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SYSTEMATIC LITERATURE REVIEW ON FINANCIAL CONSTRAINTS AND THEIR IMPACT ON CORPORATE INNOVATION

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ABSTRACT

Financial constraints remain a critical barrier to corporate innovation, particularly in limiting access to capital for research and development (R&D) investment. These constraints significantly undermine firms' innovation capacity and global competitiveness. This study aims to systematically review the existing literature on the relationship between financial constraints and corporate innovation, while also identifying the role of public policy and strategic management interventions in mitigating such limitations. Employing a Systematic Literature Review (SLR) method with a qualitative approach based on PRISMA 2020 guidelines, this research analyzed five Scopus-indexed articles published during the 2024–2025 period. Content analysis was conducted to synthesize theoretical perspectives and empirical findings related to the keywords "financial constraint" and "corporate innovation." The findings reveal that financial constraints negatively impact innovation activities, particularly under conditions of regulatory pressure, macroeconomic volatility, and exogenous shocks such as natural disasters. However, targeted policy interventions, particularly technology-financing schemes-and adaptive corporate strategies, including digital transformation, have demonstrated efficacy in alleviating financial bottlenecks. Academically, this study contributes by mapping current theoretical discourse and empirical evidence on financial constraints in innovation, offering an integrative framework for future inquiry. Practically, the results inform policymakers and corporate leaders on effective mechanisms to enhance innovation resilience through financial and strategic flexibility. Future research is encouraged to expand the scope by including diverse industrial sectors and cross-country comparisons, employing longitudinal data to capture dynamic interactions between financial access and innovation output over time.

Keywords : *Financial Constraints; Corporate Innovation; Systematic Literature Review*

INTRODUCTION

Innovation has become an important pillar in the modern business world, serving as a driving force for competitiveness and long-term growth of companies. In an increasingly complex and rapidly changing business environment, innovation provides a vital competitive advantage for companies in responding to dynamic market demands. Research shows that innovation not only improves company performance, but also supports the sustainability of business models that are more innovative and adaptive to change (Irawan et al., 2024; Rondi et al., 2019). Innovation is closely related to technological advancements that allow companies to introduce new products and services that meet consumer needs, while maintaining relevant competitiveness in the market (Farida & Setiawan, 2022; Sezer et al., 2020).

One of the most significant roles of innovation is in creating business models that can adapt to sustainability trends. Research shows that sustainable innovative business models appeal to consumers who are increasingly concerned about environmental issues and provide a competitive advantage in the global market (Jin et al., 2021). In addition, innovation contributes to the creation of added value in products and business processes, which is key for companies to stay relevant and thrive in the midst of competition (Coelho et al., 2023; Farida & Setiawan, 2022).

However, the journey to innovation is often not smooth, and many companies face various challenges that hinder their ability to innovate effectively. The first challenge that companies face in the innovation process is financial constraints. These constraints usually arise due to limited access to capital required for investment in research and development (R&D), workforce training, and the implementation of new technologies (X. Li et al., 2021; Scopelliti et al., 2013). Therefore, understanding the various factors that affect innovation, including financial, human resources, and technological aspects, becomes critical to the planning of a company's long-term innovation strategy (Ali et al., 2022).

Financial constraints refer to the difficulties experienced by companies in obtaining sufficient funds to support innovation activities. This barrier is often one of the main causative factors that stop companies from exploring new possibilities (Weiß et al., 2011). Increasing consumer demand for increasingly innovative and sustainable products further emphasizes the importance of having adequate access to funding to facilitate R&D and innovation activities (Acebo et al., 2020). This creates a vicious circle where lack of financing reduces innovation capacity, which further results in a decline in competitiveness in an increasingly tight market (Scopelliti et al., 2013).

In terms of impact, financial constraints can be seen in the product development process, where inadequate investment often results in a product that is less competitive and does not meet market expectations. There is evidence that companies operating in financially constrained environments report lower innovation outcomes compared to companies with good financial access (Gorodnichenko & Schnitzer, 2013).

It also includes an impact on R&D investment, where a lack of funds can cause companies to fail to invest adequately in new technologies that are essential for sustainable innovation (Q. Li et al., 2021; Suryono et al., 2020).

Recent literature reviews show a significant relationship between financial constraints and innovation practices in companies, where many studies have found that companies that experience financial constraints tend to have a lower frequency of carrying out innovation activities (Q. Li et al., 2021; Seenaiah & Rath, 2018). These effects are not only limited to specific sectors, but have been observed across a wide range of industries, suggesting that financial constraints can be a pervasive and complex issue (Reddy, 2024). Other research underscores the importance of conducting a systematic review to explore how companies can better address these barriers through innovation policies and more integrated strategies (Azari et al., 2017).

