


**NEW CONNECTIONS BETWEEN INTEGRATED REPORTING AND INTELLECTUAL CAPITAL: FUTURE RESEARCH IMPLICATIONS IN THE CONTEXT OF SUSTAINABILITY-RELATED INFORMATION**



**Cecilia Rita Ficco<sup>A</sup>, Edila Eudemia Herrera-Rodríguez<sup>B</sup>, Hugo Macias<sup>C</sup>, Jonathan Luna-Valenzuela<sup>D</sup>**

ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 01 September 2023</p> <p><b>Accepted</b> 12 December 2023</p>	<p><b>Purpose:</b> The objective of this study was to identify new links between Integrated Reporting (IR) and Intellectual Capital (IC) fields, useful for sustainability and climate change disclosures with ISSB standards.</p>
<p><b>Keywords:</b></p> <p>Intellectual Capital; Integrated Reporting; ISSB; SLR; Disclosure.</p>	<p><b>Theoretical Framework:</b> The literature that has integrated IC and IR fields has been developed, mainly from the IC research perspective, addressing a wide range of thematic specializations that emerge when analyzing the research areas.</p>
	<p><b>Design/Methodology/Approach:</b> We developed a Structured Literature Review (SLR) of articles indexed in Scopus, which allowed us to build a specific analytical framework from emerging categories; we rely on <i>AtlasTi</i> and <i>VOSviewer</i> software.</p>
	<p><b>Findings:</b> We found that the literature converges towards the following research areas: Reviews and reflections on the IR framework as a means for IC disclosure; Proposals to improve the IR framework and IR disclosures through IR; The IR framework and definition, measurement, and management of IC within organizations; disclosures of CI in contexts of practical adoption of RI; Disclosure of IC through IR, its determinants, and effects.</p>
	<p><b>Research, Practical &amp; Social Implications:</b> We identified the need to advance research under a performative approach, research on stakeholder satisfaction by revealing IC through IR and the relationship of IC with information related to sustainability in the new ISSB context. The paper identifies previously unexamined connections between IC and IR and proposes future avenues of research.</p>
	<p><b>Originality/Value:</b> This study raises the need for increased policy research to define a common language for presenting comparable IC information in ISSB sustainability reports. In addition, studies are needed to help identify IC information, other IR capital and metrics, which could represent material information for investors to assess sustainability-related risks and opportunities.</p>
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<sup>A</sup> PhD in Economic Sciences. Universidad Nacional de Río Cuarto, Facultad de Ciencias Económicas. Argentina. E-mail: [cficco@fce.unrc.edu.ar](mailto:cficco@fce.unrc.edu.ar) Orcid: <https://orcid.org/0000-0003-0474-9978>

<sup>B</sup> PhD in Business Sciences, Major in Accounting. Universidad de Panamá, Centro Regional Universitario de Los Santos. Sistema Nacional de Investigación (SNI), SENACYT. Panamá. E-mail: [edila.herrera@up.ac.pa](mailto:edila.herrera@up.ac.pa) Orcid: <https://orcid.org/0000-0002-0094-2570>

<sup>C</sup> PhD in Management. Universidad de Medellín, Facultad de Ciencias Económicas y Administrativas. Colombia. E-mail: [hmacias@udemedellin.edu.co](mailto:hmacias@udemedellin.edu.co) Orcid: <https://orcid.org/0000-0003-1575-7981>

<sup>D</sup> BA in Accounting. Universidad Nacional de Río Cuarto, Facultad de Ciencias Económicas. Argentina. E-mail: [jvalenzuela@fce.unrc.edu.ar](mailto:jvalenzuela@fce.unrc.edu.ar) Orcid: <https://orcid.org/0000-0002-3041-3565>

## NOVAS CONEXÕES ENTRE RELATÓRIOS INTEGRADOS E CAPITAL INTELECTUAL: IMPLICAÇÕES DE PESQUISAS FUTURAS NO CONTEXTO DE INFORMAÇÕES RELACIONADAS À SUSTENTABILIDADE

### RESUMO

**Objetivo:** O objetivo deste estudo foi identificar novos vínculos entre os campos do Relatório Integrado (RI) e do Capital Intelectual (CI), úteis para a divulgação de informações sobre sustentabilidade e mudanças climáticas de acordo com as normas do ISSB.

**Referencial Teórico:** A literatura que integrou os campos de CI e RI foi desenvolvida, principalmente a partir da perspectiva da pesquisa em CI, abordando uma ampla gama de especializações temáticas que surgem ao analisar as áreas de pesquisa.

**Desenho/Metodologia/Abordagem:** Desenvolvemos uma Revisão Estruturada da Literatura de artigos indexados na Scopus, o que nos permitiu criar uma estrutura analítica específica a partir de categorias emergentes; contamos com os softwares AtlasTi e VOSviewer.

**Resultados:** Descobrimos que a literatura converge para as seguintes áreas de pesquisa: Revisões e reflexões sobre a estrutura do RI como meio de divulgação do CI; Propostas para melhorar a estrutura do RI e as divulgações do CI por meio do RI; A estrutura do RI e a definição, mensuração e gestão do CI nas organizações; divulgações do CI em contextos de adoção prática do RI; Divulgação do CI por meio do RI, seus determinantes e efeitos.

**Pesquisa, Implicações Práticas e Sociais:** Identificamos a necessidade de avançar a pesquisa sob uma abordagem performativa, a pesquisa sobre a satisfação das partes interessadas ao revelar o CI por meio do RI e a relação do CI com as informações relacionadas à sustentabilidade no novo contexto do ISSB. O artigo identifica conexões não examinadas anteriormente entre o CI e o RI e propõe futuros caminhos de pesquisa.

**Originalidade/Valor:** Este estudo levanta a necessidade de uma maior pesquisa de políticas para definir uma linguagem comum para a apresentação de informações comparáveis de RI nos relatórios de sustentabilidade do ISSB. Além disso, são necessários estudos que ajudem a identificar informações de CI, outros capitais e métricas de RI, que possam representar informações relevantes para que os investidores avaliem riscos e oportunidades relacionados à sustentabilidade.

