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What do we know about the Protection of Intangible Assets Abroad? A Future Research Agenda

Victor Hugo Ferreira Gonçalves
victor.hugo@coppead.ufrj.br
Federal University of Rio de Janeiro
Renato Dourado Cotta de Mello
Federal University of Rio de Janeiro

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Abstract

The article sought to explore how research on the protection of intangible assets has evolved, how important these assets and their protection are, and how this protection is being practiced by firms. The findings underscore the importance of intangible assets for firms in internationalization context, highlighting the need of conducting future studies that diversify, deepen, and integrate methodological approaches, research methods, theories, and contexts. Moreover, a structured look at the categorization of the variety of intangible assets was recommended, as well as a deeper look at the protection mechanisms used by firms, and the risks and threats to organizations arising from the failure to protect these assets. A research agenda around intangible assets protection was proposed, comprising the main insights and recommendations for future studies.

INTRODUCTION

In his pioneering work, Dunning (1977) developed the so-called Eclectic Paradigm based on three pillars: ownership (O), location (L), and internalization (I) — the OLI Paradigm. According to the author, if the company has ownership (O) advantages in relation to local companies, these advantages can result in facilitating both privileged access to a certain group of assets, which are not available to local competitors, and the ability to coordinate such assets across national borders, benefiting in comparison to its competitors. In addition, these assets can originate either from internal development or from acquiring other companies (Dunning, 1977).

Thus, companies seek in their internationalization a sequential path to exploit their ownership advantages, which can be classified into two main types: the properties of intangible assets and the know-how for coordinating their assets and operations (Dunning & Lundan, 1993, p. 75). It is evident, therefore, that the ownership dimension is paramount in the proposition of the Eclectic Paradigm as it allows, combined with the location advantages of host countries, new advantages, and competitive differentials to be internalized (Dunning, 1977, 2001). Also, authors point out that the international expansion of certain types of multinational companies can also be explained by having ownership advantages (Nguyen, 2020; McGaughey *et al.*, 2020; Yoo & Reimann, 2017), placing this construct as an important variable regarding the internationalization process of companies.

Several authors summarize the importance of firm-specific assets (FSAs) for internationalization theories (Prud'homme & Tong, 2024; Cui *et al.*, 2022; De Beule & Duanmu, 2012), highlighting how exploiting FSAs such as intangible assets, managerial resources, and a company's competitive advantages are key elements in the process of expanding firms abroad. In fact, ownership advantages are even equated with FSAs, both of which are used synonymously in certain studies (Narula *et al.*, 2019; Narula, 2012).

Specifically dealing with intangible assets, there is no universally accepted definition or consensus in business literature due to the diverse nature of this (Nichita, 2019). Despite this, this type of asset typically has characteristics such as their distinctiveness (i.e., unique resource of the firm), being identifiable, without physical substance, non-monetary, and transferable (Das, 2024; Contractor *et al.*, 2016). This scenario around intangible assets even allows a direct association with the Resource-Based View (RBV) theory. From the VRIN perspective (Barney, 1991), the "valuable, rare, inimitable and non-substitutable" characteristics are in line with

the typical definitions of this type of assets, and it is not uncommon for studies to classify intangible assets as crucial in providing competitive advantage under the RBV framework (Salsabila *et al.*, 2022; Serafini, 2022).

In line with such theories and reinforcing the importance of these assets for the international business of small and medium enterprises, Oviatt and McDougall (1994) highlighted in their seminal article four necessary and sufficient elements for the sustainability of international new ventures (INVs). Among these elements, unique resources (such as intangible assets) become vital resources for creating competitive advantages in an international environment. The authors highlight the importance of keeping such assets protected since they can very easily lose their distinctiveness due to the risks of dissemination, imitation, and development of substitutes. The authors also highlight four conditions that support the limitation of access to knowledge: the direct maintenance of property (e.g., patents, copyrights, trade secrets), imperfect imitation, licensing of knowledge, and the use of network governance structures.

It appears, therefore, that intangible assets are important elements at different moments of a business from its inception to its operation, and when determining new strategic directions for organizations such as exploring markets abroad. And as a valuable asset for internationalizing firms, its protection becomes a strategic action on the part of companies. Given this scenario, the main objective of this study is to understand the defense landscape of intangible assets and how researchers can add to international business literature and ensure better exploration of the topic. To achieve this objective, the following review question was formulated: **"What do we know about the protection of intangible assets in the international business context and how can we go further?"**.

To help identify the main currents of thought that deal with the protection of intangible assets and which themes are related to them and answer this review question, the following supplementary questions (SQ) in the context of international business were formulated:

(SQ1): How has the research on intangible assets protection evolved in international business literature?

(SQ2): How important are intangible assets and their protection to internationalized organizations?

(SQ3): How are intangible assets being protected by internationalized organizations (if at all)?

(SQ4): How can researchers enhance international business literature and ensure better exploration of the topic of intangible asset protection?

This review contributes to the field of international business in different ways. Firstly, the main scientific papers were screened and analyzed based on quality criteria, resulting in a general description of the existing literature. Secondly, an analysis of the main focal topics identified was performed, enabling the identification of research insights. Finally, a research agenda was proposed, supporting the future entry of other researchers into this field and the exploration of the topic.

This article is organized as follows: in addition to this introduction, the second section presents the details of the methodology used for the systematic review of the literature followed by presenting the main findings, and finally the conclusions, recommendations for future research and limitations of this study.

METHODS

As this study has an exploratory nature and aims to conceptually contribute to the literature and develop a particular research topic through the search of bibliographic evidences, the literature review is an approach considered adequate to the needs of this study for helping to "understand what kind of methods have already been used and what theoretics approaches and constructs have already been applied" (Paul & Criado, 2020, p. 2) by scholars, as well as helping to identify research gaps based on the information compiled (Paul *et al.*, 2021).

Thus, this study searched for peer-reviewed articles published between 1994 and 2024 with the objective of identifying the studies that dealt with the topic of assets protection abroad, submitting them to a critical analysis and discussion, while also seeking theoretical and empirical gaps in literature to recommend future studies that can be carried out by scholars (Paul *et al.*, 2021). The systematic literature review protocol (Briner & Denyer, 2012) was structured as follows:

Define the Review Question to be Answered

For this study, the review question to be answered is "*What do we know about the protection of intangible assets in the international business context and how can we go further?*". In a complementary manner, sub-questions were formulated to assess the importance and evolution of the research topic in international business literature, its practical application in business, and how researchers can better explore the topic from a scientific perspective, as exposed in the introduction of the article.

Define and Validate Keywords for Data Search

Once the research question is defined, different keywords related to the constructs that revolve around the theme made it possible to be lifted by the researchers. Some good practices were implemented to formulate effective search terms that are consistent with the research questions, such as carrying out brainstorming sessions with the research team (Paul *et al.*, 2021), doing an exploratory and unstructured review of existing literature, and consulting supervisors and academic peers for suggestions and evaluation of search terms (Siddaway *et al.*, 2019).

The keywords of greater relevance identified as appropriate for the review were synthesized into keyword groups (KGs) for the research based on their similarity, purpose, and/or objectives. Once the groups of keywords were defined, different strategies were combined using Boolean operators and truncation to maximize the identification of bibliographic references aligned with the research objectives, as shown in Table 1 (Paul *et al.*, 2021).

TABLE 1 Keywords groups (KGs)

#KG	Keywords and the use of Booleans Operators	Objectives
1	(“international new venture*” OR "INV" OR "international compan*" OR "international business*" OR “born global*” OR "born digital*" OR "multinational enterprise*" OR "MNE" OR "multinational corporation*" OR "MNC" OR "multinational firm*" OR "global firm*" OR "global venture*" OR "global enterprise*" OR "foreign subsidiar*")	To find papers related to internationalized firms and new ventures
2	("unique resource*" OR "intangible asset*" OR "digital asset*" OR "valuable knowledge" OR "valuable asset*" OR "knowledge based" OR "firm specific" OR "FSA")	To find papers related to intangible assets and key resources for firms
3	(protect* OR “keep property” OR limit* OR control* OR inhibit* OR defen* OR guard OR mitigat* OR safeguarding OR security OR licens* OR outsourc*)	To find papers related to expressions linked to protection
4	(patent* OR copyright* OR “trade secre*” OR “intellectual propert*” OR “industrial propert*” OR trademark* OR goodwill* OR "industrial design*" OR "geographic* indication*" OR "utility model*")	To find papers related to the typical forms of asset protection

Define and Execute Data Search Strategies

Web of Science (WoS) and Scopus databases, as recommended by Kumpulainen and Seppänen (2022) and Pranckuté (2021), were used for systematic literature reviews and were used in this study due to their comprehensive access to indexed peer-reviewed journals, a wide range of high-quality scientific articles, and the availability of advanced features that enhance the quality and efficiency of research. Also, the combination of data from both databases can lead to more robust and unified datasets for analysis and ensure the reliability of the data used in systematic reviews (Kumpulainen & Seppänen, 2022).

With the association of the two biggest and most complete existing scientific databases (Chadegani *et al.*, 2013), a strong coverage of academic journals is ensured besides the benefit of using features such as advanced searches, filter by quality parameters (e.g., impact factor and h-index), and segmentation of results in a structured way (Chadegani *et al.*, 2013). Table 2 summarizes the quantitative results of the applied search strategies.

