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Fintech Adoption and Cognitive Biases in Personal Financial Management: A Systematic Literature Review

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Abstract

The rapid growth of FinTech adoption has increased the number of global transactions, and their value is expected to increase. However, the influence of behavioural biases especially influences Fintech adoption. This paper aimed to explore the influence of the cognitive aspects, including financial literacy, loss aversion, and perceived risk, on consumer Fintech adoption. This paper used a systematic review approach using Web of Science and Scopus databases. A total of 2,512 records were identified, and the final review included 20 relevant articles. The findings revealed that there is a gap between Fintech utilisation and availability. It is essential to learn more about these psychological barriers to develop financial inclusion and increase user engagement. Therefore, future research must focus on behaviourally informed interventions and user-centred design could enhance the outcomes of FinTech adoption levels, considerably.

Keywords:*FinTech adoption, Cognitive Bias, Personal financial management, Behavioural Bias, Financial literacy*

Introduction

The globalisation of financial services through the digitalisation trend has significantly changed how individuals manage their finances. The new level of convenience, efficiency, and accessibility has been established with fintech tools, which encompass all things related to mobile banking apps, digital wallets, and robo-advisors. Greene (2022) also estimates that currently more than 3 billion people worldwide use digital payment services, which are the

most numerous segments of fintech, and that the inflow of adopters will reach 4.45 billion by 2029. A high percentage of users are not used to or are adverse to the use of fintech tools. Studies regarding the cognitive biases suggest that people act irrationally, particularly in respect to their financial decisions, due to overconfidence, anchoring, loss aversion, status quo bias, among others, because a growing literature review also supports this statement (Sathya and Gayathiri, 2024).

Although the impacts of fintech on financial inclusion have been discussed, most existing research focuses on general adoption trends without highlighting the reasons that limit the underrepresented groups of the population from using digital financial tools. Prior research, including all studies by Asif et al. (2023), has indicated that the democratisation of access to finances through fintech is a possibility. Still, financial access remains disproportionately accessible to various segments of the population and the economy. Even access to superior financial technologies did not help individuals to make rational decisions when they are being subjected to cognitive bias, such as overconfidence and loss aversion (Arif et al., 2025). Although the importance of financial literacy in reducing these biases is acknowledged, there is a lack of research on the connection between financial literacy and cognitive barriers in their effects on fintech use. Therefore, the study seeks to address this research gap by providing insight into how cognitive biases have contributed to the decision-making process and how financial literacy can be used as an instrument to facilitate fintech uptake among various demographics. The specific consideration of these aspects in the study helps to present a significant contribution to the understanding of psychological and educational conditions that predetermine the readiness of individuals to use digital financial services.

The relevance of the research problem lies in the fact that fintech tools are over-pitched to be the instrument of financial inclusion. The existence of no differences in behaviour may deteriorate the scaling of adoption. One of the implications of taking these dynamics into

consideration may be the more universal design of the interventions, financial education, and behavioural interventions. The expected market size of global FinTech transactions is expected to grow by USD 20.09 trillion in the year 2025 (Statista, 2025). However, only 34 percent of the potential users adoptFinTech digital financial services (World Economic Forum, 2025). This has led to a severe resistance between the availability and adoption of FinTech services, due to ongoing cognitive biases in behavioural finance, such as inertia and perceived risk, notably in emerging digital banking markets.Research on fintech has been predominantly centred on the technological characteristics and the overall impacts of financial literacy, but there have been minimal studies examining the combination of fintech adoption and cognitive bias (Aftab et al., 2025; Hasan et al., 2024; Greene, 2022; Alkhwaldi, 2024).

Chuahan and Chavda (2024) investigated the influences of behavioural biases on decision-making about digital preferences and found that individuals' behavioural orientations have a significant influence on the choice of digital technologies. Similarly, Jain et al. (2023) connected the use of FinTech with human behaviour, stating that using digital services in the banking industry affects the cognitive processes of individuals. Hasanah et al. (2024) recognised the multidimensionality of the digital age, stating that there are certain behavioural barriers to digital adoption, which have been identified as the obstacles that hinder the adoption of FinTech services in the banking sector. However, these studies had a low sample size, which limits generalisability. There is a need for a comprehensive review to understand the influence of fintech adoption based on cognitive bias.

This paper aimed to explore the influence of cognitive biases on the fintech adoption. It looks at how financial literacy could help individuals overcome these psychological obstacles and do so in such a way that it could enable them to make more rational economic choices. The main objective of this review is to explore the influence of financial literacy as an

economic tool. Further, the objective is to identify trust, risk perception, and behavioural intention that influence Fintech adoption. Lastly, it investigates how demographic drivers influence the Fintech adoption.

The proposed study gives answers on the level scale in terms of how these cognitive biases may affect the adoption of fintech in personal financial management. It also examines the protective/moderating role of financial literacy, which is suggested to be a probable hedge against the role of irrational thinking on economic behaviour. Understanding behavioural obstacles is very important with the growth of digital services (Greene, 2022; Alkhwaldi, 2024). The knowledge of the role of biases in the choice of consumers is important to build user-centred approaches to building acceptance and trust. This review helps stakeholders to advance in financial inclusion, optimise FinTech design, and have fair access to the digital economy that is fast and vastly changing.