**Palavras-chave:** Capital Intelectual, Relatórios Integrados, ISSB, Revisão Estruturada da Literatura, Divulgação.

## NUEVAS CONEXIONES ENTRE EL REPORTE INTEGRADO Y EL CAPITAL INTELECTUAL: IMPLICACIONES FUTURAS PARA LA INVESTIGACIÓN EN EL CONTEXTO DE LA INFORMACIÓN RELACIONADA CON LA SOSTENIBILIDAD

### RESUMEN

**Propósito:** El objetivo de este estudio fue identificar los nuevos vínculos entre los campos del Reporte Integrado (RI) y del Capital Intelectual (IC), útiles para la divulgación de información sobre sostenibilidad y cambio climático con las normas ISSB.

**Referencia Teórica:** Se desarrolló la literatura que integró los campos de la CI y la RI, principalmente desde la perspectiva de la investigación en la CI, abordando una amplia gama de especialidades temáticas que surgen al analizar los ámbitos de investigación.

**Diseño/Metodología/Enfoque:** Desarrollamos una Revisión Estructurada de la Literatura de artículos indexados en Scopus, lo que nos permitió construir un marco analítico específico a partir de categorías emergentes; nos apoyamos en el software AtlasTi y VOSviewer.

**Conclusiones:** Encontramos que la literatura converge hacia las siguientes áreas de investigación: Revisiones y reflexiones sobre el marco de RI como medio para la divulgación de CI; Propuestas para mejorar el marco de RI y las divulgaciones de CI a través de RI; El marco de RI y la definición, medición y gestión de CI dentro de las organizaciones; Divulgaciones de CI en contextos de adopción práctica de RI; Divulgación de CI a través de RI, sus determinantes y efectos.

**Implicaciones de la Investigación:** Este estudio plantea la necesidad de incrementar la investigación normativa para definir un lenguaje común que permita presentar información comparable sobre CI en los informes de sostenibilidad del ISSB. Además, se requieren estudios que ayuden a identificar la información sobre CI, otros capitales del RI y métricas que podrían representar información material para que los inversores evalúen los riesgos y oportunidades relacionados con la sostenibilidad.

**Originalidad/Valor:** Este estudio plantea la necesidad de realizar más investigaciones sobre políticas para definir un lenguaje común para la presentación de información comparable de RI en los informes de sostenibilidad de ISSB. Además, se necesitan estudios para ayudar a identificar la información de las entidades de crédito, otros sistemas de medición de capital y de RI que puedan representar información pertinente para que los inversores evalúen los riesgos y oportunidades relacionados con la sostenibilidad.

**Palabras clave:** Capital Intelectual, Informes Integrados, ISSB, Revisión Estructurada de la Literatura, Divulgación.

## INTRODUCTION

Intellectual capital (IC) is a critical resource in today's economy. It encompasses intangible resources and activities of a cognitive nature -usually grouped into three dimensions: human, structural, and relational capital- (Cañibano et al., 2002; Paoloni et al., 2023), which support and drive the dynamics of value creation (Dumay, 2016) and allow companies to remain competitive (Edvinsson et al., 2022). Therefore, the information related to the IC assumes a fundamental role. However, IC disclosure faces difficulties, as financial accounting only reflects some of its various components, and none of the proposals for specific IC reports have been standardized (de Villiers & Sharma, 2020)

The Integrated Report (IR) -proposed by the International Integrated Reporting Council (IIRC) in 2013- is a form of corporate reporting that integrates financial and non-financial information to explain how organizations create, preserve, and destroy value (de Villiers & Dimes, 2023), concerning its six capitals: financial, manufacturing, intellectual, human, social and relational, and natural (IIRC, 2021). In the last ten years, IR has become an essential mechanism for voluntary disclosure (Pigatto et al., 2022). It has positioned itself as an alternative for the disclosure of IC and has vindicated its importance (Abhayawansa et al., 2019) mainly due to the direct relationship between the six capitals of the IR framework and the three IC dimensions (Badia et al., 2019; Dumay, 2016).

Many articles integrate IC and IR (Garanina & Dumay, 2017; Melloni, 2015; de Villiers & Sharma, 2020), but no exhaustive work clarifies the relationships between these fields. Soriya & Rastogi (2021) indicate that future research on IR should be extended to other areas and highlight IC.

This article seeks to fill that gap: reveal the links between IC and IR fields. Specifically, there is a need to build connections between the components of the two areas and better understand the meaning and function of IC within IR. These links are relevant in the current context, where the International Sustainability Standards Board (ISSB) has issued IFRS S1 and IFRS S2, which include the IR trajectory, ushering in a new era of sustainability-related disclosures (ISSB, 2023a, 2023b). Moreover, ISSB opens a new space for IC disclosure since IC is part of IR and has a strategic role in sustainability (Alvino et al., 2020; Arshad et al., 2023; Giner & Luque-Vílchez, 2022; Wei et al., 2023).

Accordingly, this paper aims to review and analyze the literature integrating IC and IR to provide an overview of the state of research on that interface and to outline a future research agenda. To achieve the objective, we carried out a structured literature review (SLR) following the proposal of Massaro et al. (2016). We also broaden the SLR methodological approach by combining bibliometric analysis and content analysis techniques, using emerging categories of the reviewed literature, and including a detailed content analysis. These methodological details allow in-depth findings.

In this sense, the article differs from other recent reviews, such as those by Songini & Pistoni (2023), which has only focused on IR studies, and that by Paoloni et al. (2023), which only analyzes studies on IC. In addition, our findings respond to the demands for future research on the topics indicated in those reviews. Thus, this study responds to the call of Songini & Pistoni (2023) to advance in the study of IR as an innovative communication tool -of a critical resource such as IC- and as a management tool that could influence internal measurement processes and performance evaluation. It also deepens the analysis of one of the seven research areas identified by Paoloni et al. (2023): the one referring to the internal and external disclosure of the IC. Our study also extends the findings of the review by De Nicola & Maurizi (2022) concerning the role of IC in IR since it identifies thematic areas of research not detected by said authors and analyzes them in the context of sustainability-related information regulated by the ISSB. In addition, it uses a more complete methodology that integrates bibliometric analysis, co-occurrence analysis and in-depth content analysis in the SRL, which allows in-depth findings.

