure it. Accounting literature is aware of the complexity and subjectivity of measuring the quality of the IR (Cooray et al., 2020). According to Cooray et al. (2020), Lee (2017), and Helfaya & Whittington (2019), various dimensions should be considered to gain better understanding of the disclosure quality. IRQ is an important aspect to improve the information usefulness for stakeholders and the different approaches to its measurement in previous research indicate that there is no uniformity. Hence, which quality aspects best define IRQ remains an unanswered question (Cooray et al., 2020).

The previous research on the IRQ varies in the methodology on how the quality index has been calculated and aimed to analyse what factors influence the quality of the integrated report or what are the implications of higher/lower report quality. Barth (2017) measured the relationship between the quality of the report and the firm's value. Pistoni et al. (2018) developed an IR scoreboard to assess the quality of integrated reports, finding that the IR quality is generally low and that only scant information is provided regarding concepts such as a business model. Pozzoli & Gesuele (2016) analysed the quality of the IRs of public entities taking part in the pilot programme based on the two fundamental concepts (capitals and guiding principles) and focusing on the content (keywords) and length. Vitolla et al. (2020) analysed the impact of profitability, size, leverage and the civil law system on the IRQ of financial institutions. Vitolla et al. (2019a) also found a relationship between the IRQ and Hofstede's cultural dimensions. They further demonstrated that the IRQ is significantly and positively associated with stakeholder pressure (Vitolla et al., 2019b). Mans-Kemp & Van der Lugt (2020) used the EY Excellence in Integrated Reporting Awards as a metric to determine the IRQ, finding that the IRQ is significantly associated with high levels of environmental, social and governance performance, as well as high earnings per share and high leverage. Gerwanski et al.

(2019) constructed a hand-collected materiality disclosure quality score as a key aspect of the IRQ to measure the relationships with learning effects, gender diversity, assurance, listing in Dow Jones Sustainability Indices and earnings management. Dilling & Caykoylu (2019) claim that larger companies with a higher female board ratio and listing in the IIRC database have higher quality IR. Maroun (2019) found a positive correlation between the IRQ and external assurance, while Malola & Maroun (2019) found that company size, environmental and social impact, the existence of a sustainability committee and following the GRI standards do not necessarily lead to higher IRQ. Many studies have relied on the EY Excellence in Integrated Reporting Awards as a reference for the IRQ (Barth, 2017; Iredele, 2019; Mans-Kemp & Van der Lugt, 2020). Other authors have developed their own scoring systems, however, merely focusing on the element of content or some principles of IR, such as materiality (Dilling & Caykoylu, 2019; Gerwanski et al., 2019; Malola & Maroun, 2019; Pistoni et al., 2018; Pozzoli & Gesuele, 2016).

In this paper, we added the technology layer into the Integrated Reporting Quality Index, including easy navigability and technological elements and aspects such as visuality, while not omitting the central content point of the IR, the business model. Given that the IR framework based on the IIRC guidelines is rather principle-based, a certain misconception can be seen on the part of managers, as they sometimes assume that IR is about putting together information rather than providing an integrated picture of the business. Thus, a key question arises in terms of how integrated the integrated report is, or rather, what is the quality of such a report in terms of the value it can offer to its users. To answer this question, we have developed an index measuring different quality aspects of the integrated report. As the new regulation was adopted in Spain in 2018 in terms of non-financial disclosure and large companies should have started following it from 2019, there arises a question of whether it has had an effect on the IRQ. Thus, the first research question is:

RQ_1 What is the average quality of the integrated report and how has it changed from 2016 to 2019?

A number of previous studies have analysed the sector factor in sustainability reporting. Companies within the same industry might show some similarities regarding information disclosure practices (Bazley et al., 1985; Wagenhofer, 1990). Many studies have found a link between the industry where the company operates and its sustainability reporting practices (Azim et al., 2009; Wanderley et al., 2008).

