

Bridging the FinTech Use-Value Gap: A Critical Review and an Integrative Framework of Satisfaction, Trust and Boundary Conditions in Algeria

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Abstract

This paper reviews the recent literature on the financial technology (FinTech) in order to explain how the use of the digital FinTech services is converted into a financial value for the individuals, and under which conditions this conversion becomes stronger or weaker. The resulting framework is applied on Algeria, where the digital payment infrastructure is expanding while the cash is still dominant. A structured narrative review of 48 peer-reviewed studies was conducted, and it was complemented by the foundational theories and the official statistics. The verified studies were organized in seven thematic streams. The macro-level studies agree on a positive relationship between the FinTech and the financial inclusion, but the individual-level studies stop mostly at the adoption intention or the loyalty. The customer satisfaction and the e-trust are the two main mechanisms in the literature, while the perceived cybersecurity, the digital financial literacy and the perceived regulatory support are discussed separately and rarely in one model. Accordingly, an integrative framework with eleven research propositions is developed. The framework is conceptual, and a survey design with PLS-SEM is proposed for testing the model. The regulators and the providers should communicate the new protections to the users and invest in the security and the digital financial literacy in the same time. This paper moves the discussion from the adoption of the FinTech to the value that the individual obtains from the FinTech, and it connects the recent international evidence with the Algerian regulatory reforms after the Law 23-09.

Keywords: FinTech; Financial inclusion; Customer satisfaction; E-trust; Digital financial literacy; Perceived regulatory support; Algeria

1. Introduction

During the last decade, the financial sector witnessed a wide transformation towards the digital services, and many of the payment, the transfer and the saving operations moved from the traditional bank counters to the mobile phones, the electronic cards and the digital platforms. According to the Global Findex 2025, nearly 80% of the adults in the world have a financial account now, and this percentage was 50% in 2011 (World Bank, 2025). In the Middle East and North Africa region, the account ownership increased to 53% after it was 45% in 2021 (World Bank, 2025). However, it should be noted that 1.3 billion adults are still outside the formal financial system, and this means that the expansion of the digital infrastructure does not transform automatically into a real financial inclusion for all the groups of the society.

It should be noted that this digital transformation is not limited to the banks and the payment providers. The COVID-19 pandemic affected the operations and the competitive position of the firms (Al-Zaqeba et al., 2022), and it accelerated the shift of the individuals towards the digital payments (Demirgüç-Kunt et al., 2022). Moreover, the artificial intelligence and the emerging technologies are reshaping the global finance and the FinTech services (Thosony, 2026), and the same technologies are used in the public financial services, where the digital taxation, the digital accounting and the intelligent systems support the tax and the customs administrations (Shubailat et al., 2024; Alseikh et al., 2026; Qahman et al., 2026). Accordingly, the individual deals today with a digital financial environment which includes the private and the public services in the same time.

In this context, the recent literature started to move from the question of the adoption of the FinTech to the question of the value which the individual gets from using the FinTech. The systematic review of Ha et al. (2025) concluded that the evidence about the tangible effects of the FinTech on the inclusion outcomes is still limited, and that the role of the regulatory framework did not receive a sufficient attention. Moreover, Del Sarto and Ozili (2025) identified knowledge gaps regarding the effect of the FinTech on the marginalized groups in the emerging markets. In other words, the literature knows much about why the individuals adopt the FinTech, but the literature knows less about how the use of the FinTech is converted into a financial benefit for the same individuals. In the current paper, this problem is called the use-value gap, and the explanation of how the use is converted into a value, and under which conditions this conversion happens, represents a research direction which is recent and justified in the same time.

The Algerian context offers a clear example for the use-value gap. On one side, the number of the payment cards in circulation reached 21,899,581 cards in 2025 (La Voie d'Algérie, 2026), and the country issued a new regulatory framework for the digital banks and the payment service providers. On the other side, the cash withdrawals in 2024 reached 197,323,075 operations with a value of 3691.6 billion DZD, compared to only 5,579,708 payments through the electronic payment terminals with a value of 44.563 billion DZD (Les Enjeux Eco, 2025). Accordingly, the payment card in Algeria is used mainly as a tool for withdrawing the cash, and not as a tool for paying, and this indicates that a large part of the potential value of the digital services is not realized for the users.

Based on the above, the current paper aims to answer three research questions (RQs):

- **RQ1:** What does the recent literature say about the relationship between the use of the digital FinTech and the financial value for the individuals?
- **RQ2:** Which mechanisms and which boundary conditions explain this relationship?
- **RQ3:** How can these mechanisms and conditions be integrated in one framework which is suitable for the Algerian context?

To answer these questions, a structured narrative review of 48 recent studies was conducted, and the results of the review were used to build an integrative framework with eleven research propositions.

The paper contributes to the literature in three ways. Firstly, the paper shifts the focus from the adoption intention to the realized financial value for the individual, and this responds to the call of Ha et al. (2025) for measuring the actual outcomes of the FinTech. Secondly, the paper organizes the scattered evidence on the satisfaction, the trust, the security, the literacy and the regulation in one model, where each theory explains a specific path of the model. Thirdly, the paper provides an application on a cash-based economy which is less represented in the literature, and it proposes a research agenda for testing the framework empirically. The rest of the paper is organized as follows: Section 2 explains the review method, Section 3 describes the Algerian context, Section 4 presents the theoretical foundations, Section 5 analyses the literature in seven streams, Section 6 develops the framework and the propositions, Section 7 proposes a research agenda, and Section 8 discusses the implications and concludes the paper.

2. Review method

2.1 *Type of the review*

The current paper adopts a structured narrative review, and this type of review was selected because the aim of the paper is to integrate the evidence from different streams and theories in one conceptual framework, and not to estimate an average effect size as in the meta-analysis. In other words, the review is problem-driven, where the studies were selected according to their relevance to the constructs of the framework, and not according to a single outcome variable. However, some procedures of the systematic reviews were used in order to increase the transparency of the review, and these procedures include the explicit search strings, the inclusion criteria, the verification of the bibliographic details and the coding of the studies.

