

## ARTICLES

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# INTEGRATED REPORTING ACCORDING TO IIRC FROM 2011 TO 2015

*Informação integrada de acordo com IIRC de 2011 a 2015*

*Información integrada según el IIRC de 2011 a 2015*

### ABSTRACT

The objective of this paper is to check if integrated reporting adheres properly to International Integrated Reporting Council (IIRC) requirements or only follows some guidelines, and whether these are prioritized depending on the effects of other variables. We studied a sample of all the voluntarily issued integrated reports available on the IIRC database at 1st April 2017, for the period 2011-2015, which total 174. The main conclusions are that compliance with IIRC guiding principles is low and heterogeneous, and that some principles are adhered to more than others. There are core principles of the integrated reporting that are determined by the date of publication of the IIRC framework, while the materiality used depends on the type of company.

**KEYWORDS** | Integrated information, non-financial information, IIRC, directives of integrated information, disclosure.

### RESUMO

*O objetivo deste trabalho é verificar se a informação integrada está efetivamente sendo divulgada de acordo com as diretrizes do International Integrated Reporting Council (IIRC) e se a qualidade da divulgação é influenciada por outras variáveis. Para isso, foi analisada uma amostra constituída por todos os relatórios integrados preparados voluntariamente com a base de dados do IIRC a partir de 1 de abril de 2017, com dados do período 2011-2015, formada por 174 relatórios. Os principais resultados que podem ser ressaltados são de que a conformidade com os requisitos do IIRC é baixa e heterogênea, e que informações sobre certas diretrizes são mais divulgadas do que outras. Existem princípios básicos de informações integradas que são determinados principalmente pelo momento em que foi publicado o Marco Conceitual do IIRC, e a materialidade é dependente do tipo de empresa analisada.*

**PALAVRAS-CHAVE** | Informação integrada, informação não financeira, IIRC, orientações integradas de informação, divulgação.

### RESUMEN

*El objetivo de este trabajo es comprobar si efectivamente se está revelando la información integrada de forma completa según las directrices del International Integrated Reporting Council (IIRC) y si esta priorización está influenciada por otras variables. Para ello, se ha analizado una muestra compuesta por todos los informes integrados elaborados de forma voluntaria disponibles en la base de datos del IIRC a 1 de abril de 2017, para el período 2011-2015, formada por 174 informes. Como principales conclusiones se puede resaltar que el cumplimiento de los requisitos del IIRC es bajo y heterogéneo, y que efectivamente se está revelando información sobre determinadas directrices frente a otras. Existen principios básicos de la información integrada que están determinados principalmente por el momento en el que se publicó el Marco Conceptual del IIRC, y la materialidad se utiliza dependiendo del tipo de empresa.*

**PALABRAS CLAVE** | Información integrada; información no financiera; IIRC; directrices de la información integrada; revelación.

**ESTHER ORTIZ-MARTÍNEZ<sup>1</sup>**

[esther@um.es](mailto:esther@um.es)

0000-0002-9693-2106

**SALVADOR MARÍN-HERNÁNDEZ<sup>1</sup>**

[salvau@um.es](mailto:salvau@um.es)

0000-0001-9902-1941

**LUIS ALFONSO SÁNCHEZ-AZNAR<sup>1</sup>**

[la.sanchezaznar@um.es](mailto:la.sanchezaznar@um.es)

0000-0001-9448-0778

<sup>1</sup>Universidad de Murcia, Facultad de Economía y Empresa, Murcia, Spain.

## INTRODUCTION

Disclosure of corporate social responsibility (CSR) has evolved from the separate publication of financial and non-financial information to the publication of the integrated report (Cheng et al., 2014). The *International Integrated Reporting Council* (IIRC, 2012, 2015) lays down the requirements for including all the information—financial and non-financial—in a single report for an overall view of the company. Thus, accounting can also provide social information (Caliskan, 2014).

Previously, only big companies voluntarily issued non-financial information. In Europe, however, since the publication of the Directive on non-financial information, it is compulsory. Nevertheless, drawing up and publishing integrated reports is not common, because questions remain as to whether the integrated information complies with all the stakeholders' needs or if it has shortfalls.

In this study, we analyze integrated reports, considered as *leading practices* by the IIRC, the council that includes such information on its database. Our aim is a) to check if they comply with all seven guiding principles of the IIRC framework; b) if these guiding principles are followed consistently and in full, without priorities; and c) if there are other variables that might determine the adoption of these guiding principles, such as year, region where the company is established, type of company, sector in which the company operates, or if the reports were published prior to or after the IIRC framework.

