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Accounting for intangibles: a critical review

Henri Hussinki
Business School, LUT University, Lahti, Finland
Tatiana King
School of Accounting and Finance, University of Vaasa, Vaasa, Finland
John Dumay
Center for Corporate Reporting, Finance and Tax, Nyenrode Business Universiteit, Breukelen, The Netherlands;
Aalborg University Business School, Aalborg University, Aalborg, Denmark and Department of Accounting and Corporate Governance, Macquarie University, Sydney, Australia, and
Erik Steinhöfel
Business School, LUT University, Lahti, Finland

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Abstract

Purpose – In 2000, Cañibano *et al.* published a literature review entitled "Accounting for Intangibles: A Literature Review". This paper revisits the conclusions drawn in that paper. We also discuss the intervening developments in scholarly research, standard setting and practice over the past 20+ years to outline the future challenges for research into accounting for intangibles.

Design/methodology/approach – We conducted a literature review to identify past developments and link the findings to current accounting standard-setting developments to inform our view of the future.

Findings – Current intangibles accounting practices are conservative and unlikely to change. Accounting standard setters are more interested in how companies report and disclose the value of intangibles rather than changing how they are determined. Standard setters are also interested in accounting for new forms of digital assets and reporting economic, social, governance and sustainability issues and how these link to financial outcomes. The IFRS has released complementary sustainability accounting standards for disclosing value creation in response to the latter. Therefore, the topic of intangibles stretches beyond merely how intangibles create value but how they are also part of a firm's overall risk and value creation profile.

Practical implications – There is much room academically, practically, and from a social perspective to influence the future of accounting for intangibles. Accounting standard setters and alternative standards, such as the Global Reporting Initiative (GRI) and European Union non-financial and sustainability reporting directives, are competing complementary initiatives.

Originality/value – Our results reveal a window of opportunity for accounting scholars to research and influence how intangibles and other non-financial and sustainability accounting will progress based on current developments.

Keywords Accounting, Financial accounting, Intangibles, Intangible assets, Intangible resources, Literature review

Paper type Literature review

1. Introduction

The intangible determinants of the value of business enterprises are not reported in companies' financial statements, mainly due to the lack of ability of the accounting standards issued to date to

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> prescribe how to adequately do so. The critical issue in this regard is to determine what intangibles are, and under what circumstances an intangible element may be considered as an asset.
>
> Cañibano *et al.* (2000, pp. 104–105)

It has been over 20 years since Cañibano *et al.* (2000) wrote these words. Despite new and revised accounting standards for intangibles, such as IAS 38, the critical issue regarding what intangibles are on the balance sheet due to concerns about measurement methods remains open. As Cañibano and his colleagues outline, the problem in 2000 was that there was no prescribed way in accounting systems to capture these new intangible wealth-creation resources. But is the problem now that we have too many new intangibles that arguably should be on the balance sheet? Moreover, do we need to account for intangibles at all?

Accounting standards for intangibles have been a subject of much discussion and debate ever since Cañibano *et al.* (2000) wrote their seminal review. While organisations like the International Financial Reporting Standards (IRFS) Foundation and the International Accounting Standards Board (IASB) have been issuing guidelines that broadly suit the needs of investors, capital markets, multinationals and organisations like the World Bank, other initiatives such as the GRI and the EU Directive on non-financial reporting have leaned more toward sustainability and investor impact issues.

Traditionally, companies want to account for intangibles to recognise the future value created from their biggest expenses, such as investments into advertising and R&D. However, because they cannot pass the test that there is a probability that all these expenses will create future economic value, they cannot record these as intangibles. Other intangible assets, including licences, trademarks, patents and copyrights, can be recorded on the balance sheet if they pass the probability test and are valued using historical costs.

From a financial reporting perspective, there is a mixed response from the two major accounting oversight boards. The Financial Accounting Standards Board (FASB) doubts there is any possibility "to get something meaningful for users on a broad-based intangible line item" (Lugo, 2022). Therefore, in June 2022, the FASB unanimously decided to end the four-year project related to simplifying goodwill impairment and followed an earlier decision of goodwill amortisation. In the future, the FASB will focus only on a disclosure project on intangibles. At the same time, the IASB (2022, pp. 27–8), through its Third Agenda Consultation process, undertook to add a project on intangible assets focusing on a comprehensive review of IAS 38. The project plans to enhance disclosure requirements, including disclosures about unrecognised intangible assets and revisit the definition of an intangible asset and recognition criteria reflected in IAS 38. However, a current search of their website and work plan page in December 2023 reveals no activity on reviewing IAS 38.

From an academic perspective, one thing that has remained true over the last 20 years is Lev's (1997) observation that "the old rules no longer apply". Critics, such as Lev and Gu (2016), have persistently decried "the death of accounting". But the sky has not fallen, and capital markets continue operating. Companies like Tesla continue to stun the investment world by reporting US$593 million in intangibles that pass the recognition tests and posting market values that are more than ten times the book value (December 2022). However, another view presented by Dumay and Guthrie (2019, p. 2297) questions the need to account for intangibles.

Thus, the time has come to understand what changes have occurred in how accounting has treated intangibles over the past 20 years. How have policymakers and researchers approached the problems associated with intangibles? And what new challenges have emerged? Building on the conclusions made by Cañibano *et al.* (2000), we reviewed the post-2000 accounting literature and have summarised the developments made toward accounting for intangibles in policy and research.

However, the question is, how important is it for Tesla to disclose *even more* intangible assets on its balance sheet? As noted before, the FASB will not even pursue adding a holistic

project on intangibles to its technical agenda. In fact, during one of its meetings, FASB member Fred Cannon was noted to have said:

> A broad-based technical agenda item on [the] recognition and measurement of intangibles? I don't think that's achievable. And it's not achievable probably for a really good reason, that is intangibles are very diverse – everything from films to web applications, to goodwill, to human capital – there is a great diversity of accounting for these different things in large part because they're so diverse.
>
> Lugo (2022)

Academics also question the need to disclose more intangibles on the balance sheet. As Dumay and Guthrie (2019, p. 2297) argue:

> If we were to finally resolve and agree on the accounting treatment of intangibles, what impact will that have [on] most people's lives? Probably little, if any at all. The so-called "ordinary people" would not be affected and probably would not care whether some intangible was expensed now or capitalised only to be depreciated later. To most people, accounting for [intangibles] is immaterial as there are far more important issues facing ordinary people today.

The current volatility of many economies worldwide due to COVID-19 also raises the need to better understand how information related to accounting, managing and reporting intangibles may help contribute to our collective welfare (Dumay *et al.*, 2020).

With hopes to benefit from effective accounting for intangible assets within organisations and beyond, we will need to address tomorrow's challenges more effectively, which will help make a significant contribution to society. The COVID-19 crisis has highlighted the importance of advancing knowledge with the potential to contribute to collective welfare. Dumay *et al.* (2020) claim that the lessons from past financial crises and pandemics are being ignored because many argue that markets can act as an appropriate proxy for the common good. However, why are there continued calls for more information concerning how companies are accounting for intangibles if that were the case?