The article is structured as follows. After the introduction, we present the methodology. Then, in section three, we offer SLR results, both in terms of descriptive analysis and content analysis. The discussion and implications are in section four. Finally, we present the conclusions of the study.

## **METHODOLOGY**

We used the Structured Literature Review (SLR) method to achieve the study's objectives. This method helps develop knowledge and critical reflections and identify future research paths from the approach of “standing on the shoulders of giants” (Massaro et al., 2016, p. 29). An SLR must have a logical and planned structure and follow an explicit method of specific steps, making the SLR more rigorous than other review types.

The first two steps proposed by Massaro *et al.* (2016) are the definition of protocol and research questions. Following the method, the research questions for this study are:

RQ1. *How is the IC literature developing according to the IR field?*

RQ2. *What is the literature's focus within IC and IR?*

RQ3. *What are the research implications in IC, IR, and ISSB?*

After formulating the questions, we define the research protocol, including sources used, search criteria, exclusion criteria and tools used for analysis. Scopus was chosen for the database search for its extensive indexing and coverage (Paoloni *et al.*, 2020, Pflugfelder, 2021, Secundo *et al.*, 2020). We searched Scopus for the simultaneous appearance of “intellectual capital” expression and “integrated reporting” in titles, abstracts, and keywords. We found 74 documents, which boils down to 55 when limiting them to articles and reviews, excluding book chapters, conference papers, and editorials. The authors agreed to analyze 36 articles that strongly relate to IC and IR fields after each author separately reviewed the 55 articles.

Another step defined by Massaro *et al.* (2016) is the definition of an analytical framework. We followed Secundo *et al.* (2020) and Guthrie *et al.* (2012)’s coding schemes with some variations. The following categories were defined for coding:

- Evolution of articles over time
- Journals
- Context of the study and organizational focus
- Emerging thematic areas

The next step was coding the selected articles using the defined framework. In the article coding process, we combined manual coding with coding assisted by VOSviewer and ATLAS.ti.

The relevance of the sample, the definition of a practical analytical framework and the establishment of coding reliability are critical for the validity of the literature review (Gaur & Kumar, 2018). Regarding the relevance of the sample, the inclusion criteria allowed the selection of only central articles aimed at answering the research question. The choice of a relatively small piece aligns with the approaches adopted by Nwachukwu (2022) and Secundo *et al.* (2020). As for the analytical framework, we rely on coding schemes developed in previous literature reviews that have objectives like our study. Drawing on past work generates confidence in the content analysis (Krippendorff, 2019) and ensures the consistency and comparability of the results (Cuozzo *et al.*, 2017).

Considering the literature review reliability, we evaluate the reliability of the encoding process using Krippendorff's Alpha method (Massaro et al., 2016). The reliability between encoders, measured through Krippendorff's Alpha, was 0.932, considered acceptable according to the reference values proposed by Krippendorff (2019).

Finally, we analyze the selected articles using the framework to discuss the results critically. For data analysis, we combine different techniques. We describe the literature using bibliometric analysis. We also develop content analysis, coding texts in categories defined inductively. Thus, we coded the 36 articles into research topics using ATLAS.ti software. We complement the previous study with an analysis of the co-occurrence of the identified themes supported by VOSviewer software. The co-occurrence analysis gave us an overview of the thematic structure and the relationships between the IC and IR fields. Finally, we carried out an in-depth content analysis of the 36 articles to increase understanding of the thematic areas emerging from the previous studies and to be able to identify gaps and future research directions.

## RESEARCH FINDINGS: INSIGHTS AND CRITIQUE

This section presents the results to answer the first two research questions: RQ1: *How is the IC literature developing according to the IR field?* and RQ2: *What is the literature's focus within IC and IR?* We first present the results of the descriptive analysis, followed by the results of the content analysis.

### Descriptive Analysis

#### Evolution of article over time

The search criteria had no period restriction. Therefore, we selected 36 articles published between 2013 and 2022. Of these, nine (25%) were published in 2019 and another nine in 2020. That is, 50% of the articles were published in those two years.

#### Journals

Of the 36 articles selected, 14 (39%) were published in the Journal of Intellectual Capital, two in the Journal of Management and Governance, and the rest in 20 different journals. There is a concentration in the Journal of Intellectual Capital, which reflects the authors' interest in finding a space for IC disclosure through IRs.

## Context of the study and organizational focus

Table 1 shows that Europe is the geographical area most studied by the articles in the sample (38.9%), followed by international studies (25.0%). Notably, the selection of articles does not include studies referring to North America, South America, and Australia.

Table 1. Context of the Studies and organizational focus

Category	Number of articles	Percentage participation in the category
<i>Context of the study</i>		
International	9	25.0
North America	0	-
South America	0	-
Australasia	0	-
Europe	14	38.9
Africa	4	11.1
Asia	3	8.3
General/Other	6	16.7
<i>Organisational focus</i>		
Publicly listed companies	18	50.0
Private - SMEs	0	-
Private – other firms	10	27.8
Public sector	0	-
Not for Profit	1	2.8
General/Other	7	19.4

Source: Prepared by de authors.

Of the 36 articles in the review, 18 (50.0%) focus on listed companies, while 10 (27.8%) mainly carry out case studies (e.g. Badia et al., 2019) and analyze other types of companies (“Private – other firms”). Additionally, only one article refers to “non for profits” organizations (Dameri & Ferrando, 2021). None of the selected articles analyses SMEs or public sector organizations.

## Content Analysis

### Emerging research topics

Through content analysis, we inductively identified 11 research topics. Table 2 shows the emerging themes of the 36 analyzed articles, ordered by the number of articles in which they appear and their percentage participation in the sample.