The results show that integrated reports are not complete, as they do not comply with all the IIRC guiding principles in the same way, because they use basic principles such as materiality. Hence, integrated reporting is far from being globally accepted and requires further development. This finding may be because issuing integrated reports is voluntary and because of the global hegemony of *Global Reporting Initiative* (2013) (GRI) in the field of non-financial information.

The structure of this paper is as follows: First, the theoretical framework that justifies our analysis and the proposed hypotheses are presented. This is followed by a description of the methodology and the sample. The results are then presented, and the paper ends with the main conclusions.

## THEORETICAL FRAMEWORK AND HYPOTHESES

The integrated report proposed by IIRC seeks to cover financial and non-financial information in a single report. To prepare an

integrated report, the IIRC establishes a list of guiding principles and content elements that have to be borne in mind to offer a true and fair view of the company. The IIRC aims to create added value in the medium and long term and also to facilitate sustainable growth of companies in the future. Although research works on integrated reporting exist (Villiers, Rinaldi, & Unerman, 2014), few examine integrated reporting according to IIRC requirements, and mainly for two reasons. Until recently, integrated reporting was only required for listed companies in South Africa (Bernardi & Stark, 2018), and there are few companies that voluntarily issue integrated reports—a study of these does not afford general results (Pope & McLeay, 2011).

Research on integrated reporting—its content and utility—has followed two lines: the literature that reports that this type of disclosure continues to suffer from weaknesses, and therefore requires further development; and that which argues that integrated reporting is mainly advantageous for companies and that it generates profit, thus offering incentives to companies to adopt it. One common criticism is its voluntary nature (Flower, 2015). Although, the main criticism lies in the content of integrated reporting, which, in theory, should cover both financial and non-financial information.

It has also been stated that integrated reporting seems to deal with accounting in greater depth than with the sustainability of the information (Villiers et al., 2014). This is due to “the victory of the realism” (Flower, 2015)—in the final analysis, how regulators and practitioners put the guidelines into practice, rather than the idealism of the defenders of social and environmental accounting, becomes important.

There are other disadvantages of integrated reporting: It is supposed to be complete and homogeneous, but it is not; it should include quality information, but also quantitative one; it should include more information about the future of the company; and there are differences depending on variables such as size of the company or its leverage (Kilic & Kuzey, 2018). It has also been found that there are fundamental concepts, guiding principles, and content elements established in theory by the IIRC; however, an analysis of integrated reports finds these aspects to be missing or there is weak adherence (Lopes & Coelho, 2018). Other authors are in favor of implementing integrated reporting; these include Paolucci and Cerioni (2017) and Badia, Dicuonzo, Petruzzelli, and Dell'Atti (2019). Cosma, Soana, and Venturelli (2018) conclude that integrated reporting is positive—but not any type of integrated reporting; only quality reporting. It is quality integrated reporting when it follows the requirements established by the IIRC. Hence, one of the objectives of this study is to check if integrated reports do follow the IIRC guiding principles homogeneously and in full, as is stated in our first hypothesis:

H<sub>1</sub>: *Ceteris paribus*, publication of information according to the IIRC guiding principles in the integrated report is neither homogeneous nor complete.

Companies obviously have not been issuing integrated reports for long, given the recent nature of the initiative compared with disclosure of non-financial information. Thus, more time is needed for integrated reporting to develop and expand (Villiers et al., 2014). Yet, this initiative has potential (Adams, 2015). Over time, the practices of disclosure change because they are affected by many variables, such as different standards, changes in regulation, or their acceptance (Hoffman, 1999). The information that is published changes from what has been published in the past to what is going to be published in the future (Davis & Searcy, 2010). Moreover, the period we analyze can be divided into two subperiods: before and after the publication of the IIRC framework in December 2013. Based on the above arguments, we propose our second hypothesis:

H<sub>2</sub>: *Ceteris paribus*, publication of information according to IIRC guiding principles in the integrated report changes over time and is determined by the date of issue of the IIRC framework.

The type of company is important when analyzing its integrated reporting because it may determine specific features included. There is a clear distinction between the disclosures of private and public companies (Sáez-Martín, Caba-Pérez & López-Hernández, 2017). Initially, companies operating in the same sector adopted the same benchmarks in their non-financial information; and so the sector is an independent variable in the proposed models (Bonsón & Escobar, 2004). Companies that perform more socially or environmentally risky activities tend to disclose more non-financial information and of higher quality. The same occurs with companies that operate in regulated sectors (Oteo, 2015). Stacchezzini, Melloni, and Lai (2016) study integrated reports available from the IIRC database and classify them into two groups: companies that operate in environmentally sensitive sectors and companies that do not. They find that the former companies are more concerned about disclosing non-financial information.