As accounting researchers, we must keep in mind that we are an essential part of a research community that has a critical and crucial role to play in transforming society – that is, to enlighten and tackle wicked problems like climate change that are bigger than any one organisation (Dumay and Guthrie, 2019). Otherwise, our scholarship over intangibles becomes part of the problem, not the solution.

2. Methodology

We followed a systematic eight-step method from Xiao and Watson (2019) to prepare this literature review. The eight steps were: (1) formulate the problem, (2) review and validate the protocols, (3) a literature search, (4) screen the abstracts, (5) review the full text, (6) extract pertinent data, (7) analysis and synthesis the data and (8) report the findings.

Step 1: Formulate the problem: Cañibano *et al.'s* (2000, p. 103) literature review focused on three key elements: "the economic nature, definition and classification of intangibles", "the relevance of intangibles for investment and lending decisions" and "the ways in which the current accounting model may be modified in order to provide useful information on the determinants of the firm's financial position in their financial statements". Following their example, our research question is: How has accounting for intangibles research developed since 2000? To answer this question, we examined three key subject areas: (1) the economic nature, definition, and classification of intangibles; (2) the current accounting practices about intangibles; and (3) empirical evidence on the value relevance of intangibles.

Step 2: Review and validate the protocols: In this step, we defined the criteria for including an article in our corpus. We also developed the search strategies, established the screening

criteria for assessing the quality of the literature, and formulated a strategy for extracting, synthesising and reporting on the data. The first step in our search for relevant articles was to compile a shortlist of the top 20 academic journals in accounting. Following Massaro *et al.* (2016), we used Google Scholar Metrics to identify the journals. GSM ranks the top academic journals in different fields and subfields based on the number of citations received over the last five years. We decided to use GSM instead of the Web of Science, Scopus or similar citation indexes, as GSM provides a broader coverage of sources (Harzing and Alakangas, 2016). Table 1 lists the accounting journals we settled on for the study and the number of articles in our sample drawn from each journal.

To collect insights on the new research published since Cañibano *et al.* (2000), we searched for individual articles published between January 2000 and December 2020 using the search engines on the websites of the selected journals. Following Eccles and Krzus (2010), we used the keywords "intangible asset*", "intellectual asset*", "intangible capital", "intellectual capital" and "intangible*" for the search. The term "intangibles" has no universally accepted definition and is often used interchangeably with such terms as intellectual capital, intellectual assets and intangible assets (Eccles and Krzus, 2010). However, intangibles are perceived and discussed differently in various realms of literature, including accounting and management. Our objective was to capture as much of the research on intangibles as possible while considering that there might be research output irrelevant to our purposes outside the accounting literature.

Step 3: A literature search: Our goal was to find articles that analyse the kinds of intangibles that: (1) would usually be included in a financial statement based on financial reporting guidelines, (2) would not typically be recorded on a balance sheet or (3) would often be difficult to account for. Our initial search returned 2,892 potentially relevant articles, which we imported into the reference management program RefWorks'. This number was reduced to 1,020 after scanning each title for relevance.

Step 4: Screening the abstracts: We continued to filter the remaining articles to determine whether they were focused on accounting for intangibles by reading their abstracts.

Table 1.
Top 20 accounting journals according to Google Scholar Metrics (January 2021)

Accounting and Finance
Accounting and Business Research
Accounting Horizons
Accounting, Auditing & Accountability Journal
Accounting, Organizations and Society
Auditing: A Journal of Practice and Theory
Contemporary Accounting Research
Critical Perspectives on Accounting
European Accounting Review
International Journal of Accounting Information Systems
International Tax and Public Finance
Journal of Accounting and Economics
Journal of Accounting and Public Policy
Journal of Accounting Research
Journal of Business Finance and Accounting
Management Accounting Research
National Tax Journal
Review of Accounting Studies
The Accounting Review
The British Accounting Review

Source(s): Table by authors

In this phase, we also excluded book reviews, discussion articles and editorials/introductions, as they do not provide research results based on detailed methodological support because we felt they could have biased our analysis. After this step, 573 relevant articles remained.

Step 5: A quality assessment based on full texts: After reviewing the full text of each article, we eliminated another 62 articles that only had a marginal focus on accounting for intangibles. We also excluded any article that only used intangibles as a control variable in an empirical model and did not discuss the role intangibles played in the results. Articles on accounting standards that did not specifically focus on intangibles were eliminated, as were articles on the development of the accounting profession and educational issues. We felt that all these articles lacked valuable insights that could or would have led to conclusions and comparisons relevant to our research questions. Thus, our final dataset contained 476 papers serving as a "corpus of scholarly literature, to develop insights, critical reflections, future research paths and research questions" (Massaro *et al.*, 2016). We could have extended our search terms further and widened the journal selection, but 476 articles more than establish a main corpus of articles, and adding more will not substantially cause us to come up with radically different conclusions. See Table 1 for the distribution of articles across our 20 selected journals and Table 2 for a summary of the research methods used and the type of intangible assets discussed in each article.

Step 6: Extract the article data: The articles were imported into NVivo, where we extracted metadata about the article and some of its content using a series of pre-set fields. We also gathered further details about the content of each article using an inductive approach. The metadata covered basic information like the names of the author(s), the year of publication and the geographic focus. The content extracted into pre-set fields included the study period, the number of companies in the sample, whether the sample contained only publicly traded companies (yes or no), the industry of focus, the research methods used and the kinds of intangibles discussed. Then, through induction, we extracted further insights from the articles using structured memos linked to the articles using NVivo's functionality.

Step 7: Analysing and synthesising the data: With the coding work complete, we then organised the extracted data into the three key focus areas of this study: (1) the economic nature, definition, and classification of intangibles; (2) the current practices of accounting for intangibles; and (3) empirical evidence on the value relevance of intangibles. The data were arranged chronologically within each category, creating a timeline of accounting for intangibles research spanning 2000 to 2020.

Step 8: Reporting the findings: The findings are reported under the three key focus areas.

3. Findings

3.1 The economic nature, definition and classification of intangibles

In the original literature review, Cañibano *et al.* (2000, p. 108) call for "a broad and thorough discussion about the economic nature and different characteristics of intangibles, which should lead to the identification of a reduced set of common factors that may eventually become generally accepted as their fundamental characteristics". Two decades later, we have neither identified the fundamental characteristics of intangibles nor crafted a widely accepted definition for these assets.