TABLE 2 Search strategies

Search Strategies	Objectives	Search Date	WOS Results	Scopus Results
#1 AND #2 AND #3	Identify studies that cite the protection (as an expression) of assets and resources of internationalized companies or new businesses	01/08/2024	410	354
#1 AND #2 AND #4	Identify studies that cite the typical forms of protection of assets and resources of internationalized companies or new businesses	01/08/2024	137	101
(#1 AND #2 AND #3) AND (#1 AND #2 AND #4)	Identify studies most likely to address asset protection in internationalized companies by combining both search strategies	01/08/2024	74	49

The search strategies were reproduced in the WoS and Scopus databases within the title, abstract, and keyword fields ("TS" and "TITLE-ABS-KEY" advanced search field labels, respectively)

Apply Selection Criteria for Initial Screening of Identified Articles

Selection and quality criteria were used in the first screening (Paul & Criado, 2020) considering only scientific articles from peer-reviewed journals. The review excluded publications from events, book chapters, and other types of references and grey literature in general, due to the lack of rigor in the review process under which they were submitted (Lopez-Morales, 2018). Other selection criteria used refer to the quality of the journals, in which only journals with an impact factor (IF) greater than 1.5 were considered, plotting an IF above a given threshold to increase the chances of identifying potential sources for review (Paul & Criado, 2020).

Another criterion commonly used in systematic reviews is the time coverage (Siddaway *et al.*, 2019). For this review, articles published from 1994 - the year of publication of the seminal article by Oviatt and McDougall (1994) that anchors the theoretical foundation of this paper - to 2024 (until August) were considered.

Perform Intermediate Screening of Remaining Articles Based on Titles, Abstracts, and Keywords

Among the articles that met the established selection and quality criteria, an intermediate screening was performed based on the information contained in titles, abstracts, and keywords to ensure alignment between the review question and the research topic. This screening process was conducted by both authors of this

review article to carefully inspect the search results and perform a better selection of papers in line with the best practices (Siddaway *et al.*, 2019).

Conduct In-Depth Analysis of Selected Articles

The step of in-depth analysis of the remaining articles consisted of the individual evaluation of each paper identified so that highlights and observations were generated for later integrated analysis.

An analysis was also conducted during this stage to critically assess whether the methods chosen and the results obtained were appropriate (Briner & Denyer, 2012). In addition to methodological rigor, other quality criteria for the studies were observed such as their clarity and coherence and the theoretical and practical importance of the research, ensuring their eligibility for inclusion (Briner & Denyer, 2012).

Promote an Integrated Analysis of Selected Articles

After the final screening of the articles identified and their reading, an integrated analysis of the data collected was performed. This holistic critical analysis allowed generating inputs and insights for the discussion, conclusions and final recommendations of the systematic review carried out.

The flow diagram in Figure 1 shows the evolution of the selection and screening of the described process, as well as the final quantitative results of the screening of articles identified in this systematic review.

RESULTS

To present the results obtained through the integrated analysis of the articles in the final sample, the four supplementary questions that support the review question were used as guidelines:

Research on the Protection of Intangible Assets

After the selection criteria and screening, 41 unique articles were selected as the final sample resulting from the search strategies implemented from an initial sample of 100 unique articles. Figure 2 illustrates the evolution of publications over more than 30 years, indicating a positive but irregular growth in scientific production on the topic. The difference between the samples reveals a careful filtering of the most relevant articles, while the positive behavior of the trendline suggests that the topic is gradually gaining importance in the scientific scenario.

The articles that make up the final sample were published in 28 journals (listed in Table 3) that meet the quality criteria determined by the methodology of this article. The 10 journals with the highest impact factors in this list comprise 51.2% of the articles in the final sample (21 articles), among them journals that are widely relevant in the scientific bibliography of international business, such as the Journal of International Business Studies, the Strategic Management Journal and the Global Strategy Journal. In this way, although it is not possible to attest to any statistical correlations, it is possible to infer that the context of intangible asset

protection, to some extent, has already been a topic of interest from some perspective for major journals in the field.

TABLE 3 Volume of articles selected by journal

Journal title	Selected Articles	Journal title	Selected Articles
Journal of International Business Studies	7	Journal of International Management	1
Strategic Management Journal	4	Review of International Political Economy	1
Global Strategy Journal	3	Industry and Innovation	1
Managerial and Decision Economics	2	Minnesota Law Review	1
Multinational Business Review	2	Journal of Multinational Financial Management	1
International Business Review	1	European Management Journal	1
Research Policy	1	Journal of Asia Business Studies	1
Industrial Marketing Management	1	Journal of International Economics	1
Journal of Intellectual Capital	1	Journal of Public Economics	1
Journal of World Business	1	International Economics	1
Journal of Business Research	1	International Journal of Learning and Intellectual Capital	1
Journal of Technology Transfer	1	Review of World Economics	1
International Journal of Entrepreneurial Behaviour and Research	1	Canadian Journal of Economics-Revue Canadienne D'Economique	1
Corporate Social Responsibility and Environmental Management	1	Current Science	1

Diversifying methodological approaches in scientific literature is crucial for enhancing the robustness, applicability, and inclusivity of research findings (Keestra, 2024). The results show that the final sample has low methodological diversity, being mostly composed of quantitative studies (24 articles - 58.5%), followed by conceptual studies (eight articles - 19.5%), qualitative studies (six articles - 14.6%) and mixed methods studies (three articles - 7.3%). Regarding the research methods used, in the quantitative amount there is a good diversity, with emphasis on data analysis (45,8%), regression approaches (41,7%) and statistical approaches (41,7%). In the qualitative papers, only case studies (66,7%) and content analysis (33,3%) were used as research methods. Further details on the methodological approaches and research methods used by the authors of the articles in the final sample can be found in Figure 3.

Regarding the theoretical landscape, the authors of the final sample used a wide range of theories. From knowledge management and institutional influence on internationalization strategies and intellectual property management, a holistic view of the theoretical framework adopted by the literature was summarized in the five groups of theories described in Figure 4. As expected, some of the main classical theories focused on intangible assets (e.g. Resource-Based View - RBV, Intellectual Property Rights Theories - IPR, Knowledge-Based View - KBV,) and on the field of international business (e.g. Eclectic Paradigm – OLI Model, Internalization Theory, Firm-Specific Assets - FSA) were used, however, no specific theory stands out as being more frequently referenced.

A high diversity of intangible assets was mentioned by the authors of the selected articles, resulting in a list of more than 100 types. These assets were categorized based on their characteristics and similarities, so that it was possible to synthesize them into four main groups as described in Table 4. The dataset reveals distinct groups of intangible assets, each with unique characteristics and contributions to organizational strategy and competitive advantage, and this categorization can aid in strategic decision-making, focusing on leveraging specific intangible assets for innovation, market presence, and organizational growth.

TABLE 4 Categorization of the types of intangible assets mentioned by the authors in the final sample

Group title	Description	Examples of mentioned Intangible Assets
Intellectual Property and Technological Assets	Brings together intangible assets related to intellectual property and innovation-based resources in general, giving organizations exclusive rights, legal protection, competitive advantage, and value capture through innovation	Patents, Technological Knowledge, Copyrights, Production Processes, R&D Capabilities, Data, Goodwill, Trade Secrets
Brand and Market-Related Intangible Assets	Includes intangible assets related to brand identity, brand equity, trademarks, and market presence. These assets are crucial for maintaining market advantage and differentiation, customer loyalty and a valuable strategic position	Trademarks, Brand Identity, Organizational Capabilities, First-mover Advantages, Market Presence, Territorial Capital
Human and Organizational Capital	Groups intangible assets focused on human and organizational elements that are essential for effective management, strategic decision-making, organizational efficiency and learning, and internal cohesion	Human Capital, Managerial Expertise, Cultural Knowledge, Organizational Identity, Trust, Corporate Incentives
Relational and Political Capital	Synthesizes intangible assets that are crucial for building relationships, managing stakeholder expectations, giving access to resources and external knowledge, and navigating complex political environments through collaboration	Internal Collaboration and Knowledge Networks, Social and Relational Capital, Reputation, Global Value Chains, Customer Lists

Importance of Intangible Assets

In general, authors agree on the importance and value of intangible assets in the internationalization process of firms and new ventures. In different ways, the identified studies demonstrate that intangible assets are not

merely supplemental to organizational operations but are central to competitive advantage, organizational strategy, innovation, and global strategy success.

The intangible assets are positioned as central pieces to securing a firm's competitive advantage and enhancing market positioning. Zhang and Jiang (2018) emphasize that intangible assets are fundamental in protecting proprietary knowledge and ensuring returns on innovation investments. This is particularly salient for firms in developing economies that rely on knowledge-based assets to achieve global competitiveness, as illustrated by Yoo and Reimann (2017).

Regarding the decision-making process, the ownership of robust intangible assets influences firms' international market entry strategies. Chang *et al.* (2012) found that firms with substantial intangible resources tend to favor wholly owned subsidiaries over joint ventures to protect their proprietary knowledge. Similarly, Gattai and Molteni (2007) observed a strong preference for foreign direct investment (FDI) as a mechanism to safeguard knowledge from spillover risks, further highlighting the strategic importance of these assets in international operations.