Looking into existing research gaps, it is known that while there is a lot of research that sheds light on the relationship between finance and innovation, there is still a lot that has not thoroughly explored how financial factors interact with other aspects such as human resources and government policies in supporting innovation (Acebo et al., 2020; Q. Li et al., 2021). Systematic studies are needed to consolidate and synthesize existing findings, providing a more comprehensive picture of the patterns and trends that researchers and practitioners in this field can take (Azari et al., 2017).

The main objective of this study was to collect and analyze the relevant literature to highlight the complex relationship between financial constraints and innovation. By building on this understanding, the research not only contributes to the development of theories but also provides practical guidance for policymakers and managers to design more effective strategies in supporting innovation across a wide range of organizations (Azari et al., 2017). Identifying patterns in these relationships is very important in directing efforts to increase the achievement of innovation, so that companies can be more competitive and sustainable.

This study focuses on literature published in the 2024–2025 period, a time frame selected intentionally to capture the most recent post-pandemic recovery trends and policy shifts related to innovation financing. Although this period is relatively short, it reflects a critical transition era, characterized by aggressive digitalization, green investment, and restructured funding policies across industries. Thus, literature within this window is strategically relevant for understanding how companies are currently navigating financial barriers to innovation in a fast-evolving economic landscape.

Given these conditions, a systematic review of the literature is needed to map the current understanding and provide theoretical and practical insights. This study focuses on literature published in the 2024–2025 period, a time frame selected intentionally to capture the most recent post-pandemic recovery trends and policy shifts related to innovation financing. Although this period is relatively short, it reflects a critical transition era, characterized by aggressive digitalization, green investment, and restructured funding policies across industries. Thus, literature within this window is strategically relevant for understanding how companies are currently navigating financial barriers to innovation in a fast-evolving economic landscape.

The limited number of articles (five) was a result of strict inclusion criteria, focusing only on peer-reviewed, Scopus-indexed articles that directly addressed the interaction between financial constraints and corporate innovation. While small in quantity, the selected studies offer depth, thematic consistency, and recent empirical findings, which are suitable for qualitative synthesis. Prior research (Azari et al., 2017) supports the use of focused, high-quality samples in systematic literature reviews where the goal is conceptual mapping rather than statistical generalization.

This study aims to synthesize recent findings and explore the complex relationship between financial constraints and innovation, offering both theoretical insights and practical recommendations from managerial and policy perspectives. By integrating contextually relevant literature, it underscores the importance of adapting innovation strategies to financial realities to maintain competitiveness and sustainability. A deep understanding of financial constraints is crucial for companies striving to innovate in a resource-limited environment, as it enables the formulation of more sustainable and adaptive innovation policies (Q. Li et al., 2021; Seenaiah & Rath, 2018). Ultimately, this research contributes meaningfully to innovation management practices and lays the groundwork for future, data-driven investigations while providing alternative solutions for firms facing funding limitations.

RESEARCH METHOD

This study uses a qualitative approach with a structured, transparent, and replicable Systematic Literature Review (SLR) method to examine the relationship between financial constraints and corporate innovation. The SLR follows the PRISMA 2020 guidelines, adapted into three main stages: (1) planning,

(2) implementation of reviews, and (3) reporting of results. The main purpose of this method is to identify research gaps, propose new research directions, and highlight emerging themes in the existing literature. Keyword selection was based on the terms “Financial Constraint” and “Corporate Innovation”, searched across Scopus-indexed journals for the 2024–2025 period. Inclusion criteria were: peer-reviewed status, relevance to research focus, and availability in English. In order for the articles to be reviewed in accordance with the problems and objectives of the research, the following search criteria were developed:

Table 1. Article selection criteria

No.	Criterion
1	Articles are from scientific journals that are published periodically, not discontinuously, and indexed on Scopus
2	Articles are written in English and are available in open access.
3	Articles published in the last 2 years (2024–2025).
4	Literature search using Scopus with the keywords Financial Constraint and corporate innovation
5	The search is limited to the top 5 results of each keyword with a minimum number of citations of 10
6	The final process is in the form of aligning the selected articles with the research objectives.

Quality assessment was conducted using a modified Critical Appraisal Skills Programme (CASP) checklist for each study. Articles were evaluated based on clarity of objectives, methodological rigor, credibility of findings, and relevance to the research questions. Only articles with medium to high quality scores were included in the synthesis.

Data extraction was carried out using a structured spreadsheet to capture both bibliographic information (e.g., first author, publication year, title, journal name, volume, issue, DOI, citation count, and journal quartile ranking) and substantive content (e.g., main theme, methodology type, data type, region/industry focus, and key findings). This ensured consistency and traceability in the review process. Data extraction was carried out using a structured spreadsheet to capture both bibliographic information (e.g., first author, publication year, title, journal name, volume, issue, DOI, citation count, and journal quartile ranking) and substantive content (e.g., main theme, methodology type, data type, region/industry focus, and key findings). In total, five articles met all inclusion and quality criteria. Despite the limited number, these studies provided in-depth and recent insights aligned with the research objectives. The final synthesis was used to inform both theoretical implications and future research recommendations.