This is evident in the academic research. Some papers rely on the official definitions provided by the IASB (see Barker *et al.*, 2020; Christensen and Nikolaev, 2013), the US

Category	Attributes	Results	Krippendorff's alpha
Article	Title	476 unique titles	1.000
	Journal	20 unique titles	1.000
	Year	2000–2020	1.000
	Author(s)	890 unique names	1.000
	Overall citations	0 to 6,504	
Region	Australasia	109	1.000
	Europe	153	1.000
	North America	209	1.000
	Other	5	1.000
Research method	*Single-method analysis, including*	394 82.77%	0.954
	Case study and interviews	30 6.30%	
	Content analysis	16 3.36%	
	Empirical research	244 51.26%	
	Experiment	9 1.89%	
	Literature review and essays	91 19.12%	
	Survey	4 0.84%	
	Multi-method analysis, including	82 17.23%	0.923
	Case study/Content analysis/Interview	29 6.09%	
	Case study or interview and empirical research	6 1.26%	
	Content analysis and empirical research	28 5.88%	
	Survey and empirical research	5 1.05%	
	Survey and interview	2 0.42%	
	Literature review and critical analysis	12 2.52%	
Research focus	*Accounting perspective*	261 54.83%	0.936
	Goodwill	36 7.56%	
	R&D expenses	60 12.61%	
	A mix of goodwill, R&D expenses, patents, advertising costs	96 20.17%	
	Capitalised intangibles	69 14.50%	
	Managerial perspective	215 45.17%	0.902
	Human capital	28 5.88%	
	Relational capital	10 2.10%	
	Structural capital	10 2.10%	
	A "trio" approach: human capital, structural capital, relational capital	35 7.35%	
	A "trio" approach and other elements of IC	88 18.49%	
	Innovative approaches to intellectual capital	44 9.24%	

Source(s): Table by authors

Table 2. Information about the corpus

Generally Accepted Accounting Principles (GAAP) (Chen and Sami, 2013; De Simone *et al.*, 2020), the Australian (Ahmed and Falk, 2006; Dahmash *et al.*, 2009) or UK accounting standards (Al Jifri and Citron, 2009; Horton and Serafeim, 2010). Others merely provide a list of example assets that intangibles might comprise. According to the definitions provided by the IFRS and US GAAP, intangible assets lack physical substance but meet the definition of an asset – that is, they must be a source of future economic benefit for the organisation. According to IAS 38, "an intangible asset is an identifiable non-monetary asset without physical substance. Such an asset is identifiable when it is separable or arises from contractual or other legal rights. Separable assets can be sold, transferred, licensed,

etc. [1]" FASB ASC350 defines an intangible asset as "an asset, other than a financial asset, that lacks physical substance". The new version of the standard ASC 805–20–25–3 reflects the concept of "future economic benefits obtained as a result of past transactions" and requires that intangibles separately identified must be part of what the acquirer and the acquiree exchanged in the business combination, rather than the result of separate transactions. Examples of intangible assets include patents, trademarks and copyrights. Goodwill is also an intangible asset that can be recognised when acquiring a business (e.g. Mazzi *et al.*, 2017).

From our analysis of the corpus, we conclude that accounting and finance journals do not just publish research papers on the types of intangibles that the various accounting standards recommend should be included on the balance sheet, such as goodwill and patents (De Simone *et al.*, 2020; Glaeser *et al.*, 2020; Huikku *et al.*, 2017). Rather, there is also a growing body of published research that investigates other types of intangibles that are currently not reflected in financial statements, such as intellectual capital (e.g. Beattie and Smith, 2012; Abhayawansa *et al.*, 2018; Hussinki *et al.*, 2020). This stream of literature applies different proxies, indices and surveys to define and study intangibles.

3.2 Accounting for intangible assets: evolving policy and practice

Cañibano *et al.* (2000) advocate for more cohesive criteria surrounding what intangibles to include in financial reports and condemn the restrictive and conservative approach of IAS 38 centred primarily around a relevance vs reliability tradeoff. IAS 38 underwent major revisions in March 2004 as part of the first phase of its Business Combinations project, with further amendments done in 2008 (Table 3). However, the issues raised by Cañibano *et al.* were not addressed. Intangibles significantly differ in type, which makes finding the proper way to account for them even more complicated. Further, beyond lacking physical substance, many intangibles have specific characteristics and economic features that can be a challenge for accounting in financial reporting. For example, questions like whether all internally generated intangible assets should be recognised in financial statements or whether goodwill should be either amortised or impaired are still open to debate.

Thus, the debate about what constitutes an intangible that can be included on a balance sheet persists more than two decades later.

3.2.1 Changes in policy. From a policymaking standpoint, the most significant development has been that the FASB, IASB and EFRAG have all paid more attention to intangibles in the last 20 years. Accounting for intangibles significantly changed early in the post-millennial era, especially in the EU, the US and Australia (Cairns *et al.*, 2011).

In the early stages of change from 1994 to 2004, adopting the IFRS was voluntary (Aharony *et al.*, 2010; Wyatt, 2005). Notably, in 1998, the IASB issued IAS 38 – a standard that had been years in planning, and this marked a major change in how accounting would treat intangibles. In 2004, IAS 38 was also applied to intangible assets acquired in business combinations (IFRS 3 *Business Combinations*). Then, in 2005, following the IFRS in the EU and Australia became mandatory. Consequently, there was much closer convergence and harmonisation between the IAS/IFRS and the US GAAP from 2007 onwards.

Moreover, during the transition period when the IAS/IFRS standards were being implemented, the standard setters revised and rewrote many accounting standards, some of which increased the flexibility of a firm's accounting choices (Aharony *et al.*, 2010). For example, IAS 38 was last updated in 2014 for annual periods beginning from or after January 2016. This update clarified the acceptable methods of amortising intangibles. However, despite efforts to globally harmonise accounting standards (Skinner, 2008), there were still some differences – the differences between the IFRS and the US GAAP being the most notable (see Table 4).

Year	FASB	IASB
2001	The FASB issue SFAS No. 141, Business Combination, and SFAS No. 142, Goodwill and Other Intangible Assets. The objective is to reduce the maximum life for amortizing goodwill and other intangibles to 20 years, as required by the IAS at that time SFAS 142 distinguishes between definitely-lived intangible assets and indefinitely-lived intangible assets. Instead of being amortized, indefinitely-lived intangible assets are subject to an annual impairment test as required by IAS (FASB, 2001)	IAS 38 *Intangible assets* is adopted which had originally been issued by the International Accounting Standards Committee in September, 1998
2004		IASB disseminate IFRS 3, Business Combinations, *that is a*pplied to intangible assets acquired in business combinations. According to the standard, if an intangible asset is acquired in a business combination, the cost of that intangible asset is its fair value at the acquisition date
2008		IFRS 3 is revised, which helps to bring the US GAAP and IFRS requirements on business combination transactions closer together. Similar to SFAS 141(R), IFRS 3 requires those transactions to use fair-value for those intangible assets that were acquired but previously not recognised by the acquiree in consolidated financial statements. An annual impairment test for goodwill is also required. However, two major differences still exist between IFRS 3 and SFAS 141(R). The first is that IFRS 3 does not cover business combinations under common control, whereas SFAS 141(R) specifies accounting requirements for such transactions that meet particular criteria (FASB, 2007; para. D8-14). The second difference is that IFRS 3 allows a choice between the partial and the full goodwill methods, whereas SFAS 141(R) only allows the full goodwill method (FASB, 2007; para. B205-221)
2014	Some options for recognition and measurement of intangible assets in private companies are issued	The Board amends IAS 38 to clarify when the use of a revenue-based amortisation method is appropriate. Further acceptable methods of amortization are clarified