Intangible assets are also deeply intertwined with innovation and organizational growth. De Faria and Sofka (2010) demonstrate that effective protection mechanisms for these assets encourage greater investment in research and development, fostering innovation. Furthermore, patents, as key intangible assets, facilitate technological transfer and contribute to socio-economic advancement, as highlighted by Singh and Chakraborty (2019).

Risk management is another critical dimension, as the safeguarding of intangible assets requires robust intellectual property rights (IPR) frameworks. Prud'homme and Tong (2024) underscores the role of IPR in providing firm-specific advantages, while Berry (2017) points to expatriates' contributions in protecting knowledge assets in jurisdictions with weak IP systems.

Economically, intangible assets generate significantly higher returns than tangible assets, underscoring their strategic value in global value chains (Buckley *et al.*, 2022). However, their effective management and protection are essential to capture these economic benefits and sustain a competitive edge. Yet, organizations face challenges in protecting these assets, particularly in navigating complex regulatory landscapes. The risks of knowledge dissipation, as noted by Hennart (2012) and Kukharskyy (2020), highlight the need for robust strategies to ensure their preservation and utilization.

Considering that diversity contributes positively to the epistemological and ontological processes of research and, consequently, to the robustness of scientific results (Keestra, 2024), the final sample demonstrated a good variety of research contexts involving intangible assets, although there is still room for greater variety and volume of studies. The selected articles explored different contexts regarding institutional environments, sectors and industries, decision making, and political and socio-economic aspects.

Institutional environments refer to the rules, norms, and structures that govern the behavior of organizations, affecting companies' decisions and performance, especially in an international context. Amankwah-Amoah *et al.* (2022), Kukharskyy (2020) and De Beule and Duanmu (2012) approached the structure and degree of development of formal institutions and environments regarding the protection of IPR. Also, Nguyen (2020) and

de Faria and Sofka (2010) debate about the development of public policies aimed at incentive, developing, and protecting intangible assets, while Cui *et al.* (2022) and Berry (2017) discusses the private corporate standards and policies, and the innovation progress in the context of business internationalization.

Some sectors and industries have contextualized the discussion on intangible assets. The final sample focuses mainly on the pharmaceutical industry, such as Yan *et al.* (2022), that examined the internal network structures for IPR protection, Brajcich *et al.* (2016), that discussed resource shifting, and Kale and Wield (2008), that focused on patent laws. Other sectors and industries were also mentioned, like Chatterjee (2016) emphasizing the value of human capital in the IT services sector, Kukharskyy (2020) using data from industrial companies to study the relationship between headquarter intensity and "make-or-buy" decisions, and Barzotto *et al.* (2016) conducting a case study on ten multinational manufacturing companies, investigating the relevance of territory assets for firms.

The way companies make decisions about entering international markets, choosing entry modes, and operation and expansion strategies was also approached. Chen *et al.* (2012) explored the choice between FDI and outsourcing based on intangible assets and, in a similar way, Veugelers (1995) discussed the role of this type of assets in foreign production and in FDI, and Yoo and Reimann (2017) analyzed the search for assets as a factor in FDI location decisions. The role of the company's capabilities and resources in the decision-making and performance of internationalization is addressed in some articles, like the proposition of Wu *et al.* (2019) that innovation performance in emerging market multinational enterprises is influenced by their resources and capabilities, and the assessment of Buckley *et al.* (2020) that firm knowledge is an important part of the evolutionary process of multinational firms.

The impact of political and socioeconomic factors on companies' activities was also explored by authors. Amankwah-Amoah *et al.* (2022) investigated MNE subsidiaries in sub-Saharan Africa and their political networking capabilities as a valuable intangible asset for success abroad. Wu *et al.* (2019) examine how market maturity affects the innovation performance of EMNEs.

Finally, the political and socioeconomic factors from emerging countries and their impact through intangible assets has shown to be a growing context. Nguyen (2020) focused on trademarks and IPR protection in Vietnam. Zhang and Jiang (2018) studied MNCs and their subsidiaries particularly in the context of foreign-owned R&D centers in China. Yoo and Reimann (2017) discussed the role of IPR protection in FDI from developing to developed countries, while Minutiello *et al.* (2023) investigated the quality of intellectual capital disclosure within integrated reporting frameworks on dozens of companies from up to 15 countries such as China, Singapore, Japan, Sri Lanka, and Russia. In general, studies approached the adoption of different corporate strategies based on the context of the emerging country, the impact of the protection of intangible assets on FDI inflows in emerging economy countries, and the comparison between advanced and emerging economies and their institutional structures.

Protection Mechanisms

As previously highlighted, given the importance of intangible assets for the success of firms in international markets, different protection mechanisms for this type of asset were reported. As expected, the most cited

mechanisms were the use of legal and regulatory methods, such as patents, copyrights, trademarks, and industrial designs. Several authors reinforce that this type of mechanism is fundamental for safeguarding intangible assets, preserving the intellectual property rights of organizations in different scenarios and applications (Buckley *et al.*, 2022; Cui *et al.*, 2022; Nguyen, 2020; Dischinger & Riedel, 2011; Aulakh *et al.*, 2010). Also, de Faria and Sofka (2010) complement such importance with the fact that firms may use patents as a strategic weapon to deter competitors or signal value to investors.

Organizational strategies - methods that involve strategic protection mechanisms and organizational processes and actions to protect intangible assets without direct legal enforcement – were also mentioned by authors. Towards trade secrets, Klein (2023) explores the trade secret protection offering wage premiums to prevent employee misappropriation, while Lee (2023) discusses the role of strong legal protection for trade secrets as a mechanism for promoting technology transfer, safeguarding confidential information from unauthorized use. Chang *et al.* (2012) approached the use of specific entry modes for protection, in which the use of wholly owned subsidiaries instead of joint ventures could reduce the risk of free riding and opportunistic behavior from local partners. In turn, de Faria and Sofka (2010) explore the lead time as a protection mechanism, since being first to go to market with a new product or service will guarantee an advantage over competitors.

Some alliances and networking strategies were reported, such as political networking capabilities and collaboration with local authorities. Amankwah-Amoah *et al.* (2022) explore a case where MNE subsidiaries develop political networking capabilities to institutionalize protection for intangible assets in weak institutional environments. Also, Nguyen (2020) discusses MNEs engagement with local legal firms and government bodies to resolve trademark issues and enhance their protection strategies. Cui *et al.* (2022) found that interfirm research and development (R&D) alliances are identified as a key mechanism through which firms cooperate to create and protect knowledge, while also managing the risks of opportunism.

Finally, contextual strategies described as intangible assets protection mechanisms were identified. This result was already expected, since the dataset reveals a wide array of contexts and objectives, and naturally the protection mechanisms and strategies would reflect this complexity and variability. For example, Prud'homme and Tong (2024) emphasize the importance of legal astuteness in navigating the complexities of the variety of IPR protection methods and their application contexts. In turn, Nguyen (2020) presents four strategic mechanisms for protecting intangible assets that will adapt to the firm's context (defensive weapon strategy, networking means, proactive strategy, and trademark planning, implementation, and control).

Following the study and debate on defense mechanisms for intangible assets, several risks and threats to organizations and their cross-border strategies due to the exposure and lack of protection of intangible assets were listed in the final sample. For example, the counterfeiting and infringement of intellectual property rights (IPR), that involve unauthorized use or reproduction of a company's intangible assets such as trademarks, patents, or copyrights, can lead to financial losses, brand dilution and overcoming of competitors (Amankwah-Amoah *et al.*, 2022; Cui *et al.*, 2022; Nguyen, 2020; Roster, 2014).

Another negative consequence to organizations due the non-protection of intangible assets is the misappropriation (Kukharskyy, 2020; Yoo & Reimann, 2016; Dischinger & Riedel, 2011) and leakage (Cui *et al.*, 2022; Berry, 2017; de Faria & Sofka, 2010), that refer to the unauthorized access and use of confidential

information, trade secrets, and proprietary knowledge by employees, partners, or competitors, leading to competitive disadvantages and loss of proprietary knowledge. For example, Lee (2023) emphasizes the importance of internal controls to prevent information leakage, suggesting that organizational structures can safeguard trade secrets. Berry (2017) highlights the role of home country expatriates in protecting parent firm knowledge from unintended spillovers in countries with weak IP protection.

The opportunisms in inter-firm cooperation and toward competitors was also mentioned by few authors (Cui *et al.*, 2022; Roster, 2014; Aulakh *et al.*, 2010), that describe it as the opportunistic behavior by partners, suppliers, or other firms within a value chain, who might take advantage of an organization's vulnerabilities to exploit shared knowledge or resources for their own benefit, potentially leading to conflicts and loss of competitive edge. To illustrate it, Cui *et al.* (2022) notes that interfirm R&D alliances must manage the risks of opportunism while promoting knowledge sharing, meanwhile Aulakh *et al.* (2010) emphasizes the need for monitoring and control mechanisms in international technology licensing agreements.

Finally, the lack of protection of intangible assets generates negative consequences for firms such as the dissolution of the value of their assets (Amankwah-Amoah *et al.*, 2022; Buckley *et al.*, 2022; Roster, 2014). This encompasses the general erosion of the value of intangible assets due to inadequate protection, leading to a decrease in competitive advantage, market share and profitability (Berry, 2017; Yoo & Reimann, 2016). A good example of value dissolution is provided by Hennart (2012), that suggests that weak intellectual property protection can reduce the bargaining power of technology developers, impacting the value of intangible assets.

