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The relationship between innovation and firm survival: A bibliometric and field-based content analysis

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ABSTRACT

This study conducts a systematic literature review on the relationship between innovation and firm survival, aiming to clarify how different theoretical perspectives and underlying assumptions about innovation and firm survival across domains shape the conceptualization of both constructs. Here, firm survival refers to a firm's continued (or discontinued) operation, continued ownership (or ownership changes), and continued solvency (or discontinued solvency). Rather than estimating the pooled effect size across studies, this paper employs a hybrid review that combines bibliometric mapping with field-based content analysis of 102 articles (1990–2023) from the Scopus and Web of Science databases. The results from the hybrid review show that firm exit is treated as efficiency-based exit in economics but as inertia-induced exit in organizational studies. Such competing debates are documented through field-based content analysis (Section 3.2.1–3.2.4) and reconciled accordingly (Section 4.1.3). Additionally, the focal relationship varies depending on how firm exit is operationalized. Innovation generally has a protective effect, while firm exit is operationalized as firm failure (e.g., firm exit = failure) and can be viewed as a strategic outcome in the export market. To unify these fragmented views, we develop a multi-channel framework outlining three distinct channels linking innovation and firm survival: the capability channel, the selection channel, and the legitimacy channel. Specifically, we identify three underexplored dimensions: non-technological innovation (e.g., sustainable human resource management, business model innovation) as a mechanism affecting survival through the capability and legitimacy channels; innovation timing as a real options policy pathway under uncertainty that spans all three channels; and firm moral failure as a separate non-economic indicator of firm survival, reflecting the company's broader societal embeddedness. The contribution of this review lies in providing an integrative multi-channel framework derived from the cross-field conceptual and operational heterogeneity of innovation and firm survival.

1. Introduction

Innovation is widely regarded as a driving force, providing firms with competitive advantages and market power (Schumpeter, 1934; Nelson and Winter, 1982), promoting organizational learning (Cohen and Levinthal, 1990), and enhancing their dynamic

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capabilities (Teece et al., 1997). Similarly, scholars have also highlighted the role of innovation in maintaining firm survival prospects, especially in times of crisis and disruption (The World Intellectual Property Organization, 2023). Although firm performance and firm survival are often seen as related concepts, they differ both conceptually and empirically. While firm performance generally refers to maximizing profit or return on assets (Rumelt, 1991), firm survival pertains to continued operations, ownership, or solvency (Josefy et al., 2017). Empirically, firm survival is frequently modeled through time-to-event data using event history or duration models, which differ from the continuous indicators employed in performance research. This calls for a dedicated investigation into the relationship between innovation and firm survival.

Over the past three decades, we have observed a significant rise in studies exploring the impact of innovation on firm survival. However, the link between innovation and firm survival remains mixed and inconclusive, with reports of positive (Sharif and Huang, 2012; Wojan et al., 2018), non-significant (Colombelli et al., 2016; Børing, 2015), non-linear (Ugur et al., 2016), and even negative relationships (Hyytinen et al., 2015; Garcia Martinez et al., 2019). Several reasons may explain these inconsistencies. Theoretically, views on the effect of innovation on firm survival are becoming less aligned (Ugur and Vivarelli, 2021). The evolutionary model suggests that firms operating in an un-routinized technological regime are more likely to innovate, reach the technological frontier, and achieve the minimum efficient scale (MES). Consequently, innovation is positively associated with firm survival (Audretsch and Mahmood, 1995). Conversely, active learning theory predicts that the relationship between R&D investment and firm survival is uncertain due to the stochastic nature of R&D investment and industrial competitive pressure (Ericson and Pakes, 1995). Additionally, Schumpeterian competition models forecast an inverted-U relationship between innovation and firm survival, where initially innovation enhances survival, but beyond a certain point, diminishing returns and increasing costs decrease the likelihood of survival (Ugur et al., 2016). Collectively, these perspectives suggest that innovation's influence on firm survival likely depends on specific firm and industry factors. Moreover, variations in research methodologies, such as research design (e.g., longitudinal vs. cross-sectional), sampling, innovation measurement (Rosenbusch et al., 2011; Ugur and Vivarelli, 2021), and operational definitions of firm survival and contextual settings (e.g., high-tech vs. low-tech), also contribute to inconsistent results. Furthermore, both innovation and firm survival research are inherently multidisciplinary (Crossan and Apaydin, 2010; Damanpour, 2020; Josefy et al., 2017). Consequently, conflicting findings may stem from the differing assumptions that researchers bring to the concepts of innovation and firm survival. For instance, economists often assume that innovation drives productivity and economic growth at the industry level (Schumpeter, 1934; Acs and Audretsch, 1990). In contrast, marketing scholars tend to view innovation as customer-centric product development (Srinivasan et al., 2004; Min et al., 2006), whereas strategic management views it as a firm's assets and capabilities that confer a competitive advantage (Teece et al., 1997). Similarly, views on firm survival vary: some international business scholars see it as strategic withdrawal (Tan and Sousa, 2019), whereas economists often rely on strict financial metrics, reflecting a performance-oriented perspective (Guerzoni et al., 2021; Agostino et al., 2022). Such theoretical and conceptual variations in the research field, at a higher level, give rise to a competing debate about innovation's role in firms' survival prospects: innovation as a stabilizer vs. innovation as a destabilizer. Therefore, in this review paper, we argue that contradictions persist because existing studies rely on fundamentally different conceptualizations of innovation and the operationalization of firm survival across domains, rooted in different theoretical traditions. Although such debates and contradictions facilitate cross-disciplinary dialogue and bring together diverse viewpoints, variations in meaning and assumptions across concepts may intensify fragmentation in findings, as studies may not be examining the same phenomenon. Failing to acknowledge the underlying assumptions across disciplines increases the tendency for the 'name game' and leads to the proliferation of both constructs (Garcia and Calantone, 2002), thereby contributing to field fragmentation.

Although earlier reviews have explored the link between innovation and firm survival, they remain limited in scope and perspective. For example, Ugur and Vivarelli (2021) point out the proliferation of innovation variables and the lack of theoretical explanations for the effects of different types (e.g., non-technological innovation) on firm survival. While this is a significant observation, their review does not examine how different disciplines define and conceptualize innovation and firm survival, which contributes to inconsistent findings. In other words, their review highlights the problem but does not identify its source, such as construct drift across fields. Furthermore, their review is rooted in a microeconomic framework, failing to address the divergence in how strategic management, organization studies, and marketing conceptualize and assume both "innovation" and "firm survival". Furthermore, Hayırlı et al. (2025) offer a comprehensive synthesis of the literature on the relationship between innovation and firm survival using the theory-context-characteristics-methodology (TCCM) framework and highlight the need for conceptual research on the commonalities and differences in how innovation and firm survival are defined across domains.

This review contributes to the existing literature in several ways. First, it advances the methodological frontier by combining bibliometric analysis with field-based content analysis. This hybrid approach enables joint inference, illustrating not only the interaction between management research and economics but also uncovering how assumptions about innovation and firm survival are adapted and reinterpreted as they move across domains. These variations in assumptions have enriched and proliferated innovation variables both within and across domains. Neither of the review approaches would achieve this in isolation. Second, it promotes cross-disciplinary integration by developing a field-based reconciliation matrix that aligns major theoretical perspectives (e.g., resource-based view (RBV), dynamic capability, evolutionary economics, and active learning theory) with their assumptions, innovation types, mechanisms (if any), conditions, and effects. This matrix offers evidence-based explanations for why conflicting findings remain in the existing literature and provides a basis for conditional reconciliations of disputed debates, such as efficiency-based firm exit versus inertia-induced exit. Finally, it introduces a multi-channel framework that unifies the fragmented body of knowledge into three channels: the capability channel, the selection channel, and the legitimacy channel. This framework captures how innovation impacts firm survival-related outcomes through resource and capability reconfiguration, environmental selection, and legitimacy building. It offers a theoretically grounded and testable basis for future research, particularly on non-technological innovation, innovation timing,

and firm moral failure.

Following this, the paper addresses two research questions: First, what is the intellectual structure and the thematic evolution of research on the relationship between innovation and firm survival? To answer this research question, we employ a bibliometric analysis to map the field's intellectual structure, identify dominant research streams and theoretical perspectives, and trace the evolution of the thematic clusters. Second, how do assumptions from different disciplines about innovation and firm survival shape the conceptualization of both constructs? To address this question, we conduct a field-based content analysis that examines the variations in theoretical perspectives and analyzes how assumptions are reinterpreted and adapted as they move across different domains. Taken together, these two streams provide both intellectual and structural mapping of the field and deeper conceptual and theoretical insights into why existing evidence remains fragmented.

2. Methodology

2.1. Research design

We followed the PRISMA guidelines to identify eligible studies for the systematic review, ensuring that each step of the process was transparent and well-documented. According to Moher et al. (2009), the PRISMA process consists of four steps: identification,

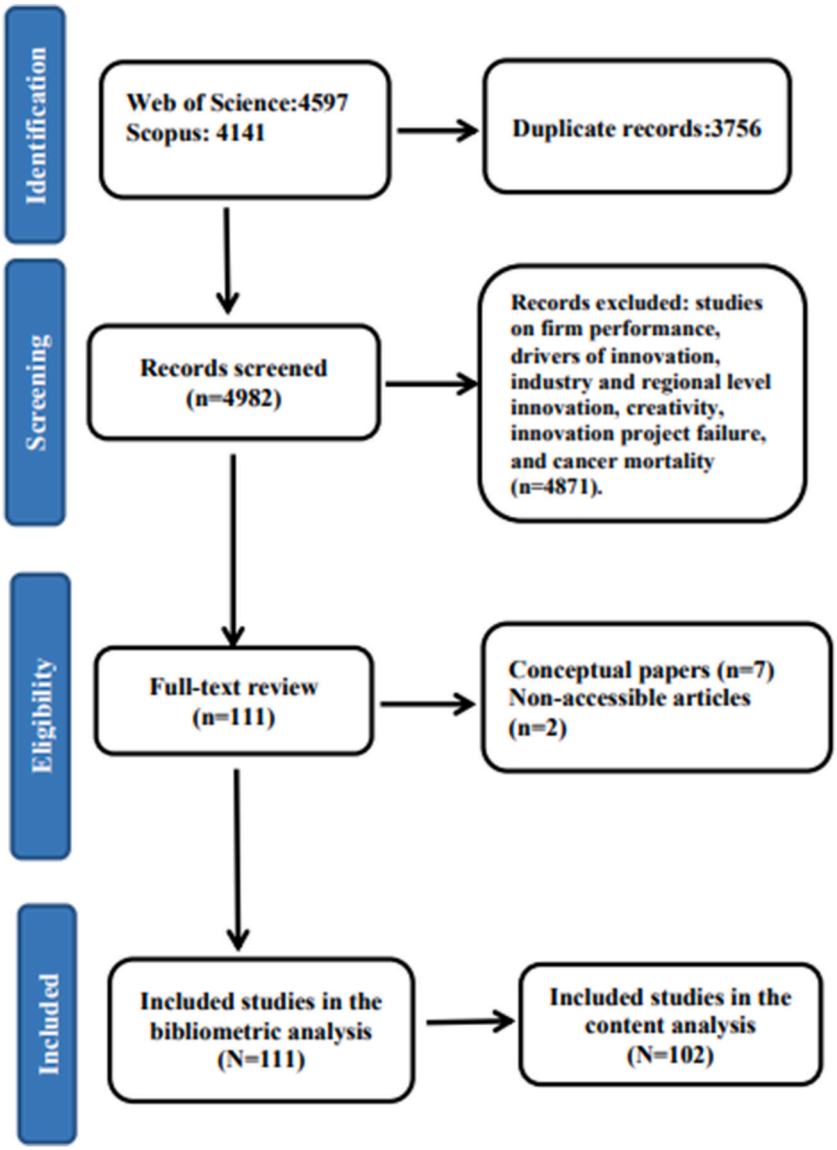


Fig. 1. PRISMA flow chart.

screening, eligibility, and inclusion. The selection process for the relevant literature is presented in Fig. 1.

