A HOLISTIC REVIEW OF DETERMINANTS AND EFFECTS OF INTEGRATED REPORTING ADOPTION

Adriana Tiron-Tudor[1], Rares Hurghis[2], Dan Ioan Topor[3]

[1] Babes-Bolyai University, Faculty of Economic Science and Business Administration, Accounting and Audit Department, Romania, ORCID: 0000-0001-5530-5635, adriana.tiron@econ.ubbcluj.ro;

[2] Babes-Bolyai University, Faculty of Economic Science and Business Administration, Accounting and Audit Department, Romania, ORCID: 0000-0003-1417-1292, rares.hurghis@econ.ubbcluj.ro;

[3] University 1 Decembrie 1918 Alba Iulia, Faculty of Economic Sciences, Accounting Department, Romania, ORCID: 0000-0002-9092-1449, dan.topor@uab.ro.

Abstract: *Integrated reporting represents a new reporting model focusing on the value created by a company over time, using various capitals, and is based on integrated thinking. The latest focus of IR research and articles shifted from analysing the potential benefits or the limitations of IR adoption towards identifying determinants and effects of adoption and implementation. Using a holistic approach of IR literature review and incorporating a scientometric analysis for 2011–2021 period, this study aims to provide the big picture of the IR research, revealing contemporary IR themes and providing future research directions. The study identified six major themes that have evolved in the last ten years related to the IR phenomenon: adherence, quality, elements disclosure, alignment, readability, and process. The results highlight three groups of determinants of IR adoption and implementation related to company, country, or industry, company-level ones being the most analysed group. Furthermore, the most-analysed company-level determinants are related to a company's corporate governance, particularly the board of directors' characteristics. The effects of IR adoption and implementation are grouped in two categories related to market and company, primarily focusing on market-level effects. Of the examined market-level effects, company value and analysts' earnings forecasting precision are the two most encountered. This study provides a comprehensive approach by integrating bibliometric analysis, science mapping, and qualitative analysis with the latest IR research. The current literature review brings various implications for practice, regulators and academia. Companies that aim to implement integrated reporting using the IIRC Framework could implement company-specific determinants to encourage IR adoption. Moreover, companies can benefit from real effects by adopting IR. Regulators can require specific regulations or implement specific regulations to foster IR rollout. Finally, academics can use the findings of the current literature review for further development and in-depth analysis, even though empirical research.*

Keywords: *Determinants, effects, integrated reporting, adoption, literature review.*

JEL Classification: *M40.*

Introduction

In the last 20 years, Integrated Reporting (IR) has evolved from an emerging trend into an institutionalised corporate reporting practice. Novozymes (a Danish bio-industrial firm) was the first company in 2002 to issue an integrated report, being followed by Natura, a Brazilian cosmetics firm, in 2003, and the Danish diabetes firm Novo Nordisk in 2004 (Eccles et al., 2011). Even though the early adopters appeared in

the 2000s (Eccles & Krzus, 2014), the need to report on a company's non-financial aspects appeared 25 years earlier, evolving through the 'triple bottom line' of sustainability reporting (SR), environmental social and governance (ESG) and Global Reporting Initiative (GRI) reporting (Gibassier et al., 2019). Around the 2010s, IR rose in various regions and legislations, being consolidated as a practice after 2013 with the International Integrated Reporting Committee (IIRC) Framework (Dumay et al., 2016; Gibassier et al., 2019; Rinaldi et al., 2018). The literature identifies four documents and moments which contributed to the transformation and evolution of integrated reporting: the King Code of Corporate Governance Principles in South Africa (1994), the Value Reporting Framework of PricewaterhouseCoopers (1999), the One Report book (2010), and the IIRC Framework (2013).

IR represents a new reporting model rather than an accounting standard (Barth et al., 2017), focusing on the value created by a company over time, using various capitals, and is based on integrated thinking (IIRC, 2013). IR aims to improve company resource allocation and improve decision-making processes. Various frameworks and guidelines aim to help companies disclose their social (ISO 26000) or environmental impact (CDP, TCFD, EMAS). Others seek to assist organisations in presenting their economic, environmental, and social impact (GRI) or sustainability issues (SASB, SDG).

At an international level today, there is a movement towards combining different practices, guidelines, and non-financial reporting standards. To enhance its efforts in developing a global, comprehensive corporate reporting system, the IIRC established various collaborations with GRI, CDP, CDSB, and SASB. The aim of the IIRC openness to collaboration is to issue a global reporting standard using a universal framework based on harmonised guidelines and disclosure specifications to better assist organisations in elaborating climate-related and ESG disclosures. Moreover, in 2020, the IIRC started to work with the European Commission via EFRAG on the Corporate Sustainability Reporting Directive (IIRC, 2020b). There has been a shift in IR research focus from the potential benefits and limitations of IR adoption and implementation, towards the identification of determinants and the effects of adopting IR (Vitolla et al., 2019).

Using a holistic literature review, current research contributes to the knowledge extension in the new area of the determinants and effects of IR, aiming to serve as a comprehensive quantitative and qualitative investigation, a three-step research design, including bibliometric analysis with science mapping, and a systematic review is used.

We have identified six major themes that have evolved in the last ten years related to the IR phenomenon: adherence, quality, elements disclosure, alignment, readability, and process. Regarding determinants, we have identified three levels (company, country, and industry), with the most discussed being related to company level; within this category, the most-debated determinants relate to corporate governance – more specifically, the board of directors' characteristics. Regarding the effects of IR adoption and implementation, we have identified two levels of analysis (market and company), with a primary focus on the market level effects. The examined effects of company value and analysts' earnings forecasting precision are the two most encountered.

The remainder of this study presents the methodology used (Section 2), followed by the results developed into three parts regarding the IR adoption determinants and effects (Section 3). Finally, the conclusions, implications, limitations, and future developments end the study (Section 4).

1. Debates Concerning IR Adoption Determinants and Effects

A significant number of articles have reviewed the IR phenomena from different angles (e.g., Dumay et al., 2016; Gibassier et al., 2019; Romolini et al., 2017) and use different methodological approaches. Concerning the IR adoption determinants and effects reviews, the most relevant used here to build up our research framework will be discussed below (Tab. 1), followed by our contribution. Previous literature reviews underline that IR quality determinants have not been sufficiently studied (de Villiers et al., 2017; Kannenberg & Schreck, 2019; Vitolla et al., 2019). The board of directors' (BoD) characteristics have served as a prime study interest as an IR determinant along with studies on capital market effects (de Villiers et al., 2017). Moreover, the literature recommends focusing on IR adoption studies across multi-country

Tab. 1:   Previous literature reviews – summary analysis

Author	Period	Sample articles	Literature review	Focus on
de Villiers et al. (2017)	Not available	No mentions	Traditional	Advocacy, critique, country-level determinants
Velte and Stawinoga (2017)	2012–2016 (5 years)	44	Systematic	Drivers that influence IR implementation and quality at: market level, organizational level, individual/group-decision making level
Kannenberg and Schreck (2019)	2012–2017 (6 years)	53	Systematic	Determinants: Country, industry, organization Implications: internal, external
Vitolla et al. (2019)	2011–2018 (8 years)	61	Structured	Appreciations, criticism, determinants, effects
Our review	2011–2021 (10 years)	79	Holistic	IR: adherence, quality, elements disclosure, alignment, readability, and process

Source: own

samples – not only single-country studies (Velte & Stawinoga, 2017).

De Villiers et al. (2017) categorised the studies by the following terms: advocacy, critique, and country-level determinants. Advocacy studies highlight that from the long-term orientation and adoption of IR could bring various benefits for companies and stakeholders, such as improved internal decision-making processes, reduced reputational and regulation risk, and increased transparency, while at the same time strengthening the financial stability of the firm and boosting a sustainable society. Critique studies highlight that the beneficiaries of IR – shareholders and stakeholders' value different things – shareholders and investors are interested company's future profitability, while stakeholders require a broader range of information as companies seek legitimacy of their actions in society. One of de Villiers et al. (2017) conclusions is that cultural and institutional factors influence the adoption of IR, while studies related to capital markets are still scarce. Country-level determinants studies indicate that cultural and institutional elements affect the adoption of IR.