Materials and Methods

This systematic literature review was conducted in a structured way to explore the role of cognitive biases and financial literacy in fintech adoption regarding personal financial management. Web of Science and Scopus databases were chosen due to their extensive coverage of the literature on behavioural economics, digital finance, and consumer psychology. According to Gusenbauer (2022), the scope of Web of Science and Scopus creates a moderate basis for interdisciplinary reviews. The keywords and Boolean operators used to develop a refined search strategy include ("fintech adoption" OR "digital finance" OR "mobile banking") AND ("cognitive bias" OR "behavioural bias" OR "heuristics") AND ("financial literacy" OR "financial decision-making") (See Table 1). This returned an initial pool of 2,512 records. To capture the most up-to-date post-pandemic trends in personal digital finance, the search was restricted to the English-language, peer-reviewed journal articles published between 2020 and 2025 (See Table 2).

Table 1: Search Strategy Keywords and Boolean Operators

KEYWORDS		ALTERNATIVE WORDS
• Fintech adoption	AND	• Digital finance, mobile banking
• Cognitive bias	AND	• Behavioural biases, heuristics
• Personal finance	AND	• Financial behaviour, money management
• Financial literacy	AND	• Trust, risk perception

Table 2: Inclusion and Exclusion Criteria

Inclusion Criteria	**Exclusion Criteria**
• Publication Year: 2020–2025	• Published before 2020
• Language: English only	• Non-English articles
• Study Type: Primary research articles, Review articles	• Editorial papers, government reports, meta-analyses, and conceptual papers
• Access: Full-text available	• Abstract-only or restricted access
• Focus: Fintech, cognitive biases, and personal finance	• Studies not focused on individual fintech usage

Out of 2,512 initial records, 2,440 were screened following the exclusion of 72 duplicates. Another 1,980 were removed due to irrelevance to the subject, type of publication, or unavailability of the full text. The remaining 460 records were excluded after a review of their abstracts and content, as they did not meet the inclusion criteria. The last review involved 20 primary studies, which were selected based on relevance, methodological coherence, and empirical orientation. To guarantee quality, the Critical Appraisal Skills Programme (CASP) tool was used to assess all 20 studies based on methodological rigour, internal validity, and bias (Long, French, and Brooks, 2020). The thematic synthesis approach was used to determine patterns and differences among the findings to enable a comparative analysis of the interaction of biases, literacy, and behaviour in fintech settings.

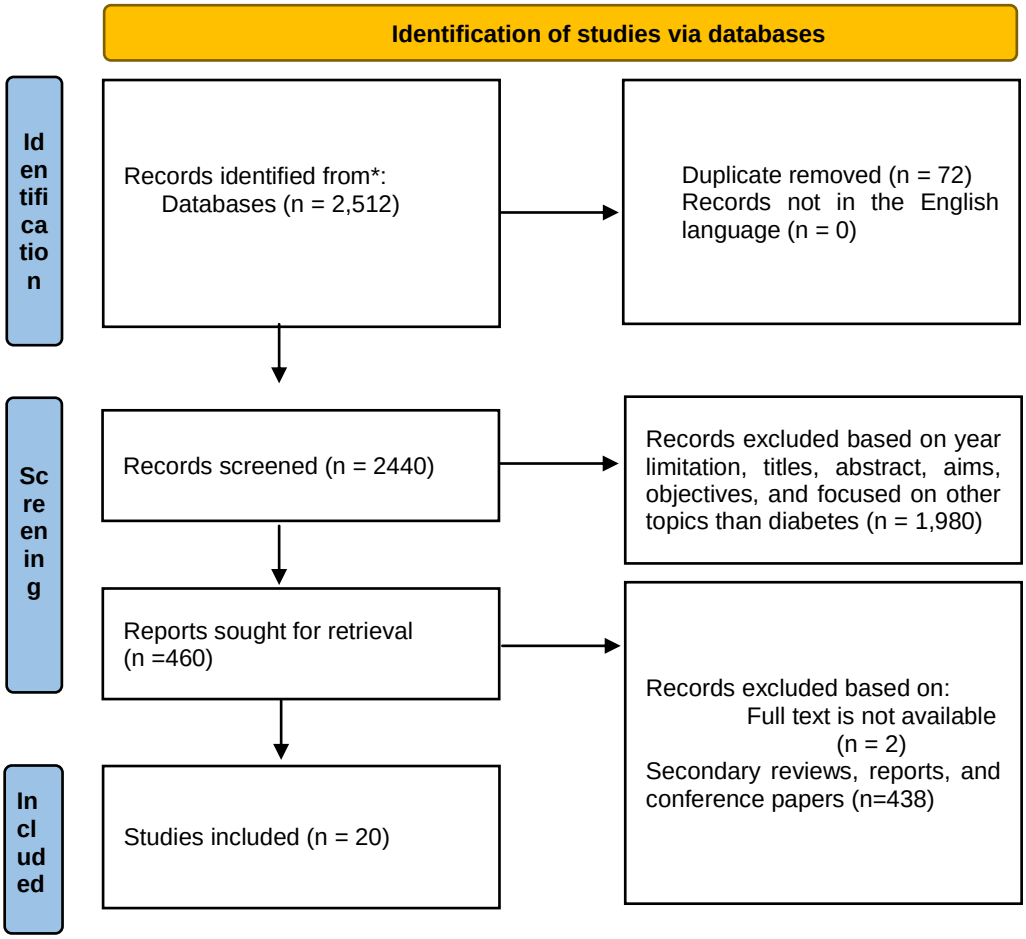
This review adopts a thematic synthesis design to analyse the collected data. Riger et al. (2016)demonstrated that emerging patterns and themes using a thematic synthesis helps to analyse subjective large set data.Therefore, the given approach can be effectively applied to