Young & Marais (2012) distinguished the industry type in terms of high/low risk, and Reverte (2012) divided the industries based on their environmental sensitiveness. Similarly, Snider et al. (2003) stressed that companies operating in an industry with higher social and environmental impacts face stronger stakeholder demands for greater transparency. Facing this scrutiny, these companies are required to legitimize their actions more than companies operating in low risk sectors. Indeed, sector influence on corporate disclosure and transparency is well-grounded by legitimacy theory, stressing that the sector where the company operates creates an institutional context in which companies benchmark each other and often adopt similar practices in order to gain acceptance and legitimize their activities (Bednárová et al., 2017; Wanderley et al., 2008; Young & Marais, 2012). As communication plays an important role in the legitimacy process, the integrated report, being the latest trend in sustainability reporting, might be a very effective tool to manage the perception and reputation of the company. Thus, based on the previous research and legitimacy theory, two groups of industry sectors were created in the present study based on their critical/non-critical impact on the environment. The second research question was established:

RQ_2 Do companies operating in critical sectors have higher quality integrated reports than those operating in non-critical sectors?

3. DATA AND METHODOLOGY

Previous research on the quality of IR focused more on conceptual aspects and ignored the technological aspects of the report. Thus, for the purposes of our study, four aspects of IR quality have been identified. Our approach combines both technological aspects and content, with the focus on the central point of the IR, the business model. The aspects were selected based on previous research in the field of transparency, stakeholder engagement, and the conceptual requirements of the IIRC. Later, each aspect of quality was ranked on a scale of 1 to 5 based on the content analysis.

3.1. Easy Navigability

In the era of Big Data, internet users (company stakeholders) often do not seek a larger quantity of information, but rather a more organized form which will efficiently satisfy their needs to facilitate making informed decisions. However, the integrated reports are long and getting longer. Nowadays, we can find IRs with more than 200 pages. From the perspective of a user who seeks certain information

about a particular aspect of the company or wants to obtain general insights regarding the company's attitude towards sustainability matters, such a report simply does not add value; hence, his perception of the usability of such a report would be low. IR available on the internet, usually on the company's website, allows the simplification and customization of this large quantity of information. This is crucial for the user's perception of the usefulness of such a report. Fogg (2002) also pointed out that simplicity matters when it comes to users' experience. Thus, the IR available on the internet, which would be easily navigable through hyperlinks, might simplify users' search for particular information and enhance their experience while interacting with the report.

3.2. Visuality

The disclosure literature highlights the importance of the medium by which the information is presented. Previous research (Cho et al., 2009; Graves et al., 1996) pointed out that text disclosure alone is no longer adequate to articulate information. A different tone of language in the annual report might indicate financial distress and it is the reason why written text can be useful for stakeholders (Kubaščíková et al., 2018). According to Davison (2007), having simple pictures in annual reports affects the perception of richness and potency of the message. Thus, the accounting scholars point out the importance of visual imagery such as graphics, photos and pictures, stressing that these are powerful communication tools that affect the viewer's perception and the potency of a message. Given this potential, it is likely that these richer media might enhance the potential of IR to influence users' perceptions. That is why the visual element has been considered as one of the aspects of quality of the integrated report.

3.3. Technological Elements

The rapidly changing business environment is forcing companies to adapt quickly and to consider the most effective ways of communication and reporting. The internet enables companies to reach wider audiences and various groups of stakeholders; moreover, it is cost-saving and facilitates timely information disclosure (Jones et al., 1998; Koreto, 1997). The evolution of Web 2.0 has brought even more flexibility and facilities for companies seeking transparency and stakeholder engagement, especially due to the massive spread of social media such as Facebook, Twitter, LinkedIn, YouTube, etc. Daft & Lengel (1986) pointed out that communication media vary in their degree of richness and that different communication media might have different effects on the user's perception of the

message. Recent sophisticated technologies enable companies to enhance their corporate presence. Indeed, incorporating different social networking sites or other technological features such as QR codes into the IR might improve the user`s experience with the report, as this is perceived as more efficient and interactive.