The diversity regarding the identified defense mechanisms, risks and threats highlights that protecting intangible assets requires a multifaceted strategy that includes formal legal protections, strategic organizational practices, and other protective mechanisms. Different contexts, such as the home/host country's institutional environment, firm size, industry and sector, the competitive landscape, and the nature of the firm's intangible assets, will favor the occurrence of certain undesirable consequences for organizations while influencing which mechanisms are most suitable.

International Business Literature Enhancement

Some articles in the final sample explicitly mention suggestions for future research involving the protection of intangible assets, and others address the topic of intangible assets in general, even if not necessarily focusing on their protection. These suggestions are diverse, covering distinct types of assets, contexts, and protection mechanisms, and they can be synthesized in five groups (summarized in Figure 7): protection in weak environments, networks and connectivity, variety of intangible assets, international expansion strategies, and knowledge exploration.

Some authors suggest that future research should explore how firms can protect their intangible assets in environments with weak formal institutions and IPR protection, such as developing/emerging countries (Li *et al.*, 2024; Amankwah-Amoah *et al.*, 2022; Zhang & Jiang, 2018). Prud'homme and Tong (2024) propose research on dynamic strategies for MNEs to leverage intellectual property rights in markets with weak property rights regimes. Berry (2017) suggests that the role of expatriates in protecting firm knowledge in

countries with low IPR protection must be better investigated. Wu *et al.* (2019) argues that it is also relevant to study how emerging market companies (EMNEs) market their products in developed markets.

It is highlighted by some authors the importance of analyzing how a firm's internal and external networks affect intangible assets protection. For example, Yan *et al.* (2022) suggest studying how firms can use their internal networks to protect knowledge, and how reshaping these networks can impact protection. Additionally, authors also indicate that networks of relationships with different political actors should be further studied to protect intangible assets in weak institutional environments (Amankwah-Amoah *et al.*, 2022; Yan *et al.*, 2022). Singh and Chakraborty (2019) suggest that future research could investigate the qualitative characteristics of interfirm connections.

Some studies propose that future research should go beyond the most analyzed types of intangible asset (e.g. technological knowledge) to examine how firms protect other types of assets, such as organizational knowledge, human capital, and relational capital (Li *et al.*, 2024; Zhang & Jiang, 2018). Another suggestion is made by Minutiello *et al.* (2023) and Chatterjee (2016) to investigate how firms protect other types of intangible assets and their outcomes, for example the impact of investments in human capital and the quality of disclosure of these assets.

There are suggestions to explore how intangible assets protection affects firms' international expansion decisions and strategies (e.g. entry mode choices, foreign operation strategies). It is suggested to examine how patent uncertainty affects firms during internationalization, especially for emerging market enterprises (EMNEs) (Li *et al.*, 2024; Yan *et al.*, 2022; Yang, 2012). Cui *et al.* (2022) proposes a multilevel approach to studying IPR in international business, focusing on the interplay between firm-level strategies and country-level challenges. Also, Yang (2012) suggests analyzing the role of complex contractual mechanisms in knowledge transfer decisions.

The importance of knowledge exploration and organization absorptive capacity is mentioned as an important topic for future research. Berry (2017) suggests that the role of absorptive capacity in knowledge transfer from parent companies to their foreign operations should be better investigated. In an equivalent way, Wu *et al.* (2019) proposed to explore how absorptive capacity of firms moderates the relationship between institutional environment and innovation performance.

The synthesis of suggestions for future research of the final sample indicates that the study of intangible asset protection is a complex and dynamic field with many opportunities for future research. This variety of suggestions reflects the need for a multidisciplinary approach that combines theory, empirical analysis, and a deep understanding of institutional and organizational contexts. It is worth noting that, although this section condenses the results of the main suggestions for future studies given by the final sample around the theme of intangible asset protection (Figure 7), a structured future research agenda will be presented after the critical analysis carried out by the authors of this systematic review in the discussion section.

Table 5, attached, groups some of the main information about the articles in the final sample. This table synthesizes the authors of the articles, the year of publication, the articles title, the methodological approach used, the group of types of intangible assets mentioned, and the academic journal where it was published.

TABLE 5 Final sample - Identified studies analyzed in-depth

Authors	Publication year	Article title	Methodological approach	Groups of intangible assets	Journal title
Amankwah-Amoah *et al.*	2022	Institutionalization of protection for intangible assets: Insights from the counterfeit and pirated goods trade in sub-Saharan Africa	Qualitative	Intellectual Property and Technological Assets	Journal of World Business
Aulakh *et al.*	2010	International technology licensing: Monopoly rents, transaction costs and exclusive rights	Mixed-method	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Business Studies
Barzotto *et al.*	2016	Territorial capital as a company intangible: Exploratory evidence from ten Italian multinational corporations	Qualitative	Intellectual Property and Technological Assets	Journal of Intellectual Capital
Berry and Kaul	2016	Replicating the Multinationality-performance relationship: Is there an s-curve?	Quantitative	Intellectual Property and Technological Assets, Relational and Political Capital	Strategic Management Journal
Berry	2017	Managing valuable knowledge in weak IP protection countries	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Business Studies
Brajcich *et al.*	2016	Do US pharmaceutical companies strategically shift income to international affiliates?	Quantitative	Intellectual Property and Technological Assets	Multinational Business Review
Buckley & Hashai	2020	Skepticism toward globalization, technological knowledge flows, and the emergence of a new global system	Conceptual	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets	Global Strategy Journal

Buckley *et al.*	2022	Rent appropriation in global value chains: The past, present, and future of intangible assets	Quantitative	Human and Organizational Capital	Global Strategy Journal
Chang *et al.*	2012	When do wholly owned subsidiaries perform better than joint ventures?	Quantitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Human and Organizational Capital	Strategic Management Journal
Chatterjee	2016	Strategy, human capital investments, business-domain capabilities, and performance: a study in the global software services industry	Mixed-method	Intellectual Property and Technological Assets, Human and Organizational Capital	Strategic Management Journal
Chen *et al.*	2012	Physical capital, knowledge capital, and the choice between FDI and outsourcing	Conceptual	Human and Organizational Capital, Brand and Market-Related Intangible Assets	Canadian Journal of Economics-Revue Canadienne D'Economique
Cui *et al.*	2022	Towards integrating country- and firm-level perspectives on intellectual property rights	Conceptual	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Business Studies
De Beule & Duanmu	2012	Locational determinants of internationalization: A firm-level analysis of Chinese and Indian acquisitions	Quantitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Human and Organizational Capital	European Management Journal
de Faria & Sofka	2010	Knowledge protection strategies of multinational firms-A cross-country comparison	Quantitative	Human and Organizational Capital, Relational and Political Capital	Research Policy

Dischinger & Riedel	2011	Corporate taxes and the location of intangible assets within multinational firms	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Journal of Public Economics
Gattai & Molteni	2007	Dissipation of knowledge and the boundaries of the multinational enterprise	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Review of World Economics
Hennart	2012	Emerging Market Multinationals and the theory of the Multinational Enterprise	Conceptual	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Relational and Political Capital	Global Strategy Journal
Jiang *et al.*	2010	Research notes and commentaries alliance portfolio diversity and firm performance	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Strategic Management Journal
Kale & Wield	2008	Exploitative and Explorative Learning as a Response to the TRIPS Agreement in Indian Pharmaceutical Firms	Qualitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Industry and Innovation
Kim *et al.*	2009	Financial sector diversification and MNC valuation	Quantitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible	Journal of Multinational Financial Management

				Assets, Human and Organizational Capital, Relational and Political Capital	
Klein	2023	Trade secret protection, multinational firms and international trade	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	International Economics
Kukharskyy	2020	A tale of two property rights: Knowledge, physical assets, and multinational firm boundaries	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Economics
Lee	2023	An Organizational Theory of International Technology Transfer	Conceptual	Intellectual Property and Technological Assets, Human and Organizational Capital	Minnesota Law Review
Li *et al*.	2024	Patent uncertainty and survival: a longitudinal study of a Chinese knowledge-based international new venture	Qualitative	Human and Organizational Capital, Relational and Political Capital	International Journal of Entrepreneurial Behaviour and Research
Malkin	2020	The made in China challenge to US structural power: industrial policy, intellectual property and multinational corporations	Conceptual	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Human and Organizational Capital, Relational and Political Capital	Review of International Political Economy
McGaughey *et al*.	2020	Foreign influence, control, and indirect ownership: Implications for productivity spillovers	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Business Studies

Minutiello *et al.*	2023	The new challenge of integrated reporting: has it really improved corporate disclosure on intellectual capital?	Mixed-method	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets	International Journal of Learning and Intellectual Capital
Mzembe	2014	Doing Stakeholder Engagement Their own Way: Experience from the Malawian Mining Industry	Qualitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets	Corporate Social Responsibility and Environmental Management
Nguyen	2020	FDI inflows and intellectual property rights for MNEs in emerging markets: an alternative approach through the lens of trademarks in Vietnam (1986-2016)	Qualitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets	Multinational Business Review
Prud'homme & Tong	2024	Rethinking firm-specific advantages from intellectual property rights: Boundary conditions for MNEs	Conceptual	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Relational and Political Capital	Journal of International Business Studies
Roster	2014	Cultural influences on global firms' decisions to cut the strategic brand ties that bind: A commentary essay	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of Business Research
Scalera *et al.*	2017	Knowledge connectedness within and across home country borders: Spatial heterogeneity and the technological scope of firm innovations	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Journal of International Business Studies