the investigation of the interaction between cognitive biases and financial literacy and the adoption of fintech products.

Organising the findings concerning relevant themes, including the role of cognitive biases (overconfidence, loss aversion, status quo bias) on decision-making, the study aims to determine how these variables affect consumer behaviour. Also, the discussion is going to revolve around financial literacy as a moderating variable between cognitive biases and fintech adoption, as stated by Kaur and Sharma (2022). Demographic factors, including age, income, and education, will also be considered in the research, as they influence the adoption process and provide a comprehensive understanding of the factors at play.

The main benefit of thematic synthesis is its applicability to summarising recurring patterns of findings in a review (Naeem et al., 2023). The methodological rigour and transparency prompted the use of the PRISMA framework as recommended by Page et al. (2021), which was used to select the studies based on solid criteria. This systematic approach increases the reliability and meaningfulness of the review results since the review reproducibility is high.

Prisma Framework



The methodology applied in this research work is strict, but it possesses certain limitations. To begin with, focusing the analysis on articles published in 2020 may overlook valuable older studies that could inform long-term conclusions about fintech adoption trends. Although this direction was essential to focus on the most topical fintech innovations, such a limitation might fail to consider fundamental studies that led to the fintech industry. Furthermore, the exclusion of non-English studies is another limitation, as fintech research is gaining popularity in regions such as Asia, Latin America, and Africa, where non-English research is more prevalent. This lack of detail may be an issue of generalisation in the findings, particularly in situations involving the world with special socio-cultural factors in fintech consumption processes.

Also, the decision to overlook grey literature (government reports and policy publications) was motivated by the need to eliminate the influence of areas that are less empirically solid in the review. This choice, however, restricts the use of real-world experiences that might not have been yet published in peer-reviewed journals, but upon any evaluation are vital in establishing the actual implementation circumstances and barriers to the use of fintech tools. Finally, even though the PRISMA checklist and CASP tool can facilitate the reduction of subjective interpretation by addressing individual biases, the possibility of subjective interpretation may still take place during the study selection process. In order to reduce this risk, the inclusion/exclusion process may incorporate two or more reviewers to increase the objectivity of the study.

Results

Characteristics of the Studies

Twenty articles related to the 2021-2025-time frame in various geographical settings were reviewed, including Pakistan, those of India, Malaysia, Jordan, Indonesia, China, Nepal, Bangladesh, the United Arab Emirates, the Central and East European countries, Taiwan, and the United States (See Table 3). Empirical approaches were more toward quantitative design, and Structural Equation Modelling (SEM), Partial Least Squares (PLS-SEM), and regression modelling were widely used to question fintech adoption determinants. The samples included 120-1,000 subjects and included microfinance clients, bank professionals, students, fintech users, and managers of MSMEs. Convenience and purposive sampling were widely used, which is an indicator of the exploratory nature of most studies. Some of these major theoretical constructs were Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Acceptance Model (TAM), Stimuli-Organism-Response (SOR), and Task-Technology Fit (TTF). Another significant percentage referred to the mediating, moderating effect of financial literacy, trust, or digital financial behaviour. These parameters were always

identified as critical sources of behavioural intention and sustainable consumption and digital inclusions in the course of fintech development.

Table 3: Data Extraction Table

Authors (year)	**Country**	**Method and Sampling**	**Aim of the Research**	**Outcomes**	**Key Findings**
Aftab et al. (2025)	Pakistan	Quantitative, Regression analysis. 313 participants, convenience sampling	Impact of behavioural biases and financial literacy on fintech adoption	Fintech adoption behaviour	Cognitive biases (risk aversion, overconfidence, anchoring) hinder fintech adoption in Pakistan; financial literacy mitigates these effects.
Ali et al. (2021)	Malaysia	Quantitative, SEM, Conducted in Malaysia, the study targeted Islamic fintech users.	Influence of trust and perception on fintech acceptance	Intention to adopt fintech	In Islamic fintech, trust and perceived benefit outweigh perceived risk in influencing adoption.
Amir et al. (2023)	Malaysia	Quantitative research method using survey-based data collection. A total of 120 respondents participated in the study, comprising employees from various commercial banks in Malaysia.	To investigate the critical factors influencing FinTech disclosure practices among banks in Malaysia	The level of FinTech disclosure adoption across the sampled banks.	Trust and perceived usefulness predict fintech disclosure; ease of use is mediated by trust.
Bouteraa et al. (2023)	UAE	Mixed-methods. 332 bank customers for the survey (convenience sampling), 10 participants for the interview using purposive sampling	Barriers to fintech adoption	Resistance to fintech	In the UAE, low awareness, trust, and perceived complexity are significant barriers to fintech adoption.