3.4. Business Model

The IIRC points out the following key elements of the IR: organizational overview and external environment; governance; business model; risks and opportunities; strategy and resource allocation; performance; outlook; and basis of preparation and presentation (IIRC, 2021). Nevertheless, the main emphasis is on the business model, which should provide a description of how the company manages to create and sustain value over time. It includes a description of the key inputs, business activities, outputs and outcomes. The EU Communication (EUR-lex, 2017) in its guidelines on non-financial disclosure points out the importance of this concept. Thus, a comprehensive description of the business model can be considered a central point of the integrated report.

For the purposes of our study, a sample of 35 companies belonging to the IBEX 35 index have been analysed. To our best knowledge there are no similar studies focused on companies listed in IBEX 35 that combine both technological aspects and content. Secondly, we have chosen Spanish companies due to the new legislation. The EU Directive 2014/95/EU related to non-financial disclosure by large companies and groups in the EU has recently been translated into national laws by most of the member countries. Also, Spain approved Royal Decree Law 18/2017 (BOE, 2017), which was the antecedent of Law 11/2018. The new law requires large companies to provide certain non-financial information by referring to international standards or national initiatives (BOE, 2018). Above mentioned non-financial information are required to be disclosed for the first time for the reporting year 2019. We decided to compare 2016 with 2019 to better analyse the situation before and after Spain approved Royal Decree Law 18/2017 (and subsequently Law 11/2018). Therefore, the annual reports from 2016 and 2019 were collected and analysed to ascertain whether they fulfil the criteria for IR and follow the specific IIRC criteria. The analysed companies operate in 22 industries, which were categorized into two groups: critical and non-critical sectors, based on their environmental impact (Bonsón & Bednárová, 2015). Additionally, a content

analysis of the integrated reports was conducted and the index to measure the quality aspects of the report was developed (Table 1).

Criteria	**Evaluation**	**Description**
Easy navigability (conciseness)	5	Navigation menu
	4	Clickable internal links within a report
	3	No internal links, but the report has fewer than 150 pages
	2	150–300 pages
	1	More than 300 pages, no internal links
Visuality	5	Very high usage of visual elements (charts, photos, etc.), proportion is 1:1 or more
	4	High usage of visual elements, proportion is between 1:2 and 1:1
	3	Moderate usage of visual elements, proportion is between 1:4 and 1:2
	2	Low usage of visual elements, proportion is lower than 1:4
	1	Mostly narrative character, no visual/almost no visual elements

Technological elements (1 point for each element a–e)	5 elements	a) Navigation chart type of the IR
	4 elements	b) External links
	3 elements	c) Videos
	2 elements	d) Links to social networking sites
	1 element	e) QR codes
Business model (as a key element of IR)	5	The IR includes all the elements below. Features that can enhance the effectiveness and readability of the description of the business model include: • Explicit identification of the key elements of the business model • A simple diagram highlighting key elements, supported by a clear explanation of the relevance of those elements to the organization • Narrative flow that is logical given the particular circumstances of the organization • Identification of critical stakeholder and other (e.g. raw material) dependencies, and important factors affecting the external environment • Connection to information covered by other content elements, such as strategy, risks and opportunities, and performance (including KPIs and financial considerations like cost containment and revenue)
	4	At least one element mentioned above is missing

	3	The company introduces the key elements of the business model; however, some details mentioned above might be omitted
	2	Information about the business model is rather scarce
	1	No explicit information on the business model available

Table 1. Integrated Report Quality Index

3.5. Content Analysis

A next necessary step to evaluate the quality of the IR based on the developed index was a content analysis of the reports. Holsti (1969) defined content analysis as a multipurpose research method to investigate a broad spectrum of problems by systematically and objectively identifying special characteristics of messages. Thus, it is a standard method for systematically comparing the content of communications, and it has been used in a number of previous studies focusing on examining communication such as advertisements, media stories and web sites (Kolbe & Burnett, 1991; Smith et al., 2012; Yun et al., 2008). We consider content analysis to be appropriate to respond to our first RQ, as it offers a systematic, complex and objective way to compare the content of a large sample of reports.

