

Antecedents and Outcomes of Fintech Adoption Lead to Sustainable Performance: A Systematic Literature Review

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ABSTRACT

Purpose

The systematic literature review focuses on Fintech adoption and sustainable performance to address this theoretical research gap.

Methodology

The study adopts the TCCM research design to review Fintech adoption systematically. It identifies factors such as antecedents, mediators, moderators, and outcomes of Fintech adoption, with a particular focus on sustainability implications. The review covers 29 peer-reviewed articles published between 2019 and 2024, emphasizing social influence and performance expectancy as key themes in the selected literature.

Findings

The findings establish Fintech as an important driver of improvement in the sustainability performance of social, economic, and environmental metrics. The identified methodological trends reflect the ongoing dominance of the TAM and UTAUT frameworks. Fintech and sustainability are often perceived as technologically advanced, and the TAM is most commonly used because it is associated with technology acceptance. Despite that, the conceptual confusion between Fintech and Fintech adoption is addressed in this study.

Conclusion

However, the study identifies areas for future paradigms, including the moderating role, new theoretical perspectives, and directions for further research. In addition to this knowledge synthesis, the Fintech-based approaches reported in the present paper enhance the development of academic accounts and applications to achieve sustainability.

1. Introduction

Today's world is experiencing rapid technological development driven by concerns about sustainability (Arner, Buckley, Zetsche, & Veidt, 2020; Atayah, Najaf, & Marashdeh, 2023). In recent years, several technological developments have emerged to address sustainability concerns. One example of this convergence of innovative technology and sustainability practices is the rise of Financial technologies, which has become an upcoming force in the financial industry (Hammadi & Nobanee, 2019; Arner, Buckley, Zetsche, & Veidt, 2020; Vergara & Agudo, 2021; Atayah et al., 2023; Rambaud & Pascual, 2023). "Fintech" refers to the use of technological innovations to provide financial services to users (Deng, Huang & Cheng, 2019; Dwivedi Alabdooli & Dwivedi, 2021).

In terms of efficiency and consumer experience, Financial technology companies perform much better than traditional or old financial institutions. Financial technology developments have gone through four stages with time (Arner, Barberis, & Buckley, 2017; Arner, Buckley, Charamba, Sergeev, & Zetsche, 2022). The first stage included Analogue financial services, which were considered a part of Financial 1.0 (1866–1967). The second stage included digitization during Fintech 2.0 (1968–2008), propelled by advances in digital communication and transaction technologies. Beginning in 2009, Fintech 3.0 brought significant advances in advanced economies, such as the adoption of smartphones, digital currencies, and digital services. Fintech 3.5 anticipates the adoption of these technologies in emerging nations, promoting growth and financial inclusion, and making the field more attractive to researchers.

Recognizing its importance and potential, numerous prior studies have examined Fintech and sustainability from various angles, including the adoption of green banking and sustainability (Tara & Singh, 2019) and the impact of Blockchain on banks (Ji & Tia, 2022). Fintech adoption for green banking disclosure (Bose, Khan, Rashid, & Islam, 2018) and sustainable banking (Yan, Siddik, Yong, Dong, Zheng, & Rahman, 2022).

The majority of empirical research, however, has concentrated on discrete or isolated elements (Fintech or sustainability) or both (Guang-Wen & Siddik, 2023; Nenavath, 2022). Gomber, Kauffman, Parker, and Weber (2018) define Fintech as a financial technology to enhance the efficiency of financial institutions. However, Chen, Wu, and Yang (2019) define Fintech adoption; there is a difference between Fintech and Fintech adoption. According to Chen et al., users adopt financial technologies and integrate them into their daily workflow to enhance ease of use and efficiency. Despite that, the body of research on both perspectives of Fintech and sustainability remains fragmented and understudied. As a result, researchers such as Ellili (2022) have emphasized the importance of conducting review studies to present Fintech and sustainability from an industry perspective in a comprehensive and sophisticated manner. However, little is understood about the adoption of these technologies that enhance sustainable performance. Therefore, a comprehensive summary of important concepts and their relationships will act as a guide for further study (Ellili 2022). As technological advancements advance, the adoption of Fintech is also growing. Nowadays, technologies are adopted by individuals, so it is necessary for further research to examine in depth the effect of Fintech adoption on sustainable performance. Financial technologies are considered the most important for developing a sustainable environment. Financial innovation, enabled by technology, may lead to new business models, applications, procedures, or products that have a significant impact on financial markets, institutions, and the delivery of financial services (Pashang & Weber, 2021). Fintech has attracted

significant buzz and scholarly attention in recent years (Vergara & Agudo, 2021; Zarrouk et al., 2021). It can also be crucial in achieving SDGs (Deng et al., 2019). After studying the emerging concept of Fintech adoption, the current study conducted a systematic literature review on how Fintech adoption leads to sustainable performance and summarized the last six years of work on this topic.