2.2 *Search strategy and the inclusion criteria*

The search was conducted on the RePEc/IDEAS database and on the platforms of the main publishers (Elsevier, Springer Nature, Emerald, Wiley, Taylor & Francis and MDPI), and it used combinations of the keywords “fintech”, “digital payment”, “mobile money”, “financial inclusion”, “satisfaction”, “trust”, “security”, “digital financial literacy”, “regulation” and “institutional quality”. The inclusion criteria were determined as follows. The study must be published in a peer-reviewed journal between 2024 and 2026, and it must deal with the digital financial services from the side of the users, the households or the countries. In addition, the study must provide an empirical evidence or a systematic synthesis which is related to at least one of the constructs of the framework. As for the exclusion criteria, the conference papers, the working papers, the studies which focus only on the providers without a link to the users, and the retracted studies were excluded. It is worth mentioning that one study which was initially relevant to the moderating role of the religious orientation was excluded, because the study was retracted by the publisher.

2.3 *Screening, verification and coding*

The screening was performed in two stages. In the first stage, the titles and the abstracts were screened according to the inclusion criteria, and in the second stage, the full texts of the remaining studies were read in order to confirm the relevance of each study to the constructs of the framework. After the screening, 48 studies were retained, and these studies were complemented by the foundational theoretical works (for example, Davis, 1989; Bhattacharjee, 2001; Mayer et al., 1995) and by the official statistical sources about Algeria.

The retained studies were coded according to the context, the sample, the method, the main results and the construct of the framework which the study supports. Table 1 presents the distribution of the retained studies on the seven thematic streams, and it should be noted that some studies support more than one stream, so the classification is based on the main contribution of each study.

Table 1. Distribution of the reviewed studies (2024–2026) by thematic stream

Thematic stream	Main studies	Number
FinTech, financial inclusion and value (macro and household level)	Ullah & Begum (2025); Vuković et al. (2024); Mashoene et al. (2025); Olaoye et al. (2025); Aracil et al. (2025); Sha'ban et al. (2024); Song et al. (2024); Ma et al. (2024); Osabohien et al. (2024); Osabutey & Jackson (2024); Ha et al. (2025); Del Sarto & Ozili (2025)	12
Customer satisfaction in the digital financial services	Thalhath et al. (2025); Bhattacharya & Bera (2024); Ahmad et al. (2025); Ho et al. (2025)	4
E-trust	Jafri et al. (2024); Devlin et al. (2025); Nguyen & Dao (2024); Amir et al. (2026)	4
Perceived cybersecurity and risk	Yi et al. (2024); Basu et al. (2024); Wei et al. (2025); Zhao et al. (2024)	4
Digital financial literacy	Choung et al. (2025); Lone et al. (2025); Yadav & Banerji (2025); Loke et al. (2025); Jose & Ghosh (2025); Mishra et al. (2024); Setiawan et al. (2025); Hu & Liu (2025)	8
Regulation and institutional quality	Amnas et al. (2024); Ben Mbarek (2025); Ofoeda et al. (2024); Ofosu-Mensah Ababio et al. (2024); Meniago (2025); Pham (2026); Xia et al. (2024); Griffiths et al. (2025); Vijayagopal et al. (2024)	9
Arab and Algerian context and cross-cutting reviews	Afzal et al. (2025); Alrashedi & Iskandar (2025); Albort-Morant et al. (2025); Robbana et al. (2024); Albuainain & Ashby (2025); Thottoli et al. (2024); Liu et al. (2025)	7
Total		48

3. The Algerian context

The Algerian case is selected as an application context because the Algerian case combines a fast expansion of the digital payment tools with a strong dependence on the cash. Table 2 summarizes the main indicators which describe this situation, and each indicator is presented with the source from which the indicator was taken.

Table 2. Selected indicators of the digital financial services in Algeria

Indicator	Value	Source
Adults without a financial account (2024)	20.72 million out of 32.02 million adults	World Bank (2024)
Account ownership in the MENA region	53% in 2024 compared to 45% in 2021; the global level is nearly 80%	World Bank (2025)
Payment cards in circulation (2024)	19,844,903 cards, including 15,605,882 Edahabia cards and 4,239,021 CIB cards	Les Enjeux Eco (2025)
Cash withdrawals versus terminal payments (2024)	197,323,075 withdrawals worth 3691.6 billion DZD, compared to 5,579,708 terminal payments worth 44.563	Les Enjeux Eco (2025)

Indicator	Value	Source
	billion DZD	
Cards and terminals (2025)	21,899,581 cards, 78,774 terminals and 10,093,847 terminal payments	La Voie d'Algérie (2026)
Merchants with a payment terminal	Less than 10% of the merchants, according to the Minister of Finance	We Are Tech Africa (2026); Algérie Eco (2026)
Undeclared economy	Approximately 32% of the GDP	International Monetary Fund (2025)
Internet users (January 2025)	36.2 million users (76.9%) and 54.8 million mobile connections (116%)	DataReportal (2025)
Financial literacy	33% of the adults are financially literate	Klapper et al. (2015)
Global Cybersecurity Index 2024	Algeria is classified in Tier 3	Telecom Review (2024)

Source: Compiled by the author(s) from the cited sources.

Three gaps can be observed from the indicators of Table 2. The first gap is a gap of use, since the number of the cards is high but the cards are used mainly for the cash withdrawal, and less than 10% of the merchants have a payment terminal (We Are Tech Africa, 2026; Algérie Eco, 2026). The second gap is a gap of trust and security, where Algeria is classified in Tier 3 of the Global Cybersecurity Index 2024 (Telecom Review, 2024), and the Algerian legal studies discussed the increase of the crimes against the electronic payment cards (Ben Cheikh & Bayou, 2026). The third gap is a gap of capability and institutions, because only 33% of the adults are financially literate (Klapper et al., 2015), and the undeclared economy represents approximately 32% of the GDP (International Monetary Fund, 2025). It should be noted that the financial literacy figure is dated, and it is used here only as the latest available cross-country indicator for Algeria.

