

Bank-specific determinants and impacts of Fintech adoption: A systematic review

ABSTRACT

This study conducts a systematic review of the literature on FinTech adoption in the banking sector during the period 2020-2025. In accordance with PRISMA guidelines, 22 peer-reviewed studies were identified and analyzed using a structured review approach. The evidence is synthesized into three dimensions: external determinants, bank-specific determinants, and the impacts of FinTech adoption. The findings show that competitive pressure and regulatory environments shape the external context for adoption, while organizational readiness, resource availability, and strategic capacity explain differences in adoption across banks. In terms of outcomes, FinTech adoption is generally associated with improved performance and efficiency, although its effects on risk and stability are context-dependent. Overall, the review highlights FinTech adoption as a strategic and organizational issue in banking and provides implications for future research and policy, particularly in emerging banking systems.

Keywords: *Fintech adoption; commercial banks; bank-specific determinants; governance; systematic review*

1. INTRODUCTION

The rapid advancement of financial technology (FinTech) has profoundly transformed the structure and operations of the banking sector worldwide [1], [2]. Digital innovations such as mobile banking, big data analytics, artificial intelligence, and blockchain have reshaped traditional banking activities, altered customer expectations, and intensified competition within financial markets. In response, banks increasingly adopt FinTech solutions as part of their strategic efforts to enhance operational efficiency, improve service quality, and maintain competitiveness in a rapidly digitalizing environment.

Existing studies conducted in developed financial markets suggest that Fintech adoption in banking is influenced by a combination of internal organizational factors, such as bank size, financial capacity, governance structures, and technological investments, and external forces, including regulatory frameworks, competitive pressure, and evolving customer demand for digital services [3], [4], [5]. While these studies provide valuable insights, much of the literature has approached Fintech adoption through general technology adoption lenses or has treated Fintech as an exogenous innovation whose effects on bank performance, risk, and stability are subsequently examined [6], [7].

From a theoretical perspective, several frameworks have been employed to explain technology adoption in organizations. Technology-oriented models, such as the Technology Acceptance Model and related extensions, primarily focus on perceived usefulness and ease of use, offering limited explanatory power for organizational-level adoption decisions in highly regulated industries such as banking [8], [9].

The Technology-Organization-Environment (TOE) framework broadens the analytical scope by incorporating organizational and environmental contexts [10]; however, it often falls short in explaining why banks operating under similar regulatory and competitive conditions exhibit markedly different levels of Fintech adoption [11], [12].

This limitation has prompted scholars to draw on the resource-based view (RBV) and the dynamic capabilities perspective, which highlight the role of firm-specific resources and the ability to reconfigure those resources in response to environmental change [13], [14].

Within the banking context, RBV suggests that internal resources, such as asset size, capital adequacy, and financial performance, shape banks' capacity to invest in digital infrastructure and Fintech-related innovation. Empirical studies

have shown that banks with stronger financial resources are more likely to engage in Fintech adoption and digital innovation initiatives [15]. Complementing this view, the dynamic capabilities framework emphasizes that successful Fintech adoption requires banks to continuously sense technological opportunities, seize them through strategic investment, and transform existing organizational structures and processes accordingly [16]. These theoretical perspectives collectively underscore that Fintech adoption in banking extends beyond technological readiness and is deeply embedded in organizational capabilities and strategic decision-making.

Agency theory further suggests that strategic technology investment decisions are influenced by conflicts of interest between managers and shareholders, implying that ownership structure, board independence, and governance arrangements may affect managerial incentives to pursue Fintech adoption [17]. In addition, institutional theory highlights the role of coercive, mimetic, and normative pressures arising from regulatory frameworks and industry norms, which are particularly salient in the banking sector [18]. Regulatory reforms and post-crisis supervisory requirements have increasingly encouraged banks to adopt digital technologies to enhance compliance, transparency, and operational resilience [19].

Despite the growing volume of research on Fintech in banking, the literature remains fragmented. A substantial proportion of empirical studies focus on the consequences of Fintech adoption, examining its impact on bank profitability, risk-taking, and financial stability [6], [7]. In contrast, comparatively fewer studies explicitly investigate the antecedents of Fintech adoption at the bank level. Moreover, existing determinant-focused studies often combine bank-level characteristics with user-level or macroeconomic factors, thereby obscuring the role of determinants that are intrinsic to banking organizations themselves. As a result, cumulative knowledge on bank-specific determinants of Fintech adoption remains limited.

Against this backdrop, this study conducts a systematic review of the banking literature to synthesize existing evidence on bank-specific determinants of Fintech adoption. By focusing on organizational, governance-related, and strategic factors internal to banks, the review seeks to clarify which determinants consistently shape adoption decisions and how these differ from general technology adoption drivers.

This study contributes to the literature on FinTech adoption in banking in three main ways. First, it provides a structured synthesis that distinguishes between the determinants of FinTech adoption and its subsequent impacts at the bank level. This distinction helps reduce conceptual overlap in the existing literature, where antecedents and outcomes are often examined together without clear separation.