Source(s): Table by authors

Table 3. Changes made after 2000 to IFRS and US GAAP in relation to intangible assets

The changes to accounting standards for intangibles have provided much inspiration for academic research. Numerous studies have focused on how to integrate the different standards around the world. By contrast, many studies have examined how decisions to make standards like the IFRS mandatory have impacted organisations, countries and economies. Interestingly, several authors have also discussed the relationship between how accounting standards are applied and trends in accounting conservatism. For example, André *et al.* (2015) report an overall decline in conservatism after adopting the IFRS and attribute the trend to the mandatory impairment tests for intangible assets as prescribed in the standards. Untimely impairment allows managers to defer the recognition of bad news in earnings, thus reducing conditional conservatism (Banker *et al.*, 2017).

	US GAAP	IFRS
Internally generated intangible assets	Research and development must be expensed Expensing of practically all internally generated intangibles	Research is expensed; development is capitalized Some internally generated intangibles can be capitalized
Subsequent measurement of intangible assets	No subsequent fair value assessment	May be carried out under the cost or revaluation model
Impairment testing procedures	Two steps Use undiscounted cash	One step Compare carrying amount to recoverable amount
Reversal of impairment charges	Not allowed	Allowed
Impairment testing for goodwill	Done at the reporting-unit level	Done at the cash-generating unit (CGU) level
Goodwill impairment charges	Cannot exceed the carrying value of the recovered goodwill	Any impairment charge of more than the value of goodwill may be charged against the assets in the associated CGU

Source(s): Table courtesy of PwC (2020)

Table 4. Summary of the differences related to accounting for intangibles between the US GAAP and IFRS

3.2.2 Capitalising, amortisation and impairment. Further, several articles analyse the influence of capitalisation, amortisation and impairment on different performance indicators. Capitalising intangible assets, which is sometimes allowed by the IFRS, helps to decrease both investor risk and the forecast errors made by analysts (Chalmers *et al.*, 2011; Chen *et al.*, 2015a, b). Matolcsy and Wyatt (2006) examine whether the capitalisation of intangible assets is related to performance indicators. Focusing on *IAS 38 Intangible assets* and *AASB 138 Intangible assets*, the authors conclude that capitalisation of intangible assets is associated with higher analyst following and lower absolute earnings forecast error for firms with a stock of intangible assets. Therefore, the authors conclude that there are benefits for analysts and managers to have an opportunity to capitalise intangible assets.

Next are studies finding that the goodwill reported in a firm's financial statements is typically value relevant to its equity and earnings valuation. This finding is because the goodwill impairment required by IFRS is more associated with firms' underlying economic attributes (investment opportunities and accounting performance) than goodwill amortisation (Chalmers *et al.*, 2011).

Drawing on a sample of European companies from 2006 to 2014, Andreicovici *et al.* (2020) suggest that more transparent disclosures of goodwill impairment tests result in lower disagreements between analysts and managers and the analysts themselves. Bugeja and Gallery (2006) analysed the accounting standards developed by the Australian Accounting Standards Board (AASB) – AASB 1013 *Accounting for Goodwill* and AASB 136 *Impairment of Assets*. They conclude that a firm's value is positively associated with "new" goodwill (acquired in the observation year or preceding two years) but not with "old" goodwill (goodwill acquired more than two years ago). This implies that old intangibles fail to meet the basic requirement of providing useful information for economic decision making.

Additionally, scholars raise concerns about enforcing impairment tests for intangibles, especially for those assets with indefinite lives, such as goodwill. Impairment tests usually involve a valuation model and require managers to make significant judgements (Wyatt, 2008; Lev, 2018; Ayres *et al.*, 2019) and use discretion to avoid timely write-offs (Jarva, 2014). But, because these fair value estimates cannot be verified, they can be manipulated. Bond

et al. (2016) discuss the inefficiency of impairment tests, noting that most firms in their particular study did not recognise impairments to intangible assets when they had at least one externally observable indicator of impairment. Referring to Australian companies implementing *AASB 136 Impairment of assets*, Bond *et al.* (2016, p. 259) state, "the majority of firms with indicators of impairment are still not recognizing asset impairments". Thus, recognition is often delayed.

Godfrey and Koh (2009) examined whether goodwill impairment write-offs reflected investment opportunities for firms after the impairment accounting regime was introduced in the United States. The results show that managers write-off fewer goodwill impairment losses when a firm's investment opportunities increase. This finding supports the assumption that goodwill accounting practices match a firm's economic circumstances and that managers make accounting decisions to reflect a firm's investment opportunities.

However, in examining the economic consequences of goodwill write-offs under *SFAS 142*, Jarva (2014) finds no clear evidence between the poor economic performance of firms and goodwill write-offs. Jarva (2014) concludes that the results do not conclude whether the discretion afforded to managers increases real costs (e.g. security mispricing). Jarva (2014) also reflects that auditors charge higher fees for assessing financial statements containing goodwill write-offs because they require more effort.

Wolfe *et al.* (2020) report that auditors assess impairment risks based on their intuition and biases rather than analytical thinking. Of course, this leads to even more open questions about the value relevance of financial statements when companies report a high share of intangibles that need to be impaired. Notably, some authors point out that different accounting policies prescribe different treatments for intangibles. As a result, comparing the market valuations of identifiable intangibles between different companies may be a moot exercise (Comiskey *et al.*, 2010; James *et al.*, 2008; Ayres *et al.*, 2019). In summary, impairing goodwill is contentious, with different researchers touting all manner of problems with the practice: that the criteria for goodwill impairment are questionable, that there is too much room for earnings management (Li and Sloan, 2017), and that the valuations are often inconsistent and dependent on geography (Glaum *et al.*, 2018).

3.2.3 Continuing practice debates. So, while there is much more convergence between the different accounting standards than before, there is still widespread dissatisfaction with the financial information available to investors and stakeholders, which is only increasing (Dichev *et al.*, 2013; Dichev, 2017; Lev, 2018). Even though today's accounting standards provide guidelines for measuring intangibles, researchers continue to criticise that too few intangibles are reported in financial statements and that the standards view the potential economic benefits of intangibles too narrowly (Christensen and Nikolaev, 2013; Lev, 2018, 2019).