In the same time, the regulatory framework changed in an important way during the last years. The Monetary and Banking Law No. 23-09 of 2023 allowed the creation of the digital banks and the payment service providers, and the Regulation No. 24-04 organized the digital banks. Moreover, the Instruction No. 06-2025 of the Bank of Algeria regulated the electronic wallets and the payment service providers, and it required the segregation of the funds of the users from the funds of the provider (AlgeriaTech News, 2025). This framework is added to the Law No. 18-07 on the protection of the personal data and the Law No. 18-05 on the electronic commerce. Therefore, the Algerian context gives a good opportunity for studying whether the perceived regulatory support changes the value which the users get from the digital services, and this question became more relevant after these reforms, because the users now face a new set of the legal protections which were not available before.

4. Theoretical foundations

The framework of this paper is not based on one theory, because the relationships which are discussed have different natures. Some relationships concern the acceptance and the use of the technology, some concern the experience of the user, some concern the relation between the user and the provider, and some concern the conditions which are technical, cognitive and institutional. Accordingly, five theoretical perspectives are used, and each perspective explains a specific part of the framework, as it is summarized in Table 3.

Firstly, the technology acceptance model assumes that the perceived usefulness and the perceived ease of use determine the use of the technology (Davis, 1989), and the extended unified theory of acceptance and use of technology (UTAUT2) added other determinants which are suitable for the consumer context (Venkatesh et al., 2012). These models were applied in different digital contexts, including the adoption of the AI-enabled adaptive e-learning systems in the conflict zones (Qahman et al., 2025). In the current framework, these models are used for defining the independent construct, which is the use of the digital FinTech services. However, it should be noted that these models stop at the intention and the use, and they do not explain what happens after the use, and for this reason other theories are needed.

Secondly, the expectation-confirmation model explains the post-adoption stage, where the user compares the actual performance of the service with the previous expectations, and the confirmation of the expectations produces the satisfaction, which leads in turn to the continuance of the use (Bhattacharjee, 2001). Thirdly, the trust theory defines the trust as the willingness of a party to depend on another party under the uncertainty, and this willingness is based on the perceived ability, integrity and benevolence (Mayer et al., 1995). In addition, McKnight et al. (2002) developed the concept of the structural assurance, which means the belief of the individual that the legal and regulatory structures protect him in the electronic transactions, and this concept is used in the framework for explaining the role of the perceived regulatory support.

Fourthly, the protection motivation theory assumes that the individual evaluates the severity of the threat and the efficacy of the protective responses before adopting a behaviour (Rogers, 1975). In the context of the digital finance, this means that the positive experience with the service is converted into trust only when the user perceives that the protection is sufficient. Fifthly, the service-dominant logic considers that the value is not embedded in the product or

the technology, but the value is created during the use and according to the resources and the knowledge of the customer (Vargo & Lusch, 2004). This logic justifies the choice of the realized financial value as the outcome construct, and it also justifies the moderating role of the digital financial literacy, because the user who has more knowledge can extract more value from the same service.

Table 3. Theoretical perspectives and their role in the framework

Theory	Core idea	Role in the framework
Technology acceptance model and UTAUT2 (Davis, 1989; Venkatesh et al., 2012)	Perceived usefulness and ease of use determine the use	Definition of the FinTech use; P1–P3
Expectation-confirmation model (Bhattacharjee, 2001)	Confirmation produces satisfaction, and satisfaction drives continuance	P1, P4, P6
Trust theory (Mayer et al., 1995)	Trust reduces uncertainty and is based on ability, integrity and benevolence	P2, P5, P7
Institution-based trust (McKnight et al., 2002)	Legal and regulatory assurances make the dependence safe	P10, P11
Protection motivation theory (Rogers, 1975)	Evaluation of the threat and of the protection before acting	P8, P11
Service-dominant logic (Vargo & Lusch, 2004)	Value is created in use and according to the resources of the customer	P3, P9; outcome construct

5. Critical analysis of the literature

5.1 *FinTech, financial inclusion and value*

The macro-level studies agree on a positive relationship between the FinTech and the financial inclusion, but the studies differ in the explanation of the mechanism of this relationship. For example, Mashoene et al. (2025) found in 28 emerging and developing economies during the period 2011–2021 that a 1% increase in the FinTech leads to a 0.1772 unit rise in the financial inclusion index, and Vuković et al. (2024) found that the FinTech supports the financial inclusion in the BRICS markets without a short-term threat to the financial stability. Moreover, Ullah and Begum (2025) showed in 141 countries that the financial inclusion is the channel through which the FinTech affects the financial sustainability, and Sha’ban et al. (2024) found that the digital financial inclusion is a pathway to the traditional financial inclusion in the medium term. In the same direction, the literature review of Mousa and Maabreh (2024) discussed the role of the FinTech in promoting the financial inclusion, and Saroit (2025) examined the FinTech adoption and the financial inclusion in the emerging economies.

However, the positive results do not mean that the effect happens automatically. In this context, Olaoye et al. (2025) found that the FinTech deepens the financial inclusion in the sub-Saharan Africa only through the technology infrastructure and the education, and this role of the infrastructure is consistent with the evidence on the moderating role of the digital infrastructure in the relationship between the artificial intelligence and the innovation (Alzeyoudi & Ineizeh, 2025), and Aracil et al. (2025) found, by using nearly 70,000 observations across 70 emerging nations, that the mobile money enhances the transition to the bank-based services when the institutional conditions and the technologies of the banks are well aligned. In addition, Osabutey and Jackson (2024) warned from the fact that the benefits of the mobile money do not reach equally the poorer sections of the communities. Therefore, the macro literature answers the question of whether the effect exists, but the macro literature does not answer sufficiently the question of how the effect is realized for the individual.