Singh & Chakraborty	2019	Transfer of innovations: a case of working of patents in India	Quantitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets, Human and Organizational Capital	Current Science
Tan & Mahoney	2005	Examining the Penrose effect in an international business context: The dynamics of Japanese firm growth in US industries	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Managerial and Decision Economics
Veugelers	1995	Strategic incentives for multinational operations	Quantitative	Intellectual Property and Technological Assets, Brand and Market-Related Intangible Assets	Managerial and Decision Economics
Wakasugi & Ito	2009	The effects of stronger intellectual property rights on technology transfer: evidence from Japanese firm-level data	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of Technology Transfer
Wu *et al.*	2019	A contingent view of institutional environment, firm capability, and innovation performance of emerging multinational enterprises	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Industrial Marketing Management
Yan *et al.*	2022	Protecting intellectual property in foreign subsidiaries: An internal network defense perspective	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Business Studies
Yang	2012	Arm's length and captive transactions: Patent-based view	Conceptual	Intellectual Property and Technological Assets,	International Business Review

		of control in internationalization		Human and Organizational Capital	
Yoo & Reimann	2017	Internationalization of Developing Country Firms into Developed Countries: The Role of Host Country Knowledge-Based Assets and IPR Protection in FDI Location Choice	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital	Journal of International Management
Zhang & Jiang	2018	Patenting choices for valuable subsidiary inventions created in an uncertain and fast changing environment	Quantitative	Intellectual Property and Technological Assets, Human and Organizational Capital, Relational and Political Capital	Journal of Asia Business Studies

DISCUSSION

In a broad view, there is almost unanimous agreement that intangible assets are strategic pieces for companies in general, especially for firms in the internationalization process. This fact corroborates several internationalization and business theories that address intangible assets at some level, such as the OLI paradigm (Dunning, 1977), the RBV theory (Barney, 1991) and the INV theory (Oviatt & McDougall, 1994). In contrast to this importance, few articles in the final sample place the protection of intangible assets as a central agenda of their studies. In fact, some researchers of the international business field posit if intangible assets are fundamental drivers for the internationalization of firms. For example, Hashai and Buckley (2014) contrast the fact that the internationalization of companies is necessarily motivated by the search for assets and the exploitation of property advantages to obtain competitive advantages, a hypothesis that is complemented by Asmussen and Foss (2014) and Barney and Peteraf (2014). Therefore, the suggestions given by Oviatt and McDougall (1994) regarding the need for more attention and empirical research to better understand certain mechanisms for protecting intangible assets remain valid to this day.

The fact that little has been discussed on the subject until now raises a major question: if intangible assets are so valuable and the lack of its protection generates several risks and threats to organizations, why are there no more articles directly addressing the subject? More than that, what are the consequences for scientific literature and for organizations in practice regarding this lack of articles? Are there any relevant questions that are not being addressed? These central questions open room for diverse future research that uses them as a guide, validating that the topic has practical/market relevance while expanding the frontiers of scientific knowledge in the field.

Despite the limited volume of articles identified, some considerations can be made. When holistically analyzing the final sample, it can be stated that the watchword is diversification. A strong contribution will consist of the diversification of methodological approaches, given that approximately 58.5% of the articles use quantitative methods. Doing research based on other approaches (e.g. qualitative, mixed, conceptual) will guarantee greater richness to the literature (Keestra, 2024; Jungmann *et al.*, 2015). Regarding research methods, although quantitative studies have a good variety (Figure 3), a high concentration of case studies was identified (66.7%), and it is important to use other research methods in qualitative studies.

Diversification will also benefit the analysis of intangible asset protection in different research contexts. Although the final sample has a good diversification of contexts (Figure 5), it is important that the contexts already addressed are explored in depth, such as the context of emerging markets, that has resurfaced as a strong trend in the international business literature (Cuervo-Cazurra, 2012). It is suggested the exploration of new perspectives and scenarios that encompass different types of companies (e.g. traditional, innovative, multinational, startups), countries (e.g. developed, emerging, specific countries, global perspective, cultural distance), institutional characteristics (e.g. formal, informal, private, public, institutional distance), firms' solutions (e.g. services, products, digital solutions companies, sectors, industries) and other perspectives that allow a better understanding of how the protection of intangible assets can vary depending on the context.

On the other hand, the high diversity of intangible assets mentioned in the final sample highlights the need for a categorization that is widely recognized and adopted by the scientific community. The exercise of summarizing the types of intangible assets such as the one carried out in this article (Table 4) or other published categorizations (e.g. Sedelnikov, 2024) helps in understanding and managing intangible assets effectively within the strategic management process of enterprises while providing a new analytical lens for future research. Studies focused on the analysis of the wide variety of types of intangible assets (e.g. meta-analyses) and their consequent synthesis will enrich research on the mechanisms of protection of intangible assets.

Regarding the identified intangible assets protection mechanisms, IPR frameworks were the most addressed protection defense mechanism (as presented previously). Apart from these instruments, it is possible to state that the protection mechanisms used are quite contextual considering different factors of the firms such as the segment in which they operate, types of assets, countries in which they operate, among others. A synthesis (Figure 6) was possible to be carried out from the analysis of the different instruments and strategies addressed. Despite the identification of some protection mechanisms, it is important to highlight that most studies did not focus on them, which highlights the need for a structured look at the different types of mechanisms used by firms. As a recommendation for future studies on the topic, it would be valuable to conduct diverse studies on protection mechanisms, such as statistical analyses that correlate mechanisms and their organizational impacts, or case studies that allow a detailed look at the phenomenon. This will make it possible to evaluate the types of protection mechanisms, their effectiveness, the fit between mechanisms and types of intangible assets, the variability based on different contexts, and other particularities.

Similarly, the risks and threats to organizations apparently directly linked to the lack of protection of intangible assets require further study. The analysis of the final sample raised the hypothesis that the low volume of articles addressing such negative impacts may be related to the difficulty in identifying the origin of risks and

threats or in directly associating them with the lack of protection of intangible assets. Regardless, several negative impacts to firms reported in the final sample were summarized in Figure 6 and serve as a guide for future research to properly validate the relationship between cause (i.e. lack of protection) and consequence (i.e. risks and threats). New impacts to organizations need to be assessed qualitatively and quantitatively in financial and non-financial terms, and it would also be interesting to assess which intangible assets are most susceptible to risks or which are most strategic to be protected.

The US Secretary of State for Defense in 2002, Donald Rumsfeld, stated that "*There are known knowns. There are things we know that we know. There are known unknowns. That is to say, there are things that we now know we don't know. But there are also unknown unknowns. There are things we do not know we don't know*". This becomes a mantra when dealing with a systematic literature review, given its typical objectives and limitations (Paul *et al.*, 2021). Based on the insights generated in this systematic review, the main analyses performed were divided into "what we know" and "what we know we don't know". For what was considered known, recommendations for future research to go further were given. For hypotheses that were understood as unknown issues, recommendations for future research to start the debate on the subject were recommended. Also, based on the best practices of research agenda (Urbinati *et al.*, 2022) and evoking the review and supplementary questions of this study, Table 6 summarizes the main recommendations for future research within the field of international business.

TABLE 6 Research Agenda – Summary of main recommendations for future studies

What do we know? *Key insights from the review*	**How can we go further?** *Future Research Agenda (main recommendations)*
Despite being an important topic for the field of international business, little is published about the protection of intangible assets	Investigate the topic in a holistic way and bring new questions, hypotheses, and lines of investigation to stimulate dissemination in more high-quality scientific journals and to encourage other researchers to deepen scientific research
There is a low diversification of methodological approaches to the topic of intangible asset protection in general and of qualitative research methods	Diversify the methodological approach of future research with qualitative, mixed, and conceptual studies, in addition to exploring other qualitative methods such as descriptive studies, phenomenology, grounded theory and others
A wide range of theories was used by the authors, especially those theories that focus on knowledge (one of the main intangible assets addressed)	Conduct the study of intangible assets (in a broad and diverse manner) from the perspective of the main internationalization theories (in isolation and in comparison), to obtain insights from different theoretical frameworks
A wide variety of types of intangible assets were identified from the mentions made in the articles, however, no dominant categorization in the literature was found	Studies focused on the analysis of the wide variety of types of intangible assets (e.g. clusterizations, meta-analyses) and their consequent synthesis will help to optimize future research in the scientific literature and managerial decisions
Intangible assets are fundamental pieces and add value to internationalizing firms from different perspectives (e.g. competitiveness, strategy, innovation, ...)	Assess separately which types/categories of intangible assets generate more or less value for firms, in what way, and how this value can vary in different scenarios
Intangible assets are used in a variety of ways in different contexts (e.g. institutional environments, sectors, decision-making, ...)	Deepen a new variety of contexts (e.g. different types of companies, countries, institutional characteristics, firm solutions) to assess their relationships with the protection of intangible assets. Also, investigate which contexts can positively or negatively affect the capture of value from intangible assets and how this impacts good practices and management decisions regarding its exploitation and protection
It was reported in the analyzed articles that different mechanisms for protecting intangible assets are already being used in practice by firms (e.g. legal methods, organizational strategies, alliances, ...), however, such instruments remain in the background regarding the focus of the research	Conduct studies that have as their central focus the investigation of protection mechanisms and their impacts and not have them only as supporting elements of the studies. In these studies, evaluate other types of protection mechanisms, their effectiveness in maintaining the value generated by assets, and the best fit between protection mechanisms and types/categories of intangible assets
Several risks and threats arising from the lack of (or ineffective) protection of intangible assets have been reported in published studies (e.g. counterfeiting, misappropriation, opportunisms, ...), demonstrating a real problem for internationalizing firms	Assess the main risks, threats and negative consequences for organizations that do not protect their intangible assets, seeking to understand whether any type/category of intangible asset generates greater risks and threats to firms and which contexts can enhance/mitigate negative impacts on organizations
What do we know that we don't know? *Key insights from the review*	**How can we know?** *Future Research Agenda (main recommendations)*