Cumming et al. (2023)	Global.	Narrative Review	International fintech transformation	Business model change	Global fintech adoption depends on local regulations, digital literacy, and consumer behaviour; success is context-dependent.
Das & Das (2022)	India	Quantitative, SEM. 1,066 fintech users from various income brackets in Assam, India, participated in this survey. convenience sampling	Impact of pandemic on fintech adoption	Fintech usage intention	In India, fintech adoption during COVID-19 was driven by trust, usefulness, and government support.
Hasan et al. (2024)	India	Quantitative, PLS-SEM. A total of 231 urban low-income microfinance clients in India formed the sample. The study likely used purposive sampling, focusing on individuals engaged with fintech-linked microfinance services. Gender details were not specified.	Role of literacy in fintech-based microfinance success	Microfinance outcomes	Financial literacy mediates the impact of fintech use on microfinance outcomes among low-income urban users.
Kutbi et al. (2024)	Saudi Arabia	Quantitative methodology. A total of 387 respondents participated in the study. Of these, approximately 61% were female and 39% were male, with a majority aged between 18	To explore how BNPL services' rapid rise influences consumer behaviour and challenges traditional banking services' relevance and competitiveness, particularly in credit provision.	BNPL usage leads to an increased preference for alternative credit options, which influences purchasing decisions and decreases dependency on traditional financial institutions.	Younger users are attracted by ease and convenience; the risk of overspending is highlighted.

		and 45. The sample was obtained through convenience sampling, primarily targeting individuals active on digital financial platforms and familiar with fintech services, especially the BNPL offering.			
Maharjan et al. (2022)	Nepal	Quantitative methodology. 280 respondents participated in the study. The sample consisted of online grocery buyers in Nepal, and convenience sampling was employed.	Key drivers influencing FinTechadoption	The primary outcome was behavioural intention to adopt FinTech services for online grocery shopping.	Social influence and perceived usefulness drive fintech use during crises; trust remains essential.
Fu et al. (2022)	China	Quantitative methodology. The study analysed institutional data using stratified secondary sampling from central banks, fintech companies, and regulatory bodies across four countries.	This paper assesses how fintech acted as a stabilising technological response during the COVID-19 crisis, assessing adoption patterns, regulatory adaptation, and consumer trust evolution.	Accelerated fintech adoption, especially mobile banking, QR-code payments, and contactless digital lending platforms.	Digital infrastructure and transparent UX led to higher fintech retention post-pandemic.
Nugraha et al. (2024)	Indonesia	Quantitative, SEM.	Influence of financial habits on fintech adoption	Fintech usage	Financial literacy and saving habits predict purposeful fintech use in Indonesia.

		This Indonesian study included over 536 participants. Purposive sampling of those who are acquainted with Fintech services			
Panait et al. (2024)	Central & Eastern Europe	Quantitative, Regression. Nine variables from 23 countries.The variables considered are Internet usage, online shopping, paying bills online, accessing a bank account online, paying utility bills using a mobile phone, making or receiving digital payments, total bank assets in 2020/GDP, account ownership, and debit card ownership.	Role of digitalisation in inclusion	Financial inclusion	Fintech improves financial inclusion in Eastern Europe, but risks digital exclusion without infrastructure and education.
Sultana et al. (2023)	Banglade sh	Quantitative, UTAUT-based survey. This study targeted undergraduate students in Bangladesh and used an extended UTAUT model to examine fintech	Youth inclination toward fintech use	Usage intention	Among Bangladeshi students, performance expectancy and social norms drive adoption; gender moderates intention.

		behaviour. The sample size, gender split, and sampling method were not specified, but likely involved convenience sampling through academic networks or institutions.			
Liu et al. (2023)	Taiwan	Quantitative, SEM. 375 young undergraduates from different universities in Bangladesh. Convenience Sampling	Environmental responsibility through fintech	Sustainable banking performance	Green fintech processes improve sustainability and brand trust in Taiwanese banks.
Aggarwal et al. (2023)	India	Quantitative, Survey. 349 selected higher education students, judgmental sample strategy	Youth behaviour and technology adoption	Fintech adoption behaviour	Gen Y in India prioritises trust and digital confidence; gender affects fintech preferences.
Song et al. (2024)	USA	Quantitative, Regression analysis. Laon approval rates of 60 U.S. banks for 2012–2022.	Impact of algorithms on gender bias in lending	Loan approval rates	Algorithmic lending in the US reduces gender bias; fairer outcomes depend on transparent design.
Samarasekara et al. (2023)	Malaysia	Quantitative, SEM. Survey data were collected from 171 Malaysian fintech users. Convenience Sampling	Role of trust in adoption decision	Fintech adoption	Trust mediates risk-benefit perceptions in Malaysia; essential for sustainable adoption.