2.1.1. Identification

Relevant studies were retrieved from the Web of Science (WOS) and Scopus databases. The initial search for both databases was conducted in January 2024. We applied several inclusion/exclusion criteria to identify relevant studies: 1) topics limited to Management, Business, and Economics; 2) publication years from 1990 to 2023; 3) document types limited to journal articles; and 4) language restricted to "English". Furthermore, following previous reviews (Josefy et al., 2017; Rousseau et al., 2016), we used the following search strings in Title/Abstract/Keywords: ("innovation" OR "innovative") AND ("survival" OR "survivor" OR "failure" OR "death" OR "exit"). This initial search yielded 8738 records (WOS: $n = 4597$; Scopus: $n = 4141$).

2.1.2. Screening

After exporting records from the Web of Science and Scopus databases, all studies were consolidated into a single Excel dataset for screening. Duplicate records were identified and removed using the "duplicate remove" feature of Excel, primarily based on the title of the article, followed by manual verification to ensure that the non-identical entries referring to the same publication were correctly identified. This process yielded 3756 duplicate records. After removing duplicates, two authors independently screened the titles and abstracts of the remaining 4982 records. During the screening process, studies focusing on the drivers or antecedents of innovation (Beshr and Hossan, 2018), innovation failure, project failure, or market failure (Ball and Kittler, 2019), macro-level innovation activities such as innovation ecosystems, metropolitan innovation, or industry-level innovation and their impact on firm survival prospects (Tsvetkova et al., 2014), and studies that used keywords in a way not relevant to the current study, such as cancer mortality, cancer survival, or premature mortality (Lichtenberg, 2015), were excluded. A total of 4871 studies unrelated to the topic were excluded.

2.1.3. Eligibility and inclusion

For the records that passed this initial screening ($n = 111$), a full-text review was conducted to confirm their eligibility. Of these, seven papers are conceptual, and two papers are inaccessible. Since this is a hybrid review, all 111 studies were analyzed bibliometrically to visualize the intellectual structure of the research area. Regarding content analysis, we included studies that explicitly defined both the innovation and firm survival constructs. Consequently, we excluded conceptual and qualitative studies, leading to a final sample of 102 articles for the content analysis. All the included studies are provided as supplementary material. Table 1 reports the above-mentioned inclusion and exclusion criteria.

2.2. Working definitions of firm survival-related outcomes

In this review, we differentiate several related but conceptually distinct constructs. We define firm survival as the continued operation of a firm as a distinct operating entity. Firm exit refers to the termination of a firm's independent operations, which may occur through various routes, including bankruptcy, dissolution, mergers and acquisitions, and strategic (neutral) exit. Importantly, we treat failure as a subset of exit, specifically referring to negative, involuntary exits such as bankruptcy and forced liquidation.

3. Research findings

3.1. Bibliometric analysis

3.1.1. Trends over the years

Fig. 2 depicts the trends in publications related to the relationship between innovation and firm survival from 1990 to 2023. Academic interest in this relationship has increased over the past few decades. The first 15 years (1990–2004) saw slow growth, but the later years proved more fruitful, with over 70 publications indicating ongoing engagement with the topic. Interest has increased since

Table 1
Eligibility criteria.

Criteria	Inclusion	Exclusion
Time period	1990–2023	studies published before 1990 and after 2023
Subject of area	Management, Business, and Economics (WOS and Scopus categories)	Studies outside these subject areas
Language	English	Studies published in a language other than English
Document type	Peer-reviewed journal article	Book, book chapters, and conference proceedings,
Search strings	("innovation" OR "innovative") AND ("survival" OR "survivor" OR "failure" OR "death" OR "exit")	-
Focus	Studies examining the impact of firm-level innovation on firm survival-related outcomes.	Studies focusing on the antecedents of innovation, macro-level innovation (e.g., industry or regional level innovation), innovation project failure, innovation failure, or studies employing the term "survival" in unrelated contexts (e.g., cancer survival, premature mortality).

2015. The upward trend after 2015 may be due to several structural developments. For instance, the continued expansion of the digital economy and technological disruptions have shaped a new research agenda around innovation and firm survival. Likewise, policy shifts promoting innovation-driven competitiveness in both developed and emerging economies likely encouraged academic inquiry. Additionally, the aftermath of the global financial crisis rekindled interest in firm survival and resilience. However, investment in innovation and scholarly activities slightly declined during the pandemic (The World Intellectual Property Organization, 2023). Subsequently, they resumed their rise.

3.1.2. Most cited articles, authors, and journals

We conducted a citation analysis to identify the most highly cited authors, articles, and journals that have influenced the field's development. Table 2 lists the most cited articles on this topic, such as those by Audretsch and Mahmood (1995), Christensen et al. (1998), Cefis and Marsili (2006), and Naidoo (2010). Additionally, the most cited articles cover a variety of subjects, including economics, strategic management, marketing, and entrepreneurship, highlighting an interdisciplinary academic interest. Table 3 shows the leading contributing authors and the number of publications they authored or co-authored. The most prolific authors in the field were Cefis (7 articles), Marsili (5 articles), and Esteve-Pérez (3 articles).

As Table 4 shows, the impact of innovation and firm survival relationships has been published in a wide range of journals in business research (e.g., *Journal of Business Research*), strategic management (e.g., *Strategic Management Journal*), marketing (e.g., *Journal of Marketing*), innovation and technology management (e.g., *Research Policy, Technological Forecasting and Social Change, Technovation*), entrepreneurship and small business management (e.g., *Small Business Economics*), economics (e.g., *Economics of Innovation and New Technology, Empirical Economics, Review of Industrial Organization*), and social science (e.g., *Industrial and Corporate Change*). Interestingly, despite the dominance of the economic perspective on innovation and firm survival, the total citations in economics-based journals are notably fewer than those in business and management journals.

3.1.3. Intellectual structure

To determine the intellectual structure of the field, we performed a co-citation analysis at the author level, aiming to identify the most-cited authors and their links with others that have influenced the field's development. The intellectual structure of the field (Fig. 3) was generated using VOSviewer. We used fractional counting with association-strength normalization. Clustering was performed with a resolution parameter $\gamma = 1.0$ (default). Threshold sensitivity was evaluated by setting the citation cutoff points at 20 and 50 citations to reduce the risk of clusters being artifacts of the parameters. The overall cluster structure remained stable across different thresholds, with only slight variations at the margins (see Appendix Fig. 1). At the 20-citation cutoff, 68 of the 7217 authors met the thresholds. As a result, three clusters were generated using the VOSviewer clustering algorithm. Each cluster represents a theme or area of study within the focal relationship, often citing each other. We labeled each cluster based on the most-cited authors in that cluster

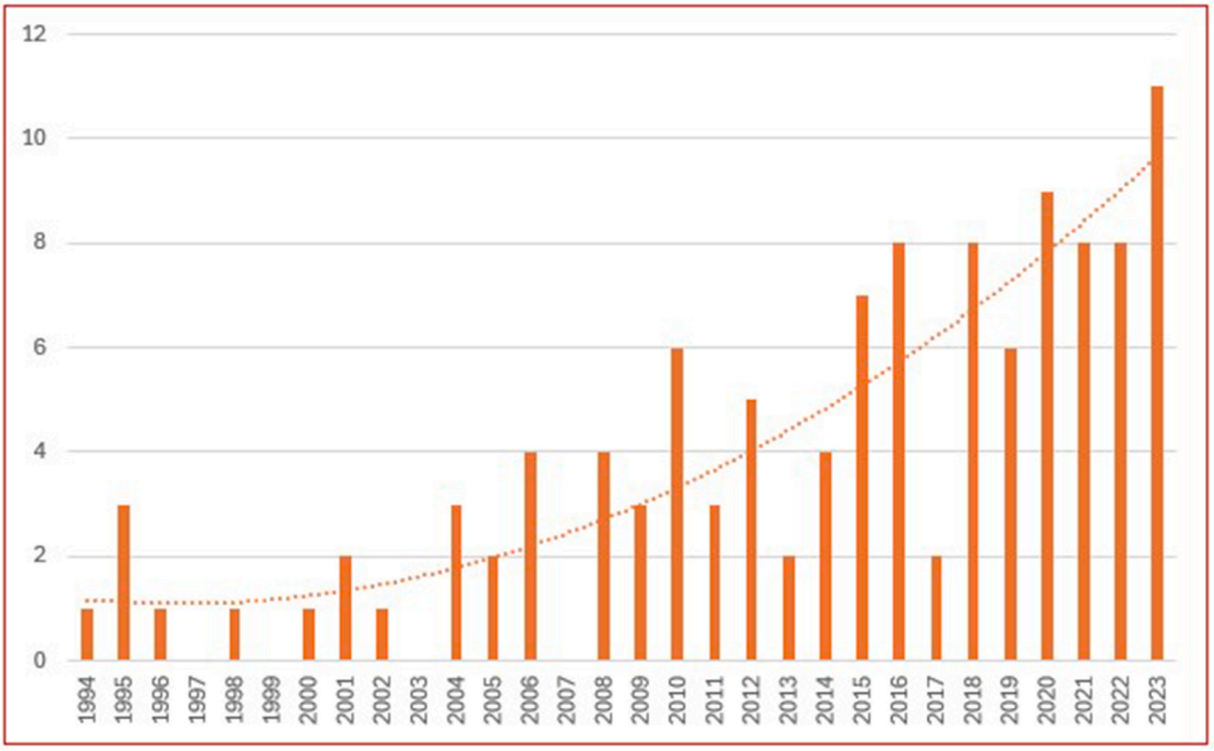


Fig. 2. Annual publication trend.

Table 2
The most cited articles on the impact of innovation on firm survival (sorted by TGC).

Authors	Journal Name	TGC	TGC/t
Audretsch and Mahmood (1995)	*The Review of Economics and Statistics*	604	19.48
Christensen et al. (1998)	*Management Science*	419	14.96
Cefis and Marsili (2006)	*Research Policy*	379	18.95
Naidoo (2010)	*Industrial Marketing Management*	379	23.69
Banbury and Mitchell (1995)	*Strategic Management Journal*	362	11.68
Cefis and Marsili (2005)	*Industrial and Corporate Change*	332	15.81
Adam and Alarifi (2021)	*Journal of Innovation and Entrepreneurship*	262	52.40
Esteve-Pérez and Mañez-Castillejo (2008)	*Small Business Economics*	247	13.72
Hyytinen et al. (2015)	*Journal of Business Venturing*	235	21.36
Sui and Baum (2014)	*Journal of International Business Studies*	228	19.00

Notes: TGC = Total global citations received; TGC/t = Average global citations per year.
Source: Authors' construct

Table 3
The top 10 contributing authors.