Second, the review highlights FinTech adoption as a strategic and organizational decision rather than a purely technological choice. By synthesizing evidence from studies grounded in strategic and organizational perspectives, the findings show that differences in organizational readiness, resource availability, and strategic capacity help explain why banks operating under similar external conditions exhibit different adoption patterns.

Third, by integrating evidence from diverse institutional contexts, the study proposes a conceptual framework linking external pressures, bank-specific determinants, FinTech adoption, and bank-level outcomes. This framework offers a coherent overview of how internal bank characteristics condition the effects of FinTech adoption on performance, risk, and stability, and provides a useful reference for future research and policy discussions.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Theoretical Framework

2.1.1. Technology-oriented frameworks

Early research on Fintech adoption has largely drawn on technology-oriented frameworks, most notably the Technology Acceptance Model (TAM) and its subsequent extensions [8], [9]. These models emphasize individual perceptions of perceived usefulness and perceived ease of use as primary drivers of technology acceptance. In the context of financial services, such frameworks have been applied to explain the adoption of digital payment systems, mobile banking applications, and other Fintech-enabled services, particularly from the user or employee perspective [20].

While technology-oriented frameworks provide valuable insights into micro-level adoption behavior, their applicability to bank-level Fintech adoption decisions remains limited. Banks operate as complex organizations in which adoption decisions are shaped not only by technological attributes but also by strategic priorities, governance arrangements, regulatory

compliance, and risk considerations. Consequently, technology-oriented models tend to oversimplify adoption processes in banking by treating Fintech as a neutral tool rather than as a strategic organizational choice embedded in broader institutional and managerial contexts.

2.1.2. TOE framework

To address the limitations of individual-level adoption models, the Technology-Organization-Environment (TOE) framework has been widely employed to examine technology adoption at the organizational level [10]. The TOE framework posits that adoption decisions are jointly influenced by technological factors, organizational factors, and environmental factors. In the Fintech literature, TOE has been frequently used to classify determinants of adoption in banks and other financial institutions [3], [4]. Despite its broader scope, the TOE framework has notable limitations when applied to the banking sector. First, empirical evidence suggests that banks operating under similar technological and environmental conditions often display substantial heterogeneity in the extent and depth of Fintech adoption. Second, TOE primarily serves as a descriptive classification framework and provides limited theoretical explanation of how internal organizational capabilities and strategic intent shape adoption outcomes. As a result, TOE-based studies often identify relevant categories of determinants without fully explaining the mechanisms through which bank-specific characteristics influence Fintech adoption decisions.

2.1.3. Resource-based view and dynamic capabilities perspective

In response to these limitations, scholars have increasingly adopted the resource-based view (RBV) [13] and the dynamic capabilities perspective to explain Fintech adoption in banking. RBV argues that firms achieve sustainable competitive advantage by possessing and effectively deploying valuable, rare, inimitable, and non-substitutable resources. In the banking context, such resources include financial strength, technological infrastructure, human capital, and governance quality, which collectively shape banks' capacity to invest in and implement Fintech solutions [15].

Complementing RBV, the dynamic capabilities perspective emphasizes firms' abilities to sense technological opportunities, seize them through strategic investment, and transform organizational structures and processes in response to environmental change [14]. Given the

rapid pace of digital disruption and increasing regulatory complexity, dynamic capabilities are particularly relevant in banking. Empirical evidence from the digital transformation literature indicates that banks' ability to reconfigure internal resources and redesign operational processes is critical for effective Fintech adoption and long-term performance [16]. Together, RBV and dynamic capabilities provide a theoretically grounded lens for conceptualizing Fintech adoption as a strategic and capability-driven process rather than a purely technological decision.

2.1.4. Agency theory and institutional theory

Agency theory provides a governance-oriented lens for understanding Fintech adoption decisions in banks by focusing on conflicts of interest between principals and agents. According to agency theory, managerial decisions are shaped by incentive structures, risk preferences, and monitoring mechanisms, such as board oversight, ownership concentration, and internal control systems [17]. In the banking sector, where Fintech adoption often entails substantial upfront investment and heightened operational and compliance risks, agency-related considerations play a critical role in shaping managers' willingness to pursue digital innovation. Prior studies suggest that stronger governance mechanisms can mitigate managerial risk aversion and align innovation decisions with long-term shareholder and stakeholder interests [21].

Institutional theory complements the agency perspective by emphasizing the role of regulatory, normative, and cognitive pressures in shaping organizational behavior [18]. Banks operate in highly institutionalized environments characterized by stringent regulatory requirements, supervisory scrutiny, and strong legitimacy concerns. As a result, Fintech adoption decisions are not solely driven by efficiency or competitive considerations but are also influenced by compliance expectations, regulatory signaling, and the pursuit of organizational legitimacy. Institutional pressures may therefore both enable and constrain Fintech adoption, depending on the design and enforcement of regulatory frameworks [22].

Importantly, agency and institutional theories together help explain why banks exposed to similar external pressures may respond differently to Fintech opportunities. While institutional forces create common constraints and incentives, agency-related governance

structures condition how managers interpret and respond to these pressures. Empirical evidence from the banking and financial innovation literature indicates that governance quality and ownership structures significantly moderate the relationship between regulatory pressure and innovation outcomes, including digital transformation and Fintech adoption [23].