Zakariyah et al. (2023)	Malaysia	quantitative approach based on structural equation modelling (SEM). Purposive Sampling, 312 respondents	–The popularity of financial technology (fintech) is rising in society due to fintech's direct benefits to users. T	awareness, relative advantage, knowledge	In Malaysian waqf institutions, trust and social norms influence fintech use more than awareness or advantage.
Alkhwaldi (2022)	Jordan	quantitative approach based on structural equation modelling (SEM). 423 FinTech users	This study aims to investigate the determinants of users' intentions and e-Loyalty toward FinTech adoption in Jordan, post the COVID-19 era	, performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC)	The findings revealed that UA has a moderating effect on the relationship between FC and users' intentions. Also, PI has a significant impact on PE and EE. While PE, SI, and FC are factors that enhance behavioural intentions
Zaimovic et al. (2025)	Sarajevo	Quantitative, Principal Component Analysis, regression analysis and PROCESS method for analysing mediation effects. 178 fully completed responses, purposive sampling	This study aims to measure digital financial literacy of MSME managers and to analyse the relationship between business experience, digital financial literacy and fintech behavioural adoption.	Digital financial literacy, all three digital financial literacy components in a sequence, and digital financial behaviour serve as mediators in this relationship.	The findings indicate that the effect of business experience on tech behavioural adoption is fully mediated by digital financial literacy. Moreover, there is a full serial mediation effect through all three digital financial literacy components: digital financial knowledge, attitudes, and behaviour.

The diversity in geographic scope and institutional settings also adds richness to the data. Several studies, such as those by Kutbi et al. (2024) and Maharjan et al. (2022), focus on digitally active youth or online shoppers, whereas others, like Zaimovic et al. (2025) and Hasan et al. (2024), centre around underserved populations like MSME managers or urban poor. This variation allows for comparison across demographic segments and socioeconomic strata. Moreover, studies employed both convenience and purposive sampling strategies, which, while limiting generalisability, helped access niche populations deeply involved with

fintech tools. In terms of digital finance types, the studies encompassed mobile banking, BNPL services, QR-code payments, and algorithmic lending, indicating a broad view of fintech functionalities. Interestingly, several papers integrated behavioural or environmental responsibility angles, suggesting a growing interdisciplinary overlap between fintech, sustainability, and digital ethics. This points to the evolving nature of fintech adoption beyond just financial convenience toward responsible and inclusive innovation.

Theme 1: Cognitive Biases as Barriers to Fintech Adoption

It was identified that behavioural biases are a major hindrance to fintech adoption in various settings. Empirically, Aftab et al. (2025) proved the existence of a detrimental effect on the willingness of users to utilise fintech platforms expressed in risk aversion, overconfidence, disposition bias, and anchoring. The regression coefficients of these biases had values between -0.201 and -0.327, which were significant at the 1 percent level. Likewise, Hasan et al. (2024) observed that the anchoring effects and loss aversion limited the application of digital microfinance services with the availability of fintech to the urban low-income borrowers. These results demonstrate how people engage in irrational choice even in spaces created to be convenient and valuable.

The evidence obtained by Aftab et al. (2025) and Hasan et al. (2024) creates a significant body of knowledge concerning the disruptive impact of cognitive biases on the fintech adoption choices; what follows is an intensive exploration of this knowledge through empirical research. As an illustrative example, Kutbi et al. (2024) show that despite the convenience of an offer and the overall accessibility of Buy-Now-Pay-Later (BNPL) services to the majority of Saudi consumers, they remain digitally literate, and some psychological barriers cause people to discard usage in favour of everyday habits due to the risks of overspending associated with the service. The participants admitted that they found the applications helpful, although they faced the temptation control and were exposed to the so-

called financial fatigue, which is associated with present bias and low self-control. The same conclusion is made by Zaimovic et al. (2025), who refer to the existing serial mediation effect of digital financial literacy, which emphasises how the stages of the cognitive process influence the fintech behavioural results. The people who failed to have the right digital financial knowledge were more likely to draw mental shortcuts like status quo bias or confirmation bias that pushed them to shun using the fintech platform despite its prospective benefits. The lack of interest in using digital finance tools among the older category of MSME managers in Sarajevo was shown to be particularly sensitive to rejection because of the anchoring on historic financial services and an inability to trust digital conduits.

At the macro-level, these prejudices are not 'in a vacuum', but rather they interact with cultural stories and previous experiences of technological failure. Its network of users who were already affected by data breaches or service failures was also left with more negative preferences of loss aversion and confirmation bias in using the fintech platforms again, even after correcting the defects. Another cognitive barrier encountered was the fear of complexity that manifested itself in the form of perceived effort cost, whereby users overestimate the difficulty of moving through digital interfaces. To reduce the hindrances, researchers advise to create behavioural nudges, easy user experiences, and include gamification features based on rewarding needed repetitive usage. Furthermore, the peer testimonials and transparency mechanism can improve the level of irrational resistance by redefining the expectations of users and further reinstating trust-based learning.