Authors	Affiliation	Country	No. of articles
Cefis E	Università degli Studi di Bergamo,	Italy	7
Marsili O	University of Bath	United Kingdom	5
Esteve-Pérez S	Universitat de València,	Spain	3
Baum M	Rechts- und wirtschaftswissenschaftliche Fakultät	Germany	2
Buddelmeyer H	Melbourne Institute: Applied Economic & Social Research	Australia	2
Colombelli A	Politecnico di Torino	Italy	2
Helmers C	Santa Clara University	United States	2
Ugur M	University of Greenwich	United Kingdom	2
Mazotta F	Università degli Studi di Salerno	Italy	2
Zhang D	Capital University of Economics and Business	China	2

Source: Authors' construct

Table 4
Top journals according to the number of articles on the innovation and firm survival relationship (sorted by publication).

Journal	Publications	Total citations
Research Policy	12	1033
Small Business Economics	11	758
Industrial and Corporate Change	4	451
Review of Industrial Organization	3	375
Technological Forecasting and Social Change	3	166
Strategic Management Journal	3	559
Economics of Innovation and New Technology	2	72
Journal of Business Research	2	112
Industrial Marketing Management	2	388
Empirical Economics	2	65
Journal of Marketing	2	338
Technovation	2	328

Source: Authors' construct

and the domain they represent, followed by a manual examination of the core articles. There are 20, 22, and 26 authors in the blue, green, and red clusters, respectively. Fig. 3 shows the most-cited scholars and three thematic clusters that have shaped the field of innovation-firm survival.

The green cluster represents the theoretical foundation of the field, including two theoretical bases that influence research on innovation and firm survival: "economics of innovation" and "organizing innovation" (Fagerberg et al., 2012). Scholars in the former, with backgrounds in economics and social sciences, mainly examine the economic aspects of innovation, technology, and R&D (Schumpeter, 1934; Nelson and Winter, 1982), whereas those in the latter focus on management and organization, exploring organizational change and inertia (Hannan and Freeman, 1984), absorptive capacity (Cohen and Levinthal, 1990), dynamic capability (Teece et al., 1997), and an expanded view of absorptive capacity (Zahra and George, 2002). Notably, the foundational economists Joseph Schumpeter, Richard Nelson, and Sydney G. Winter form a cluster with strategic management and organizational ecology scholars such as S.A. Zahra, D. Teece, and M.T. Hannan within the green cluster rather than aligning with contemporary economists such as D.B. Audretsch and S. Klepper in the blue cluster. This illustrates the lasting influence of their ideas on shaping organizational and management research related to innovation and firm survival. Their position at the intersection of the blue and green clusters highlights cross-disciplinary exchange of ideas, demonstrating how their fundamental concepts of innovation and evolutionary

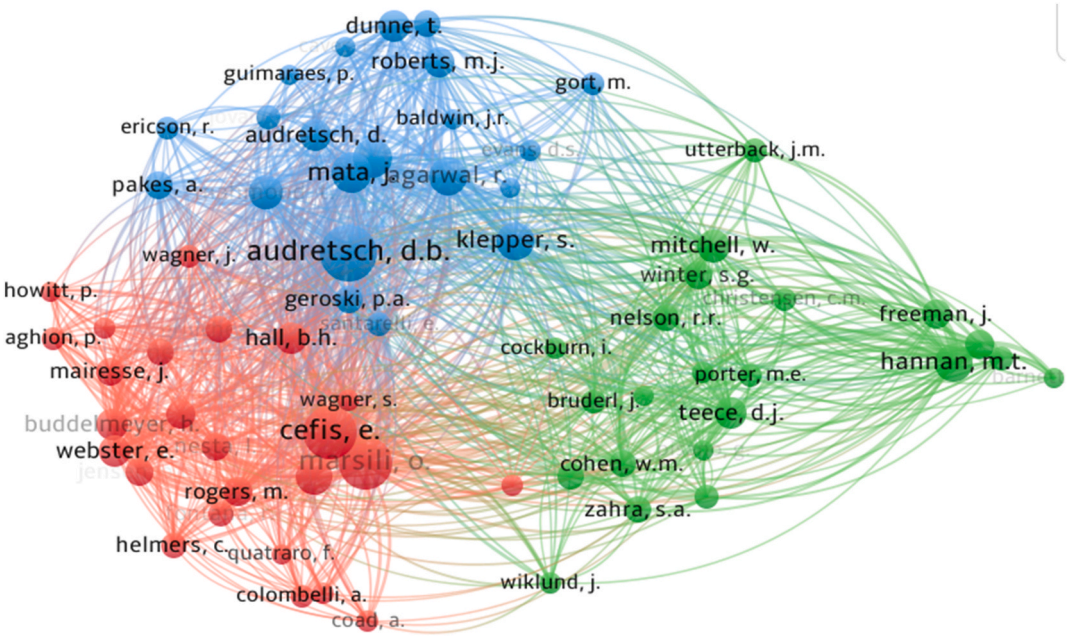


Fig. 3. Co-citation network of authors, citation cut-off point = 20 (VOSviewer).

dynamics have influenced and been reinterpreted in management and organizational scholarship (and vice versa). This pattern becomes even clearer when considering citation thresholds. For instance, at lower thresholds (20–40 citations), Steven Klepper was grouped with economists such as David Audretsch, reflecting Klepper's significant contributions to the evolution of industry and firm dynamics (entry and exit). At a higher threshold (50 citations), Klepper moved into the green clusters aligned with management and organizational scholars such as Will Mitchell and M.T. Hannan. This shift indicates that while Klepper's work is rooted in economics, his most impactful contributions resonate strongly within strategic management and organizational ecology, bridging economic models of industry evolution with the organizational and strategic perspectives on firm survival.

The blue cluster covers both the theoretical and empirical debates on what determines firm exits. A key part of this cluster is Jovanovic's "noisy selection" model (Jovanovic, 1982), which claims that firms learn their efficiency levels by operating in the industry: efficient firms grow and survive, while inefficient ones eventually exit. Ericson and Pakes (1995) expand this model by considering R&D investment as an intentional decision, showing that firms actively engage in R&D to enhance efficiency, profitability, and long-term survival. Building on this, scholars in this cluster have empirically examined the factors influencing the likelihood of firm survival. At the firm level, survival chances are linked to size and age (Evans, 1987; Dunne et al., 1988; Mata and Portugal, 1994; Audretsch and Mahmood, 1995). At the industry level, factors such as technological characteristics (Audretsch, 1991, 1995) and industry lifecycle stages (Agarwal and Gort, 1996; Klepper, 1996) are relevant. However, relatively few researchers have explicitly explored how firm-level innovation impacts the probability of firm survival.

Unlike scholars in the broader blue cluster, those in the red cluster see innovation more directly as a key factor for firm survival,

Table 5
Cluster distribution of co-citation analysis and its alignment with the multi-channel framework.

Themes of Clusters	Key Concepts	Highly cited author(s)	Channel alignment
Green Cluster: Theoretical foundations of innovation and firm survival linkage	Schumpeterian innovation. Evolutionary economics. Organizational change/inertia; Absorptive capacity. Dynamic capability.	"Economics of innovation" Schumpeter (1934); Nelson and Winter (1982); "Organizing innovation" Hannan and Freeman (1984); Cohen and Levinthal (1990); Teece et al. (1997); Zahra and George (2002)	Aligned with both the capability channel and the selection channel.
Red Cluster: Empirical and conceptual research on innovation, R&D, productivity, and firm survival	Innovation premium; Innovation risk; R&D and firm productivity, patenting, product innovation	Cefis and Marsili (2005, 2006, 2012); Buddelmeyer et al. (2010); Ugur and Vivarelli (2021); Hall and Mairesse (1995)	Aligned with the selection channel
Blue Cluster: Empirical studies on new firms' post-entry performance, Patterns of firm entry and exit	New firm survival, firm dynamics, technological regime, Passive learning model, active learning theory	Audretsch (1991); Mata and Portugal (1994); Audretsch and Mahmood (1995); Dunne et al. (1988), Jovanovic (1982), Ericson and Pakes (1995).	Aligned with the selection channel

Source: Authors' construct

expressed through R&D investment (Esteve-Pérez and Mañez-Castillejo, 2008), product and process innovation (Cefis and Marsili, 2005), or patenting behavior (Wagner and Cockburn, 2010). In this way, the red cluster complements the blue one by shifting the focus from general survival factors to the specific and detailed role of innovation. Table 5 presents the cluster distribution of co-citation analysis and its alignment with the proposed multi-channel framework discussed in Section 4.1.2.

3.1.4. The conceptual structure and thematic evolution

To identify and visualize the groupings of research themes in the field, we created a conceptual thematic map using Biblioshiny, highlighting the most prominent themes from 1990 to 2023. Fig. 4 illustrates the thematic map of the research area. The thematic map was generated using a keyword co-occurrence network based on "all keywords". A minimum frequency threshold of five occurrences was applied. Clustering was performed using the "Walktrap" algorithm implemented in the bibliometrix package, and the themes were positioned according to Callon's centrality and density measures. Cluster labels were automatically assigned based on the most frequent and conceptually representative keywords within each cluster. The two-dimensional matrix in Fig. 4 has two axes: centrality and density. Centrality indicates a theme's importance within a discipline, whereas density reflects its internal development (Callon et al., 1991). In the upper-left quadrant, niche themes such as "organizational ecology" and "technological change" appear alongside borderline themes such as "creative destruction" and "technological opportunity." The former reflects strong conceptual models but is loosely connected to mainstream firm-level innovation and survival, focusing on population levels. In contrast, the latter themes act as a bridge, linking ecological perspectives with firm-level strategic factors through technological opportunity and Schumpeterian dynamics. The core theme in the lower-right is "COVID-19," which, despite its central role in broader discussions of innovation and firm survival, remains underdeveloped. This finding indicates that research on firm survival under uncertainty still needs further growth. Motor themes cover a wide range of topics, such as "R&D," "industrial performance," "manufacturing," "innovation" and "financial crisis," which are vital to the field's core structure. In the lower-left quadrant, emerging or declining themes such as "entrepreneurial exit" show low centrality and density, suggesting that they are underdeveloped or possibly declining research avenues within the innovation and firm survival domain. Conversely, themes such as "technological adoption," "absorptive capacity" and "firm dynamics" are situated in more promising but yet still peripheral positions, suggesting that they are likely at early stages of growth and not yet fully integrated into the wider academic discourse.

To trace the evolution of the themes in the innovation-firm survival domain, we divided the timeline into four periods: 1995–2008, 2009–2015, 2016–2019, and 2020–2023 (Fig. 5a, 5b, 5c, and 5d, respectively). These intervals were selected to reflect distinct phases in the development of the literature, balancing temporal coverage with sufficient publication density within each period.