Velte and Stawinoga (2017) identified three levels of IR research: market, organisational and decision-making. They found that most studies fall in the first two categories. Regarding market level, the focus is on IR implementation and quality and market reactions, but few studies use a multi-period and trans-national approach towards IR adoption. Nonetheless, analysis and comparison of the studies was difficult, as they referred to different countries, where IR adoption and implementation was in different stages. Additionally, there is a high concentration of studies undertaken on South African companies and the Johannesburg Stock Exchange, which might strengthen the validity of their results or at least make them more challenging to extrapolate worldwide. On the organisational level, the focus is on IR implementation and quality, but studies highlight that IR adoption is costly and not adequately implemented. Additionally, they found that a company's features (e.g., size, profitability, industry) and corporate governance characteristics influenced IR adoption and implementation (internal: BoD size, diversity; and external: investor base, legal environment). The decision-making level focuses on stakeholders' perceptions and highlights that investors, companies, and the accounting profession see IR as beneficial, being an additional information tool. Still, there is a need to research

IR assurance and experimental research on decisions based on integrated reports. The authors suggest focusing on IR adoption studies on worldwide or multi-country samples to overcome the above limitations. To ease the analysis and implementation of integrated reporting, the IIRC should define a checklist with the elements required to be included in an integrated report.

Kannenberg and Schreck (2019) explore the determinants, grouping them at country, industry and organisation level and the IR implications grouped into internal (information-process-strategy related) and external (stakeholder and financial-market related). At first hand, the majority of studies were performed on South African companies. The most encountered country-level determinants are Hofstede's cultural characteristics on national culture, national corporate responsibility, economic development, political system (civil law, common law), and degree of market coordination. The main finding from the analysed studies highlights that femininity; collectivism, low economic development, and investor protection are positively associated with IR adoption. The stakeholder and institutional theories are the most suitable when exploring country-level IR determinants. Regarding industry-level determinants, the most analysed are industry-affiliation – which has a positive correlation – especially in companies from environmentally sensitive industries; monopolistic position has a negative correlation with IR adoption, while GRI industry supplement is positively correlated with IR adoption. The organisation-level determinants most researched are profitability, company size, BoD characteristics (size, independence, and diversity), growth opportunities, and the number of analysts following the company – being positively correlated to IR adoption.

Vitolla et al. (2019) identified two main perspectives and four categories used in the articles: normative perspective with appreciations and criticisms and descriptive perspectives with determinants and effects categories. In appreciation studies, the authors found potential advantages of IR adoption as the follows: (i) to contribute to a more sustainable society; (ii) financial stability; (iii) better internal decision-making processes; (iv) a tool which assesses organisations' long term sustainability; (v) greater alignment between investor needs and published information; (vi) to foster long-term vision; (vii) to bring together both financial and non-financial information (compared with sustainability reporting that is focused only on non-financial information); (viii) to reveal the value created by the company and how it is shared with stakeholders. Criticism studies present the disadvantages of IR, highlighting that IR: (i) cannot respond or cover the need of all stakeholders; (ii) does not stimulate the sustainable company behaviour; (iii) create difficulties in assuring it; (iv) could be used as a marketing tool or to reshape the public image of companies. The determinants of IR have been analysed in previous studies through the lenses of institutional theory (the legal system, investor protection, and ownership structure) and stakeholder theory (cultural dimensions of Geert Hofstede, board characteristics, company-specific metrics – profitability or size; external pressure – employees, local authorities; industry, country of origin, assurance, etc.) (Vitolla et al., 2019). The effects of IR implementation and quality are analysed in relation to the company's performance (value, capital cost, and capital market effects), compared companies using IR and ESG in terms of capital market effects. Moreover, the studies in this category try also to comprehend the value creation process and the role of nonmonetary indicators in the business model. Studies in this category focus more on the external effects of IR adoption and implementation, and less on the internal effects. More specifically, the authors identify three categories of effects: financial (company value, cost of capital, cash flow, stock liquidity), informational (analyst forecast precision, information quality, and transparency), and managerial (corporate governance, management control system, quality of management, administration, finance, and control area). Continuing the trend of IR adoption research, we aim to identify the studies that analyse IR's determinants and effects through the following described methodological framework.

2. Methodology
2.1 Research Design
Integrated reporting, in general, has prompted interesting academic debates and articles, some aiming to capture the evolution of IR debates using different reviews of literature methods; for example: traditional (de Villiers

et al., 2017; Gibassier et al., 2019; Romolini et al., 2017) or systematic (Dumay et al., 2016; Kannenberg & Schreck, 2019; Velte & Stawinoga, 2017; Vitolla et al., 2019). With our novel holistic approach, we explore the literature in a more analytical manner and contribute to the development of knowledge in this area. Exploring IR phenomena from multiple angles using quantitative and qualitative criteria offers a more holistic view and approach of the analysed domain (Soomro et al., 2016). As a result, a holistic literature review (HLR) has become one of the newest methods of literature review today, being used in sectors such as business process management (Al-Mashari & Zairi, 2000), IT (Soomro et al., 2016), digital transformation (Hausberg et al., 2019), public-private partnerships (Ma et al., 2019) and lean construction (Solaimani & Sedighi, 2020). Following the previously mentioned studies, by adopting a comprehensive review workflow, the overall research steps in this review-based study of IR adoption determinants and effects are described.

We adopt a holistic approach in reviewing the integrated reporting adoption's determinants and effects literature published since 2011. By incorporating scientometric and systematic analysis, this study aims to provide the big picture of contemporary research in this area. Following a three-step research methodology, this study begins with a bibliometric analysis through a literature search and science mapping to provide the state-of-the-art information on research keywords, scholars, journal articles, and countries. A systematic review identifies the evolution of determinants and effects of integrated reporting.

This study adopted a bibliometric analysis of the IR adoption determinants and effects-based literature followed by the science mapping analysis. The bibliometric analysis examines the bibliographical material from a quantitative perspective, helpful in analysing information in a specific field (Albort-Morant & Ribeiro-Soriano, 2016). For example, keyword usage allows the analysis of details in main topics within a domain and relationships at a micro-level (Chen & Xiao, 2016). From a quantitative perspective, we focused our analysis on: (i) mapping the study type across the major themes; (ii) study type – quantitative or qualitative; (iii) IR setting (e.g., voluntary, mandatory); (iv) period; (v) sources of integrated reports covered by the articles; (vi) theories used in the research; (vii) focus of the research sample (e.g., international or national).

Science mapping describes and diagnoses how individual articles or authors relate to each other (Cobo et al., 2011). Using the text mining software tool, VOSviewer, the analysis of the articles' titles, keywords and abstracts included in the sample provides word clusters, each coloured differently to identify the major themes relating to IR adoption.

We identified the following significant themes related to IR adoption determinants and effects based on our sample of articles using Voswiewer software, referring to: IR adherence: focusing on pre- and post- IR adoption for the same companies and adopters vs. non-adopters; IR quality: measuring the quality of integrated reporting using self-constructed scoreboards and Ernest and Young rankings Excellence in IR; IR elements disclosure: disclosure of elements from integrated reporting, like materiality, business model, six capitals information; IR alignment: that uses self-constructed disclosure/alignment index to measure the adoption and implementation of integrated reporting; IR readability: as determinants; IR process: approaches of IR implementation, reporting type, as an effect.

Compared to previous literature reviews that grouped the analysis based on the study type in terms of determinants and effects (Kannenberg & Schreck, 2019; de Villiers et al., 2017; Velte & Stawinoga, 2017; Vitolla et al., 2019), this is a novel approach.