At the level of the households, the evidence shows benefits which go beyond the ownership of an account. Song et al. (2024) found that the digital inclusive finance smooths the consumption volatility of the Chinese households, and Ma et al. (2024) found that the use of the digital finance improves the household consumption through a better allocation of the financial assets. In addition, Osabohien et al. (2024) found that the mobile money improves the welfare of the individuals in Malaysia, and Hu and Liu (2025) found that the financial literacy mediates the effect of the digital economy on the risk-taking of the rural households. It should be noted that most of these household studies used the survey data of China and measured the value by objective indicators, and they did not examine how the individual perceives the value and which psychological mechanisms convert the use into a benefit.

5.2 Customer satisfaction

The recent studies show that the satisfaction is a central construct in the post-adoption stage of the digital financial services. Thalath et al. (2025) surveyed 353 users of the mobile payment applications, and they found that the brand experience and the system quality influence the brand loyalty through the trust and the satisfaction, while the satisfaction was the strongest predictor of the loyalty. Moreover, Bhattacharya and Bera (2024) found with 474 active users of the mobile wallets that the expectation fulfilment, the satisfaction and the trust influence the choice of the brand, and Ahmad et al. (2025) developed a 17-item scale for the satisfaction of the mobile wallet users in India.

In addition, Ho et al. (2025) found with 258 users of the mobile banking in the United States that the technology readiness moderates the relationship between the satisfaction and the loyalty, where the optimism and the innovativeness strengthen the relationship and the discomfort and the insecurity weaken the relationship. The critical observation here is that these studies measure the outcomes of the satisfaction by the loyalty or the continuance intention, and these outcomes are more important for the provider than for the user. Accordingly, there is a lack of studies which examine whether the satisfaction contributes to the financial value which is obtained by the user himself.

5.3 E-trust

The trust has a central position in the FinTech literature. The systematic review of Jafri et al. (2024) concluded that the trust and the perceived security are among the best predictors of the adoption of the FinTech in the banking, and that the institution-based trust is the most influential dimension of the trust. Moreover, the review of Devlin et al. (2025) called for more research on the institutional safeguards, the data security and the role of the algorithms in building the confidence of the consumers. On the empirical side, Nguyen and Dao (2024) found with 523 Vietnamese users that the trust strengthens the relationship between the user adaptation and the continuance intention, and Amir et al. (2026) found with 250 Islamic mobile banking users that the perceived AI usefulness, the perceived AI security and the trust are positively associated with the user acceptance.

It is worth mentioning that the literature treats the trust sometimes as an antecedent of the adoption and sometimes as a moderator, and this reflects the absence of an agreement about the position of the trust in the models. In the current framework, the trust is treated as a mechanism in the post-adoption stage, because the trust in this stage is built from the experience (Jafri et al., 2024), and then the trust determines how much the user depends on the service in the important transactions.

5.4 Perceived cybersecurity and risk

The security is a decisive factor in the evaluation of the digital financial services by the users. Yi et al. (2024) analysed 230,940 app reviews and found that the payment convenience, the security, the customer service and the app design are the primary quality factors of the mobile payment applications. In addition, Basu et al. (2024) analysed approximately 347,000 consumer reviews and found that the internet anxiety from the cyberthreats influences the promoting intention of the mobile banking services, and Wei et al. (2025) found that the

performance risk and the time risk influence the adoption of the mobile FinTech in China. Moreover, Zhao et al. (2024) found with 276 respondents in Pakistan that the situational factors moderate the negative effect of the perceived transaction costs on the intention.

The critical point is that most of these studies treat the security as an independent variable which affects the intention directly. On the other hand, the protection motivation theory suggests that the security determines when the experience is converted into trust, and this means that the security is a boundary condition more than a direct cause. This moderating role was not tested sufficiently, and especially in the contexts which are classified at a low level of the cybersecurity, as the case of Algeria.

5.5 Digital financial literacy

The literature on the digital financial literacy is growing fast. Choung et al. (2025) found with 1,615 Korean adults that the digital financial literacy predicts a higher life satisfaction, and that the self-protection against the digital financial fraud is the strongest predictor. Moreover, Lone et al. (2025) found with 475 Gen-Z students that the digital financial literacy positively impacts the financial well-being, with stronger effects among the males and the respondents with a higher religiosity, and Yadav and Banerji (2025) found with 500 respondents that the higher levels of the digital financial literacy favour both the saving and the investment behaviours.

In addition, Loke et al. (2025) found with 525 Malaysian respondents that the risk control knowledge is essential for the actual adoption of the digital financial services, and Mishra et al. (2024) found with 385 Indian women that the digital literacy is among the determinants of the financial decision-making. Furthermore, the scoping review of Jose and Ghosh (2025) confirmed a constructive relationship between the digital financial literacy and the financial inclusion in the global south, and Setiawan et al. (2025) found with 654 respondents that the digital financial literacy influences the behavioural intention differently between the urban and the rural consumers. Moreover, the tax awareness was examined as a mediator between the digital transformation and the sustainable tax compliance (Al-Omari et al., 2025), and the degree of utilization of the digital skills was examined even among the educated groups such as the vocational education teachers (Hazaimah, 2025), and this indicates that the knowledge and the skills of the individual are relevant for the outcomes of the digital services. It should be noted that most of these studies treat the digital financial literacy as an independent variable or as a mediator. However, the service-dominant logic suggests that the digital

financial literacy is a resource which determines how much value the user can extract from the same service, and this means that the digital financial literacy can be treated as a moderator.

5.6 Regulation and institutional quality

The interest in the institutional side of the FinTech is increasing. Amnas et al. (2024) found with 608 FinTech users in India that the perceived regulatory support significantly strengthens the relationship between the FinTech use and the financial inclusion, and Ben Mbarek (2025) found in 32 emerging economies that the countries with stronger regulatory frameworks, rule of law and political stability experience 2.4 times greater financial inclusion benefits from similar levels of the fintech penetration. Moreover, Ofosu-Mensah Ababio et al. (2024) found in 48 lower-middle-income countries that the strong institutions amplify the effect of the digital financial inclusion on the inclusive development, and Meniago (2025) found a similar result in the SADC countries.