Given that intangible assets are so valuable, and the lack of its protection generates several risks and threats to organizations, why are there no more articles directly addressing the subject?	The low volume of published articles may represent a real gap in literature or simply a topic of low relevance to the scientific community. This doubt will be naturally resolved through scientific debate based on publications in journals, scientific events, debates with experts and other opportunities for critical analysis of the topic. Other measures such as new systematic reviews with different databases and strategies may contribute to clarifying the relevance of the topic
Considering the multifactorial profile surrounding positive and negative events facing firms, how is it possible to correlate such events with the protection or lack of protection of intangible assets? Could this difficulty (or impossibility) of isolating events and their consequences be related to the low volume of publications that focus on the subject?	Develop studies that investigate the real correlation between cause (i.e. protection/lack of protection) and effect (i.e. capture of value through intangible assets/risks and threats to organization) through methodological approaches such as quasi-experiments and quantitative studies that use appropriate statistical methods
Regarding the low volume of published articles and the limited discussion on the subject, what are the consequences for scientific literature and managerial decisions?	Measuring the impact of the lack of protection of intangible assets in the field of internationalization from a scientific and managerial perspective can drive research on the topic or confirm its low relevance. To this end, studies with mixed approaches that focus on the quantitative and qualitative impacts on organizations, on financial and non-financial indicators, and on consequences from the operational to the strategic level, are encouraged

CONCLUSION

This study aimed to evaluate international business literature in search of studies that show mechanisms for protecting intangible assets and the concern of firms with the risks and threats attributed to them. The systematic and integrated analysis of the studies mapped resulted in an understanding of what has been addressed in literature and identifying literature gaps on the topic related to the protection of intangible assets in international business field. Such analysis of the literature aimed to verify how the topic was approached by scholars between 1994 and 2024, which allowed an agenda for future research to be proposed (Table 6) (Paul *et al.*, 2021). In a complementary manner, the review question and its respective supplementary questions could be answered, as shown in Figure 8 below.

Like all scientific studies, this research has limitations. Despite being an approach that aims to reduce different types of biases (e.g., selection, analysis, publication) and subjectivities (e.g., keyword selection), a systematic literature review cannot fully eliminate these factors (Bartolucci & Hillegass, 2010). There is also the natural limitation of the databases used, which, despite being the most complete and used databases by the scientific community (Chadegani *et al.*, 2013), does not group all the existing studies carried out on the central theme of this research. Finally, it is important to highlight that the future research agenda has limitations regarding what is known. As stated by Donald Rumsfeld (quoted directly above), "there are things we do not know we don't know". Thus, there is a natural bias towards making recommendations based on what is known. New questions and research lines that are as important as the proposals made will certainly emerge, which makes optimizing the literature a living and ongoing exercise.

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Figures

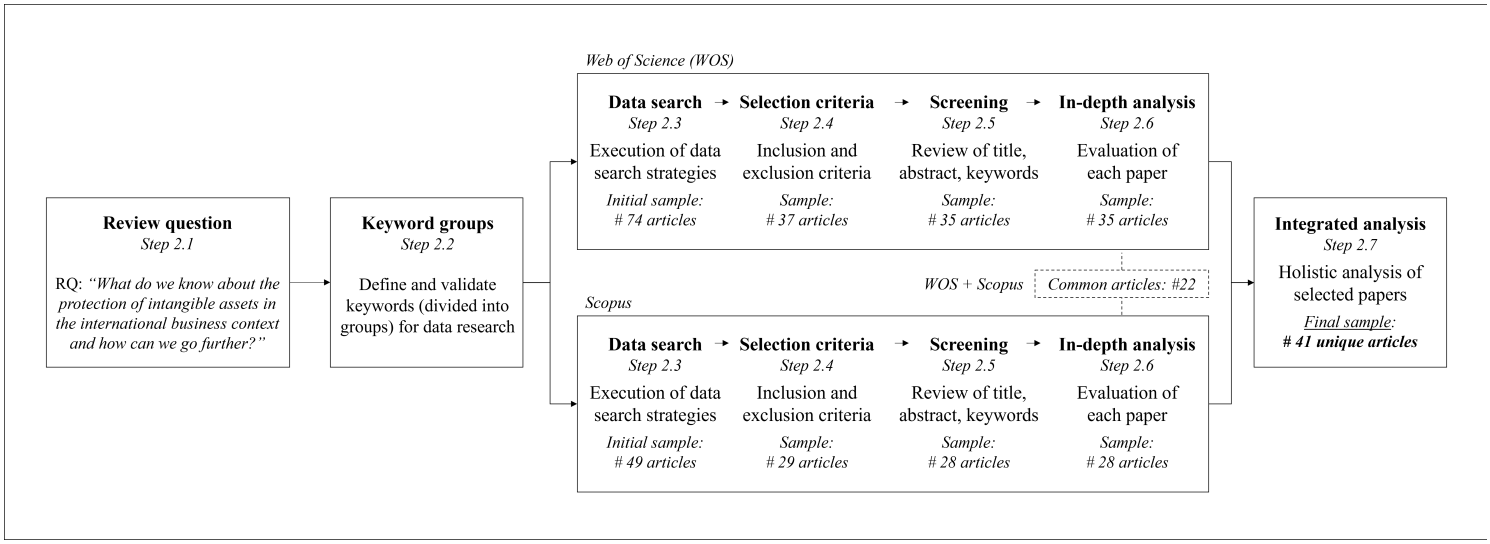


Figure 1

Flow diagram of the systematic literature review protocol

22 articles were identified in both databases, resulting in a total of 41 unique articles in the final sample (i.e. WOS: 35 + Scopus: 28 – Common articles: 22 = 41 unique articles).

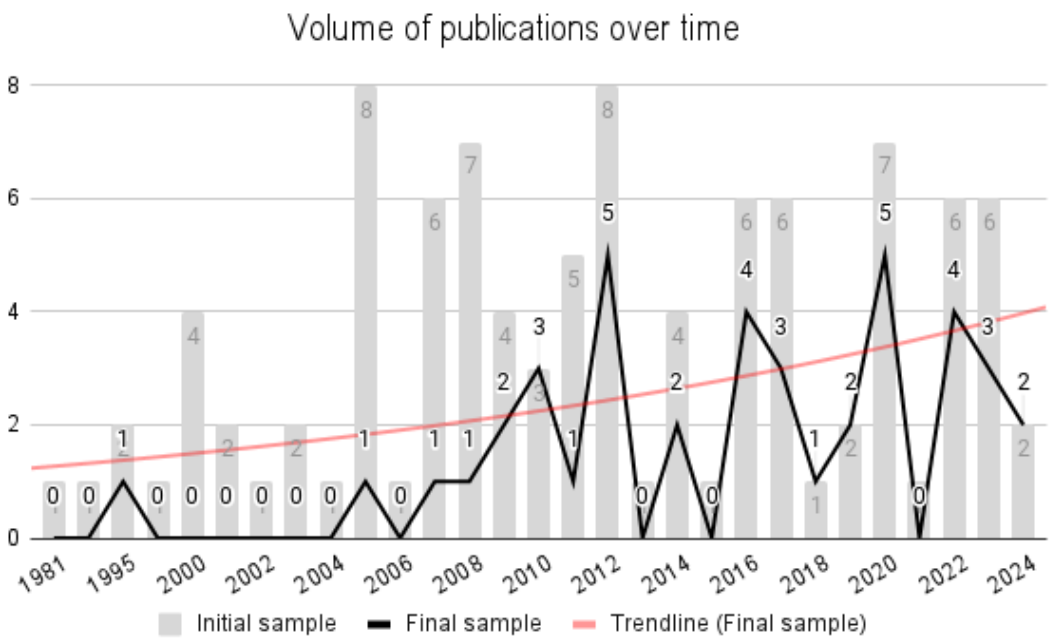


Figure 2

Evolution of the publication of articles identified from the search strategies

The year of 2024 includes articles published until August 1st (search date).