Second, following the bibliometric analysis and science mapping, the systematic review summarised the current research focus areas in IR adoption determinants and effects. From a qualitative perspective, we have identified the analysed level of determinants and effects, followed by identifying variables used for each level of determinant and effect. As regards the determinants and effects, we established three levels: company, country, and industry to identify the related variables for each level and present the main observed results, following similar approaches to previous studies (Kannenberg & Schreck, 2019; Velte & Stawinoga, 2017; Vitolla et al., 2019). Furthermore, we looked for the most analysed determinants and effects levels and the most analysed variables for these categories. The above-described process was re-iterative; following the in-detail analysis of

each article, the defined themes, determinants and effects, were adjusted accordingly.

In this approach, we aimed to develop a comprehensive literature review, both in quantitative (the most extensive period covered and largest number of articles included in the investigation) and qualitative terms (the approach of grouping the articles following the focus of study on integrated reporting, followed by the grouping of determinants and effects).

2.2 Data Collection Procedure and Sample Relevance

To extract the articles, we used Google Scholar, which embeds articles from international databases such as EBSCO, Web of Science, Scopus, Springer Link, Social Sciences Research Network (SSRN), Wiley, Science Direct, and Emerald, similar to previous studies (Kannenberg & Schreck, 2019; Velte & Stawinoga, 2017; Vitolla et al., 2019). We used the following keyword string: [("IR" OR "Integrated reporting") AND ("Determinants" OR "Effects")] to search in the Google Academic database during July–August 2021 and identified 118 articles published in the period from January 2011 to July 2021. After reading the title, abstract and keywords, 29 articles were removed, as they did not refer to determinants and effects on IR adoption. The remaining sample included 79 articles, of which: (i) 41 concerned IR determinants; and (ii) 38 discussed the IR effects.

A significant number of researchers are interested in integrated reporting determinants and effects, even if the topic is relatively new. The Italian researchers Vitolla, Raimo, and Rubio represent the most prolific author group, who, in the period 2019–2021, published nine articles together with other authors. In second position with three articles each is a group of Spanish researchers; García-Sánchez leads with five articles, followed by Rodríguez-Ariza and Frías-Aceituno with three articles. Next are Italian researchers Melloni, Garzoni and Fazan, and a Romanian team composed of Tiron-Tudor and Hurghis. Finally, analysing the whole sample of authors, there is the same order with Italian researchers at the top as most productive, followed by the Spanish researchers.

Across the entire sample, 51 articles were published in ISI journals, 23 in ESCI journals, four in conference proceedings and one in a book chapter. Concerning the journals articles included in the sample, 26 out of the 79 papers (1/3) were published in four top journals with an impact factor ranging between 7.198 and 10.302. These journals are: (i) Business Strategy and the Environment, ten papers; (ii) Corporate Social Responsibility and Environmental Management, ten articles; (iii) Journal of Cleaner Production, three papers; (iv) Journal of Intellectual Capital, three papers. These 26 articles accumulate 2,811 citations, 45% of the total sample of 79 with 6,211 citations. The fifth position is Sustainability journal, with an impact factor of 3.2 and six papers.

With reference to the citations, 18 (23%) have over 100 citations, recording 4,919 citations (79%). The top 12 articles, each with over 200 citations: Jensen and Berg (2012) – 547; Frias-Aceituno et al. (2013a) – 543; Stubbs and Higgins (2014) – 462; Frias-Aceituno et al. (2013b) – 340; Zhou et al. (2017) – 338; Garcia-Sanchez et al. (2013) – 335; Serafeim (2015) – 310; Barth et al. (2017) – 300; Lee and Yeo (2016) – 296; Sierra-García et al. (2013) – 248; Bernardi and Stark (2018) – 233; Baboukardos and Rimmel (2016) – 201 citations.

Regarding the first authors, the highest-cited authors are: (i) Frias-Aceituno with two articles and 883 citations; (ii) Jensen, one article with 547 citations; (iii) Garcia-Sanchez, with three articles and 509 citations; (iv) Stubbs, one article with 462 citations; and (v) Zhou, one article with 338 citations. Nevertheless, the number of citations is not impressive since more than half of the articles included in the sample (45 of 79) are from 2019–2021.

3. Results and Discussion
3.1 Overview of Evolution of Debates on Integrated Reporting Determinants and Effects

To examine the IR determinants and effects, we mapped each study to the related theme following the close analysis of each article and its objective. For each theme, as described in the methodology, we analysed the study type and IR setting and looked for the analysed period, sources used, theories, and the focus of the research sample. Furthermore, we identified the analysed level of determinants and effects, followed by identification of variables used for each level of determinant and effect. Further on, we present the major themes identified, their

evolution over time in the analysed period, their sources, theories, sample, for both determinants and effects studies.

a) Evolution of Major Themes
To analyse the major themes and their evolution, a detailed investigation of each category of determinants and effects was conducted, and the distribution of articles over the 2011–2021 period is illustrated in the two upcoming tables. We can observe that studies related to IR determinants appeared in 2011, referring to IR voluntary adherence. Studies of the effects appeared later, with the first to explore the change in the process and structures of IR reporting published in 2014. The distribution over time of the identified themes in determinants studies is presented in Tab. 2.

From the analysis, we can see that the first articles studying the determinants of

Tab. 2: Determinants of IR – study types by year

IR focus	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Adherence	1	1	3	1	2	2		1	1			12
Quality							1	1	4	5	1	12
Elements disclosure							1		3	1		5
Alignment			1			1	1		2	5		10
Readability								1	1			2
Total	1	1	4	1	2	3	3	3	11	11	1	41

Source: own

IR referred to IR adherence, where the most analysed phenomenon was the pre- and post- IR adoption for the same companies and adopters vs. non-adopters. The second type of study were those analysing the IR alignment to the IIRC Framework and IIRC Guidelines, followed by those focused on the determinants of IR quality. Articles analysing the determinants of IR quality appeared later, while those related to determinants of IR readability appeared sparingly, being of little interest among researchers. Thus, the focus of the articles is on IR adherence and IR quality (12 studies each theme), covering 59% of the determinants sample. Next are the IR alignment studies; however, IR elements disclosure and IR readability remain underexplored. The distribution of identified themes in the effects studies over the analysed period is presented in Tab. 3.

We underline that the first observed study analysing the effects of IR adoption refers to

Tab. 3: Effects of IR – study types by years

IR focus	2014	2015	2016	2017	2018	2019	2020	2021	Total
Adherence			2	1	3	4	6	1	17
Quality			2	1	1	2	3		9
Elements disclosure		1	1			2	1		5
Alignment				1	1	1	2		5
Process	1					1			2
Total	1	1	5	3	5	10	12	1	38

Source: own

the IR process (this is also the least analysed category, with only two articles) appeared in 2014 and explored the change in the process and structures of IR reporting (Stubbs & Higgins, 2014). The IR process, IR adoption and quality, ESG reporting, IR integration level are the second least studied category. Studies analysing the effects of IR systematically refer mainly to alignment, quality, and adoption. The most analysed category (46%) relates to the effects of IR adoption and analyses the pre- and post- IR adoption effects for the same companies and adopters vs. non-adopters. Most IR effects studies are related to IR adherence (46%, 17 studies), which analyse the pre- and post- IR adoption effects. Following these are the effects of IR quality studies, but this category, together with IR alignment, IR elements disclosure, and IR process remain insufficiently studied.

b) Determinants: Themes, Period, Source, Theories and Sample Focus

Regarding the main themes identified in the studies of determinants and effects, we performed a detailed analysis, aiming to identify the analysed period in these articles, the sources used for their integrated reports samples, the theories used, and their focus of the sample. We present these elements for both determinants and effects studies in Tab. 4 and Tab. 5. The analysed period in determinants studies goes back until 2002 for IR adherence and IR elements disclosure themes. By contrast, the latest analysed period in IR readability studies is 2014. Concerning the determinants, the majority of studies (25 out of 41) use the IIRC database as the source of integrated reports. Studies related to IR quality and alignment use content analysis as a method to analyse the integrated reports.