Furthermore, Xia et al. (2024) analysed more than 12,000 complaints in China and found that a regulatory policy on the consumer protection improved the dispute resolution, and Griffiths et al. (2025) found that the government regulation in Vietnam enhanced the trust within the FinTech ecosystem. Vijayagopal et al. (2024) compared the United States, the United Kingdom and India, and recommended a stronger collaboration between the regulators and the FinTech firms. However, the evidence is not fully consistent, since Ofoeda et al. (2024) found in 52 African countries that the institutional quality strengthens the link between the financial inclusion and the economic growth, while a stricter financial regulation weakens the same link, and Pham (2026) found an S-shaped relationship between the fintech development and the financial stability which depends on the institutional quality.

Two critical observations can be made regarding this stream. The first observation is that most of these studies use macro indicators of the institutional quality, while the behaviour of the individual is affected by the perception of the individual about the regulatory protection. The second observation is that the contradiction between the results of Ofoeda et al. (2024) and the results of Amnas et al. (2024) justifies the testing of the regulatory role in new contexts, such as the Algerian context where the regulatory framework is recent.

5.7 Arab and Algerian studies

At the regional level, Afzal et al. (2025) found with 94 banks in 10 MENA countries that the FinTech has a positive impact on the banking stability, and Alrsheedi and Iskandar (2025)

identified the technological, organizational and environmental factors of the FinTech adoption by the Saudi banks. In a similar way, the Jordanian studies examined the FinTech adoption from the side of the banks, where Alhadab et al. (2025) examined the effect of the FinTech adoption on the financial performance of the banks, and Altaamneh et al. (2026) linked the digital service transformation and the FinTech adoption with the operational performance of the banks. Moreover, Albort-Morant et al. (2025) surveyed 531 potential users in Saudi Arabia and Palestine, and they found that the religiosity has a more significant effect on the intention to use the Paytech services than on the actual use. As for Algeria, Robbana et al. (2024) applied the TAM2 and the theory of reasoned action on 460 Zakat payers and found that all the hypotheses were supported, while Tahraoui (2022) described the reality of the financial inclusion in Algeria in a descriptive way.

Based on this stream, it can be observed that the Arab studies focus on the level of the banks or on the adoption intention, and, within the limits of this review, no Algerian study was found at the level of the individual which examines the realized financial value, its mechanisms and its conditions. It is worth mentioning also that the only Algerian study in this field which was identified in an international journal, which is the study of Robbana et al. (2024), dealt with a specific service which is the digital Zakat, and not with the daily digital financial services such as the payment and the transfer.

5.8 Synthesis across the streams

When the seven streams are read together, three patterns can be observed. The first pattern is a pattern of level, where the strongest evidence on the value comes from the macro and the household studies, while the individual-level studies stop mostly at the intention, the loyalty or the continuance. The second pattern is a pattern of position, where the same construct (for example, the trust or the digital financial literacy) is treated as an antecedent in some studies, as a mediator in other studies and as a moderator in other studies, and this indicates the need for a theoretical justification of the position of each construct. The third pattern is a pattern of context, where the evidence comes mainly from China, India and the South-East Asia, and the cash-based economies of the North Africa are rarely represented. Table 4 summarizes the main reviewed studies and their link to the framework which is developed in Section 6.

Table 4. Summary of the main reviewed studies

Study	Context and sample	Main finding	Link to the framework
Mashoene et al. (2025)	28 emerging and developing economies	A 1% increase in the FinTech raises the inclusion index by 0.1772 unit	P3
Aracil et al. (2025)	Nearly 70,000 observations, 70 nations	Mobile money helps the transition to banks when institutions are aligned	P3, P10
Osabohien et al. (2024)	Malaysia	Mobile money improves the welfare	P3
Thalhath et al. (2025)	353 mobile payment users	Satisfaction is the strongest predictor of loyalty; trust and satisfaction mediate	P1, P4, P6
Bhattacharya & Bera (2024)	474 m-wallet users	Expectation fulfilment, satisfaction and trust drive the choice	P1, P2
Ho et al. (2025)	258 US mobile banking users	Technology readiness moderates satisfaction and loyalty	P4
Nguyen & Dao (2024)	523 Vietnamese users	Trust strengthens adaptation and continuance	P2, P5
Amir et al. (2026)	250 Islamic mobile banking users	Security and trust are associated with acceptance	P2, P8
Yi et al. (2024)	230,940 app reviews	Security is a primary quality factor	P8
Basu et al. (2024)	Approximately 347,000 reviews	Cyber-threat anxiety affects the promoting intention	P8
Choung et al. (2025)	1,615 Korean adults	Self-protection against fraud is the strongest element	P9
Lone et al. (2025)	475 Gen-Z students, India	DFL effect on well-being differs by gender and religiosity	P9
Loke et al. (2025)	525 Malaysian respondents	Risk control knowledge is essential for actual use	P9
Setiawan et al. (2025)	654 Indonesian respondents	DFL effects differ between urban and rural consumers	P9
Amnas et al. (2024)	608 Indian FinTech users	Perceived regulatory support strengthens FinTech and inclusion	P3, P10
Ben Mbarek (2025)	32 emerging economies	Stronger institutions bring 2.4 times greater benefits	P10
Ofoeda et al. (2024)	52 African countries	Institutions strengthen, stricter regulation weakens the link	P10
Griffiths et al. (2025)	Vietnam	Regulation enhanced the trust in the FinTech ecosystem	P10
Robbana et al. (2024)	460 Algerian Zakat payers	All TAM2 and TRA hypotheses supported	Context
Albort-Morant et al. (2025)	531 users, Saudi Arabia and Palestine	Religiosity affects the intention more than the use	Context

Note: DFL = digital financial literacy.