RESULT AND DISCUSSION

Table 2. List of Articles

Author Name First, the year	Article Title	Journal Name	Keywords
Huang et al. (2025)	The integration of technology and finance and corporate innovation boundary	Finance Research Letters	Financial Constraint dan Corporate Innovation
Sun et al. (2025)	The impact of China's green credit policy on the innovation of manufacturing enterprises	Journal of Innovation & Knowledge	Financial Constraint dan Corporate Innovation
He et al. (2025)	The real effect of shadow banking regulation on corporate innovation: Evidence from conduit business	Pacific-Basin Finance Journal	Financial Constraint dan Corporate Innovation
Rana & Debata (2024)	Role of corporate innovation and uncertainty in determining corporate investment of the firm: does financial constraint, executive risk preference and firmrisk-taking ability play any role	Journal of Indian Business Research	Financial Constraint dan Corporate Innovation
Lei & Xu (2025)	Innovation in the storm: How typhoons are reshaping the corporate R&D landscape	Technology in Society	Financial Constraint dan Corporate Innovation

Source : *Scopus (2025)*

Table 3. List of Articles

Author Name First, the year	Article Title	Result and discussion	concluci on
Huang et al. (2025)	The integration of technology and finance and corporate innovation boundary	China's Pilot Policy Promoting the Integration of Technology and Finance (PPPITF) policy boosts firms' innovation output in pilot areas. Mediation analysis shows that the policy effect is strengthened through reducing financing constraints and accelerating digital transformation. More digitalized firms gain greater innovation benefits.	The integration of technology and finance through PPPITF expands firms' innovation boundaries by strengthening financial and digital capacities. Such integrative policies are effective in promoting sustainable innovation in developing countries.
Sun et al. (2025)	The impact of China's green credit policy on the innovation of manufacturing enterprises	The study finds that China's green credit policy significantly reduces innovation in heavily polluting firms due to increased financial constraints. This inhibitory effect is more severe for private, tech-intensive, and Central-region firms, and is worsened by subsidies and internal investments.	Green credit policy hampers innovation due to financial constraints and is especially detrimental to private, tech-intensive, and Central China firms.
He et al. (2025)	The real effect of shadow banking regulation on	The 2017 regulation of conduit business in China's	Shadow banking regulation has a negative impact

Author Name First, the year	Article Title	Result and discussion	conclucion
	corporate innovation: Evidence from conduit business	shadow banking sector significantly reduced firms' R&D spending and patents, especially on expensed R&D and non-invention patents. The impact was greatest for firms with limited access to capital and ties to informal financing. Firms adjusted their risk appetite by terminating innovation projects that were inconsistent with	on corporate innovation in emerging markets, especially for firms facing financial constraints. This suggests that financial policy has real spillover effects to the real sector, which regulators should take into account.
		industrial policies.	
Rana & Debata (2024)	Role of corporate innovation and uncertainty in determining corporate investment of the firm: does financial constraint, executive risk preference and firmrisk-taking ability play any role	The study reveals a positive relationship between corporate innovation and investment, but this effect weakens under economic uncertainty and financial constraints. Firms led by risk-preferring executives and those with high risk-taking capacity tend to maintain innovation-driven investments despite uncertainties.	Corporate innovation fosters investment, but the effect is weakened by uncertainty and financial constraints, and strengthened by executive and firm-level risk-taking.
Lei &	Innovation in the	Typhoons significant	Typhoons

Author Name First, the year	Article Title	Result and discussion	conclucion
Xu (2025)	storm: How typhoons are reshaping the corporate R&D landscape	ly reduce firms' R&D expenditure and patent applications, especially in coastal areas. These impacts are transmitted through three main channels: (1) financial constraints due to economic losses and market uncertainty, (2) loss of human capital due to migration and safety risks, and (3) infrastructure damage that disrupts R&D activities. SOEs are more resilient than private firms.	hamper firm innovation through physical damage, financial stress, and organizational disruption. A resilient innovation ecosystem is needed for firms to adapt to extreme climate disasters.

Discussion

The relevant literature consistently shows that financial constraints are a major obstacle to corporate innovation investment, especially in developing countries where access to financing is still limited. He et al. (2025) examined the impact of strict regulation on shadow banking in China that restricted alternative financing avenues and found significant declines in R&D expenditure, especially on expensed R&D components and non-invention patents that tended to be less strategic. This reinforces the view of trade-off theory and pecking order, where companies facing capital constraints prefer to prioritize short-term liquidity over long-term investments such as innovation. This study provides important empirical evidence that financial restrictions not only hinder the quantity of innovation investment, but also affect the quality and type of innovation produced.