The whole process of content analysis conducted in this study consists of four steps: sampling, coding, analysing and consolidating the results.

Sampling. In order to keep sampling scope manageable but able to reflect a representative sample of corporate IRs, a restricted time frame was established. Based on this, the IRs launched in 2016 and 2019 from IBEX 35 were considered.

Coding. In this step, operational definitions and categories of quality aspects were developed for further content analysis. A developed index was used reflecting four quality aspects of the report.

To test the classification scheme and the clarity of the descriptions, two independent research assistants cooperated on the research. The independent coders were given an explanation of the content analysis framework and were asked to classify an initial portion of the sample to approve the suggested classification scheme. During this stage, areas of confusion were identified and changes were made to the

classification descriptions. These changes were then incorporated into the content analysis framework and final coding was established.

Analysing. After establishing the coding, every report was carefully analysed by each author and quality aspects were tabulated, mutually compared, discussed, and adjusted if necessary.

Consolidating the results. As a final step, the results obtained during the process were consolidated and statistical differences were assessed.

4. FINDINGS

4.1. Descriptive Statistics

As can be observed in Figure 1, in 2016 seven companies had no integrated report, nine companies published some kind of integrated report but not strictly following the IIRC guidelines, and 19 companies prepared an integrated report in compliance with the IIRC. In 2019, every company indexed in IBEX 35 published an integrated report, 23 of them with reference to the IIRC.

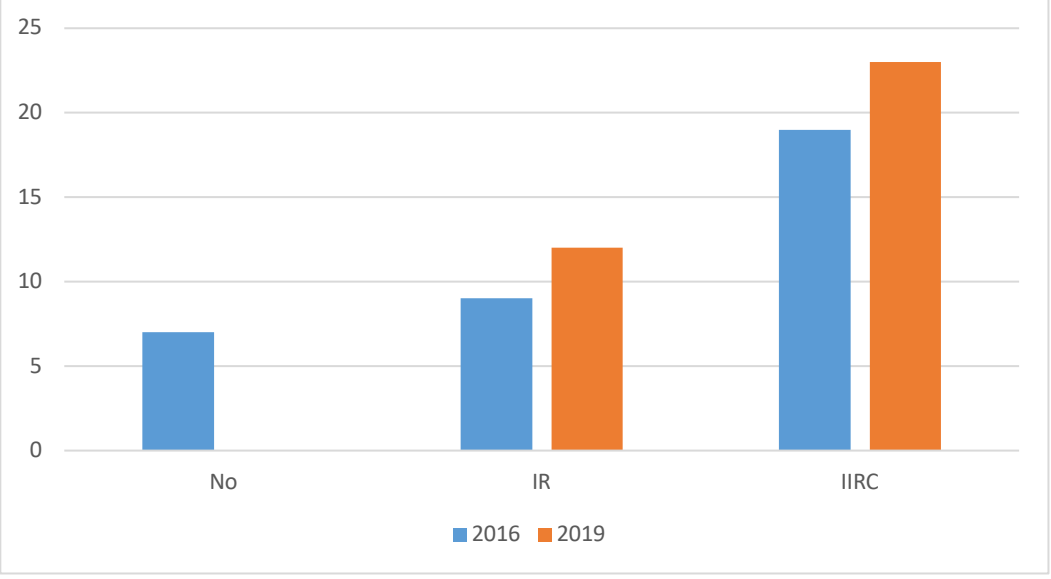

Figure 1. Type and number of integrated reports 2016 vs. 2019

Regarding the quality of the reports, Figure 2 compares the quality scoring of the IR for each company in 2016 and 2019. We can observe that the quality of the report worsened for 13 companies; four companies maintained the quality and 11 companies improved the quality of their IR. Seven new companies which started IR in 2019 show medium or low quality IR (the average score was 7 out of 20).