6. Research gaps and the integrative framework

6.1 Research gaps

Based on the critical analysis of the seven streams, four research gaps are identified. The first gap concerns the outcome construct, because most of the individual-level studies measure the intention or the loyalty, and few studies measure the financial value which is realized by the

individual. The second gap concerns the mechanisms, because the satisfaction and the trust are studied mostly as antecedents of the intention, and they were not examined as two parallel mechanisms for converting the use into value. The third gap concerns the boundary conditions, because the security, the literacy and the regulation are studied separately, and they were rarely combined in one model, as it was also observed by Thottoli et al. (2024) about the limited use of the mediators and the moderators in the FinTech research. The fourth gap concerns the context, since, within the limits of this review, no Algerian study at the level of the individual examined these relationships after the reforms of the Law 23-09 and the Instruction 06-2025.

6.2 The constructs of the framework

In order to address these gaps, an integrative framework is proposed in Figure 1. Before the development of the propositions, the main constructs of the framework are defined, since the clear definition of the constructs is necessary for the empirical testing of the framework.

The use of the digital FinTech services (DFT) is defined as the frequency and the breadth of using the digital channels for the payment, the transfer and the management of the money, and it is treated as a second-order construct with three dimensions, which are the mobile payment and the e-wallets, the cards and the electronic payment, and the digital banking. The customer satisfaction (SAT) is defined as the overall evaluation of the user of the experience with the digital financial services, and the e-trust (TRU) is defined as the willingness of the user to depend on the digital provider in the financial transactions, and it is based on the perceived ability, integrity and benevolence of the provider.

The outcome construct, which is the individual financial value creation (FVC), is defined in this paper as the financial benefits which the individual perceives that he obtained from using the digital financial services, and it is treated as a second-order construct with three dimensions. The first dimension is the financial inclusion, which means the access to and the use of the formal financial services such as the account, the saving and the transfer (Demirgüç-Kunt et al., 2022). The second dimension is the cost and convenience, which means the saving of the money, the time and the effort in the financial transactions. The third dimension is the financial well-being, which means the feeling of the individual that he can meet his current financial obligations and feel secure about his financial future (Netemeyer et al., 2018). In addition, the framework includes three moderators, which are the perceived

cybersecurity (PCS), the digital financial literacy (DFL) and the perceived regulatory support (PRS). The propositions are developed in the following subsection.

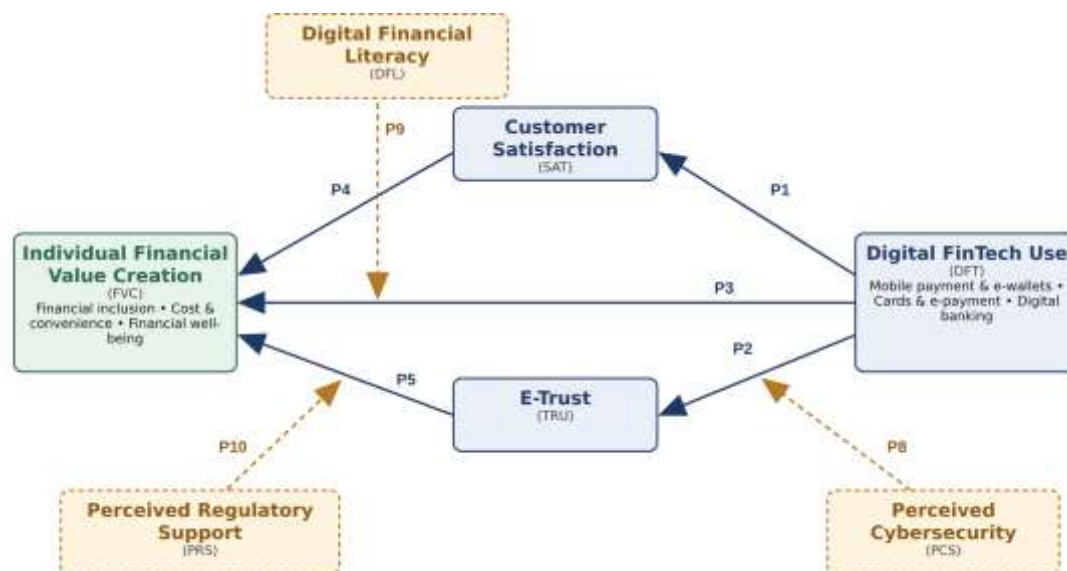


Figure 1. The integrative framework of the individual financial value creation from the digital FinTech use

Note: Solid lines indicate the direct relationships and dashed lines indicate the moderating effects. P6 and P7 are the indirect paths through the satisfaction and the trust, and P11 is the moderated mediation of the trust path. Source: Developed by the author(s).

6.3 The research propositions

The use of the digital FinTech and the customer satisfaction. According to the expectation-confirmation model, the satisfaction is produced when the service achieves the benefit which the user expects (Bhattacharjee, 2001). This relationship is supported by Thalath et al. (2025), who found that the system quality and the brand experience affect the satisfaction of the mobile payment users, and by Mainardes et al. (2023), who found that the perceived usefulness affects directly the satisfaction of the FinTech users. In the Algerian context, the mobile payment and the card payment offer a direct alternative to the queues in front of the post offices and to the problem of the cash shortage, and this makes the relationship more expected.

***P1:** The use of the digital FinTech services is positively related to the customer satisfaction.*

The use of the digital FinTech and the e-trust. The trust is built on the perception of the ability, the integrity and the benevolence of the provider (Mayer et al., 1995), and the repeated successful interaction with the system offers a practical evidence on these

characteristics. Jafri et al. (2024) showed that the experience-based trust is one of the dimensions of the trust in the FinTech, and Bhattacharya and Bera (2024) found that the trust is formed among the wallet users after the adoption.

P2: The use of the digital FinTech services is positively related to the e-trust.

The use of the digital FinTech and the financial value. The service-dominant logic considers that the value is created in the use (Vargo & Lusch, 2004). This proposition is supported by the evidence that the mobile money reduced the poverty in Kenya (Suri & Jack, 2016), that the FinTech use is related to the financial inclusion of 608 users in India (Amnas et al., 2024), and that the digital finance improves the consumption and the welfare (Ma et al., 2024; Osabohien et al., 2024). It should be noted that P3 represents the direct effect of the use, and this direct effect is kept in the framework because the satisfaction and the trust are not expected to explain the whole effect of the use on the value, and accordingly a partial mediation is expected.