Tab. 4: Main themes in determinants studies – analyzed period, sources, theories, sample

IR theme	No. of articles	Analyzed period	Source of reports	Theories used		Sample focus
				Primary*	Secondary	
IR adoption	11	2002–2014	GRI database Forbes Global 2000 list Thomson Reuters ASSET4 IIRC database IIRC Pilot Program IIRC & Aida databases	Agency Institutional Stakeholder	Legitimacy Resource based Signalling Voluntary disclosure	Worldwide (9) Italy (1) USA (1)
IR quality	12	2011–2018	IIRC database Johannesburg Stock Exchange	Agency Stakeholder Signalling	Institutional Legitimacy Resource dependence Innovation diffusion	Worldwide (8) South Africa (3) Sri Lanka (1)
IR elements disclosure	5	2002–2017	IIRC database Bloomberg database STOXX Europe 600 Index, Google search	Stakeholder Agency Legitimacy	Voluntary disclosure	Worldwide (3) Europe (1) South Africa (1)
IR alignment	10	2006–2019	IIRC database IIRC Pilot Program Thomson Reuters Eikon	Agency Institutional	Stakeholder Legitimacy	Worldwide (8) Europe (2)
IR readability	2	2014–2017	IIRC database	Stakeholder-agency Impression management Legitimacy		Worldwide (1) Europe (1)

Source: own

Note: *In minimum two studies/articles.

Studies focused on IR adherence use samples from 2002, especially for analyses of pre- and post-adoption articles. IR quality studies began to be of interest following the IIRC Pilot Programme in 2011. Moreover, all the studies in the sample are quantitative, which is contrary to Romolini et al. (2017), who observed that most IR studies in the 2009–2015 period are theoretical and qualitative while the quantitative ones remain partially explored.

In contrast to Vitolla et al. (2019), which highlights that the determinants of IR quality are not sufficiently studied, we consider that the most analysed category (12 articles) is for determinants of IR quality (along with IR adherence studies). Furthermore, if we consider the quality of the element's disclosure, 43% of the studies focused on determinants of IR quality. Nevertheless, many studies focused on determinants of IR quality and IR alignment occurred in 2020 (five for each of these categories). Additionally, over half of the studies refer to IR quality and adoption. We have similar observations with Velte and Stawinoga (2017), who underlines that the focus of IR studies is on IR implementation and quality. As an answer to Velte and Stawinoga (2017) call for IR papers to use multi-country samples, we underline that most studies focused on a worldwide sample, and few used single-country samples; these results are similar to Dumay et al. (2016). Contrary to Velte and Stawinoga (2017), our results underline a focus on multi-period samples.

For the theories used in studies of determinants, we underline that the most used are agency, stakeholder, institutional, legitimacy, signalling, and voluntary disclosure (e.g., Vitolla et al., 2019). Speziale (2019) add to the previous mentioned the impression management and Kannenberg and Schreck (2019) add the theory of political costs. Moreover, Dragu and Tiron-Tudor (2014) highlight that the most suitable theories to research IR are shareholders and stakeholders. Nevertheless, Pavlopoulos et al. (2019) highlight that IR usage empowers stakeholder theory.

All the studies analysing the determinants of IR are quantitative. Looking at the IR adoption regime, we underline that 32 out of 41 (78%) are made in the voluntary setting, four in a mandatory setting, and five are in both settings.

c) Effects: Themes, Period, Source, Theories and Sample Focus

The analysed period in effects studies for the IR adherence theme goes back until 2003, which is similar to the IR adherence theme in determinants studies. By contrast, the latest analysed period is in the IR process is 2018, focusing on the stand-alone year.

Tab. 5 summarises for each IR theme the analysed period, the sources used for the integrated reports sample, the theories employed, and the sample focus.

Following the literature review, most studies (23 out of 38) use a different database from the IIRC database to source the analysed integrated reports. This is contrary to results observed for studies analysing IR determinants.

We highlight that the most used theories in the IR effects studies are: agency, voluntary disclosure, stakeholder, information asymmetry, and signalling, compared to determinants studies where we have the following: agency, stakeholder, institutional, legitimacy, signalling, and voluntary disclosure (Kannenberg & Schreck, 2019; Speziale, 2019; Vitolla et al., 2019).

The report between qualitative and quantitative studies is in favour of the quantitative analysis; 33 studies (87%) are quantitative, using an empirical method, while only five are qualitative, being related to IR process, IR element disclosure – six capitals (one study each), and IR adoption (two studies). This finding contrasts with Romolini et al. (2017), who underlines that most IR studies in the 2009–2015 period are theoretical and qualitative, and only a few are quantitative.

Eleven studies use as method content analysis – IR adoption (2); IR quality (2); IR element disclosure (4); and IR alignment (3) – being the most encountered method of analysing the reports. If we look at the adoption regime, 24 studies focus on the voluntary regime, ten studies on the mandatory regime, and four studies on both regimes. Consequently, approximately two-thirds (63%) of the articles analyse the effects of IR adoption in a voluntary setting. If we examine by year, we can see a concentration of studies related to the mandatory setting by 2019, while the focus on the voluntary setting occurred gradually and peaked in 2020. We can thus observe a natural shift towards the voluntary IR setting, as researchers aim to identify potential effects of IR adoption in other jurisdictions, advocating

| Tab. 5: | Main themes in determinants studies – analysed period, sources, theories, sample | | | | | |

IR theme	No of articles	Analyzed period	Source of reports	Theories used		Sample focus
				Primary*	Secondary	
IR adherence	17	2003–2018	IIRC database GRI database Australian, European, Johannesburg, Indonesia, Malaysia, Singapore, Thailand, Philippines & Vietnam Stock Exchange	Agency Voluntary disclosure Information asymmetry Signaling	Shareholder Stakeholder Legitimacy Impression management Information processing	Worldwide (6) South Africa (5) Europe (1) Europe & South Africa (1) North America (1) Italy (1) ASEAN firms (1)
IR quality	9	2004–2017	IIRC database IIRC Pilor Program GRI database STOXX Europe 50 Compustat database Stock Exchanges	Stakeholder	Information asymmetry Signaling Proprietary disclosure costs Processing costs Cognitive limit	Worldwide (3) South Africa (3) Australia (1) Europe (1) South Africa, Nigeria, Egypt (1)
IR elements disclosure	5	2013–2017	IIRC database	N/A	Agency	Worldwide (4) Europe (1)
IR alignment	5	2009–2018	IIRC database Johannesburg, Bahrain & Dhaka Stock Exchange	Voluntary disclosure	Stakeholder Legitimacy	Worldwide (1) South Africa (1) Bahrain (1) Bangladesh (1)
IR process	2	2012; 2018	Australian Securities Exchange 50	N/A	N/A	Australia (1) Germany (1)

Source: own

Note: *In minimum two studies/articles.

for the endorsement of IR practice as an institutionalised corporate behaviour.

3.2 Detailed Analysis and Discussion of IR Determinants and Effects

a) Determinants of IR Adoption and Implementation

Following the meticulous analysis of the determinants articles, we identified three levels of analysis for each of the major themes (IR adherence, quality, elements disclosure, alignment, and readability) related to a company, country, and industry for which the determinants were collected.

The most analysed level is the company level (in 33 out of the 41 studies) followed by country level (in 17 studies) and industry level (in 12 studies) – one study can have one, two or all three levels mentioned. For company-level determinants, we have identified financial determinants, corporate governance determinants, IR related determinants, and corporate characteristics' determinants. At the country level determinants, we have identified country-specific systems and Hofstede cultural characteristics. Industry-level determinants refer to affiliation to a certain industry (e.g., environmental and social sensitive companies and manufacturers). Velte and Stawinoga (2017) – market and organisational determinants, Kannenberg and Schreck (2019) – country, industry, and organisation determinants. Vitolla et al. (2019) analysed these determinants through the institutional and stakeholder theory also observe this split of the analysed determinants.