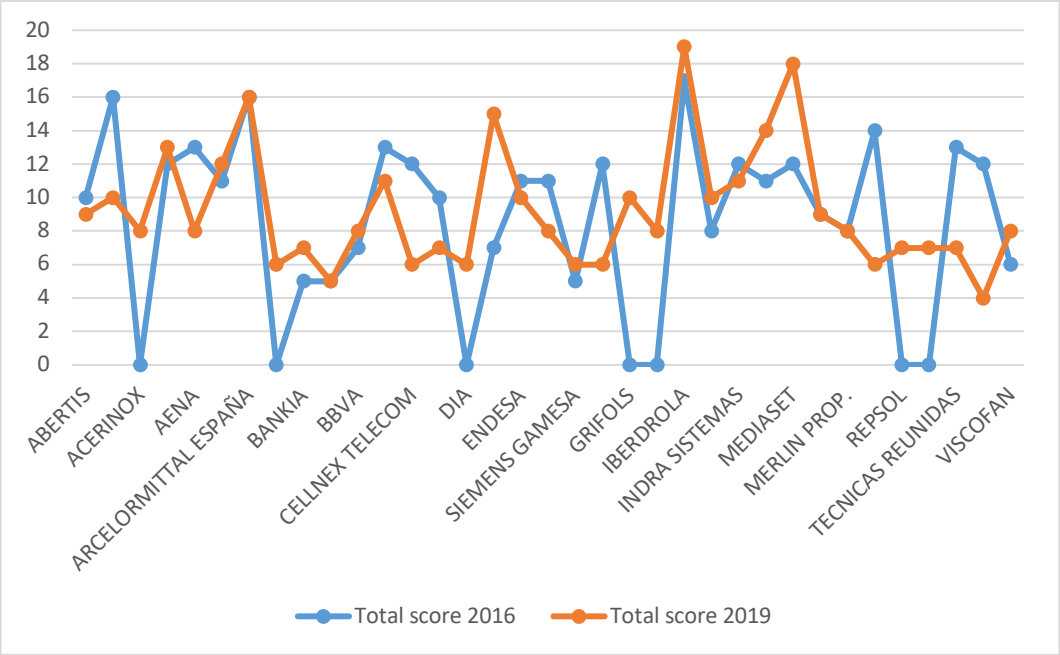

Figure 2. Integrated Report Quality Index 2016 vs. 2019

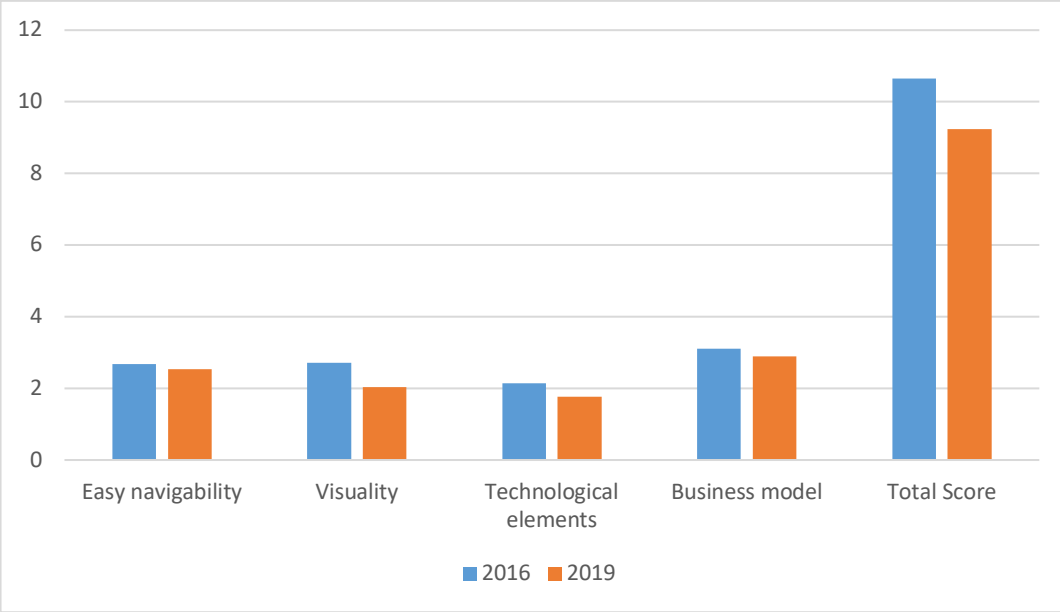

Figure 3. Average quality aspects scoring

Regarding the quality of IR, Figure 3 depicts the average quality of the analysed aspects. In Figure 3, we can observe that every aspect of the Integrated Report Quality Index obtained lower scoring in 2019 compared to 2016.

Hence, the answer to the first research question is that the average Integrated Report Quality Index was 10.6 points out of 20 in 2016 but decreased to 9.2 points in 2019.

4.2. Statistical Analysis

To answer the second RQ, a Mann-Whitney non-parametric test was applied. Table 2 shows the frequencies and the p-value (0.039) for the sector differences in 2016. The same is shown in Table 3 for the year 2019. As can be seen, in 2016 there was a significant difference between the two sectors, where critical sectors obtained a higher average quality index (10.69) than non-critical sectors (7.23). This was no longer true in 2019 (Table 3), as the p-value (0.249) shows no significant difference between the two groups.

Descriptive Statistics	
	QRI2016
1.00 non-critical	
N (valid)	22
Mean	7.2273
Median	8.0000
Min	0.00
Max	13.00
2.00 critical	
N (valid)	13
Mean	10.6923
Median	12.0000
Min	0.00
Max	17.00
Mann-Whitney test	
	QRI2016
U Mann-Whitney	83.000
W Wilcoxon	336.000
Z	-2.065
Sig. asint. (bilateral)	.039

Table 2. Mann-Whitney test: Sector/Quality reporting index (QRI) 2016

Descriptive Statistics	
	QRI2019
1.00 non-critical	
N (valid)	22
Mean	8.5909
Median	8.0000
Min	4.00
Max	18.00
2.00 critical	
N (valid)	13
Mean	10.3077
Median	9.0000
Min	6.00
Max	19.00
Mann-Whitney test	
	QRI2019
U Mann-Whitney	109.500
W Wilcoxon	362.500
Z	-1.154