P3: The use of the digital FinTech services is positively related to the individual financial value creation.

The satisfaction, the trust and the financial value. The satisfied user continues the use and extends the use to other services (Bhattacharjee, 2001), and this depth of the use converts the account into real benefits such as the saving and the low-cost transfer (Demirgüç-Kunt et al., 2022). In a similar way, the trust encourages the user to perform higher-value transactions and to keep the money inside the digital system instead of withdrawing the money in cash, and this point is essential in Algeria where the value of the cash withdrawals reached 3691.6 billion DZD in 2024. Jünger and Mietzner (2020) found that the trust is among the strongest determinants of the FinTech use by the households, and Nguyen and Dao (2024) found that the trust strengthens the continuance.

P4: The customer satisfaction is positively related to the individual financial value creation.

P5: The e-trust is positively related to the individual financial value creation.

The parallel mediation. By combining P1 with P4 and P2 with P5, two indirect paths are obtained. The first path is experiential, where the technology produces a satisfying experience which leads to a deeper use. The second path is relational, where the technology builds a trust which allows the user to depend on the service in more important transactions. Thalath et

al. (2025) found that the satisfaction and the trust mediate the effect of the system quality on the loyalty, and the two paths are proposed in a parallel mediation model without a causal relation between the two mediators, in order to compare the strength of each mechanism (Hayes, 2018). It is worth mentioning that the mediation models are also used in the recent studies of the region for explaining the indirect effects on the financial performance (Maabreh et al., 2026). However, it is recognized that the satisfaction and the trust may be correlated in the practice, and for this reason the covariance between the two mediators should be allowed in the empirical model, and a serial model can be tested as an alternative model.

P6: The customer satisfaction mediates the relationship between the use of the digital FinTech services and the individual financial value creation.

P7: The e-trust mediates the relationship between the use of the digital FinTech services and the individual financial value creation.

The moderating role of the perceived cybersecurity. According to the protection motivation theory, when the individual perceives a sufficient protection, the experience with the service is converted into trust instead of caution (Rogers, 1975). Hanif and Lallie (2021) showed that the cyber security and privacy concerns are the main barriers of the mobile banking among the older users in the UK, and Yi et al. (2024) found that the security is a primary quality factor of the payment applications. Therefore, the effect of the FinTech use on the trust is expected to be stronger when the perceived cybersecurity is high.

P8: The perceived cybersecurity moderates the relationship between the use of the digital FinTech services and the e-trust, such that the relationship is stronger when the perceived cybersecurity is high.

The moderating role of the digital financial literacy. The same service gives a different value according to the knowledge of the user. Choung et al. (2023) found that the digital financial literacy is associated with the financial well-being, and Choung et al. (2025), Lone et al. (2025) and Yadav and Banerji (2025) provided similar evidence on the life satisfaction, the well-being and the saving. With a financial literacy level of 33% in Algeria, the users with a higher digital financial literacy are expected to extract more value from the same services.

***P9:** The digital financial literacy moderates the relationship between the use of the digital FinTech services and the individual financial value creation, such that the relationship is stronger when the digital financial literacy is high.*

The moderating role of the perceived regulatory support. The institution-based trust assumes that the legal assurances make the dependence on the provider less risky (McKnight et al., 2002). Amnas et al. (2024) found that the perceived regulatory support strengthens the effect of the FinTech on the inclusion, and Griffiths et al. (2025) found that the regulation enhanced the trust in the FinTech ecosystem. However, Ofoeda et al. (2024) found that the stricter regulation may weaken the effect of the inclusion, and this makes the testing in the Algerian context necessary. The perceived regulatory support is placed on the second stage of the trust path, and not on the first stage, because the regulation does not create the trust by itself, but the regulation determines whether the user feels safe to act on the trust in the important transactions. In Algeria, when the user perceives that the Instruction 06-2025 segregates the funds of the user from the funds of the provider and that the Law 18-07 protects the personal data, the trust of the user is expected to be converted into a wider use and a higher value.

***P10:** The perceived regulatory support moderates the relationship between the e-trust and the individual financial value creation, such that the relationship is stronger when the perceived regulatory support is high.*

The moderated mediation. If the perceived cybersecurity strengthens the first stage of the trust path (P8), and the perceived regulatory support strengthens the second stage of the same path (P10), then the indirect effect of the FinTech use on the value through the trust should change according to the levels of the two moderators (Hayes, 2018).

***P11:** The indirect effect of the use of the digital FinTech services on the individual financial value creation through the e-trust is stronger when the perceived cybersecurity and the perceived regulatory support are high.*

7. Research agenda and methodological recommendations

7.1 Design and sampling

The framework of this paper is conceptual, and it needs an empirical testing. For this purpose, a quantitative cross-sectional survey is recommended, where the population includes the adults (18 years and above) living in Algeria who used at least one digital financial service

during the last six months. Since there is no official sampling frame of the users, a purposive quota sample is recommended according to the region (the North, the High Plateaus and the South), the residence (urban and rural) and the institution (Algeria Post and the banks).

Regarding the sample size, the Cochran formula for an unknown population gives a minimum of 384 respondents. In addition, the outcome construct receives seven structural predictors (DFT, SAT, TRU, DFL, PRS and the two interaction terms $DFT \times DFL$ and $TRU \times PRS$), and when seven control variables are added (the age, the gender, the education, the income, the residence, the region and the institution), the outcome construct receives 14 predictors. Accordingly, a power analysis with 14 predictors gives a minimum of 194 respondents for a medium effect size ($f^2 = 0.15$) and a power of 0.95, and 379 respondents for an effect size of 0.05 and a power of 0.80. Therefore, a target of 450 to 600 valid questionnaires is recommended, and this target also allows the multi-group analysis between the sub-samples.