Barth (2014) points out that the difference between a firm's market and book value may not be because the economic resources are incorrectly valued but because they are incompletely recognised. In addition, Barker (2015) has an interesting take on the situation, arguing that it is more important to understand the economic benefits arising from economic resources than to precisely measure them. He adds to the debate on conservatism and prudence in the IFRS framework that has been taking place for several years: the IASB dismisses prudence without realising that its own framework is inherently conservative, while the academic, practitioner and user communities suggest adding prudence back to the framework, without realising that prudence to a certain extent already exists.

Barker (2015) refers to "conservatism" as any method of accounting that leads to book value being less than economic value, while "prudence" is a specific type of conservatism arising from a "cautious" response to uncertainty (Barker, 2015, p. 515). Barker (2015) discusses the position of the IASB that prudence is no longer embedded as a qualitative characteristic in the framework as the neutral application of the IASB's balance-sheet-

oriented framework is already conservative without the need for an additional principle to be added. Therefore, Barker (2015) concludes that the criticism of the IASB is overstated and imprecise, while the position of the IASB itself neither articulates the implications of its own framework nor engages adequately with the distinct issue of prudence.

What is clear is that the current practices of accounting for intangibles are still conservative, as there is always some uncertainty about whether the future will see property rights or cashflows generated from intangibles (Barker, 2015). Barker's argument is supported by Skinner's (2008) earlier argument that the balance sheet is not the basis for firm equity valuation, as most approaches to equity valuation rely on information from the income statement to forecast future revenues, earnings and cash flows. Skinner (2008) also claims that he doesn't observe any evidence to support the claim that technology companies are handicapped in their ability to raise equity capital despite what is reported on their balance sheets. Thus, because of the conservative nature of accounting, it is unlikely that more intangibles will be recorded on balance sheets in the near future.

3.3 Empirical evidence on the value relevance of intangibles

Cañibano *et al.* (2000) highlight empirical evidence on the value relevance of investments into intangibles, such as future earnings and stock returns, particularly concerning research and development (R&D), advertising and patents. These authors also saw future opportunities to examine the value of investing in brands and trademarks, maintaining high levels of customer satisfaction and harnessing human resources. However, they disagreed with the (over)emphasis placed on investments into R&D and advertising to the detriment of other intangible assets in the pre-2000s research and the tendency for accountants to treat intangibles conservatively. These trends continue, as we found a significant share of articles in our corpus focus on these same intangibles, in line with the IFRS's concerns with R&D expenditures since 2005 (Lev *et al.*, 2005; Wyatt, 2005).

3.3.1 R&D investments. The future benefits generated by R&D investments are more uncertain than the benefits to be derived from investments into tangible assets (Chircop *et al.*, 2019). However, the conservative treatment of R&D expenses in a typical income statement does not always help analysts make more accurate forecasts (Donelson and Resutek, 2012). This is surprising since analysts tend to give significantly more coverage to firms with larger R&D and advertising expenses than their industry average (Barth *et al.*, 2001). Additionally, market analysts often try to determine a realistic value for a firm's R&D assets, even when these assets are conservatively reported on the balance sheet (Kimbrough, 2007). Such valuations could be especially important for companies heading toward mergers and acquisitions (M&As) or initial public offerings (IPOs) (Kimbrough, 2007; Chung *et al.*, 2019). Moreover, capitalising R&D expenses may reduce the cost of debt (Kreβ *et al.*, 2019), decrease information asymmetry (Mohd, 2005) and lead to more efficient tax allocations (Huang *et al.*, 2020a; Demeré *et al.*, 2020; Laplante *et al.*, 2019).

3.3.2 Advertising. Cañibano *et al.'s* (2000) observation of a positive relationship between effective advertising and future stock performance and its long-lived impact on actual and potential customers has received some attention in the post-2000s research. For example, Kothari *et al.* (2002) show that advertising expenses may lead to higher uncertainty surrounding future benefits. Hodgson *et al.* (2018) note that high advertising expenses do not generally help forecast stock prices. Still, they do tend to result in higher profits in the case of M&As. Although the accruals for advertising expenses are positively related to abnormal returns, Resutek (2010) highlights that investors should also consider other non-accounting-based intangible information when forecasting stock prices. The literature again points out that industry and context play important roles when forecasting earnings and stock prices, especially concerning advertising expenses (Barron *et al.*, 2002; Gu and Wang, 2005; Hodgson *et al.*, 2018).

3.3.3 Patents. Patents are another intangible that has continued to be scrutinised. The consensus is that disclosing information on patent-protected products reduces information asymmetry for potential investors during an IPO (Guo *et al.*, 2004). Jones (2007), for example, reports that the more R&D expenses are protected by patents, there are fewer errors associated with forecasting future earnings. Obviously, this makes decisions easier for would-be investors. From an analysis of the patents held by US firms, Kim *et al.* (2019) also find that an institution's investment horizons are positively related to the number of patents held and patent citations received. They also find that long-term institutional ownership positively relates to the innovation outputs measured with the help of the number of patents granted to a firm and citation counts received from patents. In other words, long-term institutional ownership boosts corporate innovations.

Several authors have also analysed the relationship between accounting for R&D, patents and management behaviour (e.g. Glaeser *et al.*, 2020; De Simone *et al.*, 2020; Huang *et al.*, 2020b; Seybert, 2010). Here, the empirical evidence suggests that managers register more patents per dollar of R&D expenses when the working horizon in a company is short (Glaeser *et al.*, 2020)., This consequently influences the behaviour of investors, who discount a firm's value more when they believe that a manager's tenure is, or will be, short. Thus, for managers, there is a trade-off between the length of their managerial horizon and the company's value. Further, because intellectual property, including patents, trademarks and copyrights, tends not to be tied to a specific geographical location, firms can use this flexibility to reduce their tax payments, which can lower the value relevance of these intangibles (Evers *et al.*, 2015). To overcome these tax manipulations, several countries in the mid-2000s introduced IP box regimes that explicitly reduced the corporate tax rate levied on the income derived from patents (EU Parliament, 2015). Notably, there have also been subsequent updates and modifications to these policies.

Beyond R&D, advertising and patents, the research community has also begun to answer Cañibano *et al.'s* (2000) call for more empirical evidence on the value relevance of other intangibles, such as brands and trademarks, customer satisfaction and human resources. Reporting information about brands and trademarks in annual reports and other non-financial statements can reduce the information asymmetry between buyers and sellers, whether or not the estimates conservatively follow accounting standards (Wyatt, 2008; Dalton *et al.*, 2019). However, because only trademarked brands can be recognised in financial statements, a firm's brand's potential earnings and value are often underestimated. Non-trademarked brands frequently represent an important and substantial part of a company's intangible assets and are positively associated with various performance indicators (e.g. Wyatt, 2008; Dalton *et al.*, 2019). The need for fair value evaluation is related to higher audit fees and uncertainty levels. Applying fair value policies to trademarks can result in high uncertainty, subjectivity and complex assumptions, which will likely result in higher audit costs and more risk associated with fair value distribution (Cannon and Bedard, 2017). In these situations, auditors more often anticipate needing specialist support with additional expertise considered part of the audit risk mitigation strategy (Cannon and Bedard, 2017). Thus, gaining a better understanding of the fair value audit process and identifying potential problem areas should be an important priority for academic research and the profession.