Table 2. Emerging research topics from content analysis

Research topics	Number of articles	Percentage participation in the sample
IC disclosure	27	75.0
IR framework	19	52.8
IR practices	18	50.0
IC definition and components	13	36.1
Value creation	10	27.8
Disclosure policies and determinants	6	16.7
Sustainability	6	16.7
Effects of disclosure	5	13.9
Management practices	5	13.9
Business model	3	8.3
Impression management	3	8.3

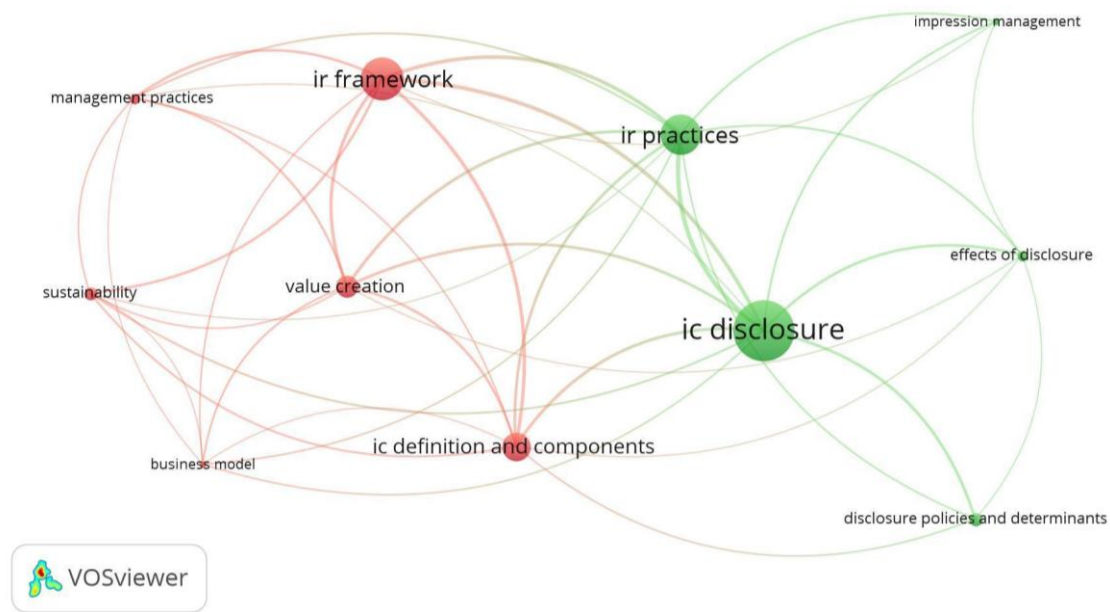
Source: Prepared by de authors.

### Relationships between emerging research topics

To examine the links between the identified research topics, we carried out a co-occurrence analysis, which allowed us to evaluate the relationship between the issues based on the number of articles in which they co-occur in those that appear together. Figure 1 shows the map of the co-occurrence of the research topics. Each node represents a theme, whose size indicates its frequency of occurrence in the review articles, while the proximity and thickness of the lines that join the nodes show the frequency with which they co-occurred, that is, the strength of the link between the themes.



Figure 1. Relationships between the emerging research topics of the articles



Source: Prepared by de authors with VOSviewer.

The map of the co-occurrence of research topics indicates two clusters, which make up thematic groups and reflect the structure of the research field on IC and IR. The first group, identified with red, is characterized by the centrality of the “IR framework” topic. This topic is linked to “IC definition and components”, “Value creation”, “Management practices”, “Sustainability”, and “Business model”. The second group, identified with green, arises from the association between two central themes: “IC disclosure” and “IR practices”. These research topics are linked to the following categories: “Disclosure policies and determinants”, “Effects of disclosure”, and “Impression management”.

#### Emerging research thematic areas

As indicated in the methodology section, we identified emerging research topic areas through in-depth content analysis of the 36 articles. This process allowed us to identify five research areas synthesizing the body of knowledge, three in the first thematic group and two in the second. The thematic research areas detected by each cluster are the following:

##### *Research thematic areas included in cluster 1:*

- **Research area 1:** Reviews and reflections on the IR framework as a means for IC disclosure
- **Research area 2:** Proposals to improve IR framework and IC disclosure through IR
- **Research area 3:** The IR framework and the definition, measurement, and management of IC within organizations

*Research thematic areas included in cluster 2:*

- **Research area 4:** IC disclosure in contexts of practical adoption of IR
- **Research area 5:** IC disclosure through the IR, its determinants, and effects

Tables 3 and 4 show the articles by research area in clusters 1 and 2, respectively.

Table 3. Articles by research area in cluster 1

	<b>Authors</b>	<b>Article title</b>
<b>Research area 1</b>	Abhayawansa (2014)	A review of guidelines and frameworks on external reporting of intellectual capital
	Beattie & Smith (2013)	Value creation and business models: Refocusing the intellectual capital debate
	de Villiers & Sharma (2020)	A critical reflection on the future of financial, intellectual capital, sustainability, and integrated reporting
	Dumay (2015)	Forty-two: The meaning of life, the universe and numbers
	Dumay et al. (2019)	Developing trust through Stewardship. Implications for intellectual capital, integrated reporting, and the EU Directive 2014/95/EU
<b>Research area 2</b>	Abeyssekera (2013)	A template for integrated reporting
	Aras & Mutlu Yildirim (2022)	Development of capital in integrated reporting and weighting representative indicators with an entropy approach
	Boyko & Derun (2016)	Disclosure of non-financial information in corporate social reporting as a strategy for improving management effectiveness
	Dameri & Ferrando (2021)	Implementing integrated reporting to disclose intellectual capital in health organizations: A case study
	Demartini, et al. (2015)	Sustainability and intangibles: Evidence of integrated thinking
	La Torre et al. (2018)	Improving corporate disclosure through XBRL. An evidence-based taxonomy structure for integrated reporting
	Ramin & Lew (2015)	A model for integrated capital disclosure and performance reporting: Separating objects from value
	Schaper et al. (2017)	Moving from irrelevant intellectual capital (IC) reporting to value-relevant IC disclosures. Key learning points from the Danish experience
	Trébucqb & Magnaghia (2017)	Using the EFQM excellence model for integrated reporting: A qualitative exploration and evaluation
	Zhuravka et al. (2020)	Impact of integrated reporting on enterprise value-based management: Evidence from Ukraine

	<b>Authors</b>	<b>Article title</b>
<b>Research area 3</b>	Badia et al. (2019)	Integrated reporting in action: Mobilizing intellectual capital to improve management and governance practices
	Corbella et al. (2019)	Integrated reporting and the performativity of intellectual capital
	Stacchezzini et al. (2019)	An intellectual capital ontology in an integrated reporting context

Source: prepared by de authors.