Lastly, the geographical origin of the company may also affect its disclosure of non-financial information. The geographical origin of the company is important in determining the features of its accounting, and hence the issue of information (Gray, 1988), because these features are classified differently in different accounting systems around the world (Nobes, 1998). Different countries and accounting systems have their own cultural

variables that affect the issue of information (Hofstede, 2001). Hence, integrated reporting is also determined by the country of origin of the company (García-Sánchez, Frías-Aceituno, & Rodríguez-Domínguez, 2013). Based on the studies in this field, we propose our third hypothesis:

H<sub>3</sub>: *Ceteris paribus*, publication of information according to IIRC guiding principles in the integrated report is determined by the type of company, sector in which the company operates, and company's place of origin.

## SAMPLE AND METHODOLOGY

### Sample

This study is based on integrated reports included in the IIRC database (<http://examples.integratedreporting.org/home>). The IIRC itself refers to these integrated reports as *Leading practices* (Kilic & Kuzey, 2018; Lopes & Coelho, 2018). We took all 204 integrated reports on the database dated from 2011 to 2015 on 1st April 2017. To study homogeneous and comparable data and to avoid bias in the analysis, we removed from the sample all the integrated reports of companies from Africa (30 reports). This was because we do not have a breakdown of the data by countries, so it was not possible to remove the integrated reports from just South Africa, where integrated reporting for listed companies is compulsory (Villiers & Sharma, 2017). Finally, we analyzed all the integrated reports issued voluntarily during 2011–2015, and these totaled 174 (see Table 1).

### Dependent variables

Our aim was to ascertain if integrated reporting complies with IIRC guiding principles. We therefore separate our analysis according to each of the seven IIRC guiding principles (IIRC, 2015). The IIRC database includes a file with the main features of the integrated reports containing the content elements and guiding principles that each company complies with (IIRC, 2015) (Table 2).

We analyzed whether information had been disclosed about each of the IIRC guiding principles and if there were differences in the information for each guiding principle based on whether the publication was before or after the IIRC framework, and the variables that influence this information. The information for each integrated report included in the IIRC database file was categorized as 0 or 1, where 1 meant that the integrated report included the content elements and fundamental concepts for each of the seven guiding principles, and 0 otherwise. As elsewhere (Gray, Meek & Roberts, 1995; Vanstraelen, Zarzeski & Robb,

2002), we calculate a total score for each of the seven guiding principles based on whether they include the content elements and fundamental concepts that the IIRC requires.

**Table 1. The sample (number of reports)**

Year	N	IIRC framework	N	Type of company	N	Sector	N	Region	N
2011	37	Before IIRC framework	95	Public listed companies	143	Consumer goods	22	North America	16
2012	19	After IIRC framework	79	Private companies	7	Healthcare	11	South America	13
2013	39	Total	174	Public companies	19	<b>Industrials</b>	<b>22</b>	Asia	22
2014	45			Others	5	Real state	8	Australasia	10
2015	34			Total	174	<b>Basic materials</b>	<b>15</b>	Europe	113
Total	174					<b>Oil and gas</b>	<b>8</b>	Total	174
						Public sector	1		
						Consumer services	13		
						Financial services	40		
						Professional services	11		
						Public services	16		
						Technology	4		
						Telecommunications and utilities	3		
						Total	174		

**Table 2. Guiding principles, content elements, and fundamental concepts that integrated reports should include**

Guiding principles	P1	Strategic focus and future orientation
	P2	Connectivity of information
	P3	Stakeholder relationships
	P4	Materiality
	P5	Conciseness
	P6	Reliability and completeness
	P7	Consistency and comparability
Content elements	Organizational overview and external environment	
	Governance	
	Business model	
	Risks and opportunities	
	Strategy and resource allocation	
	Performance	
	Outlook	
	Basis of preparation and presentation	
Fundamental concepts	Value creation	
	The capitals	

Source: Own elaboration from IIRC (2015)

Our dependent variables are the calculated scores for each of the IIRC seven guiding principles that should be included in integrated reporting, which is in line [Nazari, Herremans and Warsame \(2015\)](#), who use measurements of non-financial information disclosure based on [Meek, Roberts, and Gray \(1995\)](#). There is a maximum score of 10 points for each of the guiding principles. This is attained when all eight content elements and the two fundamental concepts are included. The minimum score is 0.

### Independent variables

The first independent variable (all the independent variables are included in Table 3) in our model is the date of the integrated report, and it is due to the significance of the publication of the IIRC framework in December 2013 (*International IR Framework* <https://integratedreporting.org>). Other independent variables are related to the characteristics of the integrated reporting: type of company, sector of operation, and country or region of origin of the company—all of which are included in the file of the IIRC database.