Sig. asint. (bilateral)	.249

Table 3. Mann-Whitney test: Sector/Quality reporting index (QRI) 2019

5. DISCUSSION

As pointed out by Cooray et al. (2020) and other authors, there is a high level of subjectivity in the measurement of reporting quality. Accounting literature is aware of this fact and calls for a comprehensive model to assess the IRQ. As previous literature measured the IRQ based mostly on the conceptual aspects set out by the IIRC, in our study we developed the IRQ index by integrating both technological and conceptual aspect of the IR.

In line with some previous studies (Malola & Maroun, 2019; Pistoni et al., 2018), the general quality of the IR was rather low. In 2016, the companies operating in critical sectors had higher IRQ; this might be explained by legitimacy theory. However, in 2019, after the regulation had taken place, this difference was no longer apparent.

In our study, we saw decreased quality of the integrated reports after the new regulations regarding non-financial disclosure took effect in 2018. The main aims of the regulations related to sustainability are widely accepted and supported by general public; however, in practice, regulations often mean more bureaucracy,

which can be burdensome to entities that must comply with them. When a company has to comply with a new regulation which requires more paperwork, restructuring, etc., it is costly, and the costs of regulation are never absorbed by businesses but they always fall on the final consumer. Thus, all of us pay for regulations through higher prices, lower wages, lower returns on investment for investors, and fewer available products, services or opportunities (Beales et al., 2017) – and, as the findings of our study suggest, poorer quality of reporting.