1995–2008: The themes of "product development" and "product strategy" emerged as core themes (Fig. 5a), as reflected in publications such as Banbury and Mitchell (1995) and Cottrell and Nault (2004). These studies highlight the importance of product variety management in influencing firms' survival outcomes. However, their decline in the following period suggests that the focus of

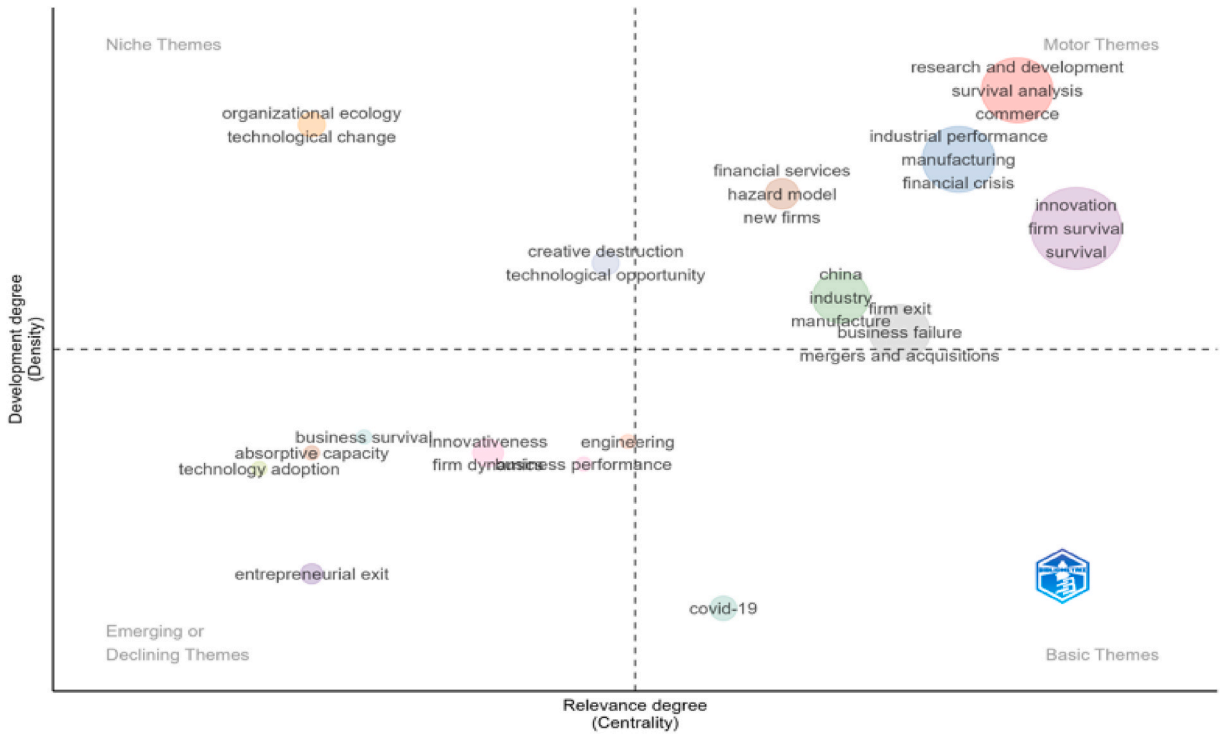


Fig. 4. Thematic map of innovation-firm survival link between 1990 and 2023 Source: Biblioshiny.

the literature shifted away from product-specific considerations toward a more dynamic perspective. Additionally, "survival" and "entrepreneurship" emerged as fundamental themes, indicating that, despite the growing recognition of entrepreneurial studies on firm survival, the literature remained underdeveloped during this period.

2009–2015: The themes of "competition," "competing risks model" and "competitive advantage" became well-established, with an increasing number of studies highlighting how different exit modes, such as mergers and acquisitions, bankruptcy, or firm closure, are influenced by firms' innovation capabilities (Cefis and Marsili, 2012; Useche, 2015) (Fig. 5b). This thematic development indicates a broadening of the research agenda from product-specific strategies toward considering environmental and strategic factors that affect firm survival in competitive environments (Li et al., 2010; Howell, 2015). Moreover, innovation research in China emerged as a distinct theme, reflecting the country's growing economic importance and drawing scholarly attention to how innovation activities develop in this rapidly evolving context (Sharif and Huang, 2012; Howell, 2015).

2016–2019: The theme of "incremental innovation" emerged as the motor theme, reflecting a growing scholarly interest in more intermediate innovation types, such as incremental or "far-ranging innovation" (Wojan et al., 2018) (Fig. 5c). Innovation in China has become a fundamental theme, supported by numerous studies, but it remains underdeveloped in terms of both theoretical and empirical depth. The theme "financial crisis" emerged as a niche area of research, although studies in this field predominantly focused on the aftermath of the 2008 crisis (Cefis and Marsili, 2019; Garcia Martinez et al., 2019).

2020–2023: The theme of "innovation," "export" and "China" became a well-established motor theme, supported by the growing number of studies on the role of innovation in international market survival (Dai et al., 2020; Reddy and Sasidharan, 2023) (Fig. 5d). Furthermore, the extent of the pandemic's economic impact has motivated scholars to investigate its impact on firm resilience and survival. Although this area is expanding rapidly, the number of related studies remains relatively limited (Muzi et al., 2022; Özşuca, 2023; Ali, 2021).

Taken together, the bibliometric analysis highlights the exchange of ideas between economics and management/organizational research, as well as the development of themes in innovation and firm survival relationships. However, bibliometric mapping alone does not reveal which specific theoretical perspectives and assumptions about innovation and firm survival have been transferred, adapted, or reinterpreted across disciplines. Nor does it clarify how these adaptations have led to both conceptual enrichment and contested debates between fields. To address this gap, the following section complements bibliometric mapping with field-based content analysis.

3.2. *Content analysis*

Content analysis allows us to identify (1) the underlying assumptions about innovation and firm survival within each field, (2) the variations and contested debates existing both within and across domains, and (3) the instances of cross-field borrowing that further contribute to conceptual variation.

Regarding content analysis, we included only studies that explicitly defined both innovation and firm survival constructs. Consequently, we excluded conceptual and qualitative studies, leading to a final sample of 102 articles. We categorized these studies into strategic management (35), economics (50), and organizational studies (4), aligning with the bibliometric clusters identified in the analysis (Fig. 3). The underlying assumptions about innovation and firm survival within each tradition were compared with the coded assumptions derived from the content analysis. However, the bibliometric mapping reveals that these three traditions did not fully capture certain conceptualizations of innovation and firm survival. In particular, a subset of studies approached innovation from a demand or consumer perspective or viewed firm exit as a strategic outcome rather than an absolute economic performance. To account for these distinctions, we included two additional research domains: marketing (4) and international business studies (9), to better

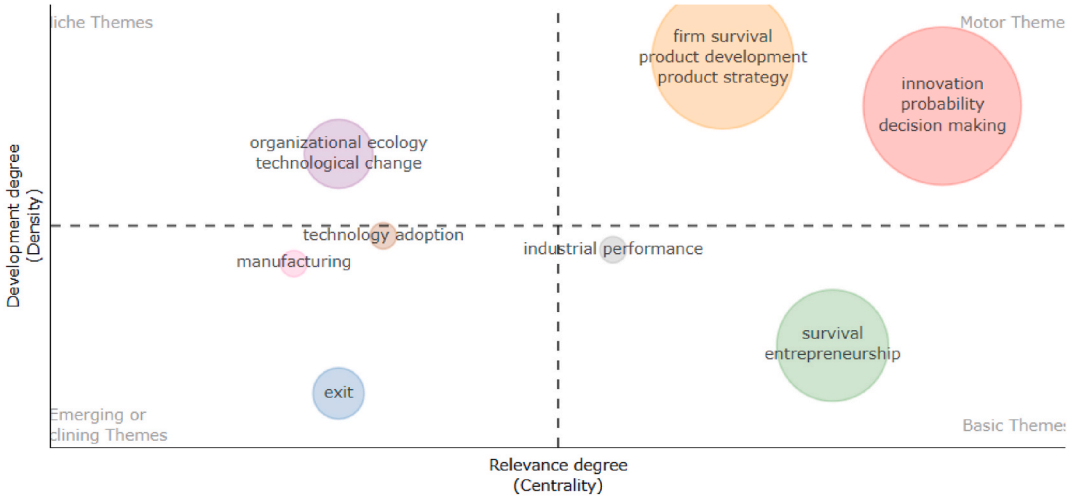


Fig. 5a. Thematic evolution of innovation and firm survival between 1995 and 2008.

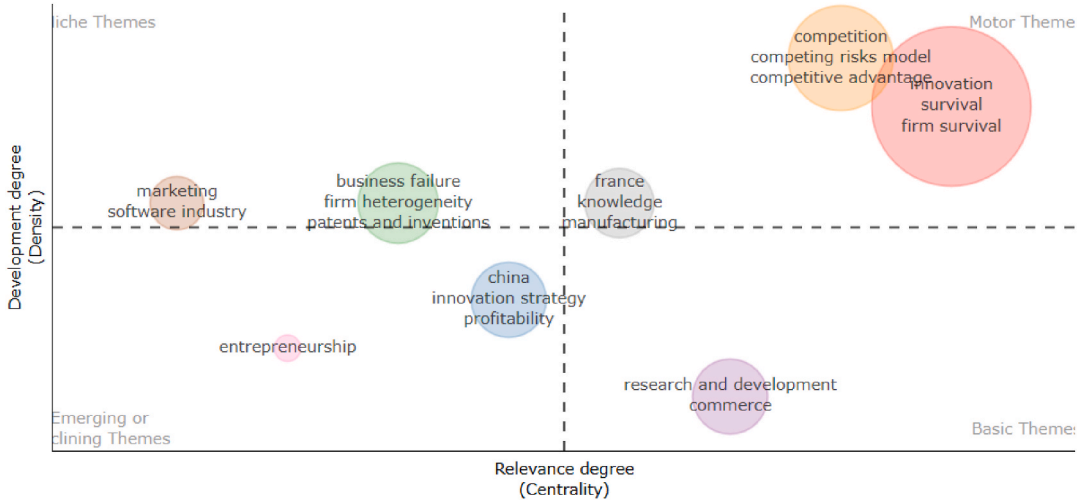


Fig. 5b. Thematic evolution of innovation and firm survival between 2009 and 2015.

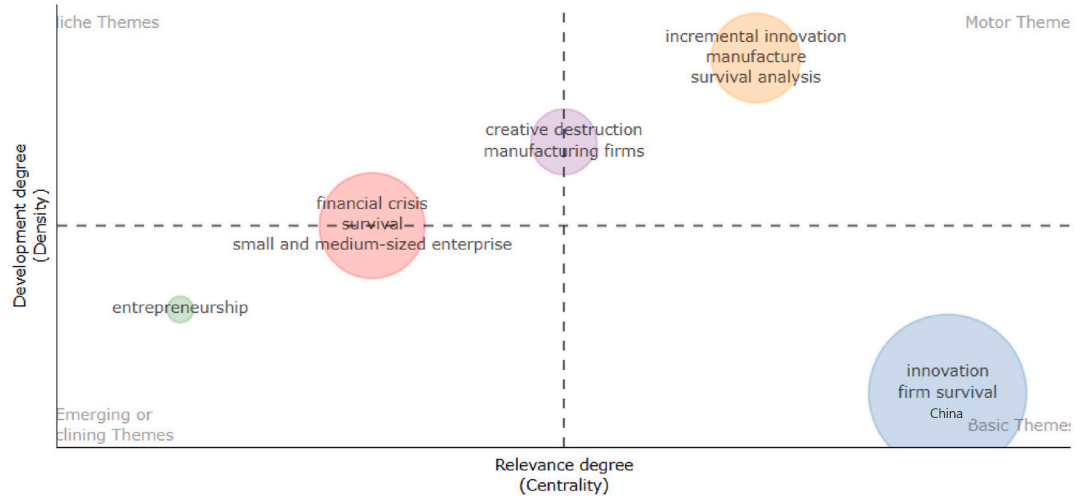


Fig. 5c. Thematic evolution of innovation and firm survival between 2016 and 2019.

reflect the nuances in conceptualization.

We conducted a content analysis of the 102 selected studies using a pre-designed coding protocol. The reconciliation matrix presented in Table 6 serves as a structured codebook, ensuring transparency and traceability between coded categories and textual evidence. The coding scheme included categories such as theoretical perspective, underlying assumptions, types of innovation, channels (if any), conditions, operationalization of firm survival, and the direction of the main effect. Innovation is broadly classified into three categories: technological innovation (including product and process innovation, patenting, technology adoption, new product introduction, and radical innovation), R&D behaviour (e.g., R&D investment and R&D intensity), and non-technological innovation (e.g., organizational innovation and marketing innovation). Regarding firm outcomes, firm exit is classified as failure when the study specifically examines negative exit due to forced liquidation or bankruptcy; it is coded as binary when the study adopts a homogeneous view of firm exit by implicitly or explicitly treating all exits, regardless of mode, as a negative outcome (firm exit = failure). Studies exploring mergers or acquisitions are categorized as M&A. As for theoretical perspectives, we primarily follow the authors' statements. When the perspective is implicit, we determine the relevant theoretical framework based on the references underpinning the main argument. Intercoder reliability analysis was conducted to assess coding consistency and identify any deviations arising from subjective biases. Two authors independently coded a randomly selected study, and their coding was compared using Cohen's kappa coefficient (Cohen, 1960). Based on the intercoder reliability analysis ($\kappa = 0.88$), substantial agreement was observed between the coders, indicating consistent coding and a reduced likelihood of subjective bias.

The reconciliation matrix synthesizes studies from economics, strategic management, marketing, organizational studies, and international business (Table 6). It maps the major theoretical perspectives, underlying assumptions on innovation and firm survival,

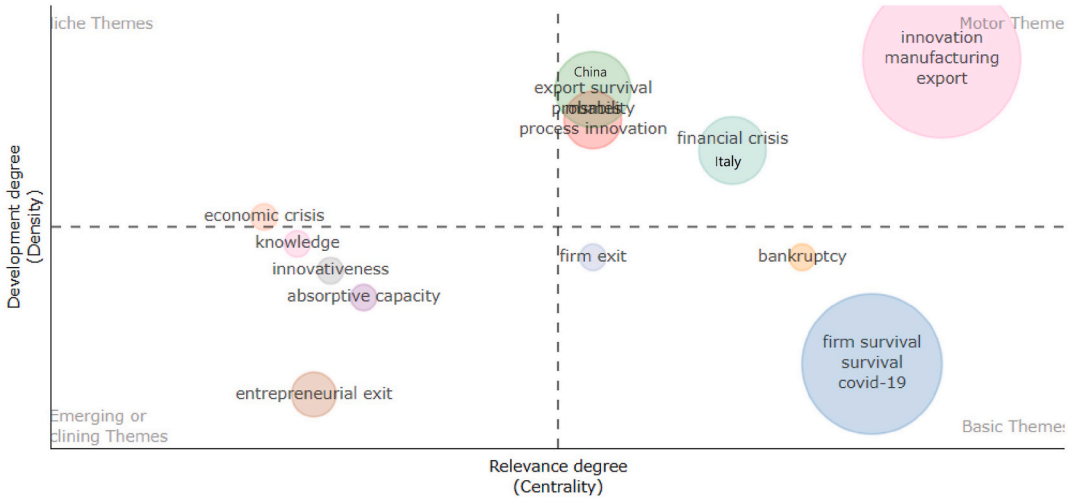


Fig. 5d. Thematic evolution of innovation and firm survival between 2020 and 2023.

innovation types, mechanisms (if any), conditions, and empirical results.

3.2.1. *Across-field variations*

Different domains used different assumptions about innovation and firm survival, leading to contrasting interpretations of the role of innovation. As shown in Table 6, these variations contribute to the fragmentation of the literature and the persistence of competing debates. For example, economics typically conceptualizes innovation as an efficiency and productivity-enhancing mechanism that lowers firms' failure rates (Cefis and Marsili, 2005, 2006). In contrast, organizational studies, mainly drawing on organizational ecology and structural inertia perspectives, frame innovation as disruptive and destabilizing, thereby heightening organizational mortality risk (Barnett and Freeman, 2001). Within this tradition, firm failure is not necessarily efficiency-based; efficient firms can die if the process effect of organizational change through technical innovation disrupts structural inertia (Dowell and Swaminathan, 2000). Moreover, the field of strategic management, employing an organizational ecology perspective, frames innovation as an inertia-enhancing tool that facilitates the survival chances of initial public offering (IPO) firms (Wilbon, 2002). These divergent theoretical assumptions and different operationalizations of firm survival-related outcomes contribute to the ongoing debate over whether innovation stabilizes or destabilizes firms' viability.

3.2.2. *Within-field variations*

Within fields, competing theoretical perspectives generate inconsistent assumptions and conceptualizations of innovation. As shown in Table 6, strategic management demonstrates particularly divergent views on innovation, including innovation as resources and capabilities, timing, product variety, and adaptability (Landini et al., 2020; Christensen et al., 1998; Cottrell and Nault, 2004; Bartoloni et al., 2021). These inconsistent conceptualizations, compared with adjacent fields, suggest that the same innovation might appear survival-enhancing in some traditions but risk-increasing in others. First, significant or radical innovation enhances firm survival in strategic management and economics (Sinha and Noble, 2008; Ortiz-Villajos and Sotoca, 2018), in which it improves capabilities and efficiency, but has a disruptive effect on firm survival in organizational studies (Carroll and Teo, 1996), in which it disrupts routines and increases instability. These contrasting findings reflect different underlying assumptions about whether innovation enhances efficiency or generates disruption. Second, R&D intensity has been shown to improve firms' survival in export markets in international business studies (Inui et al., 2017), yet it has an inverted-U relationship with survival in economics (Ugur et al., 2016). This divergence may stem from the differences in endpoint operationalization: export market exit often indicates a neutral or strategic outcome, whereas bankruptcy or forced liquidation represents absolute failure. Third, incremental innovation has little or no effect on firm survival in strategic management (Banbury and Mitchell, 1995); however, it becomes advantageous for the survival of market pioneer in marketing (Min et al., 2006). This difference reflects the variations in research design, particularly the length of the observation window: a longer observation window captures a limited protective effect of innovation, while a shorter window captures immediate competitive outcomes. Taken together, even within the same field, divergent assumptions about innovation and conflicting claims regarding its impact on firm survival highlight internal fragmentation, theoretical incoherence, and inconsistent conceptualization of innovation.

3.2.3. *Cross-field borrowing*

Cross-field borrowing introduces additional variations in how innovation and firm survival are conceptualized, as theories and assumptions are adopted or adapted across research domains. For example, both strategic management and international business studies have drawn on evolutionary economic theory, which views innovation as efficiency-enhancing mechanisms and firm exit as market-selection-based failures. However, the nature of "borrowing" is not uniform. International business scholars largely adopt the

Table 6
Reconciliation matrix of field-based assumptions and conceptualization of innovation and firm survival.

Field	Theoretical lense(s)	Innovation type/ construct	Assumptions about innovation	Mediators (Channel)	Moderators (Conditions)	Effect on survival	Assumptions about exit/ survival
Organizational Studies	Organizational ecology, structural inertia	Technical innovation	Innovation is disruptive, destabilizing organizational structure		Firm size, firm age, innovation extensiveness, population learning	Often negative	Exit = organizational mortality (not necessarily efficiency-based, even efficient firms can die if innovation disrupts inertia
Economics	Evolutionary economics, active and passive learning theory	Product and process innovation	Innovation improves efficiency, competitiveness, and market power Innovation is inherently risky.		Technological regime, market concentration, import and export activities, risk, and financial constraints	Mixed	Exit = efficiency-based market selection
	Sunk cost logic	Technology adoption	Innovation is viewed as capital-intensive and it creates irreversible sunk costs				Firm survival is due to the inertia of irreversible sunk costs
International business studies	RBV	Product innovation, innovation capability	Innovation as a firm-specific resource and capability		Financial constraint, export mode, international experience, foreign ownership, profitability, provision of trade credit	Positive or negative impact on export market survival	Export market exit = loss of competitiveness in export market
	Sunk cost logic	R&D investment, R&D intensity	Innovation as product differentiation and sunk cost				Firm export survival is due to the inertia to irreversible sunk costs
Strategic Management	RBV, dynamic capability	Innovation resource, intangible assets, innovation capability	Innovation as a firm resource and capability				Firm survival is the firms'adaptability to the changing environment (e.g., crisis)
	Organizational Ecology	Technology management	Innovation reinforces structural inertia as a stabilizer	Competitive strategy, competitive advantage	External support, financial constraints, financial crisis, competitive strategy, adoption timing, industry turbulence,	Mixed or inverted U-shaped relationships to firm survival	Firm survive through inertia-enhancing innovation
	Economies of Scope	New product introduction,	Innovation is viewed as product variety management; scope economies matter more in consumption than production				Firm failure is a strategic misalignment between product variety and scope
	Ambidexterity perspective	Exploratory innovation	The value of innovation relies on balancing exploration and exploitation.				Firm survival depends on the balance between exploration and exploitation
	First-mover advantage theory	Entry timing, innovation adoption timing	Innovation value depends on managerial choice (e.g., innovation timing or entry timing)				Firm survival hinges on innovation timing
	Evolutionary Economics	Global engagement strategy	Innovation enhances firms' adaptive capability				Firm survival partly depends on the firm's productivity and efficiency
Marketing	Knowledge-based logic/contingency theory(CT)	External knowledge search	Innovation acts as both stabilizer and destabilizer	Competitive advantage, marketing innovation	Patent, trademark, absorptive capacity, industry embeddedness, firm size, technological intensity,	U-shaped to firm failure	
	Demand/consumer-centric perspective (CT)	Marketing innovation, incremental innovation, truly new product innovation, product radicalness	Innovation shifts demand, market structure, and/or consumer behaviour			Positive for firm survival	Firm survival is contingent, not universal.
	RBV/(CT)	Patent and trademark	Intangible marketing assets				

Source: Authors' construct. $N = 102$ (Organizational studies: 4, Economics: 50, Strategic Management: 30, International business: 9, Marketing: 4)

theory directly, examining the impact of technological innovation on export market survival through firm productivity (Jitsutthiphakorn, 2021). Strategic management scholars, however, adapt the perspective to their own viewpoint. They consider innovation as an adaptive capability and emphasize that firm survival depends not only on efficiency and productivity but also on skills and firms' ability to cope with environmental complexity (Bartoloni et al., 2021). A similar pattern is seen in how "economies of scope" are adapted in strategic management. Although the concept is borrowed from economics, strategic management scholars focus on the consumption side rather than the production side. They view innovation as a means of managing product variety and perceive firm failure as the result of a misalignment between product variety and scope (Cottrell and Nault, 2004). In contrast, international business scholars directly incorporate the sunk cost logic from economics, assuming that firm exit results from inertia due to irreversible sunk costs and implying that firm survival may sometimes be a matter of artificial persistence (Inui et al., 2017).

The reconciliation matrix shows that prior research has mainly focused on the direct relationship between innovation and firm survival, neglecting the underlying mechanisms by which innovation impacts firm survival. Future research should go beyond the direct link to explore how and under what conditions innovation affects survival, such as through resource configurations and market adaptation. Concerning boundary conditions, existing studies have identified several firm-level moderators, including financial constraints, absorptive capacity, and competitive strategy, as well as macro-level moderators such as the technological regime, market concentration, and financial crises.

Fig. 6 illustrates how contested debates, cross-field borrowing, and within-field variations function. The box size indicates the degree of variation within the field, while the grey background signifies internal heterogeneity and the white background indicates its absence. As shown in Fig. 6, the field of strategic management and international business exhibits greater internal variation, encompassing competing theoretical perspectives, underlying assumptions, and divergent conceptualizations of innovation. In

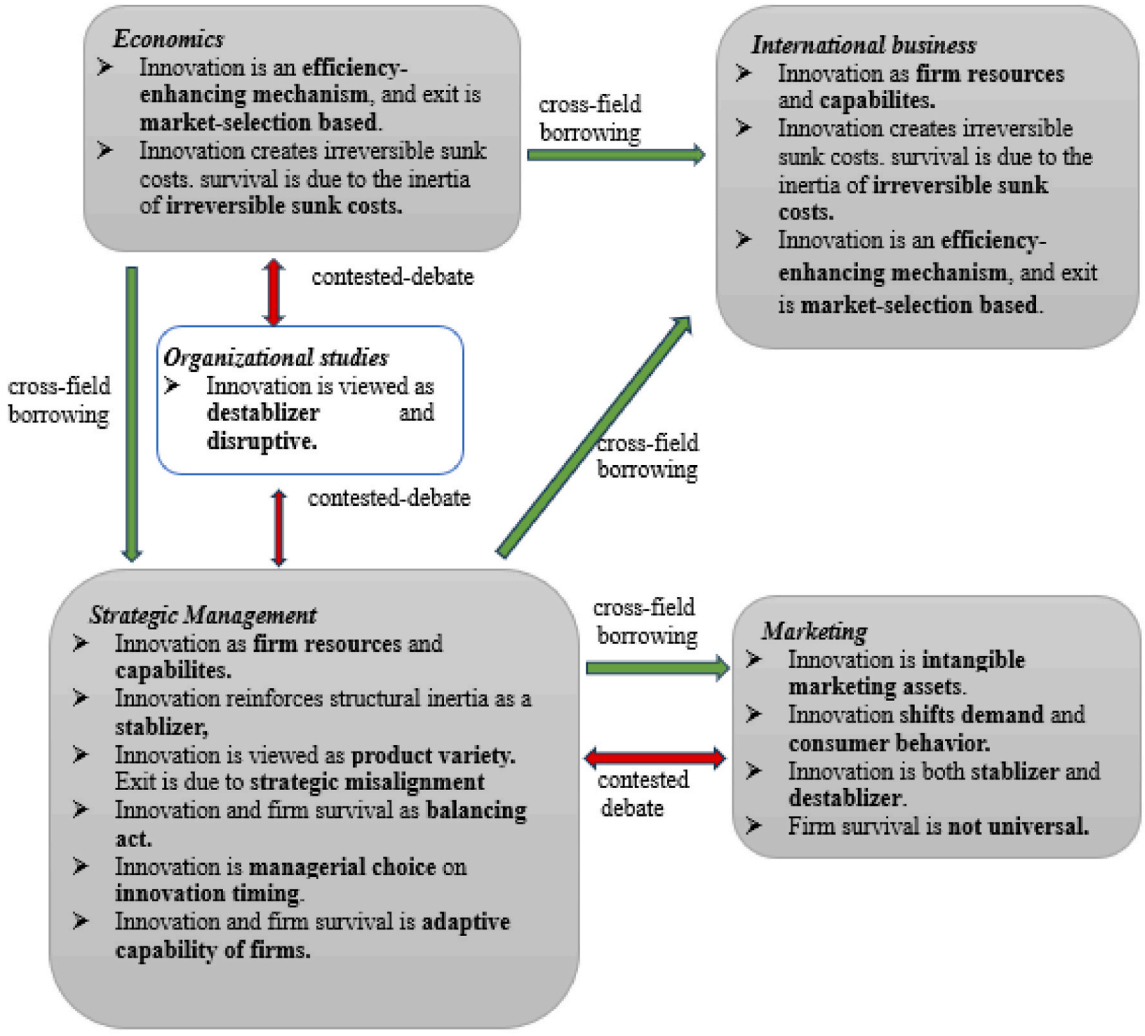


Fig. 6. Cross-field/within-field variations and cross-field borrowing map
Source: Authors' construct.

contrast, organizational studies hold a consistent view of innovation and its impact on firm survival; although not the dominant perspective, they contribute most to the contested debates.

3.2.4. Measurement consequences of firm survival

To further clarify the sources of inconsistency in prior findings, we examined how differences in the operationalization of firm survival influence the reported effect estimates between innovation and firm survival. The analysis reveals a systematic pattern: the impact of innovation on firm survival varies depending on how survival is measured. Table 7 shows the distribution of firm survival operationalizations and their associated effects.

When firm survival is treated as binary, with exit equated with failure, 82.4 % of studies report a protective effect of innovation (Zhang and Mohnen, 2022; Bhattacharjee et al., 2023). However, under competing risk models, the relationship becomes more nuanced. Innovation is consistently positively associated with firm survival when the endpoint is operationalized as continued solvency/bankruptcy (90.9 %) (Fontana and Nesta, 2009; Grazzi et al., 2022), whereas the results for mergers/acquisitions are more mixed (72.7 % protective effect, 27.2 % negative effect, and 9 % nonsignificant). Regarding the treatment of M&A, when M&A is treated as a non-failure outcome, 63.1 % of studies report that innovation has a protective effect. In contrast, when M&A is coded as a failure, the effect of innovation becomes more diverse.

These patterns demonstrate that inconsistencies across prior findings are not solely driven by variations in the underlying assumptions about innovation and firm survival, but also by measurement choices regarding firm-survival endpoints. While these operationalization choices do not map neatly onto specific research traditions, they often reflect differing theoretical emphases on what constitutes innovation and the relationship between innovation and firm survival.

Across the reviewed studies ($n = 102$), 44.1 % of the studies implicitly treat mergers and acquisitions (M&As) as failure events, whereas 10.7 % of the studies regarded it as non-failure outcome, highlighting the inconsistency in the treatment of M&A. Similarly, technological innovation dominates the literature, accounting for 94.1 % of the studies, while non-technological innovation, such as organizational, marketing, and business model innovation, remains largely underrepresented (5.88 %). Regarding time intervals, most studies (89.2 %) use an observation window of 5 to 10 years, while only a small fraction employ longer (>10 years, 5.88 %) or shorter (<5 years, 4.9 %) time horizons. This pattern indicates that heterogeneous findings in the literature are not only shaped by the distinct underlying assumptions rooted in the different theoretical traditions but also influenced by the systematic bias in measurement choice, such as how survival outcomes are measured, what types of innovation are assessed, and the observation window based on which effects are observed.

Taken together, these contradictions are manifested empirically through two key drivers. First, the dominance of technological innovation in the literature emphasizes the capability and selection channel while leaving nontechnological innovation, which is primarily aligned with the legitimacy channel, underexplored. Second, variations in operationalization choice, particularly in the operationalization of firm exit (e.g., whether M&A is treated as a failure event or a neutral strategic outcome), as well as differences in time windows, further shape the focal relationship. These drivers reflect the prominence of certain mechanisms, such as the capability and selection mechanism, while obscuring others, such as the legitimacy mechanism. Addressing these contradictions and imbalances requires a framework that integrates multiple mechanisms and clearly specifies the conditions under which each channel dominates.

4. Discussions and future research directions

4.1. Discussions

This study combines bibliometric analysis with field-based content analysis to provide a comprehensive understanding of how the diversity of assumptions embedded within different domains about innovation and firm survival influences the conceptualization of both constructs across fields. By integrating two review approaches, we not only map the intellectual structure of the field but also uncover how conceptualization differences, measurement choices, and cross-field borrowing generate persistent contradictions in prior findings. To address these inconsistencies and reconcile the fragmented body of knowledge rooted in different theoretical traditions, we develop a multi-channel framework that conceptualizes innovation-firm survival relationships through the capability, selection, and legitimacy channels. In the following section, we first delineate the methodological originality of the hybrid review, then

Table 7
Firm survival operationalization and its impact on the overall effect.

Firm survival operationalization	Notes	Enhance survival	Null	Non-linear	Impair survival
Binary	firm exit = failure	82.4 %	14 %	1.75 %	15.7 %
Competing risk: bankruptcy/ involuntary liquidation	Only involuntary exit or negative exit is considered.	90.9 %	18.1 %	-	-
Competing risk: mergers and/or acquisitions	Only firms undergoing mergers and/or acquisitions	72.7 %	9 %	-	27.2 %
M&A treated as a failure	Implicitly assuming M&A as a failure by viewing firm exit as a homogenous event	82.4 %	14 %	1.75 %	15.7 %
M&A treated as non-failure	Explicitly code M&A as non-failure firms.	63.1 %	-	15.7 %	26.3 %

Source: Authors' construct. $N = 102$.

introduce and operationalize the multi-channel framework, and finally demonstrate how it facilitates a conditional reconciliation of competing debates in the field.

4.1.1. Methodological originality of the hybrid approach

Research on the impact of innovation on firm survival is characterized by heterogeneous conceptualization of innovation and different operationalizations of firm survival. Under such conditions, adjacent review approaches face important limitations. A bibliometric-only review is useful for uncovering emerging trends, journal performance, research constituencies, and exploring the intellectual structure of the domain (Donthu et al., 2021). However, it does not reveal how underlying assumptions about innovation and firm survival differ across domains. Narrative reviews offer rich explanations of the extant literature but often lack systematic procedures for tracing how conceptualization and operationalization choices vary and interact across domains. Meta-analysis, in turn, relies on assumptions of comparable measures (Aguinis et al., 2011) and is therefore less suitable for contexts in which key variables, such as innovation and firm survival, are conceptualized and operationalized inconsistently.

To address this limitation, this study adopts a hybrid review combining bibliometric mapping with field-based content analysis. This design enables us to trace how the underlying assumptions of innovation and firm survival vary across domains, clarify the consequences of the heterogeneous operationalization of firm survival, and reconcile competing explanations through a mechanism-based, multi-channel framework.

4.1.2. Multi-channel framework

To reconcile, we develop a unifying multi-channel framework that categorizes the mechanisms through which innovation influences firm survival prospects: the capability, selection, and legitimacy channels. Fig. 7 illustrates the multi-channel framework, capturing both the retrospective and prospective dimensions of the field. The upper portion of the figure (in blue) represents prior studies on the impact of innovation on firm survival. The lower portion of the figure (in green) highlights future research avenues.

- The capability channel is rooted in the resource-based view and the dynamic capability perspectives, in which innovation functions as innovation resources and capabilities that enhance firms' adaptability and resilience in response to environmental complexity, and therefore decrease the likelihood of negative exit through bankruptcy. In this channel, the impact of innovation on firm survival prospects can be shaped by firms' ability to reconfigure resources and learning capacity.
- The selection channel is rooted in evolutionary economics, in which innovation is viewed as an efficiency and productivity-enhancing mechanism that triggers efficiency-based exit or mergers and acquisitions. In this channel, the impact of innovation may depend on competitive dynamics and market selection pressure, including innovation timing or entry timing.
- The legitimacy channel, rooted in institutional theory, in which innovation may impact non-economic indicators of firm survival, such as firm moral failure, legitimacy and social reputation loss, incorporating a broad set of organizational activities and the interests of secondary stakeholders. In this channel, the survival implications of innovation are shaped by regulatory signaling or the breadth of stakeholders. The boundary conditions governing the actionable levers mentioned above are discussed in detail in the future research direction section.

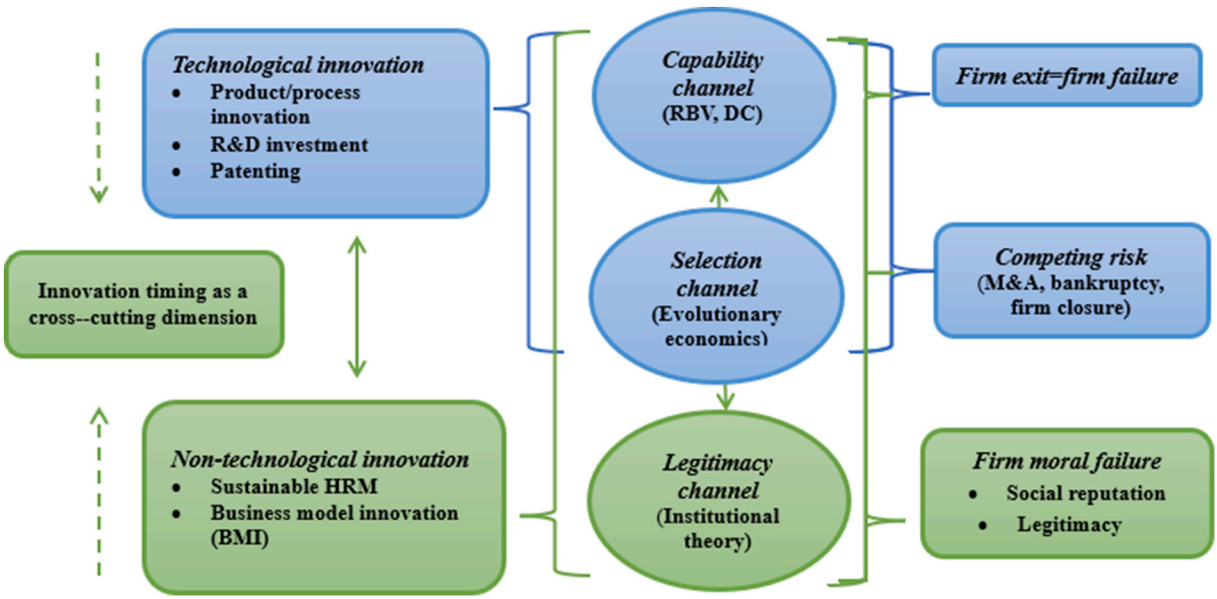


Fig. 7. Multi-channel framework.

Reviewed studies are assigned to channels based on the dominant theoretical perspective they employ. For instance, if a study's main argument aligns with the evolutionary economics framework and explores whether firms' innovation enhances their environmental fitness during events such as financial crises, it is classified under the selection channel (Guerzoni et al., 2021). Conversely, studies that use the resource-based view or dynamic capability perspective, treating innovation as an input for developing firm capabilities, such as learning capabilities, are placed in the capability channel (Garcia Martinez et al., 2019). To date, no existing studies have used institutional theory to examine the relationship between innovation and firm survival, especially regarding non-economic indicators of survival. Therefore, we propose the legitimacy channel as a promising direction for future research.

However, borderline cases arise when a study could be assigned to multiple channels. For example, Bartoloni et al. (2021) combine internal capability-based explanations, such as rent-generating resources, with external selection mechanisms based on profit differentials. While the emphasis on firm-specific capabilities suggests classification within the capability channel, the reliance on profit differentials as a selection mechanism also aligns with the selection channel. As a result, this study is coded based on its dominant explanatory emphasis (the capability channel), even though it spans both channels conceptually. Similarly, Kim and Lee (2016) distinguish between passive learning (learning from selection) and active learning (deliberate capability building). While passive learning reflects the selection mechanism, in which firms recognize their relative efficiencies through market selection or as they age (Jovanovic, 1982), active learning emphasizes deliberate capability building through innovation efforts (Ericson and Pakes, 1995). Because both mechanisms are embedded within the same conceptualization of learning, these studies span both the capability and selection channels. In our coding, this study is assigned to the capability channel, as the primary emphasis is on intentional resource commitment and innovation-driven learning, although the presence of selection-based learning highlights their proximity to the selection channel.

After developing the multi-channel framework, we revisited the three intellectual clusters identified through the bibliometric analysis (see Table 5) to examine how their underlying assumptions align with the capability, selection, and legitimacy channels that we built. The red and blue clusters (Fig. 3) focus primarily on innovation, productivity, R&D, and industry dynamism and are predominantly aligned with the selection channel, as they emphasize efficiency differentials and market-based selection mechanisms. In contrast, the green cluster, which captures the field's theoretical foundation, aligns with both the capability and selection logics, drawing on the resource-based and evolutionary economics perspectives.

Notably, these patterns indicate that the legitimacy channel was largely absent from the bibliometric mapping and content analysis, with no clearly defined cluster focusing on institutional and stakeholder perspectives on firm survival. As a result, non-economic indicators of survival, such as firm moral failure and legitimacy loss, are underexplored. The hybrid review highlights this gap and motivates the introduction of a third, underdeveloped mechanism, the legitimacy channel, to capture the neglected aspects of the innovation and firm survival relationship.

4.1.3. Reconciliation of the competing debates in the field

4.1.3.1. Efficiency-based exit vs inertia-induced exit. One central debate concerns whether firm exit is a matter of efficiency-based market selection or inertia-induced organizational mortality. From an evolutionary economic perspective, innovation enhances productivity and efficiency, and firm survival is determined by market selection in which more efficient firms outcompete less efficient firms (Nelson and Winter, 1982). In contrast, population ecology theorists argue that organizations are structurally inert and are constrained in their ability to adapt, and that innovation can be disruptive and therefore increase the risk of failure (Barnett and Carroll, 1995).

Reinterpreted through the multi-channel framework, this competing debate reflects the relative dominance of selection vs capability-based mechanisms. While the evolutionary economic perspective aligns with the selection channel, the organizational ecology perspective highlights the limits to capability adaptation due to structural inertia. The evidence from strategic management suggests that the relative dominance of these mechanisms is contingent on contextual factors. For example, under a stable environment, firm survival is closely related to efficiency differences, consistent with selection-based explanations. However, during periods of recession characterized by uncertainty and heightened environmental complexity, firm survival increasingly depends on firms' capabilities to adapt, learn, and reconfigure resources (Bartoloni et al., 2021). This indicates that macroeconomic conditions shift the dominant mechanism from selection-based cleansing toward capability-based adaptation.

4.1.3.2. Innovation as stabilizer vs innovation as destabilizer. The second debated issue concerns the role of innovation in shaping a firm's survival prospects. From one perspective, rooted in the resource-based view and dynamic capability theory, innovation is seen as a stabilizer: through innovation, firms develop firm-specific resources and capabilities; enhance their competitive advantage, efficiency, and market power; and improve their chances of survival. In this view, innovation mainly has a protective effect on firm survival. From another perspective, innovation is regarded as a destabilizer and is inherently risky, as it creates irreversible sunk costs, disrupts organizational routines, and thus increases the likelihood of firm failure.

However, the stabilizing vs destabilizing effects of innovation depend on the contextual conditions identified in the reviewed studies. In particular, risk orientation and financial conditions shape how innovation affects a firm's survival likelihood. Evidence suggests that more cautious innovators or firms are better able to manage innovation-related risks and are therefore more likely to survive than highly risk-tolerant firms (Hyytinen et al., 2015; Howell, 2015). Similarly, financial constraints, such as high trade credit or high leverage, reduce firms' ability to sustain innovation investments, increasing their vulnerability to failure (Deng et al., 2014; Cefis et al., 2020).

Overall, these contextual factors help resolve the debate by illustrating that innovation is not intrinsically stabilizing or destabilizing. Its impact on a firm's survival hinges on its capacity to absorb risk and maintain innovation efforts. When firms have adequate financial resources and risk management capabilities, innovation functions as a mechanism that enhances their capabilities and supports survival. Conversely, if firms face financial constraints or high risk exposure, the same innovation activities could increase the chances of failure, thus serving as a destabilizing force.

4.1.4. Reconciliation outputs from the multi-channel framework

The multi-channel framework yields several design-oriented outputs derived from the coded corpus. First, we recommend including the non-economic indicators of firm survival alongside traditional economic measures. Our analysis shows that economic-based measures, such as market or efficiency-based exit, are primarily aligned with the capability and selection channels and are therefore better suited to explain the impact of technological innovation. In contrast, non-economic indicators of survival, such as moral failure or legitimacy loss, more directly reflect the logic of the legitimacy channel and are relevant for non-technological innovation. This distinction is highly salient in highly regulated industries, such as pharmaceuticals and healthcare, where firm survival is not solely determined by economic performance but also by primary and secondary stakeholders and institutional compliance. We therefore recommend using economic and non-economic indicators of survival as complementary measures to capture broader organizational activity. Second, we suggest treating mergers and acquisitions as conceptually distinct from failure-based exit. The evidence from the coded corpus indicates substantial variation in studies treating M&A. Some studies treat these events as failures, differentiate acquisitions from success or failure, or avoid the issue entirely by excluding all acquisitions from the sample. These inconsistencies obscure the underlying mechanism driving firm survival outcomes. Building on prior work (Josefy et al., 2017; Fortune and Mitchell, 2012), the multi-channel framework clarifies that M&A represents a form of ownership transfer in which organizational capabilities are retained and redeployed, whereas bankruptcy or forced liquidation involves the dissolution of organizational capabilities. Accordingly, treating acquisitions as failures may confound the interpretation of survival outcomes. Moreover, consistent with Cefis et al. (2021), acquisitions themselves are heterogeneous and may range from value-enhancing (harvesting) to hostile acquisitions, further underscoring the need to distinguish them from bankruptcy.