In addition to internal financial constraints, economic uncertainty and other external factors have also exacerbated the financial impact on innovation. Rana & Debata (2024) their research in India highlights how economic uncertainty reduces the strength of the positive relationship between innovation and investment, especially in companies facing financial constraints. Executive risk preferences are also an important factor influencing innovation investment decisions amid such uncertainty. Meanwhile, Lei & Xu (2025) It shows that natural disasters such as typhoons cause damage to infrastructure and loss of human capital which aggravates financial limitations, thus indirectly suppressing the company's innovation capacity. As such, financial constraints must be understood in a broader context, including external risks and unforeseen events that increase the cost burden and risk of financing innovation.

Public policy interventions are emerging as potential solutions to reduce financial barriers and support corporate innovation. Huang et al. (2025) revealed that the policy of technology and financial integration in China through the PPPITF program has succeeded in reducing financing limitations and accelerating digital transformation, thereby expanding the boundaries of enterprise innovation. This kind of policy helps companies access more flexible capital and technological resources necessary for innovation. But Sun et al., (2025) warned that green credit policies aimed at sustainability could also tighten financing for certain sectors, especially companies with high pollution intensity, potentially hindering their innovation investments. Therefore, policy design must be balanced so as not to cause a crowding out effect that actually harms innovation, especially in sectors that are most vulnerable to financial restrictions.

In facing financing constraints, companies need to develop adaptive financial management and innovation strategies. The literature shows the importance of diversifying financing sources and optimizing the use of internal capital so that innovation can continue. In addition, accelerating digitalization is key to overcoming financial limitations and improving the efficiency of the innovation process, as explained by Huang et al. (2025). This approach not only helps reduce reliance on traditional sources of financing, but also strengthens innovation capabilities in the face of tight economic and regulatory pressures. On the other hand, companies must also proactively monitor and adjust their strategies in accordance with policy dynamics and market conditions in order to maintain the continuity of innovation. A comprehensive understanding of the relationship between financial constraints and innovation provides an important basis for the development of effective innovation management practices and public policies. The studies analyzed show that the success of companies' innovations is highly dependent on their ability to manage limited resources and utilize supportive policies, including policies that integrate technological and financial aspects. Therefore, managers and policymakers need to design strategies and regulations that are tailor-made, responsive to the company's industry characteristics and risk profile. This kind of approach will strengthen the company's competitiveness in the global market, while driving innovation that is more sustainable and adaptive to evolving economic and environmental challenges. A deep understanding of financial constraints and their impact on innovation is critical to a company's success in a dynamic and uncertain global era. Recent studies have shown that limited access to finance, whether due to tight regulations, economic uncertainty, or natural disasters, significantly hinders R&D investment and sustainable innovation output. Therefore, companies need to adopt adaptive financial management strategies and utilize integrated financial technology policies that can reduce financial barriers and encourage digitalization, while balancing the impact of environmental policies such as green credit so as not to hinder innovation. This research is expected to make an important contribution to innovation management practices by opening up opportunities to formulate effective, sustainable, and tailor-made policies and strategies, so that companies can overcome resource limitations, ensure innovation sustainability, and maintain adaptive competitiveness in an increasingly competitive global market.

CONCLUSION

Financial constraints remain a significant barrier to corporate innovation, particularly in emerging markets where access to formal financing is limited and external pressures, such as economic uncertainty and natural disasters, are prevalent. This study reveals that strict regulations, market uncertainty, and unexpected events elevate both risk and the cost of financing, prompting firms to prioritize short-term liquidity over long-term investments like research and development (R&D).

However, public policy interventions, especially those that integrate technology and finance, can effectively alleviate these constraints and stimulate innovation by accelerating digital transformation. Nevertheless, policies such as green credit must be carefully designed to avoid restricting innovation investment in vulnerable sectors. As such, firms are advised to adopt adaptive financial management strategies and leverage integrated policy frameworks while aligning with evolving environmental regulations. These actions can help firms overcome resource limitations and sustain innovation and competitiveness in an increasingly volatile global market.

From a theoretical perspective, this study contributes to the advancement of knowledge in innovation management and corporate finance, particularly within the context of developing economies. It expands our understanding of how external dynamics and public policy shape corporate investment behavior in innovation and highlights the importance of aligning fiscal policy, financial regulation, and digital transformation to build a resilient innovation ecosystem.

For investors, the findings offer strategic insights for evaluating firms' innovation potential, especially in sectors and regions susceptible to financial constraints. Investors are encouraged to consider a firm's financial adaptability and digital readiness as key indicators in their investment decisions, as these factors reflect the firm's capacity to endure and grow amidst uncertainty and change.

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