Theme 2: Financial Literacy as a Moderator and Empowerment Tool

According to five out of the reviewed studies, financial literacy was repeatedly found to be a moderating or mediating variable. Alkhwaldi (2024) discovered that the use of fintech fully mediated the connection between financial literacy and quality of life, meaning that educated users tend to be more capable of translating access to fintech into actual improvements in life.

This was further confirmed by Hasan et al. (2024), who discovered that financial literacy partially mediated the connection between fintech application and the success of microfinance, with an explanation of 47 percent of the variance (R2 = 0.47). Through moderated mediation analysis, Hidayat-ur-Rehman (2024) highlighted that literacy boosts the good influence of digital transformation on the competitiveness of firms and fintech integration.

The empirical study proposed by Nugraha et al. (2024) remarks on the opportunity of financial literacy to support the adoption and usage of fintech solutions. The research proves that highly organised savers with high saving propensities and higher financial awareness use fintech platforms more consciously. In the Indonesian case, high financial literacy not only forecasts adoption as a whole but also results in purposeful use that is marked by comparison of the choices of digital lending, understanding the interest schemes, and remaining free of risk of getting into debt. Such findings invalidate this belief that financial literacy acts as a passive outcome and insteadmake it a catalyst for responsible digital behaviour. In a complementary way, Zaimovic et al. (2025) emphasise the chronological mediating role of digital financial knowledge, attitudes, and behaviours in describing the fintech adoption among the management teams of MSMEs. According to their results, even though managerial business experience is a requirement, it does not alone guarantee a practical fintech application unless with a significant digital financial literacy. These findings reveal the multidimensional nature of financial empowerment implying that users have to blend the cognitive knowledge with behavioural skills and confidence to deploy the use of fintech in decision-making contexts.

The theoretical concept presented by Hidayat-ur-Rehman (2024) adds additional complexity through moderated mediation models to determine the relationship between digital transformation, firm competitiveness, and financial literacy. Fintech in this work has been

envisaged as a consumer tool and as an organisational infrastructure that amplifies agility. Companies with financial literacy managers have a better application of digital tools, generate a higher level of customer interaction, and become more adaptive to market changes, especially when economic factors distort the market. Lastly, Alkhwaldi (2024) considers the notion of financial literacy as a life-improving mechanism with fintech as the facilitator between the increased financial skills and the quality of life. Empirically, the model also finds that financially literate users operate across digitally based systems with ease, take credit, budget, and invest through mobile apps to ensure enhanced financial security and the general welfare of individuals. Together, the studies confirm that financial literacy does not work as a background variable but as an effective action and facilitator of the effectiveness of fintech platforms in different socio-economic and institutional backgrounds.

Theme 3: Trust, Risk Perception, and Behavioural Intention

Trust forms a pillar in the adoption of fintech. Das and Das (2022) found that, in the context of the COVID-19 pandemic, perceived usefulness, trust, and government support promoted the greater use of fintech among different income populations in Assam, India. Perceived risk played a significant role in decreasing trust and thus decreasing adoption in the more paranoid users. Ali Raza et al. (2021) demonstrated in Islamic finance that the perceived benefit and trust were the strongest predictors of fintech acceptance, even compared to perceived risk. Nugraha et al. (2024) further stipulated that trust in digital financial systems and positive savings behaviour were other important post-pandemic determinants of fintech engagement.

An emerging literature body demonstrates that institutional contexts, perceived control, and post-pandemic trust deficits are among the factors affecting fintech awareness. Zakariyah et al. (2023) studied how fintech is used in Malaysian waqf institutions and discovered that

perceived trust was the most potent predictor, unlike awareness or knowledge, as perceived by previous researchers. This result implies that without a clear understanding of the technological advantage or capability, the lack of confidence in the technology or the organisational systems accompanying the technologies (e.g., management and governance) may hinder their usage in a religious or socially controversial environment. Particularly, confidence in the technology and the institutions it is based on became essential in charitable and Islamic finances, where accountability and transparency are discussed as the key issues. In the meantime, Amir et al. (2025) revealed that fintech adoption is not only a factor of technology acceptance but is greatly influenced by behavioural intention depending on digital literacy and risk perception. Their model showed that the users with a high perceived usefulness and usability were not keen to join if they did not perceive a considerable decrease in security threat and fraud fears. This syncs with the results of Nugraha et al. (2024) that those distrusts towards digital infrastructures because of the pandemic might only be corrected with the help of consistent institutional good word and the positive experience of using digital transactions in finance.

Trust, in turn, can serve as a filter and motivator. Although the perceived risks that people might encounter, such as cyber fraud or data leakage, will affect their usage directly, trust level can buttress this factor by influencing perceived security. Regulatory transparency, customer service predictability, and third-party endorsements (e.g., a central bank backing or government regulation) become pivotal trust facilitators. Now that fintech is invading every way people do transactions, they are making judgments based on the platform’s functionality and the integrity of the companies behind it. Therefore, the intention of behaviour to adopt fintech will need to go beyond functionalities and economics and have to concern issues of psychological safety, reputation signalling, and credibility, at least among the users that are not necessarily well-served or less risk-averse when it comes to fintech. User education, clear

policies, and effective redress policies are trust-building strategies, which can change the scepticism into long-term digital participation.