4.2. Future research directions

4.2.1. Non-technological innovation

The review shows that research on the relationship between innovation and firm survival overwhelmingly focuses on technological innovation, while non-technological innovations remain underexplored. This omission is critical since non-technological innovation is increasingly recognized as one of the key drivers with strong potential to contribute to organizational performance (Damanpour, 2014; Volberda et al., 2014). Non-technological innovation influences firms' outcomes, in line with the institutional perspective and the resource-based view. Taking sustainable human resource management (HRM) as an example, institutional theory posits that firms can gain legitimacy by conforming to institutional pressures and secure their survival and performance by adopting practices, such as HRM (DiMaggio and Powell, 1983; Farndale and Paauwe, 2007). In contrast, resource-based view contends that firm survival depends on differentiation through the development or acquisition of unique resources rather than on the conformity pressure that institutional theory suggests (Barney, 1991). This tension suggests that the survival implications of non-technological innovation depend on the balance between conformity-driven legitimacy gains and differentiation-based capability building, potentially leading to non-linear effects. Therefore, it was posited that,

P1: The impact of non-technological innovation (e.g., sustainable HRM) on firm survival is non-linear (inverted U-shaped), with the highest survival likelihood occurring at intermediate levels of adoption and a lower survival likelihood at both low and high levels.

To operationalize sustainable HRM, several pathways are recommended, such as ESG (environmental, social, and governance) and CSR (corporate social responsibility) disclosures or text mining in sustainable reports to detect the adoption of practices related to employees' well-being, diversity, and inclusion.

Similarly, business model innovation (BMI), a form of non-technological innovation, receives scant attention in the literature on firm survival. BMI, such as modifications to revenue models and partnership structure, influences firm survival through several channels. For instance, diversifying revenue models may help smooth cash flows during economic crises, thereby decreasing the likelihood of firm exit. Herein, we posit that,

P2: Business model innovation (e.g., diversifying revenue models) decreases the likelihood of firms' outright failure (e.g., negative exit, bankruptcy) through the selection channel, with a stronger effect in a volatile environment.

Subsequently, collaborating with various types of stakeholders, such as customers, suppliers, universities, and research institutions, enables firms to access a range of external resources (Iglesias et al., 2013; Ind et al., 2017). More specifically, firms engaging with various stakeholders can enhance learning and technological capabilities, decrease the costs of new product development (Helfat and Peteraf, 2003), and therefore increase the likelihood of firm survival. Stakeholder breadth also affects other firm survival-related outcomes, such as mergers and acquisitions, through the selection channel, as it conveys either resource accessibility and growth potential or vulnerability to evaluators. Finally, but not least, stakeholder breadth affects non-economic indicators of firm survival, such as legitimacy gain via the legitimacy channel, particularly when stakeholders serve as endorsement mechanisms in the broader institutional environment. Therefore, it was posited that,

P3: Greater stakeholder breadth is positively associated with firm survival through the capability channel.

P4a: Greater stakeholder breadth increases the likelihood of firms experiencing harvesting outcomes through the selection channel, as it signals resource accessibility and growth potential.

P4b: A narrower stakeholder breadth increases the likelihood of firms experiencing hostile acquisitions through the selection channel, as it reflects vulnerability.

P5: Greater stakeholder breadth enhances a firm's' legitimacy or social reputation in the long run via the legitimacy channel, as a broader set of stakeholders serves as an endorsement mechanism.

To operationalize BMI, future studies could employ text mining of annual reports and investor communications to detect the adoption of new business model practices.

4.2.2. Innovation timing

Hybrid review indicates that while extensive attention has been given to technological innovation and R&D intensity, innovation timing has received comparatively limited attention in the existing literature. Understanding the timing of innovation is crucial because it is a key concern in competitive strategy and is often used to explain firm performance (Fosfuri et al., 2013). Prior empirical research anchors innovation timing in a traditional focus in which early innovators have first-mover advantages by achieving higher market shares, indirectly lower exit rates (Banbury and Mitchell, 1995) or drawing on industry lifecycle theory to propose a "window of learning" that firms entering during this window were shown to have higher survival rates in the sample (Christensen et al., 1998). Despite providing useful insights, they treat innovation timing as discrete (early vs late) rather than as a strategic process unfolding under uncertainty, since firms adjust their timing as market conditions evolve. In this regard, real options theory (ROT) offers a formal decision framework to conceptualize innovation timing as a path under uncertainty, allowing firms to delay, stage, or alter innovation commitments as market conditions evolve (Trigeorgis and Reuer, 2017).

Within the multi-channel framework, innovation timing serves as a cross-cutting temporal dimension that can influence all three channels. In the capability channel, innovation timing is the firm's ability to seize opportunities by reconfiguring its resources and capabilities. In the selection model, innovation timing determines when firms are exposed to market and environmental selection pressures. Here, a real option perspective highlights that firms may delay or phase innovation activities in response to uncertainty in market munificence, complexity, or technological change. In the legitimacy channel, innovation timing relates to the point at which innovation gains social acceptance or legitimacy. This perspective is especially relevant in international business contexts, where firms may postpone introducing new products due to institutional constraints. Different institutions vary in their receptivity to innovative products, affecting firms' export market opportunities or subsidiary survival. Therefore, we posit that,

P6: The impact of innovation timing on firm survival through the capability channel is contingent on the firms'' ability to reconfigure resources, such that innovation undertaken at a time aligned with the firms' readiness enhances firm survival.

P7: The impact of innovation timing on firm survival through the selection channel is contingent upon market conditions, such that delaying or staging innovation activities may decrease the risk of failure in a volatile environment, while early innovation is more advantageous in a stable and munificent environment.

P8: The impact of innovation timing on firm survival and export market survival, particularly through the legitimacy channel, depends on the cultural receptivity of the target country, such that introducing innovation prior to achieving local legitimacy increases the risk of withdrawing from the export market.

4.2.3. Beyond economic survival

Most innovation-firm survival studies conceptualize firm survival through an economic lens, emphasizing economic performance and market continuity. This emphasis reflects the interests of primary stakeholders, such as shareholders and managers, and thus privileges economic viability as the core outcome of survival. While valuable, this view neglects the broader organizational activities and the interests of secondary stakeholders, including employees, communities, and societies, whose interests encompass ethical and environmental dimensions (Damanpour, 2020).

Innovation influences firm survival not only through economic performance via the capability and selection channel but also through the legitimacy channel, shaping firms' moral failure. Specifically, innovation that conflicts with prevailing ethical, cultural, and environmental standards increases the risk of moral failure, even when firms remain economically viable. This effect is expected to be more pronounced in highly regulated industries and in cases where innovation is adopted symbolically rather than substantively. Moreover, the consequences of legitimacy loss are likely to be delayed, as reputation damage accumulates over time before translating into observable survival risk. Therefore, it was posited that,

P9: The symbolic adoption of innovation is positively associated with firms' moral failure (e.g., legitimacy loss or reputation loss) through the legitimacy channel, with a stronger effect in a highly regulated industry.

P10: The effect of innovation-induced legitimacy loss is delayed, such that moral failure may precede and increase the likelihood of economic exit.

Future research should operationalize moral failure by utilizing data sources such as ESG incident databases (e.g., Refinitiv, MSCI ESG), sanction records (e.g., labour and environmental violations), and media-based measures, like reputation crises. These indicators can identify instances when firms breach moral hazards, which may not immediately affect economic viability but threaten a firm's long-term sustainability. Methodologically, the multi-state survival model offers a promising analytical framework for examining economic and moral survival as separate yet interconnected transition processes. This approach enables researchers to trace firm trajectories across multiple states. For example, the transition from legitimate operation to moral failure or from economic hardship to moral recovery reflects the dynamic interaction between economic performance and moral integrity.

5. Limitations

This study has some limitations. First, the review is limited to peer-reviewed articles. Including other sources, such as book chapters, dissertations, and conference proceedings, may enrich future reviews with diverse perspectives and insights. Second, this study focuses primarily on the impact of innovation on firm survival, including direct effects, mediators and moderating factors. Future studies could further examine the drivers of innovation, helping clarify the antecedents that influence firms' innovation strategies and survival.

6. Conclusion

This paper aims to address two central questions: 1) what forms the intellectual and conceptual foundation of the literature on the impact of innovation on firm survival; 2) how different assumptions about innovation and firm survival influence the field, and how integrating these assumptions might enhance cumulative knowledge.

Our hybrid review, which combines bibliometric mapping and field-based content analysis, reveals that the field has evolved through multiple, interrelated research streams, including evolutionary economics, active-learning theory, resource-based view, dynamic capability, and organizational ecology. The analysis provides clear evidence of cross-fertilization among these domains, especially between economics and management/organization studies, which have shaped the conceptualization of innovation and firm survival.

To address the second research question, we constructed a field-based reconciliation matrix demonstrating key theoretical perspectives (e.g., resource-based view, evolutionary economics, and organizational ecology) and their underlying assumptions about innovation and firm survival, mechanisms (if any), and boundary conditions. Our synthesis shows that conceptualizations of both innovation and firm survival vary significantly across studies, encompassing innovation resources and capabilities, product innovation, patenting behaviour, R&D investment and intensity, exploratory innovation, innovation timing, knowledge search behaviour, and strategy. Firm survival is also treated differently in the pertinent literature, ranging from efficiency and productivity-based exit, inertia-induced exit, to capability-based exit. This divergence is also reflected in the variations of firm survival operationalizations, ranging from treating firm survival as binary exit, competing risk model, and coding M&A as non-failure. This suggests that the contradictory findings on the relationship between innovation and firm survival may arise from measurement artifacts, as well as conceptual differences. Drawing on these, we propose a multi-channel framework that captures three channels: the capability channel, the selection channel, and the legitimacy channel, through which innovation influences firm survival. This integrative framework reconciles fragmented insights and clarifies why prior findings diverge, providing a foundation for a theoretically grounded, testable synthesis. Our analysis also highlights three underexplored research directions (1) examining non-technological innovations (e.g., HRM, BMI): through all three channels, (2) incorporating innovation timing as a real-option policy path under uncertainty as a cross-cutting dimension influencing all three channels, and (3) integrating the moral survival of firms alongside economic outcomes to incorporate the benefit of secondary stakeholders.

Overall, by employing a hybrid approach, this review offers an integrative conceptual framework that advances the field beyond descriptive accumulation toward a unified, falsifiable understanding of how innovation influences firm survival.

Ethics statement

Not applicable because this work does not involve the use of animal or human subjects.

Declaration of competing interest

The authors declare that there is no conflict of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijis.2026.100199.

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