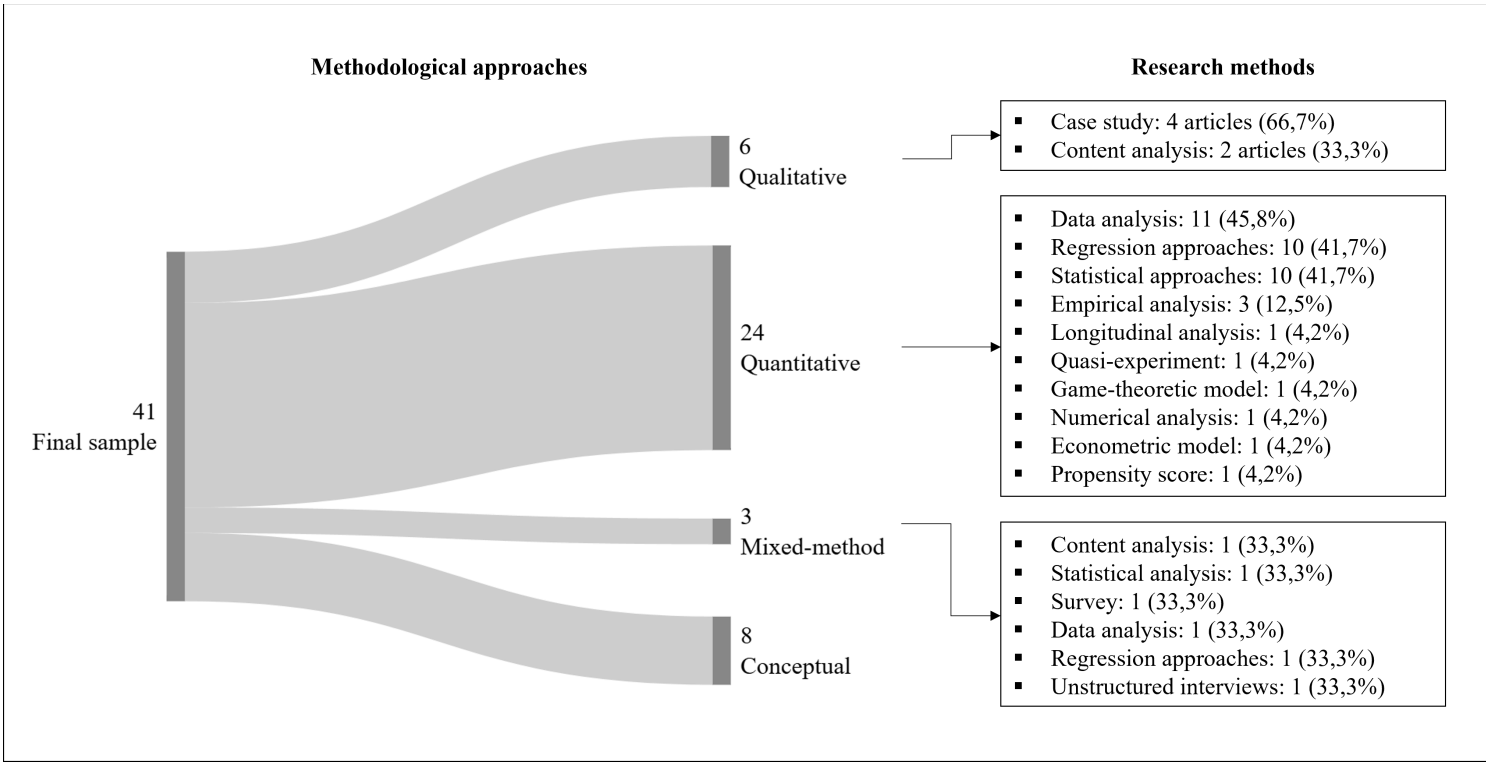


Figure 3

Sankey diagram of methodological approaches and research methods used

The sum of the percentages of articles in the research methods list will not necessarily correspond to 100%, given that more than one research method can be used in the same study.

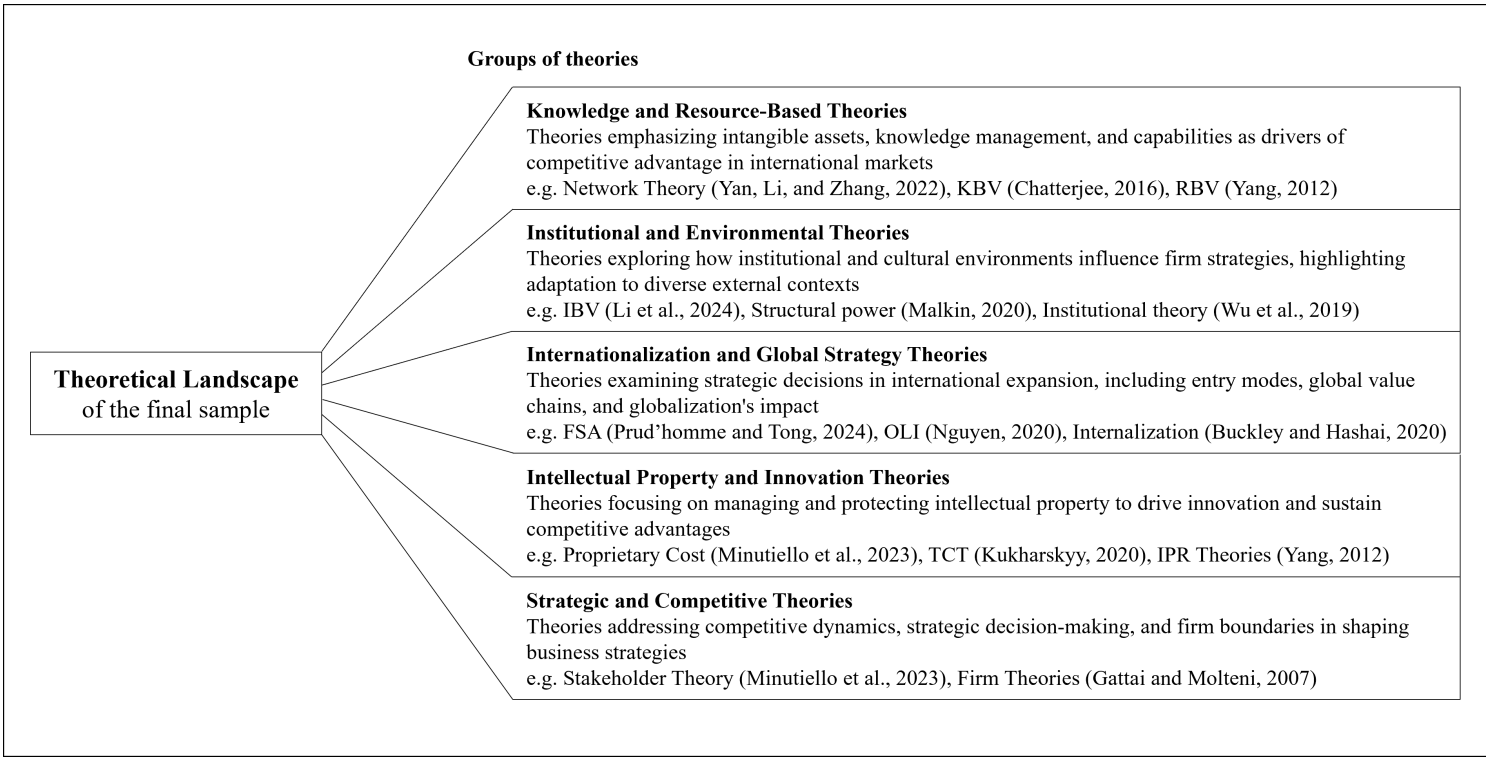


Figure 4

Theoretical landscape – Synthesis of the used theories on the final sample

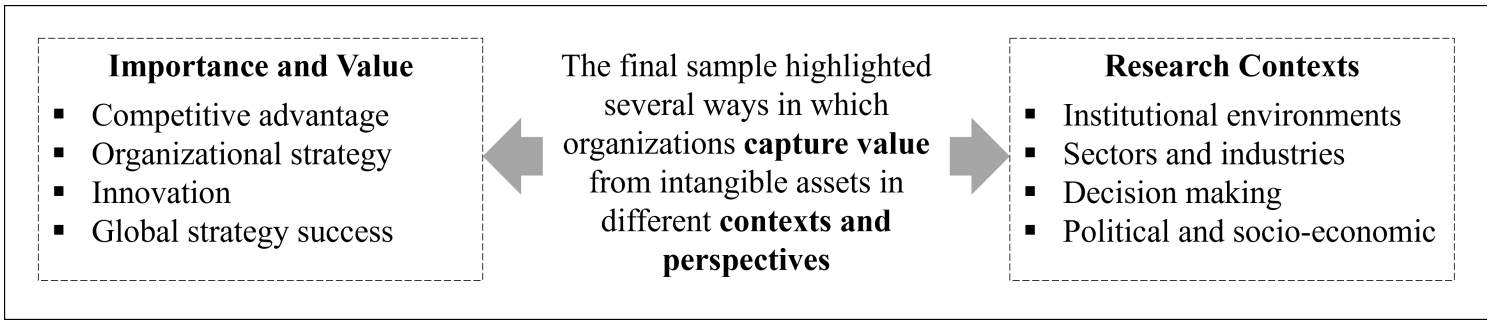


Figure 5

Synthesis of the importance and value of intangible assets within different research contexts