A stream of literature also examines customer satisfaction, focusing on its value relevance for companies and how it can create a competitive advantage. Singh and van der Zahn (2008) and Orens *et al.* (2010) note that disclosing customer loyalty and satisfaction information is important because it links a company's short-term actions with its long-term strategic objectives. This shows stakeholders that a company properly manages its customers, contributing to its value creation initiatives. In turn, this attention can improve a firm's market valuation. Similarly, Bonacchi *et al.* (2015) describe customer value as "a hidden, yet crucial, asset" that may help predict earnings and a firm's value. From a sample of American companies, Bonacchi *et al.*

estimated that unrecognised customer value in the balance sheet was approximately 2.2 times the book value of equity and could represent as much as 80% of a firm's recognised assets. Further, Legoria *et al.* (2018) report that companies that disclose more information about their customer relations tend to work only with high-quality auditors or auditors that belong to national-level specialists, thus bringing additional benefits to shareholders.

Another notable observation made in the literature is that there is a difference in the relationship between the financial and non-financial information companies disclose and the dynamics of their stock price depending on industries. More specifically, non-financial information typically explains a higher proportion of earnings and stock prices within R&D-intensive industries (Ali *et al.*, 2012; Chalmers *et al.*, 2012). As an example, Chen *et al.* (2017) analysed voluntary disclosures over the capitalisation of development costs (the "D" of R&D), which is required by the IFRS but prohibited by GAAP. They conclude that this forward-looking disclosure is not only value relevant but is also a highly significant factor in a company's stock prices. Conversely, Jones (2007) reports that lower levels of disclosure over intangibles are associated with higher abnormal stock returns. He reasons that management may not be as likely to disclose detailed information about their R&D activities when a firm's business is attractive to other firms. Some other researchers, such as Francis *et al.* (2008) and Orens *et al.* (2010), state that disclosing non-financial information and the cost of capital has no clear causal effect. Overall, the evidence is fragmented; however, the indication is that disclosing selected non-financial information is not worth it. Yet, strategically disclosing non-financial information that stakeholders and stakeseekers appreciate may yield positive outcomes for a firm (Andreicovici *et al.*, 2020; Melloni *et al.*, 2017).

3.4 Integrated reporting

More recently, a growing number of research papers have been devoted to integrated reporting issues (e.g. Adams *et al.*, 2016; Dumay and Guthrie, 2019; Melloni *et al.*, 2017; La Torre *et al.*, 2020). While integrated reporting does not advocate putting more intangible assets on balance sheets, the International Integrated Reporting Council (IIRC) (2021) advocates it as a way to communicate information about specific intangibles such as:

(1) Organisational, knowledge-based intangibles, including intellectual property, such as patents, copyrights, software, rights and licences;

(2) Organisational capital such as tacit knowledge, systems, procedures and protocols;

(3) Intangibles associated with the brand and reputation that an organisation has developed; and

(4) An organisation's social licence to operate.

Adams *et al.* (2016) claim that integrated reports can help leading companies articulate their social investments more clearly, with the subtext that this may start a trend for other companies in the sector to report similar investments. Moreover, they find evidence that organisations undertaking social investments are better rewarded by their customers, employees and the market. However, this mostly occurs when such activities are embedded in a company's strategy, governance structure and operations (Adams *et al.*, 2016).

Melloni *et al.* (2017) argue that IR better captures "the invisible value" we do not generally see in financial statements. As a relatively new development, IR is targeted toward traditional investors. Its framework "aims to improve the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital" by explaining "how an organisation creates value over time" (IIRC, 2013, p. 4; La Torre *et al.*, 2020, p. 2.), whereas other forms of reporting, such as the GRI, tend to consider a much broader range of stakeholders; they are also more established and tend to complement regulated financial

reporting. Further, integrated reporting can be used to comply with the European legislation that requires companies to disclose non-financial and diversity information (European Union, 2014). This is in keeping with a noticeable new trend for accounting regulators to be more interested in how the value of intangibles is reported and disclosed rather than how they are calculated (EFRAG, 2018; Dumay and Guthrie, 2019).

4. Discussion and conclusion

Twenty years ago, Cañibano *et al.* (2000) called for a more unambiguous definition of intangibles and coherent classifications for the different types of intangible assets corporations hold. They urged academics and standard setting bodies to jointly develop an appropriate definition for this asset class. They also sought a conclusive set of classifications that should be included in financial statements to provide relevant information on the intangible determinants of a firm's value. Twenty years later, the definitions provided by the accounting standard bodies are quite unified. However, some academics and practitioners claim that the IASB and FASB still have a far too conservative approach, suggesting a broader approach to defining intangibles. The years from 2000 to 2020 witnessed major developments in the accounting treatment of intangibles, especially in the EU, the US and countries adopting IFRS (Cairns *et al.*, 2011). Still, there is no universally accepted list of intangible asset types, as identifying what intangibles to include is still left to the professional judgement of accountants. Thus, each firm seemingly cherry-picks its intangibles to maximise its market value (Abeysekera, 2008; Abhayawansa *et al.*, 2018).

Cañibano *et al.* (2000) criticised the incompleteness of the few accounting standards governing intangibles at the time. Cañibano *et al.* (2000, p. 122) called for the standards to be carefully revised "to provide investors with financial statements that are not only reliable but also relevant for decision making". The current accounting standards seem to have decreased the conservatism applied to accounting for already identified intangibles (Wyatt, 2008; André *et al.*, 2015; Banker *et al.*, 2017), but many concerns remain. Researchers write cautionary tales about enforcing impairment tests and how management's accompanying value estimates and judgements cannot be verified (Wyatt, 2008; Lev, 2018; Ayres *et al.*, 2019; Wolfe *et al.*, 2020). There are complaints over the different treatments of goodwill (and other intangibles), along with the inconsistent market valuations of intangibles given the existing differences in accounting approaches between accounting standards around the world (e.g. Comiskey *et al.*, 2010; Ayres *et al.*, 2019; Kwon and Wang, 2018). Earnings management and delays in goodwill impairments are also problematic (Li and Sloan, 2017).

Cañibano *et al.* (2000) also identified a significant skew in the pre-2000s accounting literature toward research on the value relevance of investments into R&D and advertising. They suggested that future research should pay more attention to other intangible assets besides these two expenses. Patents and patent citations, brands and trademarks, and customer satisfaction were among the intangibles mentioned as being under-served. At the turn of the millennium, these intangibles were largely described as potential supplements to a proper equity valuation. However, their analysis had only just begun. On this front, there has only been incremental change over the past 20 years. R&D remains the main focus, probably because in 2005, IFRS emphasised R&D expenditure (Lev *et al.*, 2005; Wyatt, 2005), with other types of intangibles, such as advertising expenditure, goodwill and patents, taking the second stage. However, what are some of the ways forward? We discuss these next.