The observed results for financial, corporate governance, IR, and corporate characteristics related to company determinants are similar to

Tab. 6: Determinants of IR by study type and analyzed level – used variables and main results

IR theme / Analyzed determinants (variables)	IR adherence	IR quality	IR elements disclosure	IR alignment	IR readability
Company level	**1. Financial determinants:** a) Size (+) b) Profitability (+) c) Growth opportunities (+) d) Year (+) **2. BoD's characteristics:** a) Size b) Diversity (+ gender, – nationality) c) Independence (+) d) Activity (+) **3. IR related determinants:** a) ESG ratings (+) for adopters b) Assurance of SR report (+) **4. Corporate characteristics' determinants:** a) Proportion of institutional long-term investors (+) b) Blockholders (–)	**1. Financial determinants:** a) Size (+) b) Profitability (+) c) Leverage (+) **2. BoD characteristics:** a) Size (+) b) Diversity (+) c) Independence (+) d) Activity (+) e) CEO duality (–) f) BoD quality index (based on size, independence, experience, activity) (+) g) Risk management committee (existence) (+) h) Audit committee (+) i) Sustainability committee (+) j) Non-financial performance measures for executives' compensation (+) **3. IR related determinants:** a) Mandatory IR regime (+) b) IR/nonfinancial assurance (+) c) Separate sustainability report (+) **4. Corporate characteristics' determinants:** a) Organization type (+) b) Customers' pressure (+) c) Employees' pressure (+) d) Shareholders' pressure (+)	**1. Financial determinants:** a) Size (+) b) Profitability (–) (+) c) Leverage (–) **2. BoD characteristics:** a) Size (+) b) Diversity (+ gender) c) Independence (–) d) Activity (+) e) Ratio of females in executive teams (–) **3. IR related determinants:** a) IIRC Pilot Program companies (+) b) Listed on IIRC website (+) c) Number of previously IR issued (–) d) Learning effects (+) **4. Corporate characteristics' determinants:** a) Business ethics policy (+) b) Corporate policies focused on HSE (+) c) Corporate policies focused on human rights (+)	**1. Financial determinants:** a) Size (+) b) Profitability (+) **2. BoD characteristics:** a) Size (+) b) Diversity (+ gender) c) Independence (+) d) Activity (+) e) Tenure (+) f) Training & experience (+) g) CEO duality (–) **3. IR related determinants:** a) Audit quality (by big 4) (+) b) Assurance (+) **4. Corporate characteristics' determinants:** a) Investor protection (+)	**3. IR related determinants:** a) Financial performance & optimism in IR (–) **4. Corporate characteristics' determinants – audit committees':** a) Financial expertise (+) b) Sustainability expertise (+) c) Financial & sustainability expertise (+)
Industry level	**1. Industry:** a) Basic materials (+) b) Consumer goods (–) c) Financial (+) d) Industrials (+) e) Manufacturing (–)	**1. Industry:** a) Consumer products and services (+) b) Environmental sensitive (+) c) Financial (+) d) Manufacturing (+) e) Mining (+) f) Property (+) g) Services (+) **2. Environmental protection organizations' pressure (+)** **3. Product market competition: (+ for new entrants; – for existing rivals)**	**1. Industry:** a) Consumer goods (–) b) Oil & gas (–) c) Telecommunications (+)	**1. Industry:** a) Environmental sensitive (+) b) Basic materials (+) c) Financial (+)	N/A
Country level	**1. Country specific systems:** a) Political (+) b) Financial (+) c) Educational (+) d) Labour (+) e) Cultural (+) f) Economic (+) g) Corruption Perception Index (+) h) Country risk rating (+) **2. Hofstede cultural characteristics:** a) Collectivism (+) b) Femininity (+) c) Long-term orientation (+)	**1. Country specific systems:** a) Region (+ for EU) b) Political system (+ common & civil law) c) Country (+) d) Performance orientation (–) e) Assertiveness (+) f) Future orientation (–) g) Humane orientation (+) h) Governments' pressure (+) i) Country-level accounting competency (+) **2. Hofstede cultural characteristics:** a) Institutional collectivism (+) b) Uncertainty avoidance (+)	N/A	**1. Country specific systems:** a) Political system (civil law +) b) Financial system (+) c) Educational (+) d) Labour system (+) e) Cultural system (+) f) Economic system (+)	N/A

Source: own

those identified to influence the IR adoption and implementation by (i) Velte and Stawinoga (2017) – namely, size, profitability, BoD characteristics, IR assurance); and (ii) Kannenberg and Schreck (2019) – company size, profitability, growth opportunities, and BoD characteristics (size, independence, diversity), investor protection.

Kannenberg and Schreck (2019) also observe Hofstede's cultural characteristics and country-specific systems related to country-level determinants. They also observe that economic development and Hofstede's cultural characteristics, including femininity and collectivism, positively influence IR adoption and implementation. Regarding industry-level determinants, they also found companies from sensitive environmental industries to be positively associated with IR adoption.

We highlight that the board of directors' (BoD) characteristics are of interest as IR determinants, being analysed in 18 out of 41 articles. The most analysed BoD characteristics refer to size, independence, diversity, activity, tenure, and CEO duality. The variables related to board size, independence, and diversity were most used by Velte and Stawinoga (2017) respectively Kannenberg and Schreck (2019). Therefore, BoD characteristics are of high interest as IR determinants (de Villiers et al., 2017), being intensively analysed in our literature review.

Among the most used theories for each level (based on frequency), we encounter: (i) for country-level determinants, institutional and stakeholder; (ii) for industry-level determinants, institutional, followed by agency, stakeholder, legitimacy, and signalling; (iii) for company-level determinants are stakeholder and agency. The observations regarding the most used theories for each level of determinants are similar to Kannenberg and Schreck (2019) for all three categories: country, industry, and organisational level. Tab. 7 presents the identified determinants in detail based on the analysed level (company, industry, country) and study theme (IR adherence, quality, element disclosure, alignment, and readability).

b) Effects of IR Adoption and Implementation
Following the detailed analysis of the effects studies, we have identified two levels of analysis related to market and company, with the main focus on the market level effects (27 out of the 38 studies). This proves that IR has a strong market orientation, with

financial capital providers being one of the most important stakeholders (IIRC, 2013). Furthermore, company value and analysts' earnings forecasting precision are the two most encountered means to evaluate market-level effects – appearing in 15 studies (56% of the market level studies).

Of market-level effects, the most used theories are agency/shareholder and voluntary disclosure, followed by stakeholders and signalling. Finally, for company-level effects, we encounter agency, stakeholder, and legitimacy theories.

For IR effects or implications, Kannenberg and Schreck (2019) identify two perspectives: internal, with three categories (information-related, process-related strategy-related) and external, with two categories (stakeholder and financial-market related). The focus is found to be on internal effects (21 articles). By comparison, Vitolla et al. (2019) found that the effects of IR implementation and quality are related mainly to a company's performance and capital market effects.

Velte and Stawinoga (2017) identify three IR research levels: market, organisational, and decision-making – we see organisational and decision-making levels related to company level effects. Our results highlight that the focus of IR adoption, implementation, and quality are on the market level (capital market – towards the external environment of the company) appearing in 27 out of the 38 studies (71%) – and less so on the company level – appearing in 13 studies (one study can analyse both market and company level effects). This highlights that IR has a strong market orientation, which is similar to Villiers et al. (2017). Moreover, two-thirds of the articles (25 studies, 66%) focus only on the effects of IR at the market level (not including company-level analysis). The observed results are in line with Velte and Stawinoga (2017) and Vitolla et al. (2019) but are in contrast with the findings of Kannenberg and Schreck (2019), which underline a focus on internal effects (internal environment of the company). Our analysis found that the IR process-related studies (two articles) focus on the company's internal environment.