From the features of the sample and its distribution by type of company, sector, and geographical origin, we obtain the collinearity and the results of the variance inflation factor (VIF), which are over 5 in the majority of the cases for these independent

variables. Hence, there is multicollinearity (Romero & Mendoza, 2008). To avoid this multicollinearity, we group the independent variables and reduce the number of categories. Then, the type of company is recategorized into just three groups: public companies, private companies, and others; sector is grouped solely according to environmental sensitivity (Stacchezzini et al., 2016); and region of origin is categorized by continents: America (covering the previous North America and South America), Asia (covering the two groups of Asia and Australasia), and Europe.

**Table 3. Variables included in the model**

Description	Variables	Values	H
If information required in each one of the IIRC guiding principles is included.	P1 P2 P3 P4 P5 P6 P7	By everyone of the seven guiding principles: 1 if there is information required in the guiding principle 0 if there is no information required in the guiding principle	-
Year of the integrated report included in the IIRC database. We have analyzed the last five years with an important number of integrated reports: 2011, 2012, 2013, 2014, and 2015.	Year2011 Year2012 Year2013 Year2014 Year2015	1 if the year is that included in the sample 0 if the year is not that included in the sample	H <sub>2</sub>
Year of the integrated report, distinguishing between those issued before the IIRC framework (published in December 2013, and so it includes years 2011, 2012 and 2013) and those disclosed after the IIRC framework (i.e., integrated reports dated on 2014 and 2015)	Before IIRC framework  After IIRC framework	1 if the report year is 2011, 2012 or 2013 0 if the report year is 2014 or 2015 1 if the report year is 2014 or 2015 0 if the report year is 2011, 2012 or 2013	H <sub>2</sub>
Type of company according to the IIRC classification. Four types: Public listed companies, public companies, private companies and others, which are all reorganized into three groups: Public companies, private companies, and others.	<i>Public company</i> <i>Private company</i> <i>Others</i>	1 if the type of company is one included in the classification 0 if the type of company is not one included in the classification	H <sub>3</sub>
Sector of activity. Classification of companies from IIRC classification: Basic materials, consumer goods, consumer services, financial services, healthcare, industrials, professional services, public sector, oil and gas, real state, technology, telecommunications and utilities, and public services. These groups are reclassified into two big groups depending on if they are environmentally sensitive or not according to Stacchezzini et al. (2016). Industrials, basic materials, oil and gas, public sector and public services are considered environmentally sensitive sectors.	<i>Sensitive</i>  <i>Non sensitive</i>	1 if the company operates in one of the environmentally sensitive sectors 0 if the company does not operate in one of the environmentally sensitive sectors	H <sub>3</sub>
Region of company's origin according to the IIRC database: North America, South America, Asia, Australasia, and Europe. These are reclassified as America, Asia and Australasia, and Europe.	<i>America</i> <i>Asia and Australasia</i> <i>Europe</i>	1 if the company is in one of the regions included in the sample 0 if the company is not in the region included in the sample	H <sub>3</sub>

## METHODOLOGY AND PROPOSED MODEL

To check if these integrated reports properly include all the information about each of the seven IIRC guiding principles and do not depend on the publication of the IIRC framework, year of the report, type of company, sector of operation, and origin, we analyzed our sample with SPSS (version 24). First, we conducted a descriptive analysis for each of the seven IIRC guiding principles and a study of the grouped averages, according to each of the independent variables.

We then ran a test of paired samples by applying a T test to all the different pairs of guiding principles in order to check for significant differences between the averages for each, bearing in mind also the date of publication of the IIRC framework. This gives 21 hypotheses of the same average between each pair of guiding principles.

In the last part of the empirical study, we ran seven regression models (the general expression of the models is shown in expression (1)), in which the dependent variables are, respectively, the information included in the integrated reports about each of the seven IIRC guiding principles. The independent variables in the models are those that do not show multicollinearity after the analysis of the results obtained from VIF.

$$P_i = \beta_0 + \beta_1 \text{ Before or after IIRC framework}_i + \beta_2 \text{ Type of Company}_i + \beta_3 \text{ Environmental sensitivity}_i + \beta_4 \text{ Continent} + \varepsilon_{it} [1]$$

Our aim is to check if there is indeed a relationship between the information included about a specific guiding principle in the integrated report and each of the independent variables. We consider a statistical significance of at least  $\alpha < 0.1$ .

## RESULTS

### IIRC guiding principles in the integrated reports and the effect of the publication of the IIRC framework

The first descriptive analysis of the sample focuses on compliance with the guiding principles established by the IIRC, if the integrated report covers them all, and if the publication of the IIRC framework has had an effect. On average, regardless of the date, the guiding principles most covered are materiality (P4) and consistency and comparability (P7), while after the publication of the IIRC framework, we also have reliability and completeness (P6) (Table 4).

All the results are around the average (maximum value is 10 and all the guiding principles score around 5). Moreover, the mean for each guiding principle falls slightly in the first two years after

the publication of the framework. It is as if the guiding principles of conciseness and materiality are used by the companies to disclose less information about the key aspects of the integrated reporting that make it different from the financial information (Villiers et al., 2014).

Table 5 shows the results of the test of paired samples for the period. They are statistically significant for five pairs of guiding principles; thus, the null hypothesis is rejected. That is, although all the guiding principles are equally required by IIRC for inclusion in integrated reporting, companies do not comply with them in equal measure.

Specifically, there are differences in the compliance of the guiding principles about strategic focus and future orientation (P1), connectivity of information (P2), stakeholder relationships (P3), materiality (P4), reliability and completeness (P6), and consistency and comparability (P7) (Table 5). These results suggest that some guiding principles are sometimes considered “incompatible” versus other information required by others. This is confirmed by Abhayawansa, Eljido-Tem, and Dumay (2019), who claim that the materiality guiding principle established by the IIRC is not widely used in practice, because companies use it to reduce the disclosure of information and to inform only about positive data or those data they consider proper. The same happens with the guiding principle of consistency and comparability, which is used to reduce disclosure or to interpret it, with the risk of introducing subjectivity or value judgments and of creating problems with the comparability of the integrated reporting between companies and over time. The paired sample test shows that with regard to the date of publication of the IIRC framework, there are only significant differences for one pair of averages before publication, and these again are in reference to strategic focus and future orientation (P1) and materiality (P4). In the integrated reports dated after the publication of the IIRC framework, we obtain the same differences in the pair formed by the guiding principle of connectivity of information (P2) and stakeholder relationships (P3).

### Effect of the year, publication of IIRC framework, type of company, region, and sector on the information included in the integrated reports according to the IIRC guiding principles

Here, we check for a pattern, or if the average of the information disclosed for each guiding principle is separately affected by the independent variables chosen. The guiding principle most complied with, on average, is the consistency and comparability (P7) followed by materiality (P4) (Tables 6, 7, 8, and 9).

If the analysis focuses on the effect of year and publication of IIRC framework, the average information about each of the guiding principles is lower after publication, with the exception of reliability and completeness (P6) (Table 6). Thus, after the publication of this framework, the level of compliance with the guiding principles is mainly worse than before.

**Table 4. Descriptive Statistics of IIRC guiding principles**

	N	Minimum	Maximum	Mean	Standard deviation
P1	108	2.00	10.00	5.0648	1.77350
P2	118	2.002	10.00	5.0847	1.80017
P3	71	2.00	10.00	5.0563	1.84304
P4	47	2.002	10.00	5.4894	2.25420
P5	86	2.00	10.00	5.2326	2.02150
P6	15	2.00	10.00	5.0000	2.29907
P7	15	2.00	10.00	5.8000	1.93465
<b>Before IIRC framework</b>					
P1	69	2.00	10.00	5.2319	1.79169
P2	73	3.00	10.00	5.3014	1.80035
P3	40	2.00	9.00	5.4250	1.72296
P4	27	3.00	9.00	5.7407	2.06793
P5	59	2.00	10.00	5.3729	1.93781
P6	8	3.00	7.00	4.7500	1.38873
P7	12	3.00	9.00	5.8333	1.69670
<b>After IIRC framework</b>					
P1	39	3.00	10.00	4.7692	1.72385
P2	45	2.00	10.00	4.7333	1.76326
P3	31	2.00	10.00	4.5806	1.91092
P4	20	2.00	10.00	5.1500	2.49789
P5	27	2.00	10.00	4.9259	2.20010
P6	7	2.00	10.00	5.2857	3.14718
P7	3	2.00	8.00	5.6667	3.21455

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability.

Table 5. Test of paired samples

95% Confidence interval	Mean	Standard deviation	Error	Inferior	Superior	t	df	Sig. (bilateral)	
Pair 1	P1&P2	-.18519	1.45010	.16112	-.50583	.13546	-1.149	80	.254
Pair 2	P1&P3	-.05000	1.89399	.29947	-.65573	.55573	-.167	39	.868
Pair 3	P1&P4	-1.12500	1.98500	.40519	-1.96319	-.28681	-2.777	23	.011***
Pair 4	P1&P5	-.03448	1.76680	.23199	-.49904	.43007	-.149	57	.882
Pair 5	P1&P6	-.18182	2.22792	.67174	-1.67856	1.31492	-.271	10	.792
Pair 6	P1&P7	.16667	1.46339	.19914	-.23276	.56610	.837	53	.406
Pair 7	P2&P3	-.25806	1.06357	.19102	-.64819	.13206	-1.351	30	.187*
Pair 8	P2&P4	-.03125	1.89376	.23672	-.50430	.44180	-.132	63	.895
Pair 9	P2&P5	.10000	2.13177	.67412	-1.42498	1.62498	.148	9	.885
Pair 10	P2&P6	-.58333	1.72986	.49937	-1.68244	.51577	-1.168	11	.267
Pair 11	P2&P7	-.59091	1.86851	.39837	-1.41936	.23754	-1.483	21	.153*
Pair 12	P3&P4	-.02703	2.62981	.43234	-.90385	.84980	-.063	36	.950
Pair 13	P3&P5	-.37500	2.77424	.98084	-2.69433	1.94433	-.382	7	.714
Pair 14	P3&P6	-.66667	1.63299	.66667	-2.38039	1.04705	-1.000	5	.363
Pair 15	P3&P7	-.25000	1.48177	.30247	-.87570	.37570	-.827	23	.417
Pair 16	P4&P5	-.25000	1.48177	.30247	-.87570	.37570	-.827	23	.417
Pair 17	P4&P6	2.00000	2.44949	1.00000	-.57058	4.57058	2.000	5	.102*
Pair 18	P4&P7	-1.50000	3.00000	1.50000	-6.27367	3.27367	-1.000	3	.391
Pair 19	P5&P6	1.37500	2.77424	.98084	-.94433	3.69433	1.402	7	.204
Pair 20	P5&P7	-.44444	.88192	.29397	-1.12235	.23346	-1.512	8	.169*
Pair 21	P6&P7	-2.50000	3.53553	2.50000	-34.26551	29.26551	-1.000	1	.500

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability. \*\*\*p-value < .01 \*\*p-value < .05 \*p-value < .1

Table 6. Mean of guiding principles by year and period

	P1	P2	P3	P4	P5	P6	P7
<b>2011</b>	5.10	5.39	5.50	6.25	5.65	4.00	5.89
<b>2012</b>	5.27	5.12	5.63	6.00	5.36	5.00	6.50
<b>2013</b>	5.36	5.31	5.24	5.47	5.16	5.00	4.00
<b>2014</b>	5.08	5.13	4.95	6.33	5.42	5.40	7.50
<b>2015</b>	4.15	3.93	3.67	3.37	3.75	5.00	2.00
<b>Before IIRC framework</b>	5.23	5.30	5.42	5.74	5.37	4.75	5.83
<b>After IIRC framework</b>	4.77	4.73	4.58	5.15	4.93	5.29	5.67
<b>Total</b>	5.06	5.08	5.06	5.49	5.23	5.00	5.80

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability.



Regarding the type of company, private companies score higher for all the guiding principles, and this is regardless of when the IIRC framework was issued (Table 7).

**Table 7. Mean of guiding principles by type of company**

	P1	P2	P3	P4	P5	P6	P7
<b>Private companies</b>	6.00	6.00	5.75	7.50	6.50	-	-
<b>Public companies</b>	5.06	5.06	5.06	5.47	5.19	-	-
<b>Others</b>	4.33	4.33	3.50	4.00	4.50	4.00	-
<b>Total</b>	5.06	5.08	5.06	5.49	5.23	5.00	5.80
<b>Before IIRC framework</b>							
<b>Private companies</b>	7.00	6.00	5.50	7.00	6.00	-	-
<b>Public companies</b>	5.22	5.29	5.42	5.72	5.37	4.86	5.83
<b>Others</b>	4.33	4.50	-	5.00	4.50	4.00	-
<b>Total</b>	5.23	5.30	5.42	5.74	5.37	4.75	5.83
<b>After IIRC framework</b>							
<b>Private companies</b>	4.00	6.00	6.00	8.00	8.00	-	-
<b>Public companies</b>	4.79	4.69	4.56	5.11	4.81	5.29	5.67
<b>Others</b>	-	4.00	3.50	3.00	-	-	-
<b>Total</b>	4.77	4.73	4.58	5.15	4.93	5.29	5.67

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability.

In terms of company origin (averages are shown in Table 8), there are no important differences in the compliance of the IIRC guiding principles for voluntary disclosures regardless of dates. However, it does seem that the publication of the IIRC framework has led European companies to better comply with the guiding principles; before its publication, it was Asian companies that complied most.

Before the publication of the IIRC framework, environmentally sensitive companies made greater efforts to comply with the guiding principles, but the opposite was true for non-environmentally sensitive companies afterward (Table 9). However, this result is affected by the last analyzed years, when there are integrated reports from more European companies operating in less environmentally sensitive sectors but with more concerns about satisfying stakeholders' information needs.

As for the dependent variables referring to strategic focus and future orientation (P1), materiality (P4), and reliability and completeness (P6), the proposed models are statistically significant (p-value of each model is < 0.10) (Table 10). Hence, the information disclosed about some of the IIRC guiding principles is indeed determined by other variables. These guiding principles

are not complied with either equally or homogeneously, and thus hypothesis  $H_1$  can be accepted.

For all guiding principles with statistically significant results, the publication of the IIRC framework is determinant. The biggest absolute coefficient in the three significant models is obtained for the independent variable publication of the IIRC framework. These results support our second hypothesis because the information relating to these guiding principles in the integrated report is determined by the date of publication of the IIRC framework.

Regarding the guiding principle of strategic focus and future orientation, which is a key aim of integrated reporting, not only is the publication of the IIRC framework significant, but so is the geographical origin of the company. European companies are always near the average for compliance with this guiding principle. That is, there are other variables, such as the type of company or operating sector, which affect the kind of information that is disclosed in the integrated report. Thus, we can accept hypothesis  $H_3$ .

According to the results, the guiding principle of materiality (P4) is determined by the type of company. These are the same results as obtained in the descriptive analysis because materiality

is used by companies to disclose their integrated reporting flexibly (Abhayawansa et al., 2019; Villiers et al., 2014). The results on the guiding principle of materiality can be linked to those for reliability and completeness (P6) because the latter is affected by the publication of the IIRC framework, but there are no clear mean differences. Hence, flexibility in integrated reporting continues to be important in the case of the guiding principle of reliability and completeness (P6).

**Table 8. Mean of guiding principles by region**

	P1	P2	P3	P4	P5	P6	P7
America	4.94	4.60	4.50	5.62	4.82	-	4.75
Asia and Australasia	5.37	5.44	4.74	4.40	5.13	4.50	5.67
Europe	5.03	5.13	5.29	5.83	5.39	5.08	6.37
<b>Total</b>	5.06	5.08	5.06	5.49	5.23	5.00	5.80
<b>Before IIRC framework</b>							
America	4.92	4.93	4.67	5.80	5.00	-	4.50
Asia and Australasia	5.91	5.58	5.45	5.80	5.27	6.00	5.67
Europe	5.16	5.34	5.61	5.71	5.56	4.57	6.29
<b>Total</b>	5.23	5.30	5.43	5.74	5.37	4.75	5.83
<b>After IIRC framework</b>							
America	5.00	3.83	4.00	5.33	4.00	-	5.00
Asia and Australasia	4.20	5.00	3.75	3.00	4.75	3.00	-
Europe	4.83	4.86	4.95	6.00	5.10	5.67	7.00
<b>Total</b>	4.77	4.73	4.58	5.15	4.93	5.29	5.67

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability.

**Table 9. Mean of guiding principles by sector**

	P1	P2	P3	P4	P5	P6	P7
Environmentally sensitive sectors	5.13	5.22	5.21	5.28	5.23	4.60	5.29
Non-environmentally sensitive sectors	5.03	5.00	5.00	5.62	5.24	5.20	6.25
<b>Total</b>	5.06	5.08	5.06	5.49	5.23	5.00	5.80
<b>Before IIRC framework</b>							
Environmentally sensitive sectors	5.50	5.52	5.69	5.92	5.61	5.33	5.83
Non-environmentally sensitive sectors	5.05	5.14	5.25	5.57	5.22	4.40	5.83
<b>Total</b>	5.23	5.30	5.42	5.74	5.37	4.75	5.83
<b>After IIRC framework</b>							
Environmentally sensitive sectors	4.18	4.57	4.25	3.60	4.12	3.50	2.00
Non-environmentally sensitive sectors	5.00	4.81	4.70	5.67	5.26	6.00	7.50
<b>Total</b>	4.77	4.73	4.58	5.15	4.93	5.29	5.67

P1: Strategic focus and future orientation; P2: Connectivity of information; P3: Stakeholder relationships; P4: Materiality; P5: Conciseness; P6: Reliability and completeness; P7: Consistency and comparability.