4.1 Accounting for intangibles

In terms of developing the standards that govern accounting for intangibles, future changes need to improve the value relevance of intangibles for all stakeholders. For example, some

authors have noted that intuition frequently takes priority over analytical skills when executing the treatments prescribed in the standards, such as impairment tests (e.g. Wolfe *et al.*, 2020). Barker *et al.* (2021) conclude that the recognition threshold for intangible assets outlined in IAS 38 is significantly higher than that for tangible assets. Consequently, current and investment expenditures are often aggregated, creating problems when report users try to separate expenses. As a result, they call for separating current expenses from investment activity. They state, "expenditure that is intended to generate future cash flows, but is too uncertain to be shown as an asset in the balance sheet, should be separated from current expenditure" (Barker *et al.*, 2021, p. 26).

The high threshold attached to intangible assets also implies that most expenditure on intangibles is highly uncertain. To this problem, Barker *et al.* (2021) propose that the solution is not to capitalise all the investments on the balance sheet, as that could destroy value-added measures. Curiously, the IFRS framework also leaves the question of what information can best help investors, lenders and other creditors estimate the value of a reporting entity (Barker and Teixeira, 2018). Certainly, this is an issue accounting scholars might help to clarify.

There has been a discussion between the IASB and the FASB about accounting and the treatment of goodwill. In 2019 and 2020, FASB issued comments regarding the idea of reintroducing the amortisation of goodwill. At the same time, the IASB focused on improving the impairment model of goodwill rather than reintroducing amortisation. In February 2021, the International Organization of Securities Commissions (IOSCO) released a statement urging the IASB and FASB to collaborate closely with each other on accounting for goodwill as maintaining and enhancing convergence in this area is an important consideration that might also be in the focus of research agenda. One of the main reasons the FASB could not agree on a way forward and removed the project from the agenda was that they did not have a clear objective of whether the project was to reduce costs or increase benefits.

After the EU and Australia adopted the IFRS in 2005, there were still some options for fair value accounting. Bhattacharya *et al.* (2010) state that making the fair value of intangibles more relevant could help to offset the risks of bankruptcy and failures and that this was especially true for Internet companies during the global financial crisis. At the same time, Lev (2018, 2019) questions fair value accounting and highlights the question of capitalising intangibles without further revaluation. Therefore, the question of what is better, conservative reflection or the fair value accounting of intangibles, remains a debate.

The differences in what types of intangibles truly influence value in different industries and countries also need to be studied more deeply (e.g. Amir *et al.* 2007; Wyatt, 2005; Glaum *et al.*, 2018). The few studies on this issue report contradictory results or mixed findings. More insights into these variances should make economic decision making easier and more efficient for stakeholders (Garanina *et al.*, 2021a).

Additionally, several authors want more attention paid to those intangibles that are not currently accounted for in financial statements but could be sources of future value creation (Siegrist *et al.*, 2020; Cooper *et al.*, 2018; Saxton and Guo, 2020). For example, investments in environmentally and socially responsible activities represent significant corporate expenses. Although the future value of these investments is difficult to evaluate, they could be treated as intangible assets with the potential to create significant value. Similarly, Saxton and Guo (2020) urge accounting bodies to pay more attention to the capital locked up in social media. Likes, follows, clicks and subscribers can all be considered a new company-generated asset representing a "strategic, value-enhancing resource".

Moreover, this type of intangible asset is directly observable in real time; it is unequally distributed and is acquired through a specialised set of communication activities. As such, it deserves specialised conversion and value estimation processes. Likewise, Berkman *et al.* (2018) talk about the need for standards relating to assets based on blockchain and other

disruptive technologies. These represent newly generated intangible assets that can be important in future value creation.

IASB and FASB discussed the research results on digital assets recently. They added the topic of "Accounting for and Disclosure of Crypto Assets" to the technical agenda of FASB. The IASB clarified its point of view not to add a project on cryptocurrencies to its work plan. However, IASB representatives stated that IASB might reconsider the importance of the topic in the future if circumstances change and this project becomes a higher priority. The discussion was mainly focused on when to start addressing the crypto asset issue, particularly whether the boards should act now. The issue is not pervasive, so pursuing this agenda item now would lead the market. So the IASB plans to wait until it becomes pervasive before tackling this issue, i.e. they plan to follow the market. The IASB Chair warned that issuing guidance on cryptocurrency before regulators do (like the Financial Stability Board) could mean that IFRS guidance potentially conflicts with regulator guidance, which should be avoided. He also noted that the IASB has started addressing economic, social and governance (ESG)-linked features in financial instruments that are not seen as pervasive yet but will become pervasive.

EFRAG further recommended that the IASB undertake a comprehensive assessment of IAS 38. They argue that the recognition and measurement requirements must better reflect the ever-increasing importance of intangibles in today's business models. Reports also need to be more comparable – especially between companies that grow organically and those that do so through acquisitions. Further, emerging types of transactions and assets, such as emissions trading rights and cryptoassets, need to be addressed. EFRAG notes that internally generated intangibles are increasingly important in an entity's performance today. Still, they are not being reflected adequately in financial statements. EFRAG further indicate that the discrepancies between the accounting for acquired and internally generated intangibles need to be re-examined (EFRAG, 2021). However, any restatements of internally generated assets would have a historical rather than a future value basis. Otherwise, the accounting would not be conservative.

4.2 Disclosing rather than accounting for intangibles

Ultimately, when accounting for intangibles, accountants, managers and investors will always grapple with the problem that while some intangible assets are on the balance sheet – others are not. One way to capture those assets that do not meet the criteria to be on the balance sheet is through disclosure. Hence, we witness renewed calls from management, corporate governance, the political economy and the legal disciplines to disclose rather than account for intangibles (Skinner, 2008; Dumay and Guthrie, 2019; Monciardini, 2016). Pointing the way forward, Dumay (2016) differentiates between reporting and disclosure – two terms researchers often use interchangeably. According to Dumay (2016, p. 178), disclosure is "the revelation of information that was previously secret or unknown", while reporting is a "detailed periodic account of a company's activities, financial condition and prospects that are made available to shareholders and investors".

The recent European Union Directive 2014/95 (the Directive) on non-financial and diversity information issued by the European Parliament aims to establish the mandatory "disclosure of non-financial information (NFI) in respect of certain large undertakings [which] is of importance for the interests of undertakings, shareholders and other stakeholders" (European Union, 2014). The Directive makes non-financial reporting mandatory in Europe, which should escalate interest in extending our knowledge of mandatory corporate reporting. Some early studies have already examined how the Directive relates to IR (Guthrie *et al.*, 2017), the International Integrated Reporting Framework (Dumay *et al.*, 2017) and management accounting practices (Wagenhofer, 2016).