Table 4. Articles by research area in cluster 2

	<b>Authors</b>	<b>Article title</b>
<b>Research area 4</b>	Camodeca et al. (2019)	Strategic information disclosure, integrated reporting and the role of intellectual capital
	Haji & Anifowose (2017)	Initial trends in corporate disclosures following the introduction of integrated reporting practice in South Africa
	Melloni (2015)	Intellectual capital disclosure in integrated reporting: An impression management analysis
	Petryk et al. (2020)	Integrated Reporting in the conditions of sustainable development: Institutionalization through standardization
	Santis et al. (2019)	Disclosure of intellectual capital components in integrated reporting: An empirical analysis
	Setia et al. (2015)	Integrated reporting in South Africa: Some initial evidence
<b>Research area 5</b>	Akbar & Ningsih (2020)	Determinant Intellectual Capital Disclosure Factors in Integrated Reporting
	Beretta et al. (2019)	Does environmental, social and governance performance influence intellectual capital disclosure tone in integrated reporting?
	Garanina & Dumay (2017)	Forward-looking intellectual capital disclosure in IPOs Implications for intellectual capital and integrated reporting
	Goebel (2019)	Drivers for voluntary intellectual capital reporting based on agency theory
	Haji (2015)	The role of audit committee attributes in intellectual capital disclosures. Evidence from Malaysia
	Onumah & Duho (2020)	Impact of intellectual capital on bank efficiency in emerging markets: evidence from Ghana
	Terblanche & de Villiers (2019)	The influence of integrated reporting and internationalization on intellectual capital disclosures

Authors	Article title
Vitolla et al. (2020)	The Role of the Board of Directors in intellectual capital disclosure after the Advent of Integrated Reporting
Raimo et al. (2020)	Factors affecting human capital disclosure from an integrated Reporting perspective
Salvi et al. (2020a)	Intellectual capital disclosure in integrated reports: The effect on firm value
Salvi et al. (2020b)	Does intellectual capital disclosure affect the cost of equity capital? An empirical analysis in the integrated reporting context
Suttipun & Bomlai (2019)	The relationship between corporate governance and integrated reporting: Thai evidence

Source: Prepared by de authors.

### Research Area 1: Reviews and Reflections on the IR Framework as a Means for IC Disclosure

This thematic area has a group of review and critical reflection papers that discuss issues with implications for the IR framework and IC disclosure.

Beattie & Smith (2013) conceptually analyze IC disclosure links with value creation processes and business models. Abhayawansa (2014) reviews and compares the guidelines and frameworks developed for IC external reporting; among them is the IIRC framework, providing ideas that could be useful for framing IC information within an IR. Likewise, Dumay (2015) explores the meaning and context of the IC numbers to help free themselves from the domination of the “accounting” of the IC.

Dumay et al. (2019) explore the links between crucial IC features and the six capitals of the IR framework. Similarly, de Villiers & Sharma (2020) examine how IC is disclosed from different frameworks and critically reflect on the future of IC reporting and its components in various reports, emphasizing IR.

In this group, we found evidence that IR is an adequate IC disclosure instrument. IC information is an essential part of IR, integrated with other non-financial information (environmental, social, and corporate governance) and financial information. The conceptual link between IC, value creation and business model are evident in the IR. Therefore, this report could improve IC disclosure and make visible how resources (both tangible and intangible) are used, consumed and combined to create value. However, creating the conditions or incentives for full disclosure is necessary.

## Research Area 2: Proposals to Improve the IR Framework and IC Disclosure Through IR

Most papers in this thematic area generate proposals for the future development of IR based on empirical evidence from IR adopters. The pioneering work in this line is Abeysekera's (2013) article, which proposes a template for IRs based on the IIRC framework.

Ramin & Lew (2015) build a conceptual model that combines and relates IC, financial and sustainability information to fill the gap in assessing business performance based on full disclosure. Similarly, Boyko & Derun (2016) take elements from the IR framework to explore possible interpretations of the IC concept and examine different approaches to classifying its features.

La Torre et al. (2018), Trébucq & Magnaghia (2017), Zhuravka et al. (2020) and Aras & Mutlu Yıldırım (2021) develop models and proposals to improve corporate disclosures through IR and its incorporation in the management system.

Finally, Dameri & Ferrando (2021) and Demartini et al. (2015) propose adjustments in the IR to highlight the role of IC in the organizational business model and value creation process and in the reporting and management of sustainability initiatives, respectively.

Within this thematic area, some studies have contributed to the practice of IR (Abeysekera, 2013; Aras & Mutlu Yıldırım, 2022; Schaper et al., 2017). Others have proposed changes to improve different aspects of the IR, especially in disclosing the IC through it (La Torre et al., 2018; Trébucq & Magnaghi, 2017). Some authors have focused on IC to propose IR adjustments that enhance internal decision-making (Dameri & Ferrando, 2021; (Demartini et al., 2015; Zhuravka et al., 2020). The literature has also advanced in proposals to produce complete information (Boyko & Derun, 2016; Ramin & Lew, 2015).

## Research Area 3: The IR Framework and the Definition, Measurement and Management of IC Within Organizations

This area includes the case studies by Stacchezzini et al. (2019), Corbella et al. (2019) and Badia et al. (2019). The last two have a performative approach.

Stacchezzini et al. (2019) investigate IC ontology in the context of IR to explore how IC is defined when crafting IR. Corbella et al. (2019) examine how a European company defines, classifies, and values IC in the context of IR preparation. Badia et al. (2019) analyze IR's ability to mobilize IC and encourage companies to take advantage of this process to improve management and governance practices.

The main findings reveal that IC's definition, classification, assessment, and role in the value-creation process are defined during the IR preparation process. In addition, this process

demonstrates a remarkable ability to capture management's attention and focus on “what IC does” rather than “what IC is”.

#### Research Area 4: IC Disclosure in Contexts of Practical Adoption of IR

In this area, we include empirical research that mainly applies content analysis to characterize different aspects of IC information disclosed through IR.