Theme 4: Contextual and Demographic Drivers of Adoption

Some studies discussed the effect of contextual variables and user demographics on fintech behaviour. Using the SOR framework, Kumar and Rani (2024) discovered that social influence and perceived value considerably affect fintech use, whereas performance expectancy influences it less strongly. The study by Panait et al. (2024) proved that digitalisationsubstantially impacts financial inclusion in Central and Eastern Europe. Still, the improvements were not distributed equally among all population groups. Hossain et al. (2025) state that three institutional prerequisites of sustainable fintech adoption in the Bangladesh banking industry include IT governance, digital infrastructure, and financial education.

Demographic variables and institutional contexts have already been noted in previous studies that guide fintech adoption. Recent studies, however, have questioned generational, geographic, and infrastructural determinants. Sultana et al. (2023), studying undergraduates in Bangladesh, reveal that performance expectancy, effort expectancy, and facilitating conditions are more lifestyle factors that influence social influence or personal innovativeness. This implies a practical rationalism in the behaviour of young users: adoption is less informed by social impactthan by perceived usefulness and practical benefits. The outcomes are also inconsistent with conventional technology-adoption theories that emphasise the significance of social influence due to its superiority over the other variables. Cumming et al. (2023) build on this observation, examining regional gaps in financial access by demonstrating that fintech adoption is significantly greater in large developed urban centres with high digital connectivity. The rural population is underrepresented due to having weak connectivity, inadequate digital education, and poor institutional assistance. Maharjan

et al. (2022) support all these claims in Nepal, where such factors as user awareness, network stability, and gender inclusion are essential to the success of fintech. Their research records that females and older users will rarely become a part of fintech ecosystems unless special literacy and onboarding programs are introduced.

Aggarwal et al. (2023) add additional knowledge to this topic and prove that the level of digital trust and past exposure to formal banking strongly contribute to moderating adoption pathways in marginalised groups. This indicates that the digital divide can only be mitigated using context-specific interventions. Their results support the idea that fintech adoption is not a universal process and depends on the social and economic environment, along with information ones. Ultimately, Fu et al. (2022) mention that trust in the state policy of digital finance and data protection measures is conclusive in demographically homogeneous cohorts, including urban millennials. These strata of context share that macro-policy environments can either support or inhibit adoption among all types of users. Taken together, this knowledge supports the idea that the path of fintech adoption can be a multidimensional process susceptible to demographic, institutional, and regional peculiarities.

Quality Assessment

Critical appraisal of the studies incorporated indicated a general agreement in applying relevant methodologies, but had clear research objectives, or used participant recruitment approaches relevant to asthma management in adolescents (See Appendix). Most use a cross-sectional research design or review approaches. Data collection procedures were explained with sufficient clarity, and included articles that used validated tools to avoid bias. Even though the sample sizes were different and the Degree of analytic rigour varied, the findings were also relatively robust and presented. Collectively, these research studies were credible and applicable to understand the fintech adoption and cognitive bias.

Discussion

This review aimed to understand how cognitive biases and financial literacy determine fintech adoption. Regarding the first goal, the evidence shows that various biases, such as overconfidence and loss aversion, constrain fintech use by distorting rational decision-making (Aftab et al., 2025; Hasan et al., 2024). The second objective, which was about the role of financial literacy, was also supported by the fact that literacy can boost the use of fintech and increase users' financial health and confidence (Alkhwaldi, 2024). The final objective considered the contextual influence; it was discovered that social influence, trust, and user demographics play an enormous role in influencing the adoption behaviour (Kumar and Rani, 2024). These insights suggest that the successful implementation of fintech must rely not only on its technological sophistication but also on methods of addressing cognitive and contextual differences among users.

The prevalence of cognitive biases in influencing the stereotype of fintech aversion raises the notion of the weakness of the assumption that access correlates with usage. Tendencies of present bias, loss aversion, and anchoring effects, even in users able to use technology, point to the fact that attitudes to adoption require closer inspection, assuming that being available is sufficient to drive adoption. This critique reveals the inadequacy found in the technology acceptance research that has favoured rational-choice theories like the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). These frameworks cannot explain psychological inertia and unconscious resistance based on behavioural finance. Fintech platforms need to incorporate behavioural-economic and cognitive-psychological concepts in their designs, adopting nudging applications, micro-interventions, and personalisation attributes that would curb irrational preferences.

Moreover, users are commonly seen as just another variable, with financial literacy being no exception, as its impact depends on the trust levels and regulators' alignment at the system level. For instance, the evidence from studies like Zakariyah et al. (2023) and Amir et al. (2025) raises a key theoretical tension: can behavioural intention be strong enough to override institutional distrust? The literature suggests no. Other issues present barriers to adoption, despite the advanced state of the user's awareness and perceived usefulness of technology, such as the presence of mistrust in the face of perceived usefulness, fears of being defrauded, and past harmful exposure. The truth of this fact takes away naive models based on the perceived ease and effectiveness. In line with this, it is essential to consider the adoption of fintech within the context of trust-ecology of personal perceptions, societal discourse, government image, and online responsibility. Fintech platforms should also focus on transparency, redressal mechanisms, third-party checks, and so forth to bridge the gap between their intentions and actions, operating as they do in fragile institutional environments.