By integrating agency and institutional perspectives, this study acknowledges that Fintech adoption in banking is shaped not only by technological considerations and internal resources but also by governance arrangements and institutional constraints. These theories therefore provide an essential complement to the TOE framework and the resource-based and dynamic capabilities perspectives, reinforcing the conceptualization of Fintech adoption as a strategic and capability-driven outcome conditioned by governance and institutional context.

2.2. Determinants of Fintech Adoption

2.2.1. General determinants of Fintech adoption

The existing literature identifies a broad set of determinants influencing Fintech adoption, which can be grouped into technological, organizational, and environmental categories. Technological determinants typically include perceived usefulness, ease of use, system compatibility, and security concerns. Organizational determinants encompass factors such as firm size, financial resources, technological readiness, and top management support. Environmental determinants commonly relate to regulatory frameworks, competitive pressure, and market demand for digital financial services [4], [3], [5]. These general determinants have been widely documented across different contexts and industries, providing a useful baseline for understanding technology adoption. However, they tend to be broadly defined and are not specific to the institutional and operational characteristics of banking organizations.

2.2.2. Limitations of general determinants in the banking context

Applying general adoption determinants to the banking sector presents several limitations. Banking is a highly regulated and risk-sensitive industry, where strategic decisions are closely intertwined with governance structures, capital adequacy requirements, and supervisory oversight. Unlike many non-financial firms, banks must balance innovation with prudential regulation, financial stability, and systemic risk

considerations. As a result, adoption decisions cannot be adequately explained by technological readiness or competitive pressure alone.

Moreover, general determinants often fail to capture the internal organizational mechanisms that differentiate banks' adoption behavior. Empirical studies indicate that Fintech adoption varies significantly even among banks facing similar regulatory environments and market conditions, suggesting that internal characteristics play a decisive role. This limitation highlights the need to move beyond generic determinants toward a more nuanced understanding of factors that are specific to banking organizations.

2.2.3. Bank-specific determinants of Fintech adoption

Building on the foregoing discussion, this study conceptualizes bank-specific determinants of Fintech adoption as organizational, governance-related, and strategic factors that are intrinsic to banking institutions. These determinants extend beyond general adoption drivers and reflect the unique institutional context in which banks operate.

First, governance and leadership factors, such as top management commitment, board oversight, and ownership structure, shape strategic priorities and managerial incentives to invest in Fintech initiatives [24]. Second, organizational readiness and resource endowments, including financial capacity, technological infrastructure, and human capital, determine banks' ability to absorb and implement Fintech innovations effectively [13], [3]. Third, digital strategy and dynamic capabilities influence how banks integrate Fintech solutions into their core operations and align digital initiatives with long-term strategic objectives [14], [16].

In addition, risk management capability, regulatory compliance, and internal control quality play a central role in banking-specific adoption decisions. Regulatory requirements and supervisory expectations impose constraints that directly affect the scope, pace, and depth of Fintech adoption, making compliance-related capabilities a critical determinant in the banking sector [19]. Finally, banks' ability to integrate Fintech solutions into existing core banking systems and operational processes influences not only whether adoption occurs but also the effectiveness and sustainability of implementation [2].

These bank-specific determinants provide the analytical foundation for the subsequent systematic review. By synthesizing empirical evidence through this lens, the study aims to clarify how internal organizational and strategic factors shape Fintech adoption in banking and to distinguish these determinants from general technology adoption drivers.

3. METHODOLOGY

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency, rigor, and replicability in the review process. A systematic approach was adopted to identify, screen, and synthesize the existing literature on bank-specific determinants of Fintech adoption in banking. The review process consisted of four main stages: search strategy, screening, eligibility assessment, and data extraction and synthesis.

3.1. Search strategy

A systematic literature search was conducted using major academic databases, including Scopus and Web of Science, to identify peer-reviewed journal articles related to Fintech adoption in the banking sector. The search strategy employed combinations of keywords associated with *Fintech*, *digital financial technologies*, *banking*, *commercial banks*, *adoption*, *determinants*, and *impacts*.

Only English-language journal articles were considered. To ensure the academic quality and comparability of the reviewed studies, conference papers, book chapters, and non-peer-reviewed publications were excluded. The search covered studies published between 2020 and 2025. The initial database search resulted in 150 records.

3.2. Screening process

After the initial retrieval, duplicate records were identified and removed through a manual and automated deduplication process. As a result, 38 duplicate records were excluded, leaving 107 unique studies for further screening.

Title and abstract screening was then performed to assess the relevance of the remaining studies. At this stage, articles were excluded if they: did not focus on the banking sector, did not examine

Fintech adoption or related digital technologies, were non-empirical in nature, focused on industries other than banking.

Following this screening process, 63 records were excluded, leaving 44 articles for full-text assessment.

3.3. Inclusion and exclusion criteria

To ensure consistency and methodological rigor, predefined inclusion and exclusion criteria were applied during the full-text review stage.

Inclusion criteria: published in peer-reviewed academic journals; focused on Fintech adoption in the banking sector, particularly commercial banks or bank-level analysis; examined determinants and/or impacts of Fintech adoption in banking; employed empirical analysis or provided structured and systematic evidence synthesis; were written in English; were published between 2020 and 2025.

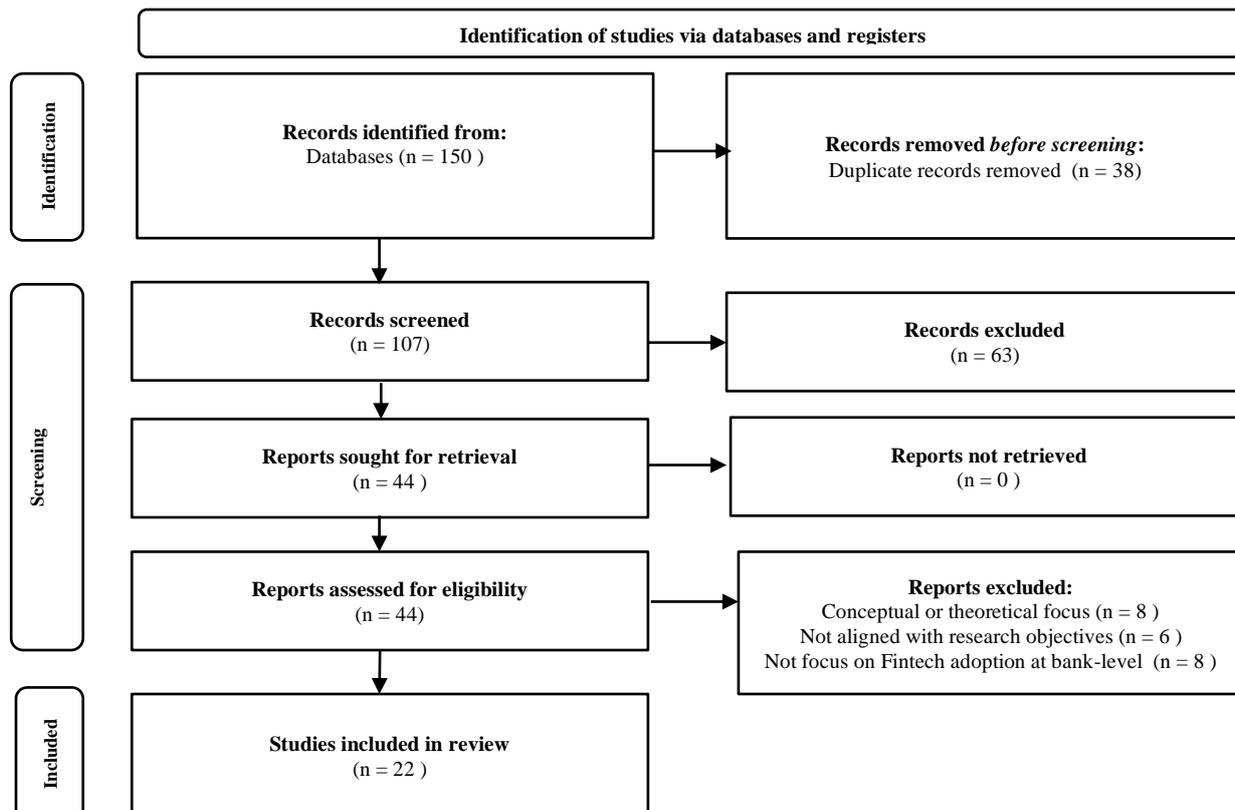
Exclusion criteria: purely conceptual or theoretical papers without a clear focus on Fintech adoption in the banking sector; Systematic reviews or meta-analyses that did not specifically address bank-level Fintech adoption or its determinants and impacts; Studies focusing on Fintech adoption outside the banking context, such as fintech firms, consumers, or non-financial industries; Articles lacking sufficient empirical or analytical evidence relevant to determinants or impacts of Fintech adoption in banking; Non-peer-reviewed publications, including conference papers, book chapters, and reports.

3.4. Screening and eligibility process

The full texts of the remaining 44 articles were assessed against the predefined inclusion and exclusion criteria. During this stage, 22 articles were excluded because they were conceptual in nature, constituted secondary reviews, or did not explicitly analyze bank-level determinants or impacts of Fintech adoption.

Consequently, a final sample of 22 empirical studies was retained for qualitative synthesis. The study selection process is summarized in the PRISMA flow diagram.

Figure 1. PRISMA flow diagram



3.5. Data extraction and synthesis

For each of the 22 included studies, relevant information was systematically extracted and coded to support descriptive and thematic synthesis. The extracted variables included authors and year of publication, research context (country or region), citation count, publication year, and journal quality ranking, as summarized in Table 1.

Journal quality was primarily assessed using SSCI and ESCI quartile classifications, supplemented by Scopus quartile rankings where applicable. In cases where journal quartile information was not available, alternative recognized journal quality classifications were employed. Specifically, for Chhaidar, et al. [25], quartile data could not be identified; therefore, the ABDC journal ranking was used, and the journal was classified as ABDC category C. This approach is consistent with established practices in systematic reviews when standard quartile metrics are unavailable and ensures transparency and comparability in journal quality assessment

Table 1. Summary of reviewed studies on FinTech adoption in the banking sector

ID	Authors (Year)	Research context	Citation count	Year	Rank
1	Bani Atta [26]	Jordan	26	2025	ESCI/Q1
2	Alzghoul and Al-kasasbeh [27]	Jordan	13	2024	Scopus/Q3
3	Albuainain and Ashby [28]	systematic review	3	2025	ESCI/Q2
4	Bian, et al. [29]	Global	27	2024	SSCI/Q1
5	Al-Sharafi, et al. [30]	systematic review	3	2025	ESCI/Q2
6	Urumsah, et al. [31]	Indonesia	38	2022	DOAJ/SINTA2
7	Firmansyah, et al. [32]	systematic review	174	2022	ESCI/Q2
8	Chhaidar, et al. [25]	Europe	183	2023	Scopus/C
9	Harasim [33]	Global	56	2021	Scopus/Q2
10	Mirza, et al. [34]	Europe	175	2023	SSCI/Q1
11	Khan, et al. [35]	GCC countries	97	2023	SSCI/Q1
12	Yoon, et al. [36]	Global	42	2023	Scopus/Q2
13	Hidayat-ur-Rehman and Hossain [37]	Pakistan	108	2024	ESCI/Q1
14	Alrsheedi and P Iskandar [38]	Saudi Arabia	1	2025	SSCI/Q1

15	Zhao, et al. [39]	China	488	2022	SSCI/Q1
16	Ni, et al. [40]	China	28	2023	SSCI/Q1
17	Zhang, et al. [41]	China	82	2022	SSCI/Q2
18	Guo, et al. [23]	China	31	2024	SSCI/Q3
19	Qin and Jing [42]	China	0	2025	SSCI/Q1
20	He, et al. [43]	China	59	2023	SSCI/Q1
21	Zhang, et al. [44]	China	73	2023	SSCI/Q1
22	Cheng and Qu [45]	China	591	2020	SSCI/Q1

Citation counts were recorded to provide an indicative measure of scholarly influence and were interpreted with caution, particularly for more recent publications (2024-2025), which naturally exhibit lower citation levels due to shorter publication windows.

Based on the substantive focus of the included studies, the sample was further classified into two main streams: examining bank-specific determinants of Fintech adoption, and impacts of Fintech adoption in banking.

This classification provided the basis for a qualitative thematic synthesis aimed at identifying dominant research patterns, methodological trends, and contextual differences across countries and regions. The synthesis process facilitated the development of a structured taxonomy of bank-specific determinants, which is presented and discussed in the subsequent Results section.

4. Result

4.1. Descriptive statistics

The temporal distribution of the included studies highlights a clear upward trend in research on Fintech adoption in the banking sector over the period 2020-2025. As summarized in Table 1, the review includes one studies published in 2020, one studies in 2021, four studies in 2022, and seven studies in 2023, indicating a rapid acceleration of scholarly interest during this phase. This surge coincides with the post-pandemic period, during which banks increasingly relied on digital technologies to maintain service continuity and enhance operational resilience.

Research output remained strong in subsequent years, with four studies published in 2024 and five studies in 2025, reflecting sustained academic attention to Fintech adoption in banking. The presence of multiple recent studies suggests that Fintech adoption is not a short-lived research topic, but rather an evolving and increasingly mature area of inquiry.

Overall, the publication pattern indicates a transition of Fintech adoption in banking from an emerging topic in the early 2020s to a more established research stream in recent years. This trend highlights the increasing recognition of Fintech adoption as a strategic and organizational issue within the banking literature, rather than a purely technological concern.

Research context and geographical coverage

The reviewed studies exhibit a diverse range of research contexts. China represents the most frequently examined country, accounting for eight studies, reflecting the strong scholarly attention to Fintech adoption within one of the world's largest and most rapidly evolving banking systems. These studies predominantly investigate bank-level determinants and impacts of Fintech adoption using large-scale datasets.

Beyond China, several studies adopt global or multi-country perspectives, while others focus on specific regions such as Europe and the GCC countries, or individual emerging economies including Jordan, Indonesia, Pakistan, and Saudi Arabia. In addition, three studies are systematic reviews, indicating the increasing consolidation and synthesis of knowledge in this research domain. Overall, the geographical distribution reveals a strong emphasis on emerging and rapidly digitalizing banking systems, while also highlighting the relative scarcity of empirical evidence from many developing regions..

Citation distribution

Citation counts among the included studies vary considerably, ranging from zero to over 500 citations. Earlier publications, particularly those published between 2020 and 2022, tend to exhibit substantially higher citation levels.

In contrast, several studies published in 2024 and 2025 show relatively low or zero citation counts. This pattern is expected given their recent publication dates and shorter exposure time. Therefore, citation counts are interpreted as an indicative rather than definitive measure of

scholarly influence, particularly for the most recent studies.

Journal quality and indexing distribution

Out of the 22 studies included in this systematic review, 12 studies (54.5%) were published in Q1 journals, indicating that more than half of the evidence base comes from top-tier academic outlets. In addition, 6 studies (27.3%) appeared in Q2 journals, while 2 studies (9.1%) were published in Q3 journals. The remaining 2 studies (9.1%) were classified under other ranking categories. Overall, this distribution demonstrates that the literature on Fintech adoption in banking is predominantly grounded in high-ranked journals, reflecting strong scholarly relevance and methodological rigor.

Regarding indexing databases, 12 out of 22 studies (54.5%) were published in SSCI-indexed journals, followed by 5 studies (22.7%) in ESCI-indexed journals. Scopus-indexed journals accounted for 4 studies (18.2%), while only 1 study (4.5%) was published in a DOAJ-indexed journal. This concentration of SSCI and ESCI publications highlights the increasing academic legitimacy of Fintech adoption in banking as a core research topic within the finance and banking literature, while the presence of Scopus and DOAJ outlets enhances the diversity of perspectives and regional coverage.

Taken together, the descriptive statistics indicate that research on Fintech adoption in banking is characterized by recent growth, strong representation of emerging and transition economies, and high publication quality. The concentration of studies in Q1 and SSCI-indexed journals suggests that bank-level Fintech adoption has become a central topic within mainstream finance and banking research, providing a solid empirical foundation for the subsequent analysis of theoretical frameworks and adoption determinants.

4.2. Theoretical frameworks used

Table 2 summarizes the theoretical frameworks employed in the 22 studies examining Fintech adoption in the banking sector. Among the identified frameworks, the TOE framework is the most frequently applied, appearing in 6 studies. TOE-based studies emphasize the joint influence of technological readiness, organizational characteristics, and environmental pressures, such as regulation and competition in shaping banks' Fintech adoption decisions. The prominence of TOE highlights its suitability for bank-level analysis, as it allows for the

simultaneous consideration of internal organizational factors and external contextual forces in highly regulated financial environments.

Table 2. Theoretical frameworks employed in studies

No.	Theories	Studies	Number of studies
1	TOE	Khan, et al. [35] Hidayat-ur-Rehman and Hossain [37] Bani Atta [26] Alrsheedi and P Iskandar [38]	6
2	TAM	Alzghoul and Al-kasasbeh [27]	1
3	RBV	Harasim [33] Mirza, et al. [34] Zhao, et al. [39] He, et al. [43] Zhang, et al. [44] Alzghoul and Al-kasasbeh [27]	6
4	Agency theory	Bian, et al. [29] Guo, et al. [23] Qin and Jing [42]	3
5	Institutional theory	Ni, et al. [40] Zhao, et al. [39]	2
6	Mixed approaches	Urumsah, et al. [31]	1
7	Review-based theoretical synthesis	Firmansyah, et al. [32] Albuainain and Ashby [28] Al-Sharafi, et al. [30]	3

The RBV and dynamic capability perspectives are employed in six studies, making them the most widely used theoretical foundation in the sample. From these perspectives, Fintech adoption is conceptualized as a strategic investment that enables banks to build, deploy, and reconfigure valuable resources and capabilities in response to technological change.

Agency Theory, applied in three studies, highlights the role of ownership structure, managerial incentives, and risk-taking behavior in shaping banks' Fintech adoption decisions and their subsequent impacts. Institutional Theory, used in two studies, underscores the importance of regulatory pressure, supervisory frameworks, and institutional constraints in influencing both Fintech adoption and its outcomes.

In contrast, individual-level technology acceptance models receive limited attention. The TAM appears in only one study, indicating that user-centric explanations play a relatively minor

role in explaining Fintech adoption at the organizational level within banks.

One study adopts mixed or integrative theoretical approaches, explicitly combining multiple perspectives to capture the complexity of Fintech adoption. Specifically, two studies integrate organizational, strategic, and environmental lenses to develop comprehensive conceptual frameworks that reflect the multifaceted nature of Fintech adoption in banking.

Finally, three studies are systematic literature reviews that synthesize prior research rather than relying on a single dominant theoretical framework. These reviews consolidate insights from TOE, RBV, agency, and institutional theories to provide an overarching understanding of Fintech adoption determinants and impacts in the banking sector.

Taken together, the evidence presented in Table 2 indicates that research on bank-level Fintech adoption is characterized by theoretical diversity but limited integration. While organizational, strategic, and governance-oriented theories dominate, the coexistence of multiple frameworks suggests substantial scope for future research to develop more integrated theoretical models that jointly account for technological, organizational, strategic, and institutional dimensions of Fintech adoption in banks.

4.3. Determinants and impacts of Fintech adoption

Based on the synthesis of the reviewed studies, the empirical findings on Fintech adoption in banking can be organized into three interrelated dimensions: external determinants, bank-specific determinants, and the impacts of Fintech adoption. This structure reflects the multi-layered nature of Fintech adoption decisions in banks and allows for a clearer distinction between contextual drivers, internal bank characteristics, and observed outcomes.

4.3.1. External determinants of Fintech adoption

A first group of determinants relates to external factors that shape banks' incentives and pressures to adopt Fintech solutions. Across multiple country contexts, studies consistently identify competitive pressure, customer expectations, and industry dynamics as key external drivers of adoption. Evidence from Jordan indicates that increasing competition and rising customer demand for digital financial services significantly accelerate banks' adoption of Fintech products [26]. Similar patterns are observed in Indonesia, where competitive intensity and customer

pressure are closely linked to adoption decisions at the bank level [31].