Haji & Anifowose (2017), Santis et al. (2019) and Setia et al. (2015) analyze how companies disclose information in IRs about their capital and their links in the value creation process.

Melloni (2015) analyses impression management strategies to determine if companies offer IC information to improve their corporate image instead of providing helpful information. Camodeca *et al.* (2019) discusses the practical adoption of IR as a strategic option to signal IC to shareholders, acknowledging that IR could be a potential device for impression management.

Petryk et al. (2020) analyzes the IR framework to identify IC's place within the IR structure, mainly whether it allows the integral incorporation of IC into the IRs of SDG-oriented companies.

The first finding from this area is that companies provide information about their IC by adopting a classification close to that offered by academics of the ICR. Second, IR extended traditional IC disclosures. However, most companies adopt a superficial approach, revealing little information about the relationships between different capitals and the link between IC and the value creation process. There is also evidence of the use of impression management strategies.

#### Research Area 5: IC Disclosure Through IR, its Determinants, and Effects

This area includes empirical studies that analyze IC disclosure determinants and consequences grounded in evidence from IR adapters listed in the stock markets.

The main variables studied as determinants of IC disclosure are the internationalization of the company (Terblanche & de Villiers, 2019), the characteristics of the board of directors (Vitolla et al., 2020, Raimo et al., 2020), the audit committee attributes (Haji, 2015), corporate governance (Suttipun & Bomlai, 2019), financial (Akbar & Ningsih, 2020) and non-financial performance (Beretta et al., 2019), size (Akbar & Ningsih, 2020, Raimo et al., 2020), the threat of corporate mispricing (Goebel, 2019) as well as the industry and the disclosure of intangible assets (Akbar & Ningsih, 2020).

The effects of IC disclosure on companies' market value (Salvi et al., 2020a), companies' efficiency (Onumah & Duho, 2020), stock performance (Garanina & Dumay, 2017) and the cost of equity capital (Salvi et al., 2020b) have been studied.

Regarding companies' motivations to disclose IC through IR, research shows that financial performance, size, and specific board of directors' characteristics have a positive effect. Furthermore, when the optimistic tone in IC disclosure increases, the company's non-financial performance also increases. The threat of the company being misvalued emerges as a significant driver of voluntary IC reporting. In contrast, the increased risk of industry contact with natural, political, and cultural factors causes a substantial decrease in IC disclosure. Finally, the articles in this area detect a positive relationship between IC disclosure in IR and company value and a negative relationship between IC disclosure levels and the cost of equity capital.

## **DISCUSSIONS AND IMPLICATIONS**

Based on the discussion and critique of findings, this section aims to answer the third research question: RQ3: *What are the research implications in IC, IR, and ISSB?* The answer to this question shows the impact of the research developed in the field, organized into four sub-sections.

### **Specialization of the Research Areas: Temporal Evolution, Journals, and Context of the Studies**

The authors published their contributions to the field between 2013 and 2022. However, in this period, productivity has not had a constant rhythm, revealing an essential jump in 2019. The literature that integrates the IC and IR fields has been developed, mainly from the IC Research (ICR) perspective, which is reflected in the centrality of the Journal of Intellectual Capital and the predominance of studies in Europe, where it has the most significant tradition (Cuozzo et al., 2017; Guthrie et al., 2012).

This opens up possibilities for new topics and new perspectives, which is especially important in today's changing regulatory and reporting context.

### **IR is Mainly Related to the External Disclosure of IC**

Most studies focused on the IR framework have studied it as an instrument for the external disclosure of IC. The theoretical and conceptual articles state that IC is an essential

component of IR and that IR allows the external communication of the three traditional dimensions of IC. In this way, IR broadens the scope by integrating financial and non-financial information (Abhayawansa, 2014; de Villiers & Sharma, 2020; Dumay et al., 2019).

Similarly, the studies that formulate proposals for the implementation of the IR framework highlight aspects that would facilitate its development (Abeysekera, 2013; Aras & Mutlu Yıldırım, 2022; Schaper et al., 2017) or changes that would improve its instrumentation (Boyko & Derun, 2016; La Torre et al., 2018; Ramin & Lew, 2015; Trébucq & Magnaghi, 2017). In all cases, the focus of analysis is the external communication of IC, which is consistent with the investor-oriented perspective that the ISSB adopts (Giner & Luque-Vílchez, 2022). Herein, these studies are relevant background for discussing how best to provide the information required for ISSB standards. That is information about the “sustainability-related risks and opportunities that is useful to the primary users of general-purpose financial reports in making decisions relating to providing resources to the entity” (ISSB, 2023a, par. 1).

In this last group of works, some make proposals to produce complete information, including information on sustainability. These works can contribute towards attending ISSB requirements for disclosure of sustainability-related financial information by including, in the same report, the IC, the capitals of the IR and sustainability matters.

Few papers (Dameri & Ferrando, 2021; Demartini et al., 2015) make proposals for adjustments to the IR framework to develop models that would enable communication of the IC to external stakeholders and improve IC management practices, including sustainability management. A small group of studies analyses how an IR is prepared within organizations (Stacchezzini et al., 2019; Corbella et al., 2019; Badia et al., 2019). These works address how organizations disclose IC in practice and how this process impacts the internal definition, classification, measurement, and management of IC. This line of work, although incipient, provides relevant information elements that could guide the identification of “material information about the sustainability-related risks and opportunities that could reasonably be expected to affect the entity’s prospects” (ISSB, 2023a, par. 17), given that, as stated by the IFRS Foundation, through the exposure draft on Management Commentary, information on the management of the entity's resources, which shows how efficiently and effectively administration has used and protected those resources, is information that can influence the evaluations of investors and their decisions, so it is material financial information (IFRS Foundation, 2021).



In this way, the field object of this review is located mainly in what Dumay (2016) and Guthrie et al. (2012) describe as the second stage of IC research. This second stage focuses on the approaches and models to measure, manage, and report IC from a top-down perspective, which aligns with the ostensive strategy (Mouritsen, 2006). The ISSB standards change the landscape for IC disclosure and open a new space for this information, since IC reporting becomes mandatory under the new framework. In this new context, academic research within the IC community will shift its focus from proposing models to communicate IC to helping to identify material IC information linked to sustainability-related risk or opportunity.