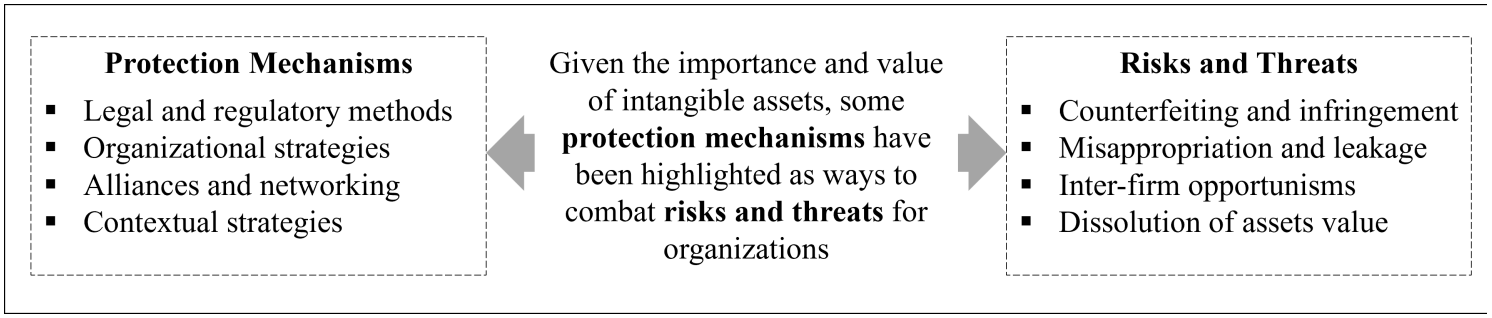


Figure 6

Summary of protection mechanisms for intangible assets in combating risks and threats to firms

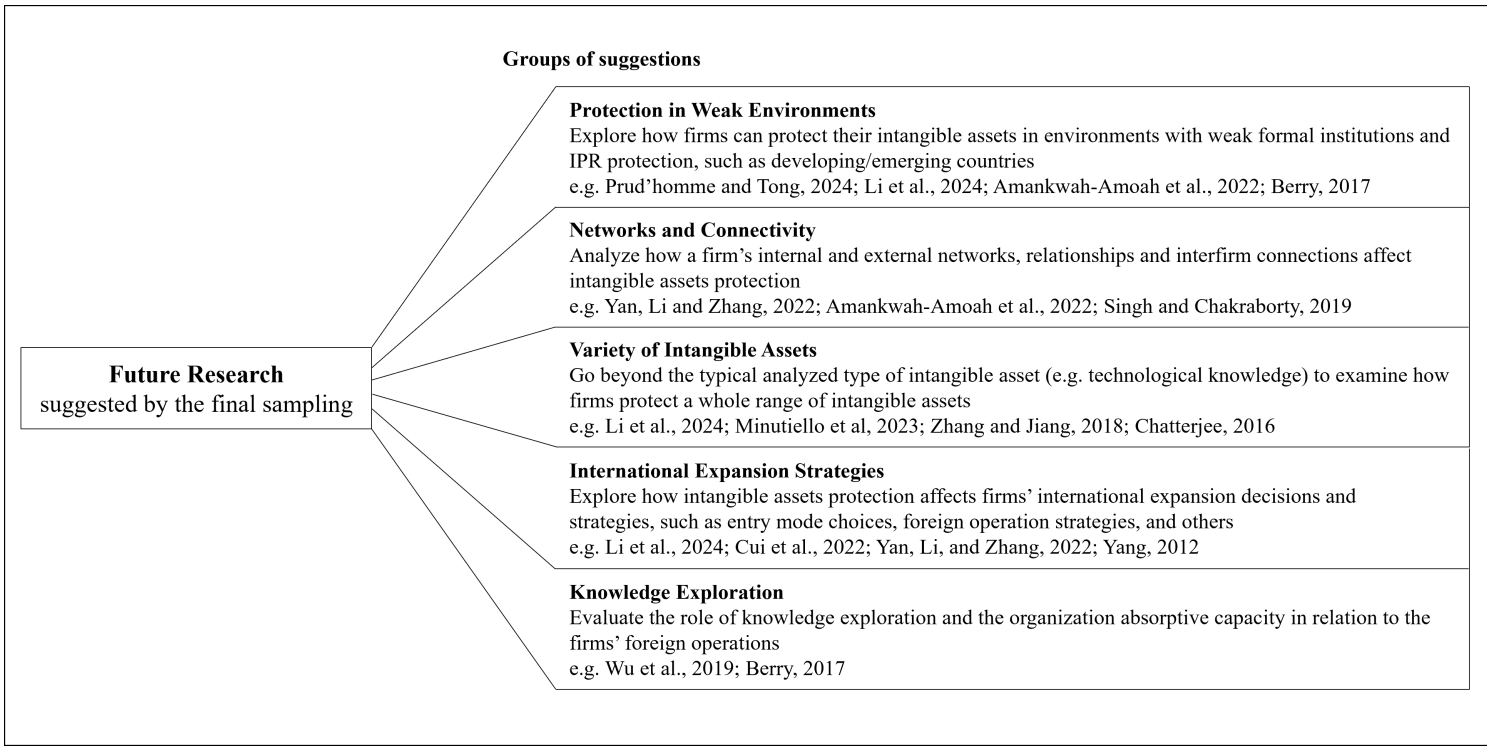


Figure 7

Synthesis of suggestions for future research

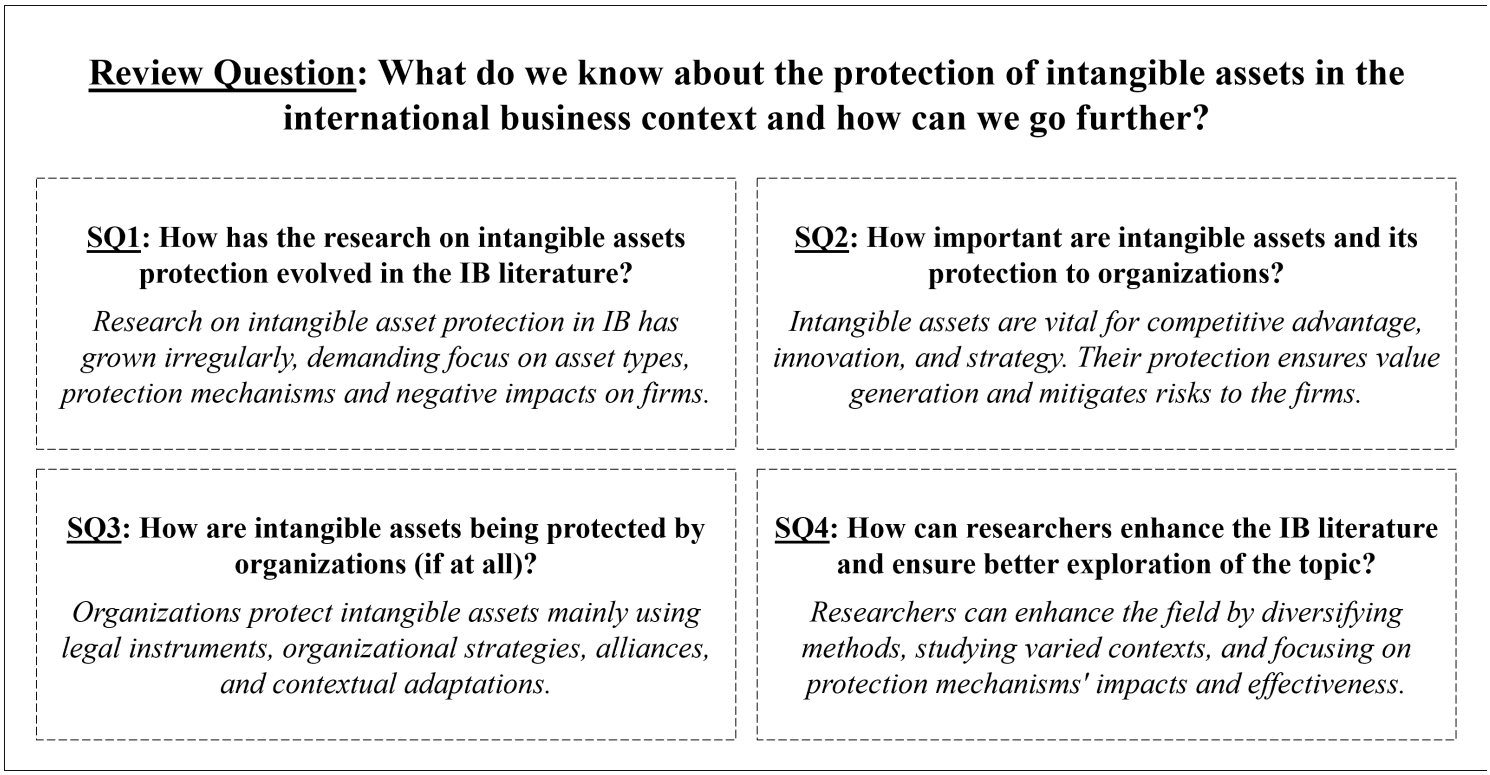


Figure 8

Main responses in a blink - summary of the answer to the review question