Certain authors, such as La Torre *et al.* (2018), say it is an old-fashioned policy even though the Directive will increase disclosures on intangible assets. They point out that this is the digital era. Yet, the EU's policies are still anchored to static, traditional, periodic reporting practices. They call for academics and others to develop new ways of disclosing information by exploring opportunities based on the latest technologies (La Torre *et al.*, 2018; Garanina *et al.*, 2021b).

As a remedy, some researchers see the wider adoption of integrated reporting as a promising way forward. Integrated reporting allows companies to identify and disclose their non-balance sheet intangibles and how they create value more completely Adams *et al.* (2016), Melloni *et al.* (2017). Integrated reports allow for disclosing social investments, non-traditional capitals, strategies, business models and future-oriented information. So, while integrated reporting is a way forward, it has also been heavily criticised by academics because it does not include the types of intangibles that focus on sustainability (Flower, 2015). Rather, IR is overtly rhetorical in pursuing stock market capitalism and seeking financial sustainability instead of social and environmental sustainability (La Torre *et al.*, 2020).

The IIRC and the Sustainability Accounting Standards Board (SASB) recently merged into a new unified organisation called the Value Reporting Foundation (VRF), which then subsequently was absorbed by the IFRS Foundation to create the International Sustainability Standards Board (ISSB) (IFRS, 2022). This merger is part of a wide consolidation of reporting frameworks. For some, this merger has resulted in a more credible international organisation. The IFRS, through the ISSB, maintains the International Integrated Reporting Framework, advocates integrated thinking and sets sustainability standards for disclosing value creation. The merger directly responded to calls from global investors and corporates to simplify the corporate reporting landscape and provide the market with a clear solution for communicating which elements of an enterprise's performance drive value.

The recent changes by the ISSB up to June 2023 mark a new step toward integrating ESG disclosures and financial reporting. The ISSB issued its first two IFRS Sustainability Disclosure Standards, IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures. IFRS S1 prescribes how companies prepare and report their sustainability-related financial disclosures. IFRS S1 sets out the general requirements for a company to disclose information about its sustainability-related risks and opportunities that is useful to users in making decisions relating to providing resources to the company. IFRS S2 Climate-related Disclosures sets out the requirements for a company to disclose information about its climate-related risks and opportunities.

The Chairs of the IASB and the ISSB have jointly discussed their plans for a future role in the governance and development of the VRF's integrated reporting framework and integrated thinking principles. Their joint statement outlines that an integrated approach involving their two organisations would enable a connected, holistic and cohesive corporate reporting that helps to embed sustainable business practices into organisations. Thus, concern for intangibles is expanding to a wider audience and moving beyond financial accounting. This concern stretches beyond merely how intangibles create value but how they are also part of a firm's overall risk and reward framework. Future outlooks on a firm's longevity and viability include a greater focus on social and environmental sustainability to help deliver economic sustainability.

4.3 Potential research directions on intangibles

The purpose of this study was to recap the most important developments of the research and practice of intangibles accounting from 2000 onwards and identify the current challenges and future research opportunities. The study was inspired by a seminal literature review by Cañibano *et al.* (2000), which recapped the pre-2000s literature on accounting for intangibles and recommended adding relevance and transparency to intangibles' measurement and

reporting. Based on this study, many of the open research questions presented by Cañibano *et al.* (2000) remain unanswered more than 20 years later. Despite some developments in accounting standard revision and harmonisation, the current accounting standards have not changed the recognition rules significantly concerning how to include intangible assets on the balance sheet. However, with a renewed focus on conservatism in accounting, we argue the situation is unlikely to change soon, and we are sure the debate will rage on.

We expect scholars who are proponents of different aspects and issues relating to intangibles, especially those who continually call for changing recognition rules, to maintain their rage and push for their agendas. At conferences and in articles, we have observed some academics who unquestioningly support changing recognition rules, who are emotive and blinded by their one-eyed views. From a critical thinking perspective, this is called a "dominance structure", and it hinders critical research because it pushes one view forward without being open to other solutions (see Facione, 2020, p. 22). We have identified that the research into amortisation and impairment, R&D, advertising and patents is still interesting to researchers and practitioners but seems unlikely to force any significant changes to recognition rules in accounting standards. So, rather than repeating a cacophony of calls for continued research into changing the recognition rules to account for intangibles, the real issues researchers should focus on must be based on the current context.

First, we recommend that researchers follow the calls from standards-setting organisations such as the IASB, IFRS and EFRAG for guidance on the issues needing to be addressed by future research. Here, the emphasis is on disclosing more information to investors and other stakeholders. So, research investigating disclosure rather than reporting or accounting for intangibles has relevance. That way, scholars can engage with contemporary issues and concerns rather than continuing with research that might not influence future changes to accounting standards and practices.

Second, the most prominent discovery is that we are now observing how the non-financial issues being considered by organisations are reaching beyond the valuation of intangibles. Since we started to write this article, many unexpected events have altered how we think about companies and their ability to create value. The COVID-19 pandemic has shattered our beliefs about what is normal. Concerns related to the financial implications of climate change are also becoming more prominent and have seen the merger of several reporting frameworks under the auspices of the IFRS and the emergence of new sustainability accounting standards. As Dumay *et al.* (2020, p. 1) ask: "How can accounting for [intangibles] improve people's lives beyond making them wealthier?"

This question brings us back to the quote cited at the beginning of the paper, which questions the impact of accounting for intangibles on "ordinary people". The answer is "not much" because the recognition debate is technical rather than a social problem. However, that does not mean we should not rethink how intangible assets can contribute to a better society and environment beyond organisational boundaries. After all, there appears to be a consensus among accountants that intangibles add value and are hard to measure, but to whom and what do they add value, and what is the impact other than recognising something to amortise or impair? We should follow the advice of Dumay *et al.* (2018, p. 34), who outlined the impetus for the fifth stage of intellectual capital research: "Is managing [intellectual capital] a worthwhile endeavour? and ask," "Is accounting for intangible assets a worthwhile endeavour?" Thus, accounting scholars should take great interest in how the new ISSB sustainability reporting standards develop and their impact on investors to understand all value drivers, all the potential value destructors, and how companies can help to ensure the planet's long-term survival because, without this knowledge, organisations may not survive.

4.4 Limitations

This study is not without its limitations. First, we excluded research published elsewhere by limiting our sample to the top accounting journals based on Google Scholar Metrics. It focuses solely on the top accounting journals aimed to secure research with relevance, impact and quality. However, as is nearly always the case in a literature review, some potentially relevant, impactful and high-quality articles could have been overlooked. However, we do not believe this happened, and if it did, those few missed articles would not have altered our conclusions.

Note

1. IAS 38. Intangible assets. Available at: https://www.ifrs.org/issued-standards/list-of-standards/ias-38-intangible-assets/#about

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Corresponding author
Henri Hussinki can be contacted at: henri.hussinki@lut.fi

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