Well designed evidence-based regulations can improve public welfare and provide a clean environment, safe food, consumer protection, non-discrimination, etc. Nevertheless, despite their initial positive intentions, government regulations might sometimes cause unintended harm, stifling innovation, growth and job creation; wasting limited resources; even undermining sustainable development (Beales et al., 2017). So, for a regulation to provide significant social benefits, it should try to minimize the negative effects, which might range from higher prices to lower wages, investments and quality of service (in this sense, we might understand corporate disclosure as a service provided to stakeholders).

6. CONCLUSIONS

Over the last decade there has been a rapid increase in the number of companies committed to talking about corporate social responsibility issues through sustainability reports or, more recently, through integrated reports. There is a tendency for governments and stock exchanges in developed countries to require non-financial disclosure as a complement to financial statements. Most EU countries and, recently, large Spanish companies have to report on sustainability issues (Law 11/2018). As a result of that, we observed an uptake in the number of sustainability and integrated reports worldwide since its pilot programme in 2010 and in Spain from 2016 to 2019. Recently, every company indexed in the IBEX 35 has published some sort of integrated report, the majority following the IIRC guidelines. When it comes to the evolution of the technology, another important question might arise in terms of how to increase the efficiency of such a report, taking advantage of different available technological tools. These and other challenges provide new avenues for researchers. Delivering the message to stakeholders in an efficient way and making the IR user-friendly requires controlling certain quality aspects of the report. In our study, we combined the technological aspects with the content elements, focusing on the central point of the IR, the business model. We found that Spanish companies were more likely to publish an integrated report in 2019 than in 2016; however, the quality has

decreased. While in 2016 we observed a sector effect, where companies operating in critical sectors tended to have higher quality IR than those operating in non-critical sectors, in 2019, where the general quality had decreased, the sector effect disappeared, too. A possible explanation for this finding might be that companies aim to comply with the new regulations by adding more information at the expense of the quality of the report, which might affect the user's satisfaction when interacting with the report.

Therefore, the main purpose of the integrated report should not be omitted, in terms of the added value of such a report for different stakeholders who use it to make informed decisions. In our study, an index measuring the usefulness of the IR from the user's perspective has been created. The aspects of quality reflected in the index were carefully chosen based on previous research on corporate transparency and stakeholder engagement, and key elements presented by the IIRC. The findings of this pilot approach show that the quality perspective of the IR still has a long way to go to be able to reach its full potential. The most challenging issue is to combine the regulatory information requirements with the technological features to offer conciseness and easy navigability of the report. A better understanding of the role that IR plays in companies' corporate disclosures can help us understand how firms seek to relate to their stakeholders and present themselves to the public.

The implications of this study are threefold. Firstly, there are theoretical implications. Designing the quality reporting index combining content and technological elements can serve as a basis for academics to build upon and add other relevant quality aspects. Secondly, the practical implications of this study refer to corporations and reporters, who can take into account the findings of this study to refine their reporting practices so they better serve their stakeholders. Thirdly, while the regulation of sustainability disclosure by large corporations can be critically important to improvements in environmental quality (clean air and water), fair trade or social welfare (non-discrimination, etc.), poorly designed regulations in this matter can even be counterproductive. For example, if the company is simply required to disclose more, it might lead to lower quality disclosure, greenwashing, or unnecessarily increasing costs for companies. Thus, another implication of our study is to provide constructive criticism of regulation, which should try to achieve its goals more thoroughly and efficiently, not forgetting the satisfactory experience of the final user of the report. In addition, there is a danger of a vicious circle when regulators continually issue new regulations without properly evaluating the outcomes of the regulation in place. Therefore, regulators

should be more cautious and not move from one regulation to another without properly understanding the results of their previous actions.

This study has some limitations that could be addressed in future research. Firstly, researchers can focus on the evolution of the IR quality over the longer period of time. Secondly, although we developed our own Integrated Report Quality Index to measure the quality aspects of the reports, we understand that some changes need to be done in the future. Finally, we analysed companies listed in IBEX 35 only. Therefore, we recommend to measure the quality aspects of IR from the user's perspective in different countries to be able to compare both present situation and latest developments.

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