Table 10. Regression models

	Dependent variables					
	Strategic focus and future orientation (P1)		Materiality (P4)		Reliability and completeness (P6)	
	Beta(SE)	p	Beta(SE)	P	Beta(SE)	P
Constant	0.557(0.380)	.002	1.954(1.675)	.232	0.557(1.978)	.544
Before IIRC framework	0.082(0.041)	.032	1.432(1.236)	.010	1.532(0.987)	.022
Public companies	0.072(0.093)	.269	0.843(0.976)	.032	-1.452(0.040)	.432
Private companies	0.014(0.055)	.432	1.345(1.988)	.025	-1.356(0.342)	.246
Sensitive	0.051(0.110)	.121	0.670(1.654)	.321	-0.301(1.672)	.123
America	0.013(0.094)	.193	0.967(0.899)	.412	0.139(0.168)	.180
Europe	0.033(0.042)	.028	0.086(1.278)	.274	-0.148(0.078)	.237
Adjusted R <sup>2</sup> (%)	29.9		27.9		30.3	
Model	F(10) = 2.243**		F(10) = 2.134**		F(9) = 2.765*	

Note: \*\*\*p-value < .01; \*\*p-value < .05; \*p-value < .10. Standard errors are in brackets.

## CONCLUSIONS

This study contributes to the literature on integrated reporting by ascertaining if companies disclose according to all the guiding principles established by the IIRC. The results show that integrated reports are still scarce and there is heterogeneity in the compliance with the requirements, although the sample comprises integrated reports in accordance with IIRC requirements (Castilla & Rosselló, 2013). There are significant differences in the disclosures when they are analyzed by each guiding principle, which casts doubt on the usefulness of integrated reports (Stacchezini et al., 2016). The differences found between guiding principles, in the same integrated report, and non-compliance with all the requirements of the IIRC framework has led authors such as Flower (2015) to adopt a critical position on integrated reporting, while others claim that it has failed in its mission (Villiers & Sharma, 2017). The very flexibility that the IIRC affords leads to overly frequent use of the materiality guiding principle (P4 herein), and may be the cause of this failure (Flower, 2015). Our study finds that the guiding principle of materiality is determined by the publication of the IIRC framework and the type of company; it may be used to disclose less information, or to convey a particular image that the company wants to promote. Hence, in practice, this guiding principle is used flexibly, and not as intended (Abhayawansa et al., 2019).

In conclusion, these differences in the integrated reporting lead us to question if it is adding value to the disclosure of

information or if there are good and bad integrated reports. Cheng, Green, Conradie, Konishi, and Romi (2014) and Villiers et al. (2014) pose similar questions as well. That is, is the integrated report more useful than the traditional report? (Abhayawansa et al., 2019) Also, is the IIRC framework too flexible? (Dumay, Bernardi, Guthrie, & Torre, 2017).

What seems to be true is that integrated reporting is far from being a generally accepted practice, and, even further, bearing in mind its voluntary nature and that there are authors who call for it to be compulsory (Adams, 2015; Flower, 2015). It is worthwhile to continue developing this kind of information because there are authors who have empirically checked its positive effect on the market, but only when it enhances quality (Cosma et al., 2018) and by complying with all the requirements in a complete, homogeneous, and extensive manner.

The flexibility that appears in the guiding principles of the integrated reports also leads other variables to have effects. Examples of these are the type of company or its geographical origin, which have a significant effect on compliance with the IIRC guiding principles. Another finding is that the publication of the IIRC framework at the end of 2013 marks a “before” and an “after” period, and it should have led to better disclosure in the integrated reports.

The conclusions drawn in this paper are important for regulators of non-financial information and integrated reporting and for elaborators and verifiers of the same, as well as for all

the users of this information. Disclosure of integrated reporting is becoming an international benchmark and the IIRC and other regulators must continue moving toward standardization to ensure greater comparability and transparency. This will have important direct effects for companies, practitioners who elaborate and verify integrated reporting, and stakeholders.

As the main limitations of this study, we would point to the scarce number of integrated reports currently published in accordance with IIRC, and that sometimes we have analyzed differently dated integrated reports from the same company, but at other times we have not, which may affect the results.

It would be appropriate to perform a similar study, but with a larger number of reports in the sample, over a longer period, and with more information about each of the seven IIRC guiding principles, with specific analyses for specific guiding principles and the effects of the publication of the IIRC framework.

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## AUTHOR'S CONTRIBUTION

The authors declare that they contributed equally in the Conceptualization and theoretical-methodological construction and writing and review final the manuscript. The theoretical review (literature survey) was prepared by Salvador Marín-Hernández. The data collection was conducted Luis Alfonso Sánchez-Aznar, and finally, the data analysis was realized by Esther Ortiz-Martínez.