The literature analysis reveals that on the market level, in a voluntary or mandatory setting, the overall effects of IR adoption and implementation detected in our study responded to de Villiers et al. (2017) call for

Tab. 7: Effects of IR by study type – used variables and main results

IR theme		IR adherence	IR quality	IR elements disclosure	IR alignment	IR process
Analyzed effects (variables)	**Market level**	**Voluntary:** a) Analyst forecast accuracy (information asymmetry) (+) b) Analyst forecast accuracy (+ for IR adopters) c) Analyst forecast accuracy (+ more for US vs. European companies) d) Earnings (+) e) IR adoption (+) on market value f) Internal control (+) on market value g) Cost of debt (– for adopters) h) Cost of capital (– for adopters) i) Environmental & company value (quadratic form – inverse U shaped) j) Social expenditures & company value (quadratic form – inverse U shaped) k) ESG disclosure & market valuation (–) l) IR disclosure & market valuation (–) m) IR disclosure & market valuation (+) for those who issue assured IR according to GRI n) IR adoption & earnings quality (+ for adopters) o) IR integration level & earnings quality (+) **After mandating IR on JSE:** a) Free cash flow (+) b) Market value (+) c) Book value of equity (–) d) Earnings per share (+) e) Share price (+) f) Organizational capital (+) g) Financial performance (Tobin's Q) (–) h) ESG rating (+) i) Risk (beta) (–) **Mandatory vs. voluntary:** a) For voluntary: ESG score (+) b) For mandatory: book value of equity (per share) (+) c) ESG score & market value of equity (per share) (+)	**Voluntary:** a) Company value – non-linear i) For low to moderate levels of IR quality (+) ii) For high levels of IR quality (–) b) Liquidity – non-linear i) For low to moderate levels of IR quality (+) ii) For high levels of IR quality (–) c) Cost of equity capital (–) **After mandating IR on JSE:** a) Analyst forecast accuracy (+) **Mandatory:** a) Firm valuation (Tobin's Q) (+) b) Firm valuation of those with higher organizational complexity (+) c) Firm valuation of those with greater external financing needs (+) d) Liquidity (+) e) Expected future cash flows (+)	**Voluntary:** a) ICD & cost of equity capital (–)	**Voluntary:** a) Company value (Tobin's Q) (+; –) b) Analyst earnings forecast error (+) **Mandatory & voluntary:** a) Value relevance (market value of equity) (+) b) Earnings quality (+ for mandatory) c) Abnormal stock returns (+ for high earnings quality) **Mandatory:** a) Analyst earnings forecast error (–) b) Cost of equity capital (–)	N/A
	Company level	**Voluntary:** a) Corporate governance (+) b) IR improves the measurement focus of the MCS due to the role played by the company's BM throughout the IR development and to the process adopted to map the BM itself c) IR visual representation and its underlying logic may not work if the tool is used for managerial decision making **Before & after mandating IR/mandatory vs. voluntary:** **Quantitative:** a) Financial performance (ROA) (–) b) Risk (leverage) (–) c) Institutional shareholding (+) **Qualitative:** a) Business model and strategy were not disclosed before mandating IR in South Africa, but were disclosed after (+) b) Companies disclose their strategic goals more transparently, but still do not link these goals to BMs, key performance indicators, risks or opportunities (+)	**Voluntary:** a) HPC and GRI companies exhibit equal performance on IR and SR practices but both HPC and GRI are lower on these measures than IIRC companies b) US companies have lower compliance with practices in SR and IR, and disclose less information in their sustainability reports and integrated reports as compared to non-US companies	**Voluntary:** **1. Intellectual capital disclosure:** a) Company performance (ROE) (+) b) Company performance (–) c) Size (+) d) Intangibles (+) **2. Business model disclosure:** a) BoD size (+ optimistic tone) c) Performance (– optimistic tone) d) Forward looking disclosure (+ positive tone)	**Voluntary:** a) Financial performance (+ for business model, strategy and resource allocation) b) Financial performance (– risk & opportunities and performance) **Mandatory & voluntary:** a) Company performance (ROA) (+)	**Voluntary:** a) IR adoption did not stimulated new innovations in disclosure mechanisms, but produced rather incremental changes to processes and structures that previously supported sustainability reporting b) Integrated information leads to decisions with higher sustainable value creation

Source: own

further research on company value, market performance, cost of equity and debt capital, information environment, and liquidity. Additionally, the obtained results for information asymmetry reduction and improvement of analysts forecasting accuracy align with findings by Kannenberg and Schreck (2019) regarding IR external implications. However, by contrast, we found that IR also reduces capital cost, similar to Vitolla et al. (2019). Thus, in terms of company value and performance, capital market effects (cost of capital reduction, reduction of analyst earnings forecast errors, and improved stock liquidity), our observations support the observations of Vitolla et al. (2019).

By examining the effects at the company level, we can see there are quantitative effects of IR adoption and implementation which improve corporate governance function (+), impacts a company's financial performance (+/−), reduces a company's risk (leverage) (−). There are also qualitative effects, such as: (i) changes to processes and structures used for IR; (ii) content elements disclosure; (iii) presentation of information into an integrated manner; (iv) increased transparency regarding a company's strategic goals.

Even though IR led to improved company disclosure behaviour (elements such as business model, strategy, intellectual capital, being extensively disclosed), it could be used as an impression management tool (Melloni et al., 2016) or as a marketing means to reshape a company's public image (Vitolla et al., 2019). This is one of the critiques of IR (Vitolla et al., 2019); nonetheless, IR is an additional information tool (Velte & Stawinoga, 2017).

Following Velte and Stawinoga (2017) and de Villiers et al. (2017) call for further analysis on how IR preparation impacts the investment and financing decision outcomes. Esch (2019) performs a scenario-based experiment on reporting types used for decision making, using: (i) financial information only; (ii) unlinked financial and non-financial information; and (iii) integrated information. Obtained results highlight that integrated information leads to higher sustainable value creation decisions, contributing to a more sustainable society (Vitolla et al., 2019). Therefore, IR impacts the outcome of investment decisions. Additionally, companies adapted their internal processes by presenting information such as business models and embarking on an organisational transformation journey required to implement IR (de Villiers et al., 2017). Tab. 7 presents the identified effects in detail based on the analysed level (company and market) and study theme (IR adherence, quality, element disclosure, alignment, and process).

3.3 Discussion

The previous literature review highlights a shift in the approach of IR research, moving from potential benefits and limitations (particularly during 2011–2014) towards identifying determinants and effects of IR adoption in later years (Vitolla et al., 2019). Moreover, it evidences the use of legitimacy, stakeholder, agency, signalling, and institutional theories for IR research (Kannenberg & Schreck, 2019; Vitolla et al., 2019). Researchers underline that the determinants of IR quality are not sufficiently studied (de Villiers et al., 2017; Kannenberg & Schreck, 2019; Vitolla et al., 2019), BoD characteristics being of high interest as determinant along with capital market effects (de Villiers et al., 2017). The literature also indicates to focus on multi-country and multi-period samples (Velte & Stawinoga, 2017).

Even though the topic of integrated reporting is relatively new, various researchers have focused their attention on it. The most prolific group of researchers is represented by Italians Vitolla, Raimo and Rubio, followed by: (i) Spanish researchers García-Sánchez, Rodríguez-Ariza and Frías-Aceituno; (ii) a second Italian group of researchers Melloni, Garzoni and Fazan; and (iii) Romanian researchers Tiron-Tudor and Hurghis.

Moreover, one-third of the analysed articles are published in four top journals (impact factor ranging between 7.198 and 10.302), and two-thirds are published in ISI journals. With reference to the citations, 18 articles (23%) have over 100 citations, recording 4,919 citations (79%) of the total sampled. Of the most prolific authors, we encounter Frias-Aceituno, followed by Jensen, Garcia-Sanchez, Stubbs and Zhou, with the highest number of citations. Nevertheless, the number of citations might not seem very high, as half of the articles forming the sample were published between 2019 and 2021. Furthermore, the top 20% of the articles with the most citations represent 80% of the total number of citations.

For the whole sample (41 determinants and 38 effects studies), we have identified six IR themes: adherence, quality, elements disclosure, alignment, readability, and process. In addition, we observed that the first IR determinants studies appeared in 2011, relating primarily to IR voluntary adherence, while the effects studies appeared in 2014 and explored the change in the process and structures of IR reporting. Our literature review on determinants of IR adoption and implementation highlights that IR adherence and quality studies are the most encountered (12 studies each category) and cover 59% of the determinants studies sample, followed by IR alignment, with very few studies on IR elements disclosure and readability. Moreover, all the analysed studies in the sample are quantitative, the majority of them being on a voluntary-based IR setting (78%). The majority of studies (25 out of 41) use the IIRC database as source for integrated reports, and those related to IR quality and alignment use content analysis as a method for integrated report analysis. In terms of the theories employed, we found agency, stakeholder, institutional, legitimacy, signalling, and voluntary disclosure. We identified three levels of determinants related to company, industry, and country; the company-level determinants being the most analysed (83%), out of which board of directors' characteristics being the most encountered (45%).