Research in this field has yet to develop into the third stage, characterized by a critical examination of IC in practice (Guthrie et al., 2012). In this third stage, the performative approach predominates, which “is conducted at an organizational level and allows for the understanding of how actors mobilize IC and how it is connected to the organization” (Dumay, 2009, p. 492). However, only two of the works reviewed adopt these characteristics (Corbella et al., 2019; Badia et al., 2019), so the third stage seems to be in its infancy. However, it will have a significant opportunity to develop under the new reporting and regulatory context of the ISSB since the knowledge provided about IC at the organizational level can be beneficial for report preparers, particularly in the “various judgments” that an entity must make “in the process of preparing sustainability-related financial disclosures” (ISSB, 2023a, par. 75).

### **IC Disclosure Features Through IR**

The analysis has revealed some characteristics adopted by the disclosure of IC through IR. Among them, we note that companies in the IR provide information about their IC by adopting a classification that is in line with the one developed in the framework of the ICR. It is observed, however, that the lack of homogeneity between the capitals of the IR and those that arise from the tripartite classification of the IC literature (Santis et al., 2019) generates an inevitable conceptual confusion that could affect the comparability of the information. In this regard, it will be essential to observe the approach used to present the IC information in the sustainability reports prepared under the ISSB standards. There must be a common language to designate the capitals to favor the comparability of the sustainability information.

While the IR framework has made it possible to extend IC disclosure across all six capitals, it remains limited. It is necessary to consider that these results derive mainly from studies on companies listed on stock markets, for which the voluntary disclosure of the IC is almost non-existent (Dumay, 2016). The analysis of other types of companies could yield

different results. It is expected that the behavior of listed companies changes under the ISSB standards since their application is mandatory and have particular importance for companies that operate in the stock market, considering their focus on satisfying the information needs of investors and other stakeholders.

Regarding the extension and quality of the IC information under the new ISSB report about “Sustainability-related Financial Information”, an improvement could be expected in both attributes since the information required by this framework is primarily linked the IC of the company. Indeed, Appendix B of the IFRS S1 present some specifications about the resources and relationships that could give rise to sustainability-related risks and opportunities. These resources and relationships are clearly included within the six categories of capital proposed by the IR framework, since IFRS S1 states: “Resources and relationships that an entity depends on and affects by its activities and outputs can take various forms, such as natural, manufactured, intellectual, human, social or financial” (ISSB, 2023a, par. B4). Furthermore, the same paragraph postulates that those resources and relationships “can be internal—such as the entity’s workforce, its know-how or its organizational processes—or they can be external—such as materials and services the entity needs to access or the relationships it has with suppliers, distributors and customers” (ISSB, 2023a, par. B4).

In this non-exhaustive enumeration, the presence of the different human (workforce and know-how), structural (organizational processes) and relational (external relationships with suppliers, distributors and customers) elements that make up the IC of the company is reaffirmed. Furthermore, the aforementioned paragraph accounts for the centrality of the IC components within the resources and relationships that may be involved in sustainability-related risks and opportunities, given that the IC has knowledge as its fundamental substrate and, as fundamental pillars, the people and their relationships, manifesting itself as the tacit knowledge embedded in the minds of the members of the organization (human capital), the knowledge embedded within its routines (structural capital) and the knowledge embedded in the relationships established with the outside environment (relational capital) (Bontis, 1999).

Under these postulates, research should focus on helping to identify which elements of the "outside", linked to IC and related to sustainability, impact the "inside" of the company. This represents a key challenge for research within ICR since IC involves a wide range of elements within organizations and others that transcend it, which are included in the relational dimension of IC. This dimension is essentially external because it is made up of the company's network of relationships with different stakeholders, so it is expected that

this dimension will be significantly affected -positively or negatively- by risks and opportunities related to sustainability. However, as the ability of an entity to remain resilient depends on its relationships and resources, including its workforce and any specialized knowledge it has developed, it is also expected that the human and structural dimensions of IC are affected by these risks and opportunities. The challenge for researchers will then be to help identify the different components of companies' human, structural and relational capital that may suffer more significant impacts from situations in the company's external context linked to sustainability. In this identification, it will be essential to have a more thorough knowledge of IC practices.

Finally, an emerging issue from the studies analyzed is that IC disclosure through IR may respond to impression management strategies (Beretta et al., 2019; Melloni, 2015). Research in this area is still nascent. However, under the framework of the ISSB, it could acquire a new impetus. Indeed, even when the information to be disclosed is mandatory, each "entity shall apply judgment to identify information that: (a) is relevant to the decision-making of users of general-purpose financial reports; and (b) faithfully represents that sustainability-related risk or opportunity" (ISSB, 2023a, par. 57), which could leave a margin for the manipulation of information.

### **Determinants and Effects of IC Disclosure Through IR**

A part of the analyzed literature has identified the determining factors of IC disclosure through IR. These investigations have focused on the internal variables that influence this disclosure. About external factors, studies are scarcer (Akbar & Ningsih, 2020; Goebel, 2019).

Regarding the effects of IC disclosure through IR, the literature has focused on studying the financial consequences. Results reveal that IC disclosure has a positive impact both on the value of the company and on its financial performance and, thus, also in the reduction of the cost of equity capital (Garanina & Dumay, 2017; Onumah & Duho, 2020; Salvi et al., 2020a; Salvi et al., 2020b). These results are consistent with the investor-oriented perspective of ISSB, since they show that IC information is relevant for investors since its disclosure has a -positive- effect on the company's value. This would indicate that the IC information has materiality since it influences "expectations about returns (...) or market price increases" (ISSB, 2023a, par. B15).

In the sample, no studies analyzed the informative consequences of the disclosure of IC through IR. We identified very few studies on the effects of IC disclosure through IR in the

managerial context (Badia et al., 2019; Corbella et al., 2019). Thus, there is further evidence that the field under review has yet to advance to the third stage of IC research.