This review addresses research gaps in this SLR by employing the Theory-Context-Characteristics-Methodology (TCCM) paradigm introduced by Paul and Rosado-Serrano (2019) to better understand Fintech adoption and its impact on sustainability performance. Three main factors motivated the selection of the TCCM framework. Accordingly, the study seeks to answer the following question: What are the antecedents and outcomes of Fintech adoption for sustainable performance (2019-2024)? Which theories support the impact of financial technology adoption on sustainable performance? What methodologies are used in Fintech adoption to enhance sustainability? Finally, what are the future directions for researchers? In this paper, the research approach will be carefully defined. After that, in the results section, we will define the innovative technology that spans multiple dimensions, provide evidence for the discovered connections, and describe them using a variety of theoretical frameworks. Implications, limitations of this study, and further directions will be discussed.

2. Literature Review

Publications on "sustainability have grown significantly over the previous 20 years to the extent that "sustainability science" is mostly viewed as a separate field (Kates, Carl, Corell, Hall, Jaeger, Lowe, & Svedin, 2001; Komiyama & Takeuchi 2006; Schoolman, Guest, Bush, & Bell, 2012; Kajikawa, Tacao, & Yamaguchi, 2014). Three related "pillars" are used in one particularly common definition of "sustainability. Authors define it as a "pillar" (Basiago 1999; Pope, Annandale, & Morrison-Saunders, 2004; Gibson 2006; Waas, Hugé, Verbruggen, & Wright, 2011; Schoolman et al., 2012; Moldan et al., 2012; Boyer et al., 2016), many authors describe it 'dimensions' (Stirling 1999; Lehtonen 2004; Mori & Christodoulou 2012; Carter & Moir 2012), it defined as 'components' by these authors (Pisani 2006; Zijp et al., 2015). Given the rise of the Sustainable Development Goals (SDGs) and digital transformation, this study focuses on innovative adoption and sustainability. Technology and sustainability are becoming hot topics for governments to ensure high SDG compliance and for researchers to study the effects of digitization. The past 10 years have seen significant evolution in financial technologies driven by digitalization (Ellili, 2022).

The first academic study on Fintech was conducted in 2015, yet the word "Financial" was first proposed in the early 1990s (Puschmann, 2017). Since 2000, Fintech has gained momentum with the introduction of mobile banking. Financial services were accessible through mobile banking platforms (Ullah & Khan, 2024). The government and the SBP (State Bank of Pakistan) have developed numerous policies to increase the adoption of technology in Pakistan. This study focused on the Fintech adoption, which involves some conceptual confusion between Fintech and the Fintech adoption. There is a difference between the concepts. The term Fintech refers to "Innovative technology" used to increase the efficiency of financial services, including Blockchain and mobile banking. Financial institutions use technologies in financial services to increase accessibility (Gomber et al., 2018). However, Chen et al. (2019) define the adoption of innovative technologies as financial institutions and individuals adopting them and integrating them into their daily service use, driven by ease and trust. Despite that, the current study conducted an SLR of the last six years' work published on Fintech adoption towards sustainable performance.

First, it builds the current state of knowledge on the attaining of innovative technology research and their current research focus on top contributing publishers frequently used keywords like (“Fintech”, “adoption”, “Fintech adoption”, “FinTec”), and most cited authors; second it outlines theories of a contemporary and historical nature to the organizations and countries that have been involved in Fintech research major precursors and methods that are most often used; third knowledge gaps in the research area and the potential for future research are also shown. Popular research methods; fourth, it identifies research gaps and suggests directions for future inquiry. The current study provides insights into technology adoption. The objective of the current study is to identify moderators and mediators in Fintech through a systematic literature review. The systematic review of Fintech adoption is based on 29 scholarly articles, whose information has been thoroughly examined to determine the antecedents and outcomes of Fintech adoption.

3. Methodology

3.1. Research Approach

The current study aimed to define an integrated framework that encompasses financial technology adoption. To attain this framework, the current study conducted a systematic literature review, as this technique provides an in-depth analysis of relevant studies on this topic and can identify further untested ideas. Furthermore, using an explicit, systematic methodology to assess a stream of material improves the standards of the evaluation process and results (Tranfield et al., 2003). We applied an inductive research methodology to the final sample of articles for content analysis.

3.2. Description of the review process: Data Collection

Different databases were used for data collection, including Scopus, Google Scholar, and Web of Science. Google Scholar is one of the largest databases. Web of Science and Scopus are also comprehensive. For the first search, keywords and terms were used independently. Boolean operators like "AND" and "OR" were combined with keywords such as “Fintech”, “financial technology”, “green technology”, “Fintech adoption”, “Financial technology adoption”, and “innovative technology adoption”.

3.3. Description of the Inclusion Criteria

For this study, the identified papers had to meet specific requirements. To conduct a systematic literature review, the current study selected articles published from 2019 to 2024. Additionally, since these are thought to offer reliable data and hence have the most influence in the area, the publications had to be published in peer-reviewed journals with an impact factor (Podsakoff et al., 2005); however, the articles must be in the English language and contain research related to Fintech adoption.

3.4. Data extraction procedure

The initial step in the sample data involved examining irrelevant data. Based on this, the abstracts of the articles were evaluated against the inclusion criteria. After reviewing the abstract, it still appeared similar/relevant. The introduction and methodology sections were then read and concluded, including any impacts of Fintech adoption on the given variables.

A flow chart showing the selection procedure for articles to be included in this review is shown in Figure 1. Step 1 identified 105 articles (Google Scholar: 85; Scopus: 20). In Step 2, the sample was reduced by 10 articles because of duplication. In step 3, the

abstracts of the 48 articles were reviewed according to the criteria, and 48 were excluded as irrelevant to the study. In step 4, the introduction and methodology/discussion sections were thoroughly reviewed against the inclusion criteria, leading to the exclusion of an additional 11 articles due to lower impact factors. In the last step, after the exclusion, the 36 articles were found to be relevant to the current study's questions. Moreover, when the final process was determined, 7 articles were removed because they were not specifically relevant to the perspective of Fintech adoption. 29 articles that met all inclusion criteria remained after this final filter.

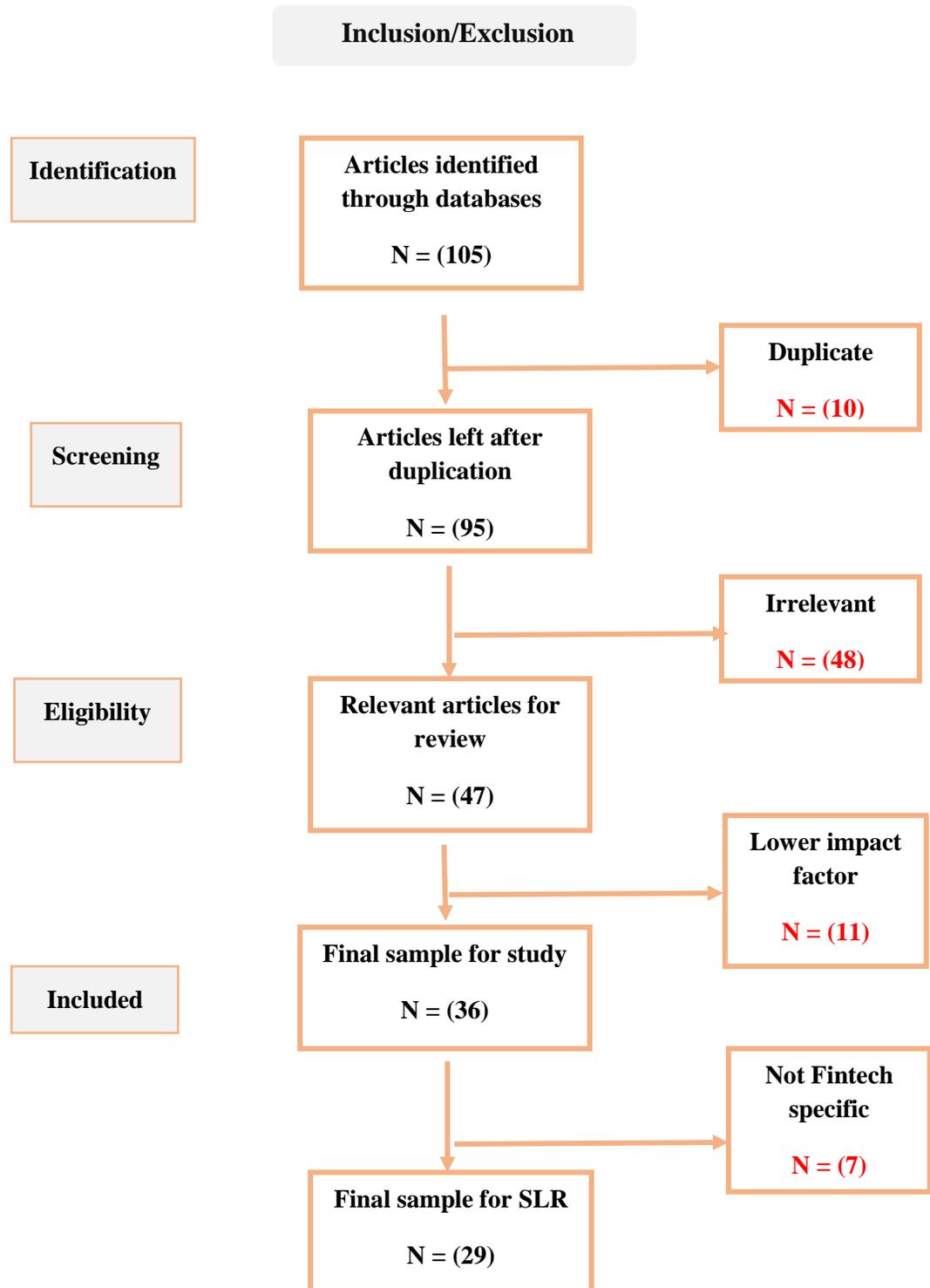


Figure 1. PRISMA Flow chart
Source: Author's own elaboration

4. Result and Discussion

Table 1. Theories used in Fintech Adoption

Theory	Articles	References
UTAUT	7	Chan et al., (2022). Tariq et al., (2024). Sharma et al., (2024). Almashhadani et al., (2023). Kurniasari et al., (2023). Xie et al., (2021). Singh et al., (2020).
UTAUT2	2	Idrees et al., (2024). Hassan et al., (2024).
TAM	9	Almaqtari et al., (2024). Igamo et al., (2024). Almashhadani et al., (2023). Siddik et al., (2022). Nugraha et al., (2022). Hasan et al., (2021). Setiawan et al., (2021), Singh et al., (2020). Dwivedi et al., (2021),
TPB	2	Aggarwal et al., (2023). Liu et al., (2023).
Resource-based view (RBV)	1	Serdarušić et al., (2024).
Practice-based view (RBV)		Hidayat-ur-Rehman et al., (2023).
Ecological modernization theory (EMT)	1	Siddik et al., (2023).
EMT and AMO theory.	1	Siddik et al., (2023).
Dynamic capabilities theory (DCT)	1	Siddik et al., (2023).
TRA	1	Roh et al., (2022).
Macroeconomic theory	1	Yang et al., (2022).

Source: Author's own elaboration

Table 1 summarizes the theories employed in studies from 2019 to 2024. The Technology Acceptance Model (TAM) emerges as the most widely adopted framework, featured in nine articles. These works—by Almaqtari et al. (2024), Igamo et al. (2024), Almashhadani et al. (2023), Siddik et al. (2022), Nugraha et al. (2022), Hasan et al. (2021), Setiawan et al. (2021), Singh et al. (2020), and Dwivedi et al. (2021)—demonstrate that TAM dominates and exerts considerable influence on technology adoption. The Unified Theory of Acceptance and Use of Technology (UTAUT) ranks second among the most utilized theories. Studies by Chan et al. (2022), Tariq et al. (2024), Sharma et al. (2024), Almashhadani et al. (2023), Kurniasari et al. (2023), Xie et al. (2021), and Singh et al. (2020) note that UTAUT also exerts a notable effect on the uptake of innovative technologies.

4.1. Characteristics

A construct's characteristics are its constituent parts and how they relate to other relevant factors (Paul, Khatri, & Duggal, 2023). In addition to the results, we include a summary of the domain's antecedents, moderators, and mediators.

Table.2. Antecedents of Fintech Adoption

Variables	Articles	References
Social influence	8	Almashhadani et al., (2023)., Xie et al., (2021), Kurniasari et al., (2023), Hassan et al., (2024), Sharma et al., (2024), Idrees et al., (2024). Chan et al., (2022), Tariq et al., (2024).
Performance expectancy	7	Xie et al., (2021), Kurniasari et al., (2023), Hassan et al., (2024), Sharma et al., (2024), Idrees et al., (2024). Chan et al., (2022), Tariq et al., (2024).
Effort expectancy	7	Xie et al., (2021), Kurniasari et al., (2023), Hassan et al., (2024). Sharma et al., (2024). Idrees et al., (2024). Chan et al., (2022). Tariq et al., (2024).
Social influence	6	Kurniasari et al., (2023). Hassan et al., (2024). Chan et al., (2022). Xie et al., (2021). Almashhadani et al., (2023). Sharma et al., (2024).
Trust	2	Nugraha et al., (2022). Roh et al., (2024). Tariq et al., (2024). Hasan et al., (2021).
Perceived risk	4	Almashhadani et al., (2023). Xie et al., (2021), Chan et al., (2022), Tariq et al., (2024).
Facilitating conditions	4	Tariq et al., (2024), Idrees et al., (2024), Hassan et al., (2024), Xie et al., (2021).
Financial literacy	4	Nugraha et al., (2022). Kurniasari et al., (2023). Siddik et al., (2023). Igamo et al., (2024).
Perceived ease of use	3	Hasan et al., (2021). Almashhadani et al., (2023). Hasan et al., (2021).
Perceived usefulness	3	Igamo et al., (2024). Hasan et al., (2021). Almashhadani et al., (2023).
Government support	2	Nugraha et al., (2022). Igamo et al., (2024).
Perceived value	1	Xie et al., (2021).
Safety	1	Hasan et al., (2021).
Technology attitude	1	Singh et al., (2020).
Green innovation	1	Liu et al., (2023).
Perceived environmental responsibility	1	Liu et al., (2023).
Green finance	1	Guang-Wen et al., (2023).
Green transformational leadership	1	Siddik et al., (2023).
Information quality	1	Aggarwal et al., (2023).
Perceived innovativeness	1	Hassan et al., (2024).
Perceived security	1	Hassan et al., (2024).
Convenience	1	Sharma et al., (2024).

 Behavioral intention 1 Sharma et al., (2024).

Source: Author's own elaboration

Table 2 presents the primary variable that constitutes the core focus of most studies in the sample. The cited references demonstrate significant scholarly interest in the adoption of Fintech technologies across diverse contexts. For example, Dwivedi et al. (2021) and Yan et al. (2022) investigate factors influencing Fintech uptake, while Siddik et al. (2023) and Guang-Wen et al. (2023) examine regional and sectoral adoption patterns. Fintech adoption consistently emerges as the central theme in this literature, underscoring its significance within the financial technology domain. The table synthesizes key determinants of Fintech adoption, encompassing a comprehensive range of factors including social and psychological influences, performance expectations, and risk perceptions. The predominance of references to Fintech adoption underscores its centrality, with social influence featured in eight articles. Studies by Almashhadani et al. (2023) and Xie et al. (2021) demonstrate that social factors are critical in promoting adoption. Performance expectations are addressed in seven articles; for instance, Xie et al. (2021) and Kumisara et al. (2023) analyze how anticipated performance shapes decision-making, indicating that users are more likely to adopt Fintech when they expect positive outcomes. Effort expectancy, also discussed in seven articles, is shown by Xie et al. (2021) and Kumisara et al. (2023) to be a significant determinant, as user-friendly and easily navigable Fintech solutions are more readily adopted. These findings suggest that perceptions of ease of use and benefit are pivotal in Fintech adoption. Trust is highlighted in five articles, with Nugraha et al. (2022) and Roh et al. (2024) emphasizing the necessity for users to trust both the technology and the institutions providing Fintech services, as well as the security of their data. Risk, discussed in four articles, is addressed by Tariq et al. (2024) and Hasan et al. (2021), who identify concerns regarding uncertainty and potential negative consequences associated with Fintech adoption. This analysis provides a foundation for structuring future research by focusing on these core variables and examining their interrelationships in the Fintech adoption process.

Table.3.Outcomes of Fintech Adoption

Variables	Articles	References
Consumption and Consumption Inequality	1	Yan et al. (2022)
Sustainability Performance	12	Dwivedi et al. (2021); Yan et al. (2022); Liu et al. (2023); Kurniasari et al. (2023); Siddik et al. (2023); Tian et al. (2023); Hidayat-ur-Rehman et al. (2023); Almaqtari et al. (2024); Serdarusić et al. (2024); Serdarusić et al. (2024); Rehman et al. (2024); Hidayat-ur-Rehman (2024)
Corporate Carbon Emission	1	Wang et al. (2024)
Environmental Performance	2	Guang-Wen et al. (2023); Siddik et al. (2023)

Source: Author's own elaboration

Table 3 defines various types of outcomes. The reviewed articles examine multiple factors influencing Fintech adoption, including technological readiness, trust, ease of use, and social influence. Additionally, they address sector-specific and region-specific adoption trends. The substantial number of articles indicates that Fintech adoption is a broad and complex topic, encompassing diverse contexts and dimensions, making it a significant focus for researchers. Sustainability performance is another prominent

research area, appearing in 12 articles. This area is noteworthy because it links the Fintech industry to environmental, social, and governance (ESG) concerns, reflecting growing interest in how Fintech innovations support sustainable business practices. Studies by Dwivedi et al. (2021) and Liu et al. (2023) examine how Fintech can facilitate sustainability by promoting efficient resource use, reducing carbon footprints, and encouraging socially responsible investments. The variable “Consumption and Consumption Inequality,” as referenced by Yan et al. (2022), represents a more specialized research focus. Organizational value creation, discussed by Taepia et al. (2023), highlights Fintech’s role in improving organizational efficiency and generating new business opportunities. Wang et al. (2024) investigate Fintech's impact on corporate carbon emissions, exploring how Fintech innovations contribute to emission reductions and promote environmentally sustainable practices.

Table.4.Moderators of Fintech Adoption

Variables	Articles	References
Behavioral attitudes	2	Singh et al. (2020)
Competitiveness	3	Dwivedi et al. (2021); Hidayat-ur-Rehman et al. (2023); Rehman et al. (2024)
Perceived usefulness	1	Nugraha et al. (2022)
User innovativeness	1	Nugraha et al. (2022)
Green innovation	3	Yan et al. (2022); Guang-Wen et al. (2023); Siddik et al. (2023)
Attitude	1	Roh et al. (2022)
Fintech adoption (FTA)	7	Liu et al. (2023); Aggarwal et al. (2023); Almashhadani et al. (2023); Igamo et al. (2024); Serdarušić et al. (2024); Hassan et al. (2024); Tariq et al. (2024)
Green finance	3	Yan et al. (2022); Liu et al. (2023); Rehman et al. (2024)
SME performance	1	Kurniasari et al. (2023)
Circular economy	2	Siddik et al. (2023); Hidayat-ur-Rehman et al. (2023)
Access to finance	1	Siddik et al. (2023)
Digital awareness / digital transformation	1	Serdarušić et al. (2024)
Social influence	1	Chan et al. (2022)

Source: Author’s own elaboration

Table 4 indicates that Fintech adoption, when acting as a mediating variable, exerts a greater influence on sustainability performance compared to other variables. Several studies have demonstrated that Fintech plays a crucial role in enhancing environmental, social, and economic performance (Liu et al., 2023; Aggarwal et al., 2023; Almashhadani et al., 2023; Igamo et al., 2024; Serdarušić et al., 2024; Hassan et al., 2024; Tariq et al., 2024). Other factors exhibit weaker mediating effects. Future research may consider incorporating Fintech adoption as a mediator to further examine its impact.

Table.5.Moderators of Fintech Adoption

Variables	Articles	References
Digital behavior/transformation ;	2	Singh et al. (2020); Rehman et al. (2024)
demographic characteristics		
Access to finance; absorptive capacity	1	Siddik et al. (2023)
Transformational leadership	1	Hidayat-ur-Rehman et al. (2023)
Impact of COVID-19	1	Almashhadani et al. (2023)
Privilege pay	1	Aggarwal et al. (2023)
Multi-groups	1	Igamo et al. (2024)
IT governance	1	Almaqtari et al. (2024)
Trust	1	Hassan et al. (2024)
Educational level	1	Idrees et al. (2024)
Financial literacy	1	Chan et al. (2022)

Source: Author’s own elaboration

Table 5 above clearly shows that the moderators were not purposively explored in this study. The digital innovation variable is rarely used in two studies, Singh et al. (2020) and Rehman et al. (2024). This lower influence of the moderating variable provides a strong lead for future researchers to utilize the moderating effect in their studies to assess the strength of the moderator in the causal relation.

4.2. Context

Table.6.Research Strategies Used in Fintech Adoption

Research Strategy	Articles	References
Survey	27	Singh et al. (2020); Dwivedi et al. (2021); Xie et al. (2021); Roh et al. (2022); Liu et al. (2023); Kurniasari et al. (2023); Setiawan et al. (2021); Hasan et al. (2021); Siddik et al. (2023); Guang-Wen et al. (2023); Tian et al. (2023); Siddik et al. (2023); Hidayat-ur-Rehman et al. (2023); Aggarwal et al. (2023); Almashhadani et al. (2023); Igamo et al. (2024); Almaqtari et al. (2024); Serdarušić et al. (2024); Hassan et al. (2024); Sharma et al. (2024); Idrees et al. (2024); Chan et al. (2022); Tariq et al. (2024); Rehman et al. (2024); Hidayat-ur-Rehman (2024); Nugraha et al. (2022); Siddik et al. (2022)
Econometric model	1	Yan et al. (2022)

Source: Author's own elaboration

Table 6 shows that 27 out of 29 studies employed the survey strategy; researchers including Singh et al. (2020), Dwivedi et al. (2021), Xie et al. (2021), Roh et al. (2022), Liu et al. (2023), Kurniasari et al. (2023), Setiawan et al. (2021), Hasan et al. (2021), Siddik et al. (2023), Guang-Wen et al. (2023), Tian et al. (2023), Hidayat-ur-Rehman et al. (2023), Aggarwal et al. (2023), Almashhadani et al. (2023), Igamo et al. (2024), Almaqtari et al. (2024), Serdarušić et al. (2024), Hassan et al. (2024), Sharma et al. (2024), Idrees et al. (2024), Chan et al. (2022), Tariq et al. (2024), and Rehman et al. (2024) all utilized this approach in their research.

Table.7.Research Philosophies Used in Fintech Adoption

Research Philosophy	Articles	References
Positivism	26	Singh et al. (2020); Dwivedi et al. (2021); Xie et al. (2021); Setiawan et al. (2021); Hasan et al. (2021); Roh et al. (2022); Chan et al. (2022); Liu et al. (2023); Kurniasari et al. (2023); Siddik et al. (2023); Guang-Wen et al. (2023); Tian et al. (2023); Hidayat-ur-Rehman et al. (2023); Aggarwal et al. (2023); Almashhadani et al. (2023); Igamo et al. (2024); Almaqtari et al. (2024); Serdarušić et al. (2024); Hassan et al. (2024); Sharma et al. (2024); Idrees et al. (2024); Tariq et al. (2024); Rehman et al. (2024)

Source: Author's own elaboration

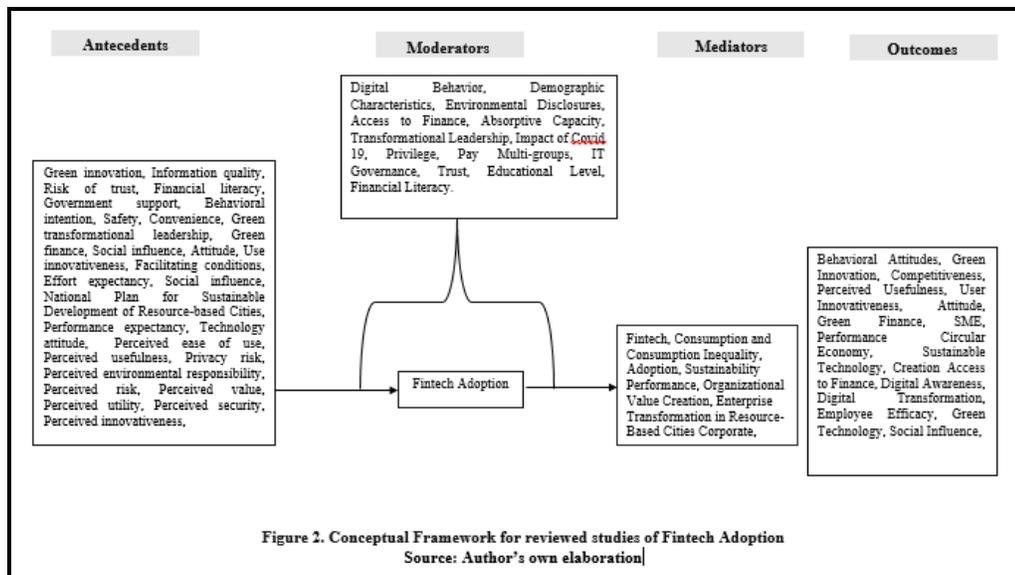
Table 7 demonstrates that most previous systematic literature reviews do not include this final component of the synthesis. This research identifies the theoretical frameworks employed by authors. These frameworks strengthen the literature on sustainability performance. Of the 29 studies reviewed, 26 addressed Fintech adoption using a positivist methodology. Five studies did not clearly specify their methodological approach. Consequently, the philosophical perspective represented in the spatiality

literature is clarified. This provides guidance for future scholars to consider diverse philosophical lenses.

Table.8.List of Journals Used in Fintech Adoption Studies

Journal	Articles	References
Journal of Open Innovation: Technology, Market, and Complexity	6	Idrees et al. (2024); Sharma et al. (2024); Almaqtari et al. (2024); Igamo et al. (2024); Hidayat-ur-Rehman et al. (2023); Nugraha et al. (2022); Setiawan et al. (2021)
Management Decision	1	Singh et al. (2020)
International Journal of Global Business and Competitiveness	1	Dwivedi et al. (2021)
Journal of Theoretical and Applied Electronic Commerce Research	1	Xie et al. (2021)
Asia-Pacific Journal of Business Administration	1	Rehman et al. (2024)
Global Business Review	1	Hasan et al. (2021)
Journal of Banking and Finance	1	Yan et al. (2022)
Systems	1	Siddik et al. (2022)
Electronic Commerce Research	1	Roh et al. (2022)
Sustainability	2	Kurniasari et al. (2023); Liu et al. (2023)
Environmental Science and Pollution Research	2	Guang-Wen et al. (2023); Siddik et al. (2023)
Journal of Innovation and Knowledge	1	Siddik et al. (2023)
Journal of Cleaner Production	1	Siddik et al. (2023)
Cogent Economics & Finance	1	Aggarwal et al. (2023)
Cogent Social Sciences	1	Almashhadani et al. (2023)
Economies	1	Serdarušić et al. (2024)
Business Strategy and the Environment	1	Wang et al. (2024)
Journal of Financial Services Marketing	1	Hassan et al. (2024)
International Journal of Bank Marketing	1	Chan et al. (2022)
Heliyon	1	Tariq et al. (2024)

Source: Author’s own elaboration



Many previous studies have explored the relationship between these two phenomena from different perspectives, such as green technologies in the banking industry, green finance effect in banking and small and medium enterprises, and the technology effect on sustainable banking. Most of the studies focus on the SDGs in the banking industry. Sustainable performance has three exclusive dimensions that are equally important and have been less explored in previous studies. This systematic literature review adopts the TCCM approach to conduct the detailed review. Quantitative methods, especially questionnaires, are most commonly used in previous research. However, these technologies enhance environmental sustainability by increasing investment in green bonds.

This study addresses gaps in the existing literature on Fintech and sustainable performance (SP) by presenting organized, comprehensive data. To advance understanding of the interactions between Fintech innovations and sustainable performance benchmarks, the discussion emphasizes key attributes such as publication trends and contributing authors. Conditions within the Fintech-Sustainable performance connection. Synthesizing the body of knowledge on Fintech's contributions to sustainability goals, this analysis examines the industry's past, present, and future. The frequency tables, prepared by the author of this review, describe all possible variables, including predictors, mediators, moderators, and outcomes.

5. Conclusion and Policy Implications

Extensive research has examined this topic across various contexts. This study uses a systematic literature review (SLR) to identify variables in the academic literature that influence the adoption or use of Fintech services. The findings show that factors like perceived usefulness, perceived ease of use, social influence, and facilitating conditions most commonly affect Fintech adoption. The most frequently applied theoretical frameworks are the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and UTAUT2. Quantitative methodologies predominate. In the SLR, 29 studies use this approach, and additional studies outside the SLR also employ quantitative methods. This systematic review offers a synthesized overview of technology adoption. Previously, such a synthesis was unavailable. The review helps researchers better understand the progression of technology's impact on sustainable performance. This synthesis distinguishes the review from prior empirically tested studies and detailed bibliometric analyses. Most studies adopt a positivist philosophical approach, consistent with the nature of the research.

5.1. Practical Implications

This study provides a comprehensive synthesis of existing literature on the relationship between Fintech adoption and sustainable performance. The review identifies novel technologies that improve sustainability outcomes. These findings are valuable for financial institutions seeking to implement technologies that mitigate environmental challenges and promote investment in eco-friendly initiatives. It is recommended that shareholders and stakeholders adopt technologies such as Blockchain, artificial intelligence (AI), and the Internet of Things (IoT) to enhance financial accessibility, support sustainable performance, and reduce transaction costs. Transparent technologies like Blockchain can minimize waste and improve resource transparency through

mechanisms such as green bonds and investments in environmentally responsible projects. Policymakers and government agencies are encouraged to strengthen digital infrastructure and promote financial literacy, as supported by the findings of Qaiser and Fahad (2024).

5.2. Limitations and Recommendations

Within the context of Fintech and sustainability performance, this review synthesizes emerging ideas, contexts, characteristics, and approaches. The conclusions are expected to contribute to a broader understanding among scholars and practitioners. Specifically, mapping the most widely accepted theories, settings, variables, methodologies, and key documents, as well as identifying potential future research topics, may assist academics in this field. This approach also enhances understanding of how Fintech supports sustainable performance. The following recommendations are directed at both researchers and policymakers. First, the introduction of tokenized currency, such as valuable and traceable tokens for renewable energy investment, should be considered. Second, personalized investment portfolios should be developed, with profits allocated to eco-friendly projects. Third, sector-specific analyses of the effects of green bonds on sustainability are needed. Additionally, research should address regional and cultural variations, examining how culture and economic structures shape green markets and technology adoption across regions. Finally, the impact of regulatory frameworks and policies on sustainable performance and green markets should be further explored.

This review has several limitations, in addition to the significant theoretical and managerial implications previously discussed. First, the search queries for titles, abstracts, and keywords were limited to general terms related to sustainability and Fintech. Second, the study focused exclusively on articles. Future research could expand the scope to include books, dissertations, and case studies.

Author contribution

All authors contributed equally to conducting the SLR on the specific topic. We made a team to collect the data on the specified topic, and then divide the work into equal portions.

- Sahiba Anwer: Conceptualization of the research problem, framework, design and analysis.
- Dr. Hina Shahab: the second author continuously provides feedback on the work. The final version of the SLR is approved by the second author of this paper.
- Khawar Hussain: Literature review and manuscript refinement.

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Conflict of interest

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