The underlying theory behind digital finance requires a consideration of contextual and demographic traits, particularly given the distribution of digital behaviour among users. Studies by Sultana et al.(2023), Maharjan et al.(2022), and Cumming et al.(2023) invalidate the assumption of a homogenous fintech user demographic by showing urban-rural disparities, gender inequality, and generational inconsistencies. These studies reveal that access to technology does not necessarily translate to inclusive design. Without remedial action, further digitalisation may aggravate financial exclusion in the name of innovation. These issues bring ethical questions to the forefront: do companies have to deliver to economically viable and digitally savvy generations or consider socially responsible approaches prioritising underserved populations. Aggarwal et al. (2023) develops the latter argument and state that the marginalised groups require specific onboarding pathways. Such

a position aligns with the Sustainable Development Goals' targets: equity and digital inclusion. However, to achieve this, regulators, education establishments, and developers must be involved in providing a supportive system, pertinent training, and contextual adjustment of fintech services and platforms.

There is a common observation in the intersection of perceived value and contextual obstacles. Researchers such as Sultana et al. (2023) or Cumming et al. (2023) reiterated the dominance of performance expectancy and utility in adoption; however, these factors were curbed in underserved localities in all cases due to infrastructural constraints, discriminatory gender aspects, and an informed digital mistrust. The born paradox, namely the failure of the foreseen benefits to appear in reality, reveals an inherent ambiguity between sociological realism and technological optimism. Developers and policymakers should recognise that even with the promise of easy and practical tools, adoption is limited by lived experiences and current realities of inequality, historical mistrust, and identity-based exclusions. Theoretically, the evidence makes it hard to apply the universal innovation-diffusion frameworks. Empirical trends indicate no linear adoption processbecauseof psychological filters and institutional moderators. Therefore, an intersectional and systems-thinking perspective combining psychological factors (biases, self-control), institutional trust, social identity, and environmental cues (peer influence or media depictions) would be essential to understanding fintech diffusion.

Conclusion

The evidence suggests that a multifaceted combination of cognitive, educational, and situational factors controls adopting fintech innovations. Cognitive biases, namely, overconfidence, loss aversion, and anchoring, majorly interfere with rational engagement with fintech platforms, especially for people most likely to demonstrate low digital literacy or trust deficiency. Conversely, financial literacy does not merely operate as a background

factor but as a facilitator and temperature regulator, contributing to greater uptake and the possibility of using fintech solutions responsibly. Additionally, financial literacy contributes to sound behaviour and decision-making skills and smartness amid negative economic results. This evaluation underscores the significance of contextual and demographical factors such as social influence, digital infrastructure, regional differences, and institutional trust, together forming the real-life applicability of fintech within various populations. These findings collectively support the need to implement a multi-faceted approach to fintech inclusion that must go beyond access to technologies to encompass behavioural biases, educational illiteracies, and infrastructural imbalances. As a result, user-centred design, behavioural nudges, inclusive onboarding, and high digital education within future policies and interventions are required to guarantee maximum adoption and financial empowerment. Finally, a viable fintech growth will be sustainable when it involves the development of an innovative and inclusive but ethical digital financial ecosystem that resonates with the cognitive and socio-economic realities of the end users.

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Appendix

Quality Appraisal Checklist

Appendix ASystematic Review

Author	**Did the review address a clearly focused question?**	**Did the authors look for the right type of papers?**	**Do you think all the important, relevant studies were included?**	**Did the reviewâ€™s authors do enough to assess the quality of the included studies?**	**If the results of the review have been combined, was it reasonable to do so?**	**What are the overall results of the review?**	**How precise are the results?**	**Can the results be applied to the local population?**	**Were all important outcomes considered?**	**Are the benefits worth the harms and costs?**
Cumming et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Cross-sectional Studies

Authors	**Did the study address a clearly focused issue?**	**Did the authors use an appropriate method to answer their question?**	**Were the subjects recruited in an acceptable way?**	**Were the measures accurately measured to reduce bias?**	**Were the data collected in a way that addressed the research issue?**	**Did the study have enough participants to minimise the play of chance?**	**How are the results presented, and what is the main result?**	**Was the data analysis sufficiently rigorous?**	**Is there a clear statement of findings?**	**Can the results be applied to the local population?**	**How valuable is the research?**
Aftab et al. (2025)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ali et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amir et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Bouteraa et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Das & Das (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hasan et al. (2024)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kutbi et al. (2024)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maharjan et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fu et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nugraha et al. (2024)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panait et al. (2024)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sultana et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Liu et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Aggarwal et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Song et al. (2024)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Samarasekara et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zakariyah et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zaimovic et al. (2025)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes