

A decade of integrated reporting studies: state of the art and future research implications

Lucrezia Songini

*Department of Sustainable Development and Ecological Transition,
Università degli Studi del Piemonte Orientale Amedeo Avogadro, Vercelli, Italy*

Anna Pistoni

Department of Economics, Università degli Studi dell'Insubria, Varese, Italy, and

Niccolò Comerio and Patrizia Tettamanzi

School of Economics and Management, LIUC - Università Cattaneo, Castellanza, Italy

Abstract

Purpose – Over the past decade, researchers have witnessed an exponential growth in the number of publications on IR. This paper aims to understand the state of the art of the research field and to highlight the areas where further academic research is needed, guiding developments in theory, research, policy and practices.

Design/methodology/approach – The authors apply the dynamic literature review method called “Systematic Literature Network Analysis”, which combines systematic literature review and bibliographic network analysis. Furthermore, to overcome some of the limitations connected to the methodology, the authors integrate the literature with a manual content analysis of papers.

Findings – IR adoption and practices and their determinants represent the most analyzed aspects of literature. Over time, attention has been paid to more specific issues, such as the relationship between IR and other disclosure mechanisms, IR quality and its assurance, the critical analysis of the IR framework and principles and difficulties in IR adoption. Although the literature on IR can be considered to be in its mature stage, many aspects are still under-researched, so there is plenty of space for future research.

Originality/value – The authors propose the following main issues as subjects to be investigated in future studies: IR is not simply an evolution of sustainability reporting, but an innovative communication tool; the debate on who the recipients of value are (shareholders or stakeholders) and on what the definition of value adopted by IR is still remains an open issue; more attention should be given to the role of IR as a managerial tool, which could support strategy formation and communication, and influence internal processes of performance measurement and evaluation; what the future of IR will be in light of recent EU Corporate Sustainability Reporting Directive and new ISSB's standards is still an open question. From a methodological perspective, little is known about structured approaches in accounting studies. The authors confirm how methodologies, such as that of this paper, may be exploited as a tool to support dynamic analysis for setting the agendas for future studies in the accounting field.

Keywords IR, Integrated report, Systematic literature network analysis

Paper type Research paper

1. Introduction

More than ten years have passed since the first proposal on integrated reporting (IR) by the International Integrated Reporting Council (IIRC) was developed. Certainly, this field of research can no longer be considered in its early stages but has reached quite a



consolidated state. Indeed, over the last ten years, the literature has grown in terms of the number of contributions: from 2010 to the first quarter of 2021, around 500 articles having the word integrated report/reporting in the keywords, and/or in the abstract and/or in the title, were published in about 160 journals. Furthermore, the initiatives of professional and accounting bodies in supporting IR introduction have been widespread (e.g. see various IIRC's reports, conferences, workshops); in some countries IR is mandatory for listed companies, and the IIRC's database contains examples of IR from a growing number of firms. However, IR is still not so widespread among companies, and even when they claim to adopt it, the framework proposed by the IIRC is often not completely followed, as well as many questions remain still open regarding its usefulness and effectiveness (Pistoni *et al.*, 2018). Indeed, IR has come with a wide range of promises and associated expectations, but it is delivered to an audience that should be more than ready to move beyond narrowly-focused, short-term, backward-looking accounting (Morros, 2016).

Some of these issues were already addressed in the pioneering 2014 study by De Villiers, Rinaldi and Unerman, which was aimed at mapping early developments and the state of the art in IR studies and outlining a comprehensive agenda for future research. In that article, the authors already identified a number of critical issues to be addressed by future research on IR, such as the extent of integration between IR and management control, the changes required in risk and assurance practices, the role of standard settings, accountants and professional accounting bodies, the relationship between IR and sustainability reporting as well as statutory annual report, and the challenges faced by organizations in producing material that is concise and of value to IR. However, today some of those research questions posed by early articles on IR have not yet been completely answered (La Torre *et al.*, 2020). In the evolution over time of the studies on IR, a trend can be seen that is consistent with the stage reached in the life cycle of the field (Rinaldi *et al.*, 2018). The first contributions were mostly qualitative and focused on the critical issues and advantages of IR. At the beginning of development of the topic, the majority of studies dealt with the spread of IR in different contexts of country, sector and type of company (Frias-Aceituno *et al.*, 2013a; Atkins and Maroun, 2015; Cooray *et al.*, 2021; Muslichah *et al.*, 2020). Over time, attention has gradually shifted to more specific aspects linked to the implementation of IR, the determinants of its diffusion, the ability of IR to represent and communicate the process of value creation and, therefore, the quality of IR and its determinants, as well as the role of assurance (Pistoni *et al.*, 2018; Kannenberg and Schreck, 2019; Simnett and Huggings, 2015). However, most contributions on IR have dealt with very specific aspects: they generally lack a critical analysis of the problems of implementation, of the role of IR compared to other corporate disclosure tools and of the real benefits for stakeholders and companies. As of today, most research on IR benefits is fragmented and often does not focus on the practitioner audience, nor does it critically examine IR guidelines or practice (Dumay *et al.*, 2016; Veltri and Silvestri, 2020).

It is noteworthy that the debate on IR's role is still open. Currently, different possible interpretations of IR emerge from the analysis of the literature (Adams, 2015; La Torre *et al.*, 2020).

Following the IIRC's definition, a stream of literature highlights how IR is devoted to present the company's value creation process and its business model mainly in the perspective of shareholders (Flower, 2015; Brown and Dillard, 2014). In fact, IIRC states that "IR aims to improve the quality of information available to providers of financial capitals" consistently with an agency theory perspective (IIRC, 2013, p. 2; La Torre *et al.*, 2020).

Other scholars consider IR as an evolution of sustainability reporting aiming at integrating and presenting the company's strategy and performance according to the stakeholder perspective (Raemaekers and Maroun, 2014).

Particularly interesting are the arguments proposed by Adams (2015) who stated that integrated reporting has "the potential to shift the thinking of corporate actors to better align

notions of profit maximisation with the wellbeing of society and the environment” (Adams, 2015, p. 25), thanks to IR’s distinctive characteristics, such as the focus on long term and the broad concept of “what is value, the value creation process and the business model”. Authors who support this interpretation implicitly consider IR to be a stakeholder engagement tool, in the light of stakeholder theory.

It should also be highlighted that the most recent contributions (Dumay and Dai, 2017) attribute to IR a managerial role, instead of only a communication one. Integrated thinking, a key principle for the drafting of the document, in fact, forces the whole company and its organizational units to align with the deliberate strategy, also with regard to sustainability aspects, and it helps “catalyze behavioral change within organizations” (Adams and Simnett, 2011, p. 293).

Some literature reviews have been proposed within the field of IR studies. However, only eight of these can be considered of significance, thanks to the completeness, the methodological rigor and the authoritativeness of the journals in which they were published. However, these contributions suffer of two limitations: most of these are dated (De Villiers *et al.*, 2014), so they do not consider the large stream of literature on the topic that has appeared in the last few years, and they generally cover limited samples of articles or have adopted a very specific focus (Camilleri, 2017; Kannenberg and Schreck, 2019; Vitolla *et al.*, 2019a; Veltri and Silvestri, 2020). Moreover, these literature reviews suggest that many questions remain open and propose a wide range of future research directions (Dumay *et al.*, 2016; Rinaldi *et al.*, 2018; Velte and Stawinoga, 2017).

In order to understand in what direction the research has moved and what areas are still uncovered and need further investigation, we believe that there is room for an updated literature review on IR. This is true for a number of reasons: the research on IR has evolved, there is still a number of open issues, IR is not widespread in companies, and the external context has significantly changed in the last few years.

Indeed, in April 2021, the European Commission adopted a proposal for a *Corporate Sustainability Reporting Directive* (CSRD), that will make sustainability reporting mandatory in the European Union. In November 2022, the *European Sustainability Reporting Standards* (ESRS) were officially presented in their draft form by the *European Financial Reporting Advisory Group* (EFRAG), as the standards for ESG-issues reporting in the EU. At global level, the IIRC made an alliance with the *Sustainability Accounting Standards Board* (SASB) establishing the *Value Reporting Foundation*, that then was consolidated into the *International Financial Reporting Standards (IFRS) Foundation*. The last body established a new standard-setting board – the *International Sustainability Standards Board (ISSB)*, with the aim to deliver a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information about companies’ sustainability-related risks and opportunities to help them make informed decisions.

In this emerging, increasingly changing and complex context, further exploring the role of IR could be of help in order to shed light on the future perspectives of this proposal with respect to other nonfinancial disclosure frameworks and tools, first of all sustainability reporting.

Based on these premises, this paper has two main objectives: firstly, to map out the state of the art of research on IR to understand how studies have developed over time and to define the relationships among the various fields of study, highlighting the dynamics and interrelationships in the literature; secondly, to highlight what relevant issues remained open and need to be covered. A further aspect worthy of interest for research on IR concerns the analysis of the theoretical perspectives that explain the adoption of IR by companies and some of its characteristics (Dumay *et al.*, 2016).

Therefore, this paper provides a review and critique of the literature on IR with the aims to identify implications for theory and practice, develop an agenda for future research and

inspire new and innovative research. The final aim is to understand the state of the art of the discipline from the point of view of scientific rigor and theoretical and methodological advancement, as well of conceptual development and practice. We would like to highlight the areas where further robust academic research is needed to guide developments in theory, research, policy and practice.

This paper is organized as follows. [Section 2](#) presents the data, material and methodologies applied. [Section 3](#) highlights main analyses and findings. Lastly, [Section 4](#) presents conclusions, future research directions and limitations of the study.

2. Data, material and methodology

In line with the aims of this work, we adopted two different methodologies to undertake a literature review that would be as complete as possible. First of all, we performed a Systematic Literature Network Analysis (SLNA), which consists of two phases: Systematic Literature Review (SLR) and Bibliographic Network Analysis (BNA). In addition, we integrated this structured approach with a manual content analysis ([Weber, 1990](#)) of the papers published in top journals to explore the main aspects addressed by the studies on IR and their evolutionary trend.

The decision to perform both structured and manual analyses arise from related pros and cons: on its own, a technical analysis, such as the SLNA, cannot suffice to explain the whole contribution of the studies to which it is applied, but can support researchers in an environment characterized by hundreds of contributions ([Massaro *et al.*, 2016](#)). In fact, some scholars already highlighted the importance of developing reviews based on “leading edge technologies” ([Dumay, 2014](#), p. 1261), which are still scarce in the accounting field of study ([Massaro *et al.*, 2016](#)). On the contrary, manual content analysis can contribute to highlighting some issues in depth that technical analyses fail to capture.

The preliminary data of SLNA were collected from Scopus. Among the existing scholar citation databases, it is the most used ([Strozzi *et al.*, 2017](#)), with a coverage that is 60% wider than that provided by Web of Science ([Zhao and Strotmann, 2015](#)). Furthermore, it can be considered to be more reliable than Google Scholar, which also includes non-traditional scholarly material, such as administrative notes, library tours, students’ handbooks, etc. ([Noruzi, 2005](#)). To build networks, two kinds of software were used: VOSviewer (<http://www.vosviewer.com/>) and Pajek (<http://mrvar.fdv.uni-lj.si/pajek/>): the former is ideal for both network visualization and a more in-depth co-word network analysis, while the latter is required to extract the main paths.

Systematic Literature Network Analysis (SLNA) consists of two phases: Systematic Literature Review (SLR) and Bibliographic Network Analysis (BNA).

- (1) To perform the SLR in a more transparent and rigorous way than a traditional literature review ([Kim *et al.*, 2018](#)) we followed the approach based on previous studies of [Rashman *et al.* \(2009\)](#), and [Carter and Easton \(2011\)](#), which includes three main sub-steps:
 - Definition of the scope of the analysis to draw the boundaries of the study, as literature reviews may have many different purposes ([Petticrew and Roberts, 2008](#));
 - Delineation of a set of search strings, based on keywords, concepts or topics (i.e. “locating study”);
 - Study selection and evaluation, to isolate the most relevant works.
- (2) Papers that were screened and selected during the first phase (SLR) constituted the input of the second phase (BNA), which likewise encompasses three sub-steps:

- Citation Network Analysis (CNA), which allows articles to be grouped in communities, according to their similarity of content, and the seminal works of each area of study to be identified.

If a stream of literature is characterized by several sub-areas, as in the case of IR, it is appropriate to group the papers in clusters and/or communities before identifying the most influential ones (Comerio and Strozzi, 2019). Then, the analysis continues by exploring the “citation networks”, definable as networks in which each node is an article connected to the others by means of links; each link is characterized by an arrow, which points from the citing to the cited article, highlighting the chronological flow of knowledge (Strozzi *et al.*, 2017). For this reason, it is appropriate to exclude from this analysis the “isolated nodes”, which represent papers that are neither cited nor citing others in the network, and to focus only on the “connected components”.

Taking into consideration the high number of existing papers, it is fundamental to extract the so-called “main path” in each of the resulting communities: a main path constitutes the backbone of the research tradition (Lucio-Arias and Leydesdorff, 2008; De Nooy *et al.*, 2011), making it possible to identify the papers that act as hubs in reference to later works (Strozzi *et al.*, 2017).

As suggested by Liu and Lu (2012), it is possible to build the main path through the Main Path Algorithm of the software Pajek, which in turn is based on the mathematical studies of Hummon and Doreian (1989).

- Global Citation Score Analysis (GCSA), with the aim of identifying the most relevant papers by the number of citations in the Scopus database (especially the oldest ones), but not included in any citation network. In fact, it is possible to assume that a high number of citations in Scopus is typical of the most influential papers of a specific stream of literature (Knoke and Yang, 2008), notwithstanding the fact that the number of citations by itself is not synonymous with high-quality research (Dawson *et al.*, 2014).
- Keywords Network Analysis (KNA). As suggested by Ding *et al.* (2001), the co-occurrences around the same keyword or a pair of keywords may correspond to a research theme, implying the presence of patterns and trends in a discipline: thus, the co-occurrence (or co-word) analysis constitutes an adequate proxy of the papers’ contents or of the relationship that each paper establishes among investigated problems (Comerio and Strozzi, 2019). To perform it, we built and analyzed a co-word network thanks to VOSviewer software, which is able to determine the locations of items on a map by minimizing a function depending on a similarity measure (AS_{ij}) between items, defined as:

$$AS_{ij} = \frac{c_{ij}}{c_i c_j}$$

where c_{ij} is the measure of the occurrence of the keywords i and j in the same document and c_i and c_j are the expected numbers of co-occurrences of i and j under the assumption that the co-occurrences of i and j are statistically independent (Van Eck and Waltman, 2010).

- (3) In addition, to further enrich the literature review, a manual content analysis (Weber, 1990) of the papers published in top journals was carried out (Mayring, 2004; Krippendorff, 2013). Two criteria were used to select top journals: the journal’s impact factor and the attention devoted to the topic of IR.

Researchers use to apply this approach to compare communication content against previously documented objectives (Berelson, 1952), as in the case of literature reviews. In the era of “big data”, the technique of content analysis appears to be on the verge of a renaissance (Stemler, 2015), also supported by the structured methodologies, which are not meant to replace human experience but to complete it (Alerasoul *et al.*, 2022). More in detail, we followed the so called “directed” content analysis, as it allows to support and extend existing theory (Hsieh and Shannon, 2005). We designed a structured process (Hickey and Kipping, 1996), with the aim of minimizing the use of preconceived categories (Kondracki and Wellman, 2002) and of claiming a certain degree of generalization for the main findings (Avenier, 2010).

3. Main findings

3.1 First phase of SLNA methodology: SLR

Using Scopus, we looked for “INTEGRATED REPORT*” in “article title, abstract and keywords”. Being aware of the importance of the keywords’ choice, we decided to keep it as broad as possible to allow specific concepts and related issues and trends to better emerge. In fact, the inclusion in the research string of specific terms determines the reduction in the number of papers, which makes the SLNA more focused on precise topics (Colicchia and Strozzi, 2012). The analysis considered contributions published from 2011 to March 2021. In fact, the search was performed in March 2021, by selecting four main criteria:

- (1) From 2011, the year of publication of the first paper by the IIRC (IIRC, 2011) to March 2021, the period when we carried out the analysis;
- (2) Subject areas of “Business, Management and Accounting”, “Economics, Econometrics and Finance”, “Social Sciences”;
- (3) Conference papers and papers already published;
- (4) Documents written only in English.

The combination of the selected set of keywords and the aforementioned criteria gave us the possibility to localize the most relevant concepts and related issues and trends through the application of the adopted methodology and its bibliographic analysis tools, in compliance with the objective of the work. This led us to obtaining 535 papers as a search outcome.

After that, we carried out a thorough assessment of the content of the papers’ abstracts to exclude all the studies that were not focused precisely on IR. As a result, the final sample resulted in 494 papers, which constitutes the starting point for the second phase of the SLNA.

First of all, it is possible to notice (Figure 1) how the number of publications has grown over the years, highlighting the increasing attention of academicians and researchers to the topic. This increase skyrocketed somehow within a ten-year timespan, with almost no publication on the topic in 2011 (IR was introduced in those very years), reaching more than 100 contributions in 2020. Computing the CAGR over the period in analysis we would indeed obtain a value equal to 156% for qualitative analyses (QLA) and equal to 800% for quantitative ones (QNA). In this specific regard, the peak of publications in 2015 is evident. Moreover, we can note that the number of IR publications nearly doubled between 2015 and 2020, showing a significant acceleration in the three-year period 2018–2020.

Furthermore, since 2015, for the first time since the publication of the first paper by the IIRC, the yearly number of quantitative analyses (i.e. studies that emphasize objective measurements, the statistical, mathematical, or numerical analysis of data collected and computational techniques) has largely overtaken that of a qualitative nature (i.e. studies that mostly involve, on the other hand, collecting and analyzing non-numerical data to understand

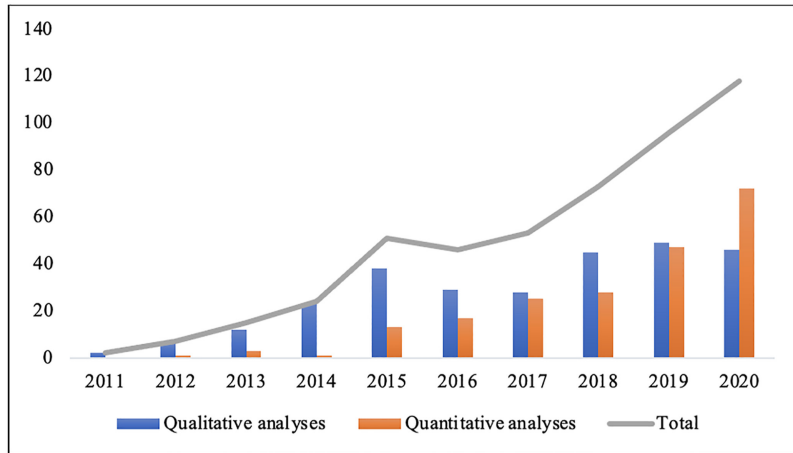


Figure 1. Number of publications (both graphically and numerically) with Integrated Reporting as the main topic of the study, from 2011 to 2020 (*qualitative analyses - QLA versus quantitative analyses - QNA*)

Type	2012	2013	2014	2015	2016	2017	2018	2019	2020
QLA	200%	100%	92%	65%	-24%	-3%	61%	9%	-6%
QNA	100%	200%	-67%	1200%	31%	47%	12%	68%	53%
Total	150%	114%	60%	113%	-10%	15%	38%	32%	23%

Note(s): Contributions published in the first quarter of 2021, even though used in the analyses, are not presented in this figure, to ensure the homogeneity of the time horizon considered (annual) in the trend presented. Furthermore, the publication growth rate for 2011 in the numerical section of Fig. 1 is not given, since it has been used as the starting point for the computation of subsequent publication growth rates

Source(s): Authors' own work

concepts, opinions, or experiences). This is the sign that the amount of available data has allowed for the application of statistical techniques in a more robust and reliable way. This data can represent indirect evidence of the fact that, over time, IR has become increasingly widespread in companies, allowing researchers to have more and more empirical data on which to base their analyses. In fact, at the same time, there has also been an increase in the number of empirical analyses (Figure 2) compared to theoretical ones, from around 50% of the total in 2015 to more than 84% in 2020. We can note that, over time, literature reviews have been conducted on the topic, since they are considered necessary to provide robust evidence with regards to possible future research paths and, in this particular case, directions of IR adoption and practices. Moreover, theoretical analyses have been regularly proposed, as they can also be considered relevant for a particular field of research, since these would provide an investigation regarding a problem's decision process, methods and peculiarities of a specific phenomenon description. Finally, taken as a whole, trend and type of publications over time may represent evidence of the fact that the IR field of study is entering a more mature phase in its development.

3.2 Second phase of SLNA methodology: BNA

3.2.1 Citation Network Analysis. Papers screened and selected during the first phase then constituted the input of the BNA. The three main sub-steps of BNA were performed: Citation Network Analysis (CNA), Global Citation Score Analysis (GCS), and Keywords Network Analysis (KNA). The main findings of these analyses are described below.

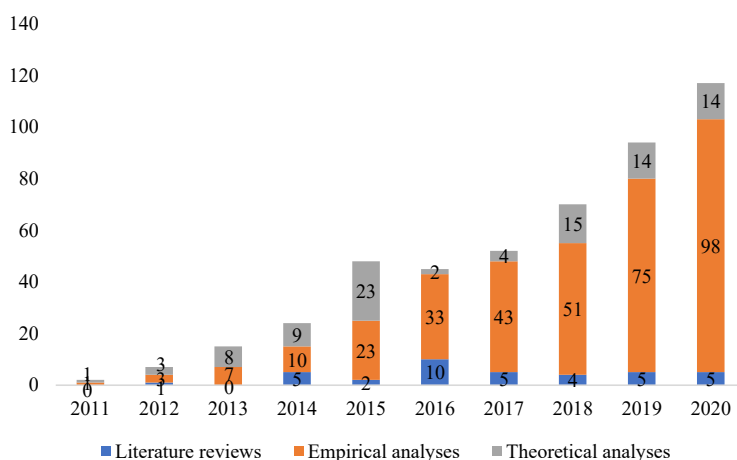


Figure 2. Number of publications with Integrated Reporting as the main topic of the study from 2011 to 2020, according to their nature (empirical, theoretical and literature reviews)

Note(s): Contributions published in the first quarter of 2021, even though used in the analyses, are not presented in this figure, to ensure the homogeneity of the time horizon considered (annual) in the trend presented

Source(s): Authors' own work

A preparatory step to the CNA is the exclusion of all the isolated nodes: as expected, some of the 494 papers in the network are not in relation to each other, and only 455 turned out to be connected.

After that, to group articles in communities in accordance with the similarity of their contents, we applied the Pajek Louvain Algorithm, by choosing a resolution parameter equal to 1 (the standard one): higher resolutions produce a larger number of clusters, while lower resolutions produce a lower number of clusters (Mrvar and Batagelj, 2016). It is also important to stress the fact that clusters and communities are non-overlapping: in other words, an item may belong to only one cluster/community at a time.

There are three resulting communities, as shown in Table 1; for each of them, given the number of papers included in each community, it becomes fundamental to extract the "Main Path" (Lucio-Arias and Leydesdorff, 2008), which helps to reveal the backbone of the research tradition of each community. Thanks to the Pajek software, we removed all the arcs in the original citation network with a lower value of transversal weight (cut-off value of 0.5, default one), thus extracting the main paths.

3.2.1.1 Main path 1. Main Path 1 (Figure 3) includes 20 articles and spans the time frame of the last decade. In fact, it begins in 2011 and concludes in 2020. It starts with the articles by

Communities	N° papers (communities)	N° papers (main path)
1	206	20
2	197	16
3	52	15

Note(s): Based on the methodology known as CNA (Citation Network Analysis), the following were identified: Communities of papers based on the Louvain algorithm (column 1), number of papers included in each Community (column 2), number of papers which constitute each main path (column 3)

Source(s): Authors' own work

Table 1. Communities and main paths

Adams and Simnett (2011), Owen (2013b) and Jensen and Berg (2012), which, despite starting from very different perspectives, address the issue of the transition to IR, identifying its opportunities, potential benefits and challenges.

In particular, Adams and Simnett’s article presents IR as an opportunity for the public sector, Owen’s contribution is related to the impacts of IR on the accounting profession, while Jensen and Berg’s research makes a comparison between the determinants of IR versus sustainability reporting.

These three initial strands converge in the article by Setia *et al.* (2015) which explores the application of IR in South Africa, where it is mandatory.

From the former article, a path then unfolds that covers several issues related to IR, such as the criticalities of its implementation in different business contexts, including the financial intermediation sector, the public sector, and small and medium-sized enterprises (Lodhia, 2015; Mio *et al.*, 2016; Muslichah *et al.*, 2020), as well as the assessment of the quality of IR (Pistoni *et al.*, 2018) and the criticality of non-financial capital (Camilleri, 2018).

We can say that this path is quite comprehensive, including several contributions that, overall, provide a wide overview of IR. It relates to different aspects of the topic analyzed, such as the opportunities consequent to the introduction of IR, both for firms, as well as for the accounting profession, the main variables influencing the adoption of IR, the question of assessment of the IR quality, and the state of the art of the research about IR.

The research work included in the path relies both on empirical evidence, especially based on the case study method, and on the literature analysis.

It is precisely the relative dating of the path that we believe can justify the heterogeneity of the themes that converge there. Including mainly the initial scientific contributions on the subject of IR, the approach appears rather general.

As mentioned in brief previously, it is interesting to note that in this first main path there are three major nodes resulting from the application of this method, with the paper of Setia *et al.* (2015) having somehow defined a new direction and a new perspective (cf. Barten, 2016) in the realm of IR studies (cf. Lodhia, 2015; Mio *et al.*, 2016).

3.2.1.2 Main path 2. Main Path 2 (Figure 4) includes 16 articles and runs along the time frame from 2014 to 2021. Despite the breadth of the time frame considered, the path has mainly developed more recently, since as many as 9 articles are related to the period 2019–2021.

The path begins with two articles on the South African experience, respectively the contribution of Rensburg and Botha (2014) and that of Atkins and Maroun (2015). It then continues with several contributions which, on the one hand, analyze the state of the art of the literature on IR and, on the other, deal with the impact of the adoption of IR on capital markets.

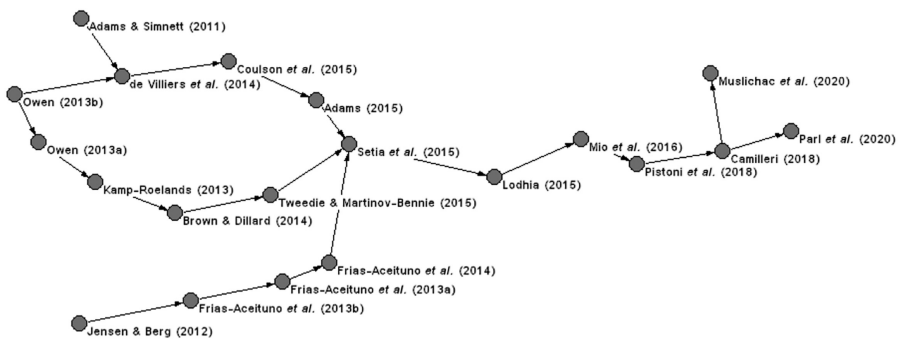


Figure 3.
Main path of
“community 1”
of papers concerning
Integrated Reporting
as focus theme
of research

Source(s): Authors’ own work

The most recent articles, those published since 2019, are mainly related to the issue of the quality of disclosure to stakeholders. On the one hand, the role of IR in improving disclosure to stakeholders is analyzed; on the other, the quality of IR and its determinants are analyzed. With reference to the latter, several variables are examined: the national cultures (Vitolla *et al.*, 2019c), the cost of equity (Vitolla *et al.*, 2020d), and the corporate governance characteristics (Cooray *et al.*, 2020b).

The path recently shifted to the topic of the relationship between IR characteristics and the value creation process of the firm. Noteworthy is the fact that the contributions included in the path are quite concentrated on a couple of research groups, such as Vitolla *et al.* and Cooray *et al.* Indeed, these two groups provide 6 out of the 16 contributions included.

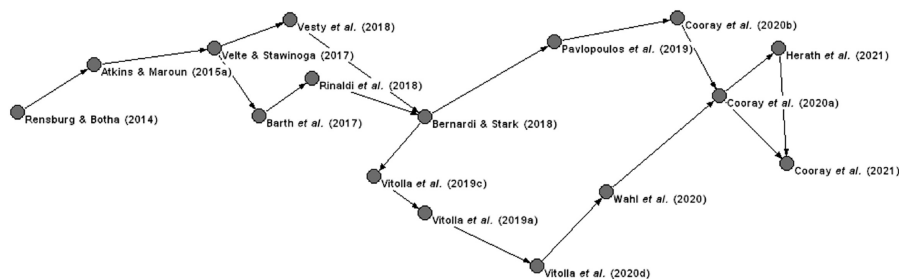
As in the case of Main Path 1, in this case, too, the relative dating of the course justifies the wide gamma of issues taken into consideration by studies; these range from the implementation of the IR document in the various national contexts characterized by compulsory or voluntary application of IR, to the IR quality and its determinants, which represent more recently analyzed aspects.

With regards to the focal nodes, within the framework of the second main path, three main nodes can again be identified, with a very interesting result: in fact, starting with the paper of Bernardi and Stark (2018), different authors gave birth to two major strands that, after only two years of studies, converged within the boundaries of the work of Cooray *et al.* (2020a). This result might suggest a sort of harmonic trajectory to existing studies and methodologies due to the relatively restrained number of authors that populate the IR research arena to the present day.

In summary, we can say that, notwithstanding the wide range of topics referred to, this path is mainly centered on the quality of the information to be produced for stakeholders and on the relationship between the adoption of IR and the firm's value. Today, these two strands are the most open issues taken into consideration by studies which are progressively moving from the intrinsic characteristics of the IR framework to its effectiveness in meeting stakeholders' informative expectations.

3.2.1.3 Main path 3. Main Path 3 (Figure 5) developed from 2019 to 2021 and includes 15 articles. The starting point is the article by Romero *et al.* (2019) and then it continues with Gerwanski *et al.* (2019) proposing a contribution on determinants of materiality disclosure quality in integrated reporting and Vitolla *et al.* (2019b) who analyze how pressure from stakeholders affects integrated reporting quality.

From here it branches out into two strands, one initiated by Raimo *et al.* (2020) and the other by Garcia-Sanchez *et al.* (2020a). The first branch is mainly concerned with the role of IR, and intellectual capital disclosure on the value of the company and its cost of capital, while the second examines the determinants of IR quality, especially with reference to the characteristics of the board. Both strands then conclude with two contributions by



Source(s): Authors' own work

Figure 4. Main path of "community 2" of papers concerning Integrated Reporting as focus theme of research

Raimo *et al.* (2021) and Baboukardos *et al.* (2021) respectively, which address the impact of the internal and external audit on IR and its quality.

In this case, what stands out from our analysis is a more tangled scheme, with essentially two pivotal nodes, through which, in both cases, Vitolla *et al.* (2019b, 2020a) appear to decisively influence the trajectory of studies and research.

This path is mainly based on empirical research related to different geographical contexts but above all centered on Europe. In summary, it deals with the most recent issues that are affecting IR. On the one hand, studies are beginning to focus on the relationship between IR and financial variables, whether they be the value of the company or the cost of capital, and on the other hand, the role of governance and formalized assurance in guaranteeing the quality and informative effectiveness of IR in relation to stakeholders. In this case, too, this line of study is among the most topical themes taken into consideration by studies about IR implementation issues.

3.2.2 Global Citation Score Analysis. If we consider the ten most cited papers ranked according to their Global Citation Score (GCS) (equal to the total number of citations in Scopus) (Table 2), we can see that three of them (nos. 1, 8, 10) were published in the special issue of Accounting, Auditing and Accountability Journal, in 2014. Around half of them are mostly qualitative and conceptual contributions on the role of IR compared to other disclosure tools, such as sustainability reporting and intellectual capital disclosure. Some of them present quite critical considerations on the IR framework and role (De Villiers *et al.*, 2014; Flower, 2015; Dumay *et al.*, 2016).

3.2.3 Keywords Network Analysis. The focus of the last phase of the SLNA concerned the exploration of the authors' keywords resulting from the SLR process, as they can be considered a proxy of the papers' content or of the relationships that the papers establish between investigated problems (Comerio and Strozzi, 2019). Furthermore, this step allowed us to also include the isolated nodes of the connected component, which were excluded in the previous analyses.

For the KNA, we opted for both static and dynamic perspectives (Figure 6). While the former pinpoints the most common keywords since 2011, the latter concentrates on their evolution, year by year: in fact, author keywords are not supposed to be stable over time, as new topics and/or new facets of a well-known topic may suddenly appear/disappear in a specific stream of literature.

Based on the KNA (Keywords Network Analysis) conducted on the sample selected in relation to Integrated Reporting as research study, the following co-occurrence network of author keywords analysis was identified (Figure 6):

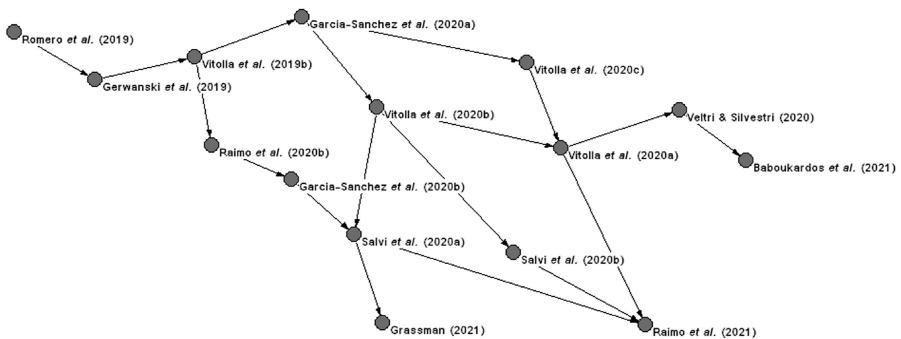


Figure 5.
Main path of
"community 3"
of papers concerning
Integrated Reporting
as focus theme
of research

Source(s): Authors' own work

	Title	Authors	Journal	Number of citations
1	Integrated Reporting: Insights, gaps and an agenda for future research	de Villiers <i>et al.</i> (2014)	<i>Accounting, Auditing and Accountability Journal</i>	267
2	The Role of the Board in the Dissemination of Integrated Corporate Social Reporting	Frias-Aceituno <i>et al.</i> (2013b)	<i>Corporate social responsibility and environmental management</i>	231
3	The International Integrated Reporting Council: A story of failure	Flower (2015)	<i>Critical Perspectives on Accounting</i>	221
4	Integrated reporting: A structured literature review	Dumay <i>et al.</i> (2016)	<i>Accounting Forum</i>	207
5	The International Integrated Reporting Council: A call to action	Adams (2015)	<i>Critical Perspectives on Accounting</i>	202
6	Determinants of Traditional Sustainability Reporting Versus Integrated Reporting. An Institutional Approach	Jensen and Berg (2012)	<i>Business Strategy and the Environment</i>	195
7	A critical reflection on the future of intellectual capital: from reporting to disclosure	Dumay (2016)	<i>Journal of Intellectual capital</i>	191
8	Integrated Reporting and internal mechanisms of change	Stubbs and Higgins (2014)	<i>Accounting, Auditing and Accountability Journal</i>	160
9	Explanatory Factors of Integrated Sustainability and Financial Reporting	Frias-Aceituno <i>et al.</i> (2014)	<i>Business Strategy and the Environment</i>	158
10	Integrated reporting: On the need for broadening out and opening up	Brown and Dillard (2014)	<i>Accounting, Auditing and Accountability Journal</i>	152

Note(s): Although the number of citations by itself is not necessarily a synonym of high-quality research (Dawson *et al.*, 2014), it is possible to assume that a highest number of citations in Scopus corresponds to the most influential papers (Knoke and Yang, 2008)

Source(s): Authors' own work

Table 2. Global Citation Score (GCS) of the 10 most cited papers

- (1) Left – resulting clusters of the co-occurrence network of author keywords analysis; the colors yellow, red, green, blue and violet (available in the on-line version of the article) represent respectively cluster number 1, 2, 3, 4 and 5.
- (2) Right – co-occurrence network of author keywords according to the year of publication (blue indicates the oldest papers, while yellow the most recent ones).

The larger the size of each rectangle, the more common a keyword (or set of keywords) is among all the papers; the thicker the line which connects two rectangles, the stronger the strength of the link is.

Figure 6 (left) shows the results of the static analysis. Overall, the VOS algorithm detected 5 main clusters, for a total of 33 keywords (Table 3): each cluster represents a specific research theme. As a parameter we chose a minimum number of 10 occurrences. The smaller the value, the less significant the analysis is, as it determines the inclusion of keywords that are not relevant; conversely, a too high value determines the exclusion of the most recent (but still relevant) keywords, which have not had enough time to reach a consistent number of co-occurrences.

More in detail:

- (1) *Cluster 1:* it is characterized by keywords that identify some of the most typical elements of the IR framework and principles. These contributions focus on the association between the most relevant items included in the IR and the firm value.

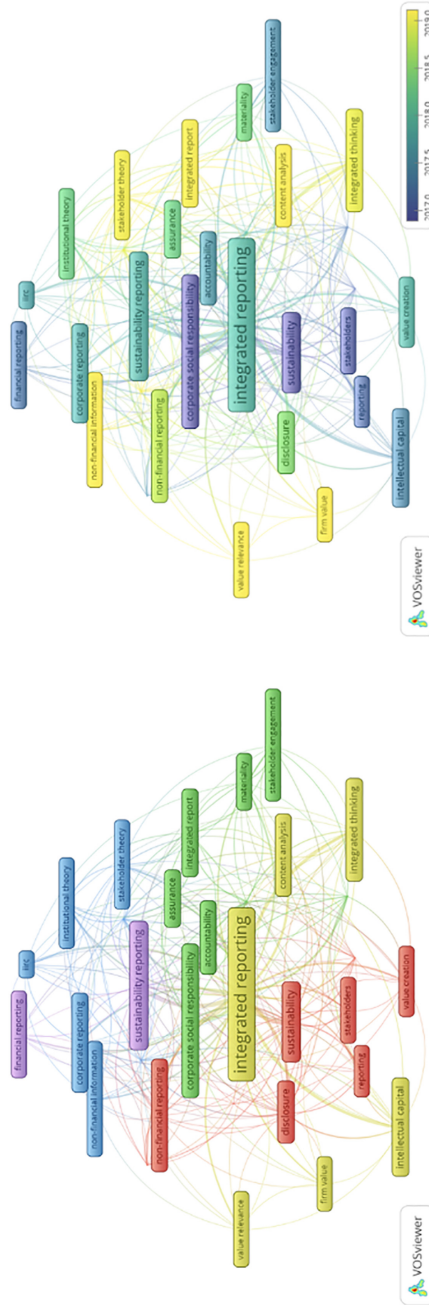


Figure 6.
Co-occurrence network
of author keywords
analysis based on the
algorithm of the
VOSviewer software

Source(s): Authors' own work

Cluster 1 (yellow)	Cluster 2 (red)	Cluster 3 (green)	Cluster 4 (blue)	Cluster 5 (violet)
Integrated reporting	Disclosure	Corporate social responsibility	Non-financial information	Sustainability reporting
Value relevance	Reporting	Assurance	Corporate reporting	Financial reporting
Firm value	Stakeholders	Accountability	IIRC	
Intellectual capital	Value creation	Integrated report	Institutional theory	
Content analysis	Non-financial reporting	Materiality	Stakeholder theory	
Integrated thinking	Sustainability	Stakeholder engagement	Agency theory	
South Africa	CSR	Corporate governance	Legitimacy theory	
	Integrated reports	Sustainable development		
	Corporate social responsibility			

Source(s): Authors' own work

Table 3. Author keywords used for defining their research study on the topic of Integrated Reporting for each of the five identified clusters

The presence of “content analysis” among the keywords suggests that this is the main methodology used to analyze the content of the IR. South Africa is confirmed to be one of the most studied countries because of mandatory IR.

- (2) *Cluster 2*: this cluster focuses on a comparison of different types of non-financial disclosure and reporting tools, such as IR and sustainability and CSR reporting. It refers to the strand of research that stresses the importance of disclosure on the value creation process, considering all stakeholders and sustainability issues.
- (3) *Cluster 3*: this cluster identifies a group of articles aimed at analyzing the relations between IR quality, assurance and corporate governance. The link between these issues, CSR and sustainable development and their role in favoring stakeholder engagement is also considered. In essence, this strand of study is the most recent in terms of its investigation since, at the present time, difficulties and dilemmas still arise with specific regard to the activities of assurance and auditing, as far as non-financial disclosure is concerned.
- (4) *Cluster 4*: it addresses the main theories underlying corporate reporting, with a focus on non-financial reporting and IR: Institutional theory, Stakeholder theory, Agency theory and Legitimacy theory. In a nutshell, this strand represents the conceptual research frameworks that theoretically justify the studies conducted on IR.
- (5) *Cluster 5*: the only two keywords included in this cluster reveal how the main topics pertain to the relationship and comparison between IR and Sustainability Reporting. In substance, we identify through this cluster the actual attempt of the academic community to make the necessary integration of sustainability issues and financial performance in a holistic, harmonic and synthesized manner.

As already partially mentioned, the five identified clusters are essentially the result of re-elaboration of specific keywords adopted by the different authors to synthetically describe their work. These keywords are reported in [Table 3](#), from which it is possible to have a general sense of the clusters of sub-fields of study that have been identified over the years.

Once again, this substantiates our previous statement which concerned the maturity that is taking place within the field of IR research.

As far as the dynamic analysis is concerned, the overlay visualization algorithm of VOSviewer (Figure 6, right) allows us to detect the most recent keywords according to their average year of publication: by default, blue indicates the lowest score (i.e. the oldest keywords/topics), while yellow the highest one (i.e. most recent keywords/topics). The above-mentioned comments (regarding Figure 6, left) are confirmed by this second depiction for the research areas of investigation, which appear to have been moving toward new strands of study that are more focused on impact-oriented studies.

As it is possible to appreciate, “content analysis”, “value relevance”, “integrated thinking” and “firm value”, all included in cluster 1, are four of the most recent keywords; researchers have been focusing on these topics more and more with the passage of time. Also, non-financial information and stakeholder theory represent aspects that have recently been considered by the literature on IR. The findings of dynamic analysis show that recent literature is focusing on the ability of IR to represent the process of value creation and encourage the spread of integrated thinking so as to improve disclosure to stakeholders, particularly regarding non-financial aspects.

3.2.4 Content analysis of the most relevant papers. Although the authors’ keywords can be considered a proxy of the papers’ content or of the relationships that the papers establish between investigated problems, in some cases they are not specific enough to describe in-depth the various facets of an article. Therefore, with the aim of reaching a greater level of detail, an analysis of the abstracts and papers’ content was carried out by a pair of researchers for each article, through a manual content analysis (Weber, 1990; Hsieh and Shannon, 2005).

In this last step of analysis, to select the articles on which to apply content analysis, two criteria were used: the journal’s impact factor and the attention devoted to the topic of IR. Particularly, we selected only top journals which published at least 4 articles in the selected timespan (2011–March 2021). This led us to consider 19 journals, and 239 articles, as shown in Table 4.

Journal	N° (abs)	N° (%)
<i>Meditari Accountancy Research</i>	29	12.1%
<i>Sustainability (Switzerland)</i>	28	11.7%
<i>Accounting, Auditing and Accountability Journal</i>	26	10.9%
<i>Journal of Intellectual Capital</i>	24	10.0%
<i>Business Strategy and the Environment</i>	24	10.0%
<i>Sustainability Accounting, Management and Policy Journal</i>	21	8.8%
<i>Corporate Social Responsibility and Environmental Management</i>	15	6.3%
<i>Journal of Cleaner Production</i>	10	4.2%
<i>British Accounting Review</i>	8	3.3%
<i>Journal of Management and Governance</i>	8	3.3%
<i>Critical Perspectives on Accounting</i>	8	3.3%
<i>Australian Accounting Review</i>	7	2.9%
<i>European Accounting Review</i>	5	2.1%
<i>Journal of Business Ethics</i>	5	2.1%
<i>Social Responsibility Journal</i>	5	2.1%
<i>Journal of Applied Accounting Research</i>	4	1.7%
<i>Journal of Financial Reporting and Accounting</i>	4	1.7%
<i>Managerial Auditing Journal</i>	4	1.7%
<i>Problems and Perspectives in Management</i>	4	1.7%
TOTAL	239	100%

Table 4. Academic Journals that are reported to have paid the most attention and provided contributions on IR

Source(s): Authors’ own work

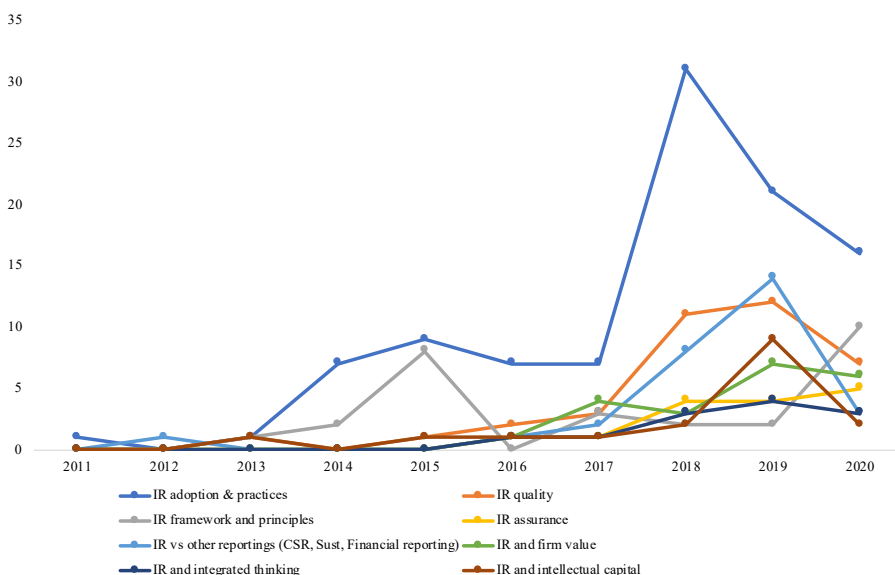
In accordance with the articles' content, eight main research topics were identified on the basis of the most relevant issues dealt with by the literature on IR, as emerged from the BNA (Bibliographic Network Analysis). More in detail, the articles were organized into eight groups by following a three-step methodology. First of all, articles were read word by word to derive codes (Miles and Huberman, 1994; Morse and Field, 1995). Secondly, the researchers made notes of their first impressions, resulting in an initial coding scheme. Lastly, these emergent categories were used to group articles into meaningful clusters (Coffey and Atkinson, 1996; Patton, 2002). Ideally, the numbers of clusters should be around 10 and no more than 15, to keep clusters broad enough (Morse and Field, 1995).

Intersubjectivity of data analysis largely dealing with latent content which requires interpretation (Duriau et al., 2007) was pursued by intense discussions within the research team (the so-called "discursive alignment", Seuring and Gold, 2012). Lastly, transparency and replicability were ensured by cautious documentation of the whole process.

The breakdown of research topics, within the scope of IR, was also identified by year (Figure 7).

In detail, the eight groups are as follows:

- (1) *IR adoption and practices*: this group includes 100 articles related to the adoption of IR in organizations and countries, particularly the determinants driving IR adoption, and the practices used in different sectors/geographic areas. Data show that over a timespan of seven years, publications belonging to this group were around 4.6 on average, climbing up to 31 in 2018 (which also represents the peak of the overall timespan in analysis). In actual fact, and with specific regard to the most recent period (2018–2020), this sub-area of IR studies still represents the widest research topic among the ones presented here (Figure 7). Moreover, these studies mostly appear to be based on qualitative analyses.
- (2) *IR quality*: this group covers 37 papers focused on measuring the quality of IR, as well as as contextual or internal company variables that may affect the quality and



Source(s): Authors' own work

Figure 7. Based on the proposed methodological approach, evolution of the main further trends of research, within the general scope of Integrated Reporting, reported by year

informative effectiveness of the document. Moreover, these studies are conducted prevalently with South Africa as a “country focus”, since it represents one of the first countries in the world to have recommended IR as mandatory. In this field of research, both qualitative and quantitative analyses are proposed.

- (3) *IR versus other reports (CSR reporting, Sustainability Reporting, Financial Reporting)*: this group concerns the relationships between IR and other disclosure tools. We managed to identify 29 studies. They do not take the geographical context into consideration, with the exception of only a very few cases.
- (4) *IR framework and principles*: this group includes 28 papers focused on a critical analysis of the framework proposed by IIRC and the principles on which it is based. These include, for example, the materiality principle. The most relevant theory that seems to influence the conception of this branch of studies is institutional theory. Furthermore, none of these studies has taken USA, Canada, South America or Asia as focus country; hence, potential studies could be conducted in these areas to confirm or confute existing findings on the topic. Researchers in this field have conducted more empirical than theoretical analyses, highlighting once again the potential for further studies.
- (5) *IR and firm value*: this group includes 21 works that analyze the impacts that IR produces on the financial performance of companies, as well as cost of capital, cost of equity, firm value, and market performance. Most studies were mainly carried out between 2016 and 2019. Previous researchers have mainly accounted for this branch of studies by conducting quantitative and empirical analyses.
- (6) *IR and intellectual capital*: this group includes 17 studies that highlight the role of IR as a tool for measuring and communicating performance related to intangibles and intellectual capital. Mostly supported by agency theory, this area of IR research is mainly investigated through static analyses instead of trend ones, and comparisons between countries and industries are lacking overall. The main studies are related to Europe and South Africa. Furthermore, some of these studies have taken into consideration industries such as oil and gas, energy or health care. Qualitative analyses appear to be a better fit for this area of study, with the overwhelming majority being empirical studies.
- (7) *IR assurance*: this group includes articles that focus on the role, methods and standards of review and certification of IR. This stream of research is one of the most recent, as also confirmed by the lower number of articles (i.e. 15) published on the topic so far. They tend to be based more on static than trend analyses and have scarcely proposed comparisons between countries and industries. So far, researchers have mostly conducted empirical analyses on the topic, leaving room for research on the theoretical side.
- (8) *IR and integrated thinking*: this group comprises 12 articles and it is a fairly recent line of research that essentially includes the role of IR as a tool for disseminating and sharing within the company the culture of the global process of generating value for all stakeholders and the role of IR as a managerial tool. Several studies have already proved the importance of corporate behaviors, such as integrity, in providing effective IR; yet, the actual determinants that lead to an established development of integrated thinking within organizations remains unclear.

If we considered the entire time span analyzed, the dominant theme concerns the adoption of IR and the practices put in place (group 1), while the interest for all the remaining themes

seems to be at a much lower level. In fact, the group that shows the most significant incidence over the decade is that which focuses on IR adoption and practices, with 38.6% of the articles published, followed by IR quality (14.3%), IR framework and principles and IR *versus* CSR and sustainability reporting (with about 11% each), IR and firm value (8%), IR and intellectual capital (6.6%), IR assurance (5.8%), and, finally, IR and integrated thinking (4.6%).

Therefore, a predominance of articles which analyzes the practices and criticalities of IR as a tool for communicating performance outside the company emerges, leaving its role as a tool to support the implementation of the shared value strategy deliberated by the company (IR and integrated thinking) in the background. This is a theme that is still largely unexplored and that will require particular attention in future research, including the study of business cases.

Concerning the trend presented by the various themes (Figure 7), we can observe a growth of all research fields that reaches the peak of interest in the years 2018–2019. Conversely, the topic of IR framework and principles shows the strongest increase in interest overall from 2019 to 2020, after the previous peak of 2015, followed by relative quiescence. It must be noted that some of the topics have changed direction in interest. In fact, out of the 8 main clusters of IR sub-field topics of research, only two appear to have increased in recent years: the investigation into IR principles and framework, as well as its assurance. This is quite an interesting result that might be explained, first, by the recent official changes to the IR framework itself that were introduced by the IIRC in 2021, the effect of which might be perceived in the coming years. More important is the second emerging sub-field of research concerning the actual assurance of data reported in the IRs; in fact, the difficulties registered in the quantification of the impacts deriving from non-financial information on corporate activities lead inexorably to problems and professional dilemmas, such as the provision of audit opinions.

Lastly, it is also important to point out that only a fraction of the articles analyzed explain the evidence and conclusions of the work using one theoretical framework or referring to multiple frameworks. Particularly, four are the main theories referred to by the authors: legitimacy theory, stakeholder theory, institutional theory and agency theory. Legitimacy theory (Deegan *et al.*, 2000; Cormier and Gordon, 2001) is widely used to explain the reasons why IR is adopted by companies. According to this approach, firms would disclose CSR and sustainability information to present a socially responsible image so as to legitimize their behavior toward the referential stakeholder groups. IR serves, moreover, to improve public confidence as a result of loss of image; it is seen as a tool that helps the board of directors to have a greater awareness of ESG issues, especially in dealing with investors. Legitimacy theory is also used to explain the practices and quality of IR. Stakeholder theory (Freeman, 2010) is referred to by a number of pioneering studies which point out that the concept of value inherent in the IIRC's proposition is value for investors, and not for the stakeholders as a whole. Many aspects of IR are explained through the lens of stakeholder theory, such as the content of IR (e.g. key performance indicators), the relationship between IR and other voluntary disclosure tools, the interconnections between IR, stakeholder engagement and sustainability, and the relationship between IR quality, assurance and firm's financial performance. Institutional theory (Di Maggio and Powell, 1983) is frequently referred to in contributions on the determinants of IR adoption and IR quality, particularly with reference to the impact of geographic and/or industry context variables as well as the role of the country's legal system (civil vs common law). In particular, institutional isomorphism is used to explain the role of early adopters in the process of institutionalization of IR adoption. Agency theory (Fama and Jensen, 1983) is mainly used to explain the relationship between IR, earning forecast and firm value; in particular, main analyzed issues under an agency lens are the effect produced by IR on the capital market reactions, the cost of debt of the firm and the

principle of materiality. Starting from the assumption that disclosure made through IR reduces the information asymmetry between managers and shareholders, through this theoretical framework the role of audit committee as an assurance body in the practice of IR is also explained, as well as the role of the board in the adoption of IR, the relationships between the characteristics of the board and the contents of IR, the role of external auditors, and, more in general, the relationship between the characteristics of ownership, corporate governance and the quality of IR.

In addition to those described, there are a few other theories referred to in IR studies, although they are not widely used. One is Stewardship theory (Davis *et al.*, 1997), which provides a critique of existing corporate disclosure theories and then frames corporate behavior and disclosure practices differently. There is also Signaling theory (Spence, 1973), which explains the impacts of introducing IR on financial performance, risk and role of institutional investors. Under the lens of this last theory, impression management is proposed as a technique to influence the tone of disclosure in IR (Melloni *et al.*, 2017).

4. Conclusions

This paper aimed to analyze the literature on IR, studying its evolution over time, to look at the most frequently addressed issues and open questions, and to understand the state of the art of the discipline from the point of view of scientific rigor and methodological advancement, conceptual development and practice. In particular, we pursued three main objectives: to understand how studies have developed over time and to define the relationships among the various fields of study; to highlight whether relevant issues and open questions reported in the pioneering studies have been covered, and to identify the most frequently used theoretical perspectives for the analysis of IR. Both an SLNA and a manual content analysis of the most relevant papers were carried out to have as complete and critical an overview as possible of the research on IR to date and outline future research opportunities.

With regard to the state of the art of research on IR, our analysis shows that journals where contributions on IR have mostly been published are mainly from the disciplines of accounting, sustainability and ethics. In this context, it is worth mentioning the need for researchers to engage with the challenges of interdisciplinarity (Burritt, 2012), since integrated reporting takes a pragmatic approach at a cross-sectional level, covering a multitude of aspects, including both business and societal ones.

Regarding the topics dealt with by literature on IR, our findings outline that a wide range of issues have been studied, even though the IR adoption and practices and their determinants represent the most analyzed aspects. Over time, attention has been paid to more specific issues, such as the relationship between IR and other disclosure tools, IR quality and its assurance, the critical analysis of the IR framework and principles and difficulties in IR adoption. As IR has become more widespread among companies, the type of articles has shifted from mostly theoretical and conceptual papers to contributions based on quantitative analysis, thanks to the growing availability of empirical data.

Considering relevant issues and open questions reported in the pioneering studies, the trend of IR studies in the last decade points out that this research field has failed to give an answer to the calls of many authors for stronger theory development as well as a more critical review of IR framework and practices. More specifically, main aspects which are still under-researched and leave plenty of room for future studies concern the degree of diffusion of IR among companies, both from a geographical and an industry standpoint, as well as the benefits of adopting IR both for the firm, and in terms of its impact on the socio-economic context. Moreover, the literature on IR has gradually investigated themes that are more and more specific, but there have only been a few attempts to provide critical answers to some

important questions, such as the role of IR in value creation, and its effectiveness toward stakeholders, the role of financial capital with respect to other capitals, organizational issues in the IR implementation (i.e. the role of the CFO, the controller and sustainability manager), as well as governance issues (i.e. the role of Board of directors), and the impact of IR adoption on firm performance. Another stream of research started in recent years that requires further investigation in the wake of signaling theory is related to the IR process variables and, specifically, to the tone of communication and how information is presented.

The lack of attention to these aspects makes it difficult to argue about the level of appreciation firms have for IR as well as hard to highlight possible barriers to IR implementation that could lead to an adjustment of the IR framework but still maintaining its essential features.

These limitations of IR studies may be explained by the fact that the IR field of research has evolved also because it was a newer field and could offer greater opportunities for research and publication than other more established fields. This has led, especially in the last few years and for a small group of authors, to publishing numerous contributions about IR in a short amount of time; the writers mostly adopt empirical analysis on very specific aspects but do not propose a theoretical or practical development on the subject while taking an uncritical approach.

Moving on to theories adopted by the literature on IR, in the past some authors (Dumay *et al.*, 2016) claimed a lack of strong theory to support IR utility, proposing that research on IR is very normative, but that researchers should apply more performative and interventionist research. Our analyses show that the main theoretical perspectives referred to by studies on IR are typical theories adopted by the accounting field, and in particular by studies on disclosure, such as legitimacy theory (Deegan *et al.*, 2000; Cormier and Gordon, 2001), agency theory (Fama and Jensen, 1983), and institutional theory (Di Maggio and Powell, 1983). Moreover, many studies on IR also refer to stakeholder theory (Freeman, 2010).

From our analysis of the literature, the following main findings and messages can be drawn.

Firstly, over time, the literature on IR has proposed two main different interpretations of IR. For some authors company's value creation process is considered only in the perspective of shareholders, while for others the broader perspective of all stakeholders is adopted. The debate on who the recipients of the value created are, the shareholders or stakeholders, and what the definition of value is adopted by IR (is it only an economic value or one having a wider perspective, based on a triple bottom line approach) is still an open issue. In the early stages of the development of studies on IR, some authors have criticized the IIRC's proposed framework for its lack of attention to sustainability, stakeholders, and the triple bottom line perspective (Brown and Dillard, 2014). Other scholars have highlighted the limitations of IR with regard to attention to all stakeholders and issues of sustainability and not only to shareholders and the economic value. For instance, De Villiers *et al.* (2014, p. 9) criticized the dominance of "economic value" creation in the IR. Similarly, Flower (2015) stated that the IR has failed in pursuing its goals with respect to a few aspects, such as sustainability, as the IR does not deal with it, and stakeholders, as it focuses on shareholder value and does not consider comprehensively the impact of the firm's activities on all stakeholders. Moreover, Adams (2015) stressed that the focus of IR is on how an organization creates value, while the issue of how to measure impacts "under a multiple capital model" (pag. 26) remains an open issue for both practitioners and researchers. Our findings, too, confirm that such issues remain open questions which ask for further investigation.

However, looking at the development of literature, we can say that during time a vision has been consolidated on the role of IR as a communication tool that integrates different and fragmented tools of corporate disclosure (intellectual capital, risk, forward looking, etc.) into a unified vision that has the company's value creation process at the basis. In this regard, the

evolution of the research on IR disconfirms the criticalities highlighted by some authors (see for instance [Stubbs and Higgins, 2014](#)) who argued that IR represented a transition from sustainability reporting rather than a radical innovation driving the transformation, and that the lack of comprehensive standards could inhibit a more widespread adoption of IR.

Furthermore, our analysis shows very clearly that, up to now, IR has been seen above all as a tool for disclosure rather than a managerial and governance mechanism aimed not only at communicating the relationship between capitals, business model and value creation, but also at spreading integrated thinking and consistent managerial practices within organizations. Currently, in the IR literature, strategic, organizational, and governance perspectives are very rarely adopted ([Pistoni et al., 2018](#)). In fact, little attention has so far been paid to the role of IR as a managerial tool, which could support strategy formation and communication, and influence internal processes of performance measurement and evaluation, along the lines of the idea of integrated thinking. This aspect may represent a real challenge for researchers, as it would allow for unraveling, at least in part, the complex issue of the relationships between the performance measurement tools for external communication and the internal managerial mechanisms. The latter are very often unconnected and do not follow an integrated and synergistic approach. However, this is an issue that needs to be studied mainly through empirical analysis based on case studies, i.e. qualitative rather than quantitative analysis.

Moreover, from a methodological point of view, future studies should adopt more qualitative research methods based on case study analysis rather than quantitative research methodologies, as this may help to go deeper into criticalities and benefits of IR implementation for companies, which remain relevant open questions.

In addition, from a practical point of view, literature and practice should focus on the development of common and shared principles and practice for IR implementation, assurance and audit, and favor the diffusion of best practices among companies and practitioners.

It is noteworthy that while in the early years when it was proposed a non-mandatory status of IR was suggested, as the IR proposal evolved and consolidated the need of a mandatory reporting on material impacts and issues should be discussed.

Finally, it should be noted that the IR movement has been influential at the institutional level, as evidenced by the Directives issued by the EU in 2014 on Non-financial disclosure (NFRD) and in 2022 on Sustainability reporting (CSRD). In particular, the latter directive will make sustainability reporting mandatory in Europe and not only for large listed companies. Similarly, ISSB is working on setting new sustainability standards. In this context, a question arises about the future role of IR. In particular, having the companies to issue a mandatory sustainability report in the near future, in Europe, and being other bodies working on sustainability disclosure standards (e.g. ISSB), could it be expected that European firms will also produce an integrated report (IR), which for now remains a voluntary disclosure tool and is based on principles and a framework that are partly different from those of sustainability report? Answering this question will require in-depth future studies on the mutual relationships and influences between IR and non-financial disclosure tools, particularly sustainability reporting, and on their convergence.

However, if this is a possible scenario, we cannot forget that IR does not only respond to disclosure and informational requirements, but involves a much more articulated and complex process that can be an enabler for the introduction of integrated thinking in the organization, favoring the alignment of behavior with the strategic objectives of the company, also according to sustainability.

Lastly, this paper has some limitations that mainly concern the methodology applied. First, citation data were retrieved from Scopus database: even though this is the most complete abstract and citation database, we may have failed to consider a few contributions published on IR in the last decade. Secondly, by relying on the number of citations, the

so-called “Matthew effect” could have been an issue, as authors tend to quote articles which have already received a high number of citations (Comerio and Strozzi, 2019). However, we dealt with this potential limitation implementing additional analyses: the main path analysis, which allows for revealing the backbone of the research tradition, the authors keywords analysis, and the manual content analysis of articles published in the most relevant journals. Therefore, our findings also confirm how SLNA can be exploited as a research tool to support dynamic analyses for setting the agenda for future research in the accounting fields of study, without the ambition to replace human experience, but to complete it.

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Corresponding author

Lucrezia Songini can be contacted at: lucrezia.songini@uniupo.it

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