The observed levels of IR determinants are similar to previous studies (Kannenberg & Schreck, 2019; Velte & Stawinoga, 2017; Vitolla et al., 2019). The observed results for company-level determinants (financial, corporate governance, IR, and corporate characteristics) are similar to Velte and Stawinoga (2017) respectively Kannenberg and Schreck (2019). Kannenberg and Schreck (2019) also observe Hofstede's cultural characteristics and country-specific systems related to country-level determinants. Similar to previous studies, we observe that the board of directors' characteristics are of high interest as IR determinants (de Villiers et al., 2017; Kannenberg & Schreck, 2019; Velte & Stawinoga, 2017). Additionally, the observations regarding the most used theories for each level of determinants are similar to Kannenberg and Schreck (2019).

Following the literature review on effects studies of IR adoption and implementation, we highlight the focus on IR adherence (46%) – pre and post IR adoption effects for the same companies and adopters vs. non-adopters – followed by IR quality studies. At the same time, the IR elements disclosure, alignment and process remained insufficiently explored. Most effects studies (87%) are quantitative and focused on the voluntary IR setting (63%). Additionally, we observed that the majority of studies (23 out of 38) use as a source for the integrated reports a database that is different from the IIRC database, observation contrary to that for IR determinants studies. In terms of used theories, we highlight agency, voluntary disclosure, stakeholder, information asymmetry, and signalling. We have identified two levels of effects, related to market and company; market-level effects being the most analysed (71%), out of which company value and analysts' earnings forecasting precision being the two most encountered means to evaluate IR market effects (39%).

Our observations regarding the identified effects level are similar to previous studies that found two levels of effects (Kannenberg & Schreck, 2019; Vitolla et al., 2019) and similar to others identifying three levels of effects (Velte & Stawinoga, 2017). In terms of observed effects, we have similar findings to previous studies (de Villiers et al., 2017; Kannenberg & Schreck, 2019) but contrary to other research (Vitolla et al., 2019). Moreover, we respond to Velte and Stawinoga (2017) and de Villiers et al. (2017) call for further analysis on how IR preparation impacts the investment and financing decision outcomes.

The finding regarding the proportion of quantitative studies in our sample (84% are quantitative) contradicts Romolini et al. (2017), who underlines that most IR studies in the 2009–2015 period are theoretical and qualitative, and just a few are quantitative.

Even though current research brings a valuable contribution to existing knowledge, further research could focus on capturing news trends in IR research. For example, how the identified IR themes in this article evolved for potential benefits or advocacy studies, respectively limitations or critique studies. Furthermore, close attention must be paid to qualitative studies, highlighting elements not captured through quantitative studies.

Conclusions, Limitations, and Future Research

Integrated reporting has spread in various regions and legislations (IIRC, 2021), being consolidated as a practice after 2013 with the IIRC Framework (Dumay et al., 2016; Rinaldi et al., 2018; Gibassier et al., 2019). As such, it has become of utmost importance in corporate reporting research. Early studies highlighting the potential benefits or limitations of IR adoption when the IIRC Pilot Programme took place were published during 2011–2014. Later, the focus of the articles shifted towards identifying determinants and effects of integrated reporting adoption and implementation (Vitolla et al., 2019). By aligning with current trends, we have aimed to identify the studies that analyse integrated reporting adoption's determinants and effects.

The present article contributes to the extension of IR research by analysing the determinants and effects of IR adoption and implementation in various ways. The first, is comprehensive by covering a broad 10-year period (2011–2021) and 79 articles. Second, by integrating bibliometric analysis, science mapping, and qualitative analysis in the latest IR research, the contemporary research themes in IR are revealed, which provide directions for near-future directions of IR research. Third, the results highlight three groups of IR adoption and implementation determinants related to company, country, or industry, the most analysed being those related to company characteristics. Furthermore, the most analysed company-level determinants are related to the company's corporate governance, more specifically to the board of directors' characteristics. Concerning the effects of IR adoption and implementation, results are grouped in two types: market and company, with the primary focus on the market-level effects. Additionally, of the examined effects, company value and analysts' earnings forecasting precision are the two most encountered means to evaluate the market-level effects. The majority of determinants and effects studies are focused on the voluntary-based IR setting.

Nevertheless, the research has at least two limitations, related first to searching for articles only on Google Scholar, and secondly by using only the keywords: [("IR" OR "Integrated reporting") AND ("Determinants" OR "Effects")].

The current literature review brings various implications for practice, regulators and academia. Companies that aim to implement integrated reporting using the IIRC Framework could implement company-specific determinants to encourage IR adoption. Moreover, companies can benefit from real effects by adopting IR. Regulators can require specific regulations or implement specific regulations to foster IR rollout. Finally, academics can use the findings of the current literature review for further development and in-depth analysis, even though empirical research.

Future research should focus on other databases and use additional keyword searches to identify relevant articles, overcoming previously stated limitations. Future research could also analyse the most-encountered determinants (related to company-level) and effects (related to market-level).

As the current trends in IR are consolidation, convergence, alignment, and simplification (IIRC, 2020a; IIRC, 2020c), the IIRC should spread the IIRC Framework adoption. In this regard, it should highlight the real benefits for companies and ease the implementation and assurance, supporting its development towards a global and comprehensive corporate reporting system.

References

Albort-Morant, G., & Ribeiro-Soriano, D. (2016). A bibliometric analysis of international impact of business incubators. *Journal of Business Research, 69*(5), 1775–1779. https://doi.org/10.1016/j.jbusres.2015.10.054

Al-Mashari, M., & Zairi, M. (2000). Revisiting BPR: A holistic review of practice and development. *Business Process Management Journal, 6*(1), 10–42. https://doi.org/10.1108/14637150010283045

Baboukardos, D., & Rimmel, G. (2016). Value relevance of accounting information under an integrated reporting approach: A research note. *Journal of Accounting and Public Policy, 35*(4), 437–452. https://doi.org/10.1016/j.jaccpubpol.2016.04.004

Barth, M. E., Cahan, S. F., Chen, L., & Venter, E. R. (2017). The Economic Consequences Associated with Integrated Report Quality: Capital Market and Real Effects. *Accounting, Organizations and Society, 62,* 43–64. https://doi.org/10.1016/j.aos.2017.08.005

Bernardi, C., & Stark, A. W. (2018). Environmental, social and governance disclosure, integrated reporting, and the accuracy of analyst

forecasts. *The British Accounting Review, 50*(1), 16–31. https://doi.org/10.1016/j.bar.2016.10.001

Chen, G., & Xiao, L. (2016). Selecting publication keywords for domain analysis in bibliometrics: A comparison of three methods. *Journal of Informetrics, 10*(1), 212–223. https://doi.org/10.1016/j.joi.2016.01.006

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for Information Science and Technology, 62*(7), 1382–1402. https://doi.org/10.1002/asi.21525

de Villiers, C., Venter, E. R., & Hsiao, P. C. K. (2017). Integrated reporting: Background, measurement issues, approaches and an agenda for future research. *Accounting & Finance, 57*(4), 937–959. https://doi.org/10.1111/acfi.12246

Dragu, I. M., & Tiron-Tudor, A. (2014). Integrating Best Reporting Practices for Enhancing Corporate Social Responsibility. In A. Y. Mermod, & S. O. Idowu (Eds.), *Corporate Social Responsibility in the Global Business World* (pp. 27–47). Springer. https://doi.org/10.13140/2.1.2240.8001

Dumay, J., Bernardi, C., Guthrie, J., & Demartini, P. (2016). Integrated reporting: A structured literature review. *Accounting Forum, 40*(3), 166–185. https://doi.org/10.1016/j.accfor.2016.06.001

Eccles, R. G., & Krzus, M. P. (2014). *The Integrated Reporting Movement: Meaning, Momentum, Motives, and Materiality.* Wiley.