However, the interest in studying variables linked to environmental, social, and governance aspects as determinants of the IC disclosure in the IR, together with the concern for proposing models that modify the IR to include sustainability information, could imply a developing direction of the field object of analysis towards the fifth stage of IC research. This stage focuses on issues related to sustainability to explore beyond organizational boundaries and generate results that can help address the most worrying problems in the world today (Dumay & Guthrie, 2019). Although it may be premature to talk about fifth-stage research in IC and IR, it can develop rapidly if we consider that with IFRS S1 and IFRS S2 “the era of mandatory sustainability reporting is upon us” (Abhayawansa et al., 2022, p. 1253).

### **A Future Research Agenda**

The results of this review highlight several gaps in the literature that has integrated the fields of IC and IR. These gaps open new paths for research, which are signified in the contemporary context that arises with the arrival of ISSB.

In the first place, considering the conceptual confusion due to the lack of homogeneity between the six capitals of IR and the tripartite classification of IC literature, it would be essential to increase normative research to contribute to a better understanding of the concept of the capitals of the IR framework and the elements involved. In addition, considering the centrality that the IC has in the value-creation process of organizations, future works should delve into how the IR reveals the role of the IC in said process.

New research could help define a common language to present comparable information on IC in ISSB sustainability reports. Studies that help to identify which elements of the IC and of the other capitals that make up the IR model is material information to satisfy the informational needs of investors would also be fundamental. These works could also advance in defining metrics -linked to said capitals- that could enable users of general-purpose financial reports to understand an entity’s performance in relation to its sustainability-related risks and opportunities.

As for the determinants of IC disclosure through the IR, several dimensions still need to be studied, mainly those of external nature. In this sense, future studies could analyze the impact of factors such as the legal and regulatory context, the cultural environment, the level of development of the country, the territory, and specific unexplored industry characteristics.

These studies would be critical to analyze the application practices of the ISSB standard since the industrial sectors and the geographical regions of the companies are key aspects when it comes to identifying the risks and opportunities related to sustainability. In addition, these studies could shed light on another line of research that should also be expanded: to study whether organizations provide helpful information about their IC -and other IR capitals- or if disclosure strategies are used to improve their image in response to external pressures. Under the application of the ISSB standard, these studies will help to detect if the standard meets its objective and to what extent since they would allow us to know if the companies honestly disclose information on the risks and opportunities related to sustainability to those are exposed.

Regarding the effects of disclosure of IC through the IR, it is necessary to increase research on the consequences of such disclosure for organizations' management. The preceding would advance the third stage of IC research through a critical and performative analysis that deepens the knowledge about how organizational actors mobilize IC in practice, specifically in preparing corporate reports. Deepening these studies in contexts of application of the IR would result in an essential orientation for those that, in the future, could be carried out under the application of the ISSB standards. These would contribute to knowing how the IC information prepared and revealed by the application of said standard impacts the administration of the company's resources and sustainability management at an internal level.

In addition, there is a gap in the studies of the informative consequences of the disclosure of the IC through the IR, so research is required to show to what extent this disclosure allows satisfying social, environmental, and corporate governance information demands. The preceding would favor the development of the fifth stage of IC research.

This would enable the field of study to approach the reality of the current context in which sustainability-related disclosures in capital markets are regulated through ISSB standards. This opens a new space for the disclosure of data referring to the IC of companies due to its recognized role in sustainability matters. We see this new scenario as highly significant, as the existence of IFRS S1 and S2 implies that some form of IC reporting within non-financial accounting becomes mandatory for the first time.

Regarding the methodological aspects, more case studies are required to analyze the phenomenon in greater depth and develop a performative approach to IC. It would be convenient to consider contexts that have yet to be studied or studied to a lesser extent, providing a complete view of the phenomenon and the differences that occur in environments with different characteristics. Expanding the composition of the samples would allow going

beyond the deep-rooted tradition of studying listed companies. Finally, studies on the public sector and non-profit organizations still need to be explored and should also be developed.

## CONCLUSION

The literature that has integrated IC and IR fields has been developed, mainly from the ICR perspective, addressing a wide range of thematic specializations that emerge when analyzing the research areas. Although the articles analyzed were published between 2013 and 2022, we observed a significant increase in publications as of 2019, reflecting the field's validity and a growth in interest in it in recent years.

The content analysis of the articles allowed us to identify five research areas that reflect the structure of the scientific debate on IC and IR. These areas are 1) Reviews and reflections on the IR framework as a means for IC disclosure; 2) Proposals to improve IR framework and IC disclosure through IR; 3) The IR framework and the definition, measurement, and management of IC within organizations; 4) IC disclosure in contexts of practical adoption of IR; 5) IC disclosure through the IR, its determinants, and effects.

The analysis of the papers included in each of these areas made it possible to show what issues the literature that has integrated the fields of IC and IR has focused on, as well as the main findings. In addition, the critical reading of these works allowed us to identify the research's implications and outline a future agenda for its continuation.

In this sense, it would be essential to increase normative research to define a common language to present comparable information on IC in ISSB sustainability reports. Likewise, studies are required to help identify IC information, other IR capitals and metrics, which could represent material information for investors to evaluate risks and opportunities related to sustainability. We also identified the need to advance in research under the performative approach and the consequent development of the third stage of IC research. Furthermore, the preceding would allow a better understanding of how elaborating different types of corporate reports produces IC mobilization within the organizations and impacts the administration of their resources and the management of sustainability internally.

We also found that research is required to show to what extent the disclosure of the IC, through those reports, satisfies different stakeholders and the informational needs of investors in sustainability-related financial information. Advances in this line could be a gateway to the fifth stage of IC research, which, under the application of the ISSB standards, could provide insights into how IC information influences company value assessments by investors and their

decisions, which would also contribute to the identification of material sustainability-related financial information. Along with the above, future research should broaden the organizational focus and advance in the study of previously unexplored contexts and sectors of activity.

This study recognizes limitations derived from the nature of the works included in the review since we only considered articles from journals indexed in Scopus. The choice of this database, due to its recognized value and diffusion in the international academic field, leaves documents out of the review.

However, considering that Massaro et al. (2016) indicate that the “SLRs are not the end of the road, but the beginning of new journeys” (p. 793), we consider that this SLR could become the first step for further developments. Therefore, despite its limitations, we hope this work has offered a good understanding of the issue of IC and IR and contributes to guiding the scientific community to carry out new research in this field and in the one that will emerge from the ISSB reports.

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