7.2 Measurement and analysis

As for the measurement, the items can be adapted from published scales, and Table 5 summarizes the suggested sources. It is recommended to prepare the questionnaire in the Arabic and the French languages by using the back-translation, and to add Algerian examples such as the BaridiMob application and the Edahabia and CIB cards. In addition, the data can be analysed by the partial least squares structural equation modelling (PLS-SEM), because the model is complex and includes second-order constructs, parallel mediation and three moderators (Hair et al., 2022). The discriminant validity can be assessed by the heterotrait-monotrait ratio (Henseler et al., 2015), and the indirect and the conditional indirect effects can be tested by the bootstrapping (Hayes, 2018).

Since the data will be collected from the same respondents at one time, the common method bias should be controlled by procedural and statistical remedies. As for the procedural remedies, the anonymity of the respondents can be guaranteed and the order of the items can be separated (Podsakoff et al., 2003). As for the statistical remedies, the full collinearity test can be used, where the variance inflation factors should be lower than 3.3 (Kock, 2015). Moreover, the differences between the urban and the rural users, and between the users of Algeria Post and the banks, can be examined by the multi-group analysis after the assessment of the measurement invariance by the MICOM procedure (Henseler et al., 2016).

Table 5. Suggested measurement sources for the constructs of the framework

Construct	Dimensions	Suggested items	Adapted from
Digital FinTech use (DFT)	Mobile payment and e-wallets; cards and e-payment; digital banking	12	Davis (1989); Venkatesh et al. (2012); Singh et al. (2020)
Customer satisfaction (SAT)	Unidimensional	4	Bhattacharjee (2001); Ahmad et al. (2025)
E-trust (TRU)	Ability; integrity; benevolence	9	McKnight et al. (2002)
Perceived cybersecurity (PCS)	Unidimensional	5	Chellappa & Pavlou (2002); Hanif & Lallie (2021)
Digital financial literacy (DFL)	Knowledge; digital skill; risk and rights awareness	6	Lyons & Kass-Hanna (2021); Choung et al. (2023)
Perceived regulatory support (PRS)	Unidimensional	4	Amnas et al. (2024)
Financial value creation (FVC)	Financial inclusion; cost and convenience; financial well-being	13	Demirgüç-Kunt et al. (2022); Netemeyer et al. (2018)

7.3 Future research directions

Beyond the testing of the framework, several directions for the future research can be suggested. Firstly, longitudinal designs are needed for examining whether the satisfaction and the trust develop over the time and whether the value accumulates with the continuous use, and these designs can also examine the possible reverse relationship, where the users who obtain more value use the services more. Secondly, the religiosity could be added as a further moderator in the Muslim-majority countries, since Lone et al. (2025) and Albort-Morant et al. (2025) found that the religiosity changes the effects of the literacy and the intention. In this context, the Islamic digital financial products need a special attention, since the interest-free financial instruments raise specific measurement problems (Al-Zaqeba & Basheti, 2024). Thirdly, the framework could be compared between the Maghreb countries, where the regulatory frameworks are different, and this would allow a better understanding of the role of the regulation at the level of the individual. Fourthly, the perceived value can be complemented by objective indicators of the value, such as the transaction records of the users, when the providers allow the access to such data.

8. Discussion and conclusion

8.1 Theoretical implications

The paper has three theoretical implications. Firstly, the paper moves the focus of the FinTech research from the adoption intention to the realized value, and this is consistent with the service-dominant logic which considers that the value is created in the use. Secondly, the paper shows that the satisfaction and the trust can be considered as two different mechanisms,

the first one experiential and the second one relational, and this distinction helps to explain why some users continue the use without depending on the service in the important transactions. Thirdly, the paper integrates three boundary conditions from different levels, which are the technical, the cognitive and the institutional levels, and this responds to the observation of Liu et al. (2025) that most of the FinTech risk studies do not mention a theory and need an integrated multi-theoretical approach.

8.2 Practical and policy implications

For the Bank of Algeria, the framework suggests that the new regulatory reforms will create more value only if the users perceive the protection which the reforms offer, and therefore the communication about the segregation of the funds and the complaint mechanisms is as important as the regulation itself. Furthermore, these reforms can be coordinated with the taxation and the customs strategies, since these strategies are also used by the state for achieving wider objectives such as the environmental responsibility (Al-Zaqeba, 2025). For Algeria Post, the banks and the payment service providers, the framework suggests to invest in the quality of the experience and in the security in the same time, since Yi et al. (2024) found that the security, the convenience and the customer service are the main quality factors of the payment applications. Moreover, the providers need the strategic intelligence, the effective decision-making and the strategic flexibility in order to adapt the services to the changing needs of the users (Hamour et al., 2023). In addition, the financial education programmes should focus on the digital financial literacy, and especially on the protection against the fraud, which was found by Choung et al. (2025) as the strongest element, and these programmes should target the rural areas where the effects are different according to Setiawan et al. (2025). It should be noted that these implications are derived from the reviewed evidence and from the proposed framework, and they need to be confirmed by the empirical testing in the Algerian context.

8.3 Limitations

The current paper has some limitations. The review is a structured narrative review and not a systematic review with a meta-analysis, and therefore the paper does not estimate the size of the effects. In addition, the review focused on the studies published between 2024 and 2026 in the peer-reviewed journals, and some relevant studies which are published in the local journals or in other languages may be not covered. Moreover, some Algerian statistics were taken from the press reports which cite the GIE Monétique, and these statistics should be

verified in the future with the official reports. Finally, the financial literacy indicator of Algeria is dated, and a recent national survey of the financial literacy is needed.

8.4 Conclusion

In conclusion, the review showed that the relationship between the FinTech and the financial inclusion is well documented at the macro level, but the mechanisms and the conditions which convert the use into a financial value for the individual are still not well understood. The integrative framework which is proposed in this paper explains this conversion through two parallel mechanisms, which are the satisfaction and the trust, and through three boundary conditions, which are the perceived cybersecurity, the digital financial literacy and the perceived regulatory support. The Algerian context, where the cards are widely distributed but used mainly for the cash withdrawal, offers a suitable field for testing this framework, and the empirical testing of the eleven propositions can help the policy makers and the providers to convert the digital expansion into a real value for the users.

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