Eccles, R. G., & Serafeim, G., & Krzus, M. P. (2011). Market Interest in Nonfinancial Information. *Journal of Applied Corporate Finance, 23*(4), 113–127. https://doi.org/10.1111/j.1745-6622.2011.00357.x

Esch, M., Schnellbächer, B., & Wald, A. (2019). Does integrated reporting information influence internal decision making? An experimental study of investment behavior. *Business Strategy and the Environment, 28*(4), 599–610. https://doi.org/10.1002/bse.2267

Frias-Aceituno, J. V., Rodriguez-Ariza, L., & Garcia-Sánchez, I. M. (2013a). The Role of the Board in the Dissemination of Integrated Corporate Social Reporting. *Corporate Social Responsibility and Environmental Management, 20*(4), 219–233. https://doi.org/10.1002/csr.1294

Frias-Aceituno, J. V., Rodríguez-Ariza, L., & García-Sánchez, I. M. (2013b). Is integrated reporting determined by a country's legal system? An exploratory study. *Journal of Cleaner Production, 44,* 45–55. https://doi.org/10.1016/j.jclepro.2012.12.006

García-Sánchez, I. M., Rodríguez-Ariza, L., & Frías-Aceituno, J. V. (2013). The cultural system and integrated reporting. *International Business Review, 22*(5), 828–838. https://doi.org/10.1016/j.ibusrev.2013.01.007

Gibassier, D., Adams, C. A., & Jérôme, T. (2019). *Integrated Reporting and the Capitals' Diffusion* (Technical Report). French Accounting Standard Setter. https://doi.org/10.13140/RG.2.2.29485.64486

Hausberg, J. P., Liere-Netheler, K., Packmohr, S., Pakura, S., & Vogelsang, K. (2019). Research streams on digital transformation from a holistic business perspective: A systematic literature review and citation network analysis. *Journal of Business Economics, 89*(8), 931–963. https://doi.org/10.1007/s11573-019-00956-z

Hurghiș, R. (2017). Integrated reporting and board features. *Audit Financiar, XV*(1), 83–92. https://doi.org/10.20869/AUDITF/2017/145/83

Hurghiș, R. (2020). Market and Company Effects of Voluntary IR Adoption – A Questionable Topic in the Case of European Companies. *Annales Universitatis Apulensis Series Oeconomica, 2*(22), 70–87.

IIRC. (2013). *The International <IR> Framework* (Report). Integrated Reporting <IR>. Retrieved January, 2020, from http://integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf

IIRC. (2020a). *Joint Statement: Working Together Towards Comprehensive Corporate Reporting*. https://integratedreporting.org/news/joint-statement-working-together-towards-comprehensive-corporate-reporting/

IIRC. (2020b). *IIRC Integrated Report for 2020*. https://integratedreporting.org/integratedreport2020/integrated_report/2020-performance.html

IIRC. (2020c). *IIRC and SASB announce intent to merge in major step towards simplifying the corporate reporting system*. https://integratedreporting.org/news/iirc-and-sasb-announce-intent-to-merge-in-major-step-towards-simplifying-the-corporate-reporting-system/

IIRC. (2021). *Integrated Reporting Examples Database.* http://examples.integratedreporting.org/reporters?start=A&page=1

Jensen, J. C., & Berg, N. (2012). Determinants of Traditional Sustainability Reporting versus

Integrated Reporting. An Institutionalist Approach. *Business Strategy and the Environment, 21*(5), 299–316. https://doi.org/10.1002/bse.740

Kannenberg, L., & Schreck, P. (2019). Integrated reporting: Boon or bane? A review of empirical research on its determinants and implications. *Journal of Business Economics, 89*(5), 515–567. https://doi.org/10.1007/s11573-018-0922-8

Lee, K. W., & Yeo, G. H.-H. (2016). The association between integrated reporting and firm valuation. *Review of Quantitative Finance and Accounting, 47*(4), 1221–1250. https://doi.org/10.1007/s11156-015-0536-y

Ma, L., Li, J., Jin, R., & Ke, Y. (2019). A Holistic Review of Public-Private Partnership Literature Published between 2008 and 2018. *Advances in Civil Engineering, 2019,* 7094653. https://doi.org/10.1155/2019/7094653

Melloni, G., Stacchezzini, R., & Lai, A. (2016). The tone of business model disclosure: An impression management analysis of the integrated reports. *Journal of Management & Governance, 20*(2), 295–320. https://doi.org/10.1007/s10997-015-9319-z

Pavlopoulos, A., Magnis, C., & Iatridis, G. E. (2019). Integrated reporting: An accounting disclosure tool for high quality financial reporting. *Research in International Business and Finance, 49,* 13–40. https://doi.org/10.1016/j.ribaf.2019.02.007

Rinaldi, L., Unerman, J., & de Villiers, C. (2018). Evaluating the integrated reporting journey: Insights, gaps and agendas for future research. *Accounting, Auditing & Accountability Journal, 31*(5), 1294–1318. https://doi.org/10.1108/AAAJ-04-2018-3446

Romolini, A., Fissi, S., & Gori, E. (2017). Exploring Integrated Reporting Research: Results and Perspectives. *International Journal of Accounting and Financial Reporting, 7*(1), 32–59. https://doi.org/10.5296/ijafr.v7i1.10630

Serafeim, G. (2015). Integrated Reporting and Investor Clientele. *Journal of Applied Corporate Finance, 27*(2), 34–51. https://doi.org/10.1111/jacf.12116

Sierra-García, L., Zorio-Grima, A., & García--Benau, M. A. (2013). Stakeholder Engagement, Corporate Social Responsibility and Integrated Reporting: An Exploratory Study. *Corporate Social Responsibility and Environmental Management, 22*(5), 286–304. https://doi.org/10.1002/csr.1345

Solaimani, S., & Sedighi, M. (2020). Toward a holistic view on lean sustainable construction: A literature review. *Journal of Cleaner Production, 248,* 119213. https://doi.org/10.1016/j.jclepro.2019.119213

Soomro, Z. A., Shah, M. H., & Ahmed, J. (2016). Information security management needs more holistic approach: A literature review. *International Journal of Information Management, 36*(2), 215–225. https://doi.org/10.1016/j.ijinfomgt.2015.11.009

Speziale, M.-T. (2019). Theoretical Perspectives on Purposes and Users of Integrated Reporting: A Literature Review. In S. Idowu, & M. DelBaldo (Eds.), *Integrated Reporting* (pp. 13–60). Springer.

Stubbs, W., & Higgins, C. (2014). Integrated Reporting and internal mechanisms of change. *Accounting, Auditing & Accountability Journal, 27*(7), 1068–1089. https://doi.org/10.1108/AAAJ-03-2013-1279

Tiron-Tudor, A., Hurghiş, R., Lacurezeanu, R., & Podoaba, L. (2020). The Level of European Companies' Integrated Reports Alignment to the <IR> Framework: The Role of Boards' Characteristics. *Sustainability, 12*(21), 8777. https://doi.org/10.3390/su12218777

Velte, P., & Stawinoga, M. (2017). Integrated reporting: The current state of empirical research, limitations and future research implications. *Journal of Management Control, 28*(3), 275–320. https://doi.org/10.1007/s00187-016-0235-4

Vitolla, F., Raimo, N., & Rubino, M. (2019). Appreciations, criticisms, determinants, and effects of integrated reporting: A systematic literature review. *Corporate Social Responsibility and Environmental Management, 26*(2), 518–528. https://doi.org/10.1002/csr.1734

Zhou, S., Simnett, R., & Green, W. (2017). Does Integrated Reporting Matter to the Capital Market? *Abacus, 53*(1), 94–132. https://doi.org/10.1111/abac.12104