In addition to market-related pressures, institutional and regulatory conditions emerge as important external determinants. Studies conducted in highly regulated banking environments highlight that regulatory frameworks and supervisory expectations can either facilitate or constrain Fintech adoption. Evidence from Saudi Arabia highlights the importance of national regulatory and institutional settings as key environmental factors that may shape banks' Fintech adoption decisions. In particular, regulatory support is conceptualized as part of the external context influencing banks' readiness to adopt Fintech solutions [38]. Broader cross-country evidence suggests that regulatory environments play an important conditioning role in shaping the implications of Fintech adoption within banking systems. In particular, empirical evidence from GCC economies shows that regulatory frameworks moderate the relationship between Fintech adoption and bank stability [35].

Systematic reviews reinforce these findings by synthesizing recurring external drivers and barriers, showing that environmental and institutional pressures are consistently reported across different banking contexts [30], [28], [32]. Overall, the evidence suggests that external determinants create the contextual conditions under which banks perceive Fintech adoption as necessary or strategically desirable.

4.3.2. Bank-specific determinants of Fintech adoption

Beyond external pressures, a substantial body of evidence emphasizes the role of bank-specific characteristics in shaping Fintech adoption decisions. These determinants capture heterogeneity across banks operating within similar external environments and explain why adoption levels differ across institutions.

At the bank level, organizational and technological readiness emerges as a fundamental determinant of Fintech adoption. Empirical evidence from Indonesia shows that internal readiness, reflected in organizational preparedness, top management support, and internal IT knowledge, significantly influences banks' decisions to adopt Fintech solutions [31]. These findings highlight that adoption is not solely driven by external pressures, but also by banks' internal capacity to absorb and manage technological change.

Beyond readiness, a second group of bank-specific determinants relates to resources and strategic capacity, which shape banks' ability to initiate Fintech adoption. Financial strength and resource availability play a key enabling role, as Fintech adoption typically requires substantial upfront investment in digital infrastructure, innovation activities, and organizational change. From a strategic management perspective, banks with stronger capital positions and larger resource bases face fewer financial constraints and are therefore better positioned to commit resources to Fintech-related initiatives [33].

Finally, evidence from related studies suggests that organizational and technological capabilities also condition how effectively Fintech adoption translates into bank-level outcomes. For instance, information technology infrastructure and digital transformation have been shown to strengthen the performance and sustainability effects of Fintech adoption in Jordanian and Pakistani banks, respectively [27], [37]. While these studies focus on post-adoption effects, they underscore the broader importance of internal capability in banks' engagement with Fintech.

While these studies do not identify determinants of adoption, they provide important insights into the governance context within which Fintech-related strategic decisions are evaluated [23], [42], [39]. Specifically, they highlight how internal governance arrangements, managerial incentives, and risk management considerations condition banks' strategic engagement with Fintech initiatives, even when adoption is treated as an exogenous choice. These findings suggest that bank-specific governance characteristics help explain heterogeneity in how banks approach, implement, and respond to Fintech adoption, thereby complementing determinant-focused evidence on internal readiness and resource capacity. Taken together, the literature indicates that Fintech adoption decisions are embedded within broader organizational, strategic, and governance environments, rather than being isolated technological choices.

4.3.3. Impacts of Fintech adoption

A third stream of the literature examines the impacts of Fintech adoption on banking outcomes. Most studies focus on bank

performance, risk, and sustainability-related outcomes, although the reported effects vary across contexts.

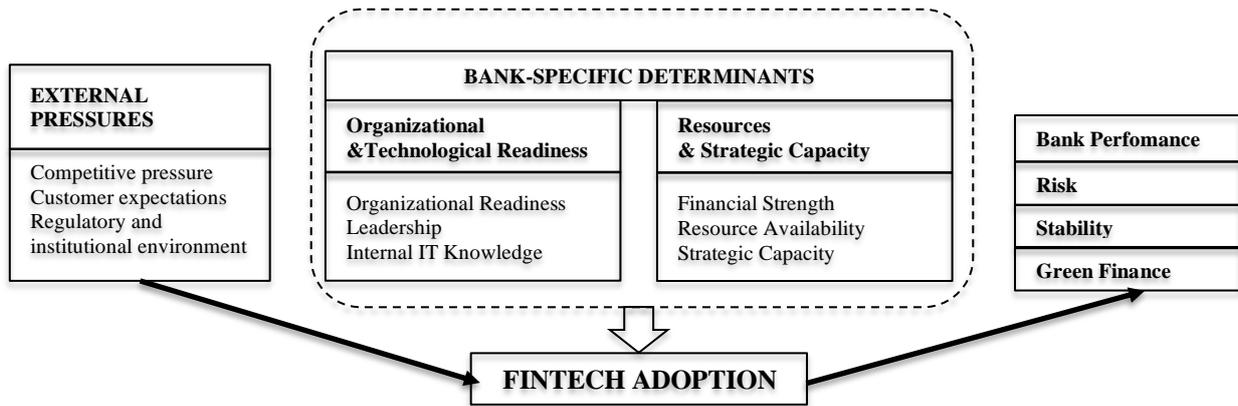
Several studies provide evidence of positive performance effects associated with Fintech adoption [29]. European evidence similarly suggests that Fintech investment contributes to higher profitability [25]. Studies in China further indicate that Fintech development is associated with improvements in operational efficiency and risk-adjusted outcomes, particularly when supported by strong internal control mechanisms [43], [44]. Beyond financial performance, some studies extend the analysis to sustainability-related outcomes, showing that Fintech adoption supports green finance and environmentally oriented lending activities [34]. In contrast, the effects of Fintech adoption on bank risk and stability are more mixed. Several studies report risk-mitigating effects, particularly with respect to credit risk and operational risk management [45], [42], [44].

Other evidence, however, indicates that Fintech adoption may increase risk-taking under certain conditions, suggesting potential trade-offs between innovation and financial stability [23]. Regulatory environments further condition these effects, leading to heterogeneous outcomes across countries and banking systems [35].

Overall, the impact-focused evidence indicates that while Fintech adoption is frequently associated with improved performance and efficiency, its implications for risk and stability are context-dependent and influenced by both external conditions and bank-specific characteristics.

Figure 2 illustrates Fintech adoption as an intermediate strategic outcome shaped by the interaction between external determinants and bank-specific capabilities. External pressures create incentives and constraints for adoption, while their effects are mediated by banks' internal readiness, resources, and governance contexts. Fintech adoption subsequently influences bank performance, risk, and sustainability, with feedback effects that further shape banks' strategic capabilities over time

Figure 2. Conceptual framework of Fintech adoption determinants and impact



5. CONCLUSIONS

This study provides a systematic synthesis of recent empirical research on FinTech adoption in the banking sector, with a focus on bank-level determinants and post-adoption impacts. Based on a review of 22 peer-reviewed studies published between 2020 and 2025, the paper clarifies how external pressures and internal bank characteristics jointly shape FinTech adoption and its consequences.

The review indicates that FinTech adoption in banking should be understood as a strategic and organizational decision rather than a purely technological response. External factors such as competition, customer demand, and regulatory conditions create important incentives for adoption, but they do not fully explain differences in adoption behavior across banks. Instead, bank-specific determinants, including organizational readiness, technological capability, resource availability, strategic capacity, and governance contexts, play a central role in enabling adoption decisions.

With respect to outcomes, the evidence suggests that FinTech adoption is generally associated

with improvements in bank performance, efficiency, and sustainability-related activities. However, its effects on risk and financial stability are more context-dependent. While some studies report risk-reducing effects, others highlight potential increases in risk-taking under certain institutional or governance conditions, underscoring the importance of regulatory oversight and internal control mechanisms.

Overall, the findings highlight the need for integrated analytical perspectives that consider external environments, bank-specific capabilities, and governance contexts when examining FinTech adoption in banking. From a practical perspective, the results suggest that successful FinTech adoption requires not only technological investment but also adequate organizational capabilities and sound governance. For policymakers, the findings emphasize the importance of regulatory frameworks that support innovation while maintaining financial stability. Despite limitations related to data scope and regional coverage, this review provides a useful foundation for future research on FinTech adoption in banking, particularly in emerging and developing economies.

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Các nhân tố đặc thù của ngân hàng và tác động của việc áp dụng Fintech: Nghiên cứu tổng quan hệ thống

TÓM TẮT

Nghiên cứu này thực hiện tổng quan có hệ thống các công trình nghiên cứu về việc áp dụng công nghệ tài chính (Fintech) trong lĩnh vực ngân hàng giai đoạn 2020-2025. Tuân thủ theo hướng dẫn PRISMA, 22 bài báo khoa học được bình duyệt đã được xác định và phân tích thông qua phương pháp tổng quan có cấu trúc. Các bằng chứng được tổng hợp theo ba nhóm nội dung chính: các nhân tố bên ngoài, các nhân tố đặc thù ở cấp độ ngân hàng và các tác động của việc áp dụng FinTech. Kết quả cho thấy áp lực cạnh tranh và môi trường pháp lý – thể chế định hình bối cảnh bên ngoài của việc áp dụng FinTech, trong khi mức độ sẵn sàng tổ chức, nguồn lực và năng lực chiến lược của ngân hàng giải thích sự khác biệt trong hành vi áp dụng giữa các ngân hàng. Về mặt tác động, việc áp dụng FinTech nhìn chung gắn liền với sự cải thiện về hiệu quả hoạt động và hiệu suất, tuy nhiên ảnh hưởng đối với rủi ro và ổn định tài chính phụ thuộc nhiều vào bối cảnh cụ thể. Nhìn chung, nghiên cứu nhấn mạnh rằng việc áp dụng FinTech là một vấn đề mang tính chiến lược và tổ chức trong ngân hàng, đồng thời cung cấp các hàm ý cho nghiên cứu và hoạch định chính sách trong tương lai, đặc biệt đối với các hệ thống ngân hàng ở các nền kinh tế mới nổi.

Từ khóa: Công nghệ tài chính; ngân hàng thương mại; nhân tố đặc thù ngân hàng; quản trị; tổng quan hệ thống