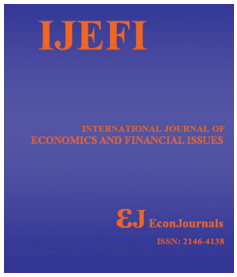

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Fintech Adoption Dynamics in Morocco and their Implications for Organisational Performance and Financial Market Responsiveness

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ABSTRACT

This study investigates the determinants and consequences of financial technology adoption within the Moroccan context, with a particular focus on its role and contribution to organisational performance and financial market reactions. Relying on structural equation modelling, our analysis is based on data collected from a sample composed of various profiles, notably professionals. The conceptual model integrates technological, psychological and structural variables, stakeholder involvement, and risk perception. The results support the importance of all the endogenous variables and their influences on the adoption of technological innovations, with significant P values. In fact, the involvement of stakeholders emerged as the most critical determinant, with a path coefficient of 0.825 and a highly significant P = 0.000, confirming the strength of this relationship. On the other hand, risk perception had no significant effect on fintech adoption, with a P = 0.272, which is statistically above the significance threshold. Conversely, fintech adoption has a highly significant and positive effect on both organisational performance and financial market reactions, confirming its strategic role in creating value and improving competitiveness. These results highlight that integrating fintech depends on an innovative and structured ecosystem, whereas cybersecurity and regulation remain essential, although perceived risk is not a fundamental barrier in the context studied.

Keywords: Fintech Adoption, Organisational Performance, Financial Market Reaction, PLS-SEM, Stakeholder Engagement, Technological Innovation
JEL Classifications: G21, G14, O33

1. INTRODUCTION

In the digital age, sectors are evolving from tradition to modernity, fostering innovation and supporting new players. Against this backdrop, competent authorities strive to maintain a balance to ensure fair competition. The world's financial systems have been stimulated by two main forces: Technological development and increased competition (Neave, 1998).

In the financial landscape, fintech is recognised as the key technology and is considered a true buzzword of the 21st century. As early as 1972, Abraham Leon Bettinger was one of the first to use the term "financial technology" to refer to fintech, highlighting its role in integrating the expertise of financial institutions, new management sciences and technological hardware (Schueffel, 2016). In the global financial market, innovation plays a key role. User demand for simplified access to financial services continues to grow, while the sector has rapidly expanded. Against this backdrop, fintech, a contraction of "finance" and "technology" has emerged as an alternative to traditional banks. It helps boost innovation in commercial banking while offering attractive services such as payments, loans and crowdfunding.

Financial technology has significantly reshaped the financial sector, from experimental initiatives to fully integrating digital innovations into banking and investment services. Its development

has been structured around several phases marked by significant technological advances and structural changes. Since its beginning, fintech has introduced solutions such as online banking and electronic payments, which have gradually altered consumer interactions and financial institutions (Kou et al., 2024).

Over the past few decades, fintech has experienced spectacular acceleration, driven by the widespread use of mobile payments, participatory financing, and peer-to-peer lending. These innovations have fostered greater financial inclusion and democratised banking services while disrupting traditional business models. More recently, cryptocurrencies and blockchain have transformed financial transactions by enhancing transparency and security, paving the way for new applications in asset management and smart contracts (Yadav et al., 2025).

However, this rapid transformation is accompanied by significant challenges, particularly in terms of regulation, data protection and cybersecurity. The multiplication of players in the sector and the growing adoption of artificial intelligence-based technologies raise questions about governance and compliance with financial standards. Against this backdrop, regulators need to adapt their legal frameworks to frame these developments while preserving innovation and competitiveness in the sector (Wu, 2024).

In this sense, fintech adoption represents a major step forward for the banking sector and financial markets, but its integration requires rigorous risk management and adaptation to regulatory developments. This research aims to deepen our understanding of the determinants of fintech adoption and their impact on banking performance through an empirical analysis of current trends and best practices observed internationally.

Consequently, our research problem centres on the following question: What are the determinants of fintech adoption and their impact on organizational performance and financial market reactions?

To address this, our work proposes exploring these complex relationships through a structural equation model. This approach enables us to analyse the direct and indirect effects of the determinants of fintech adoption on the performance of financial institutions and market reactions, thus offering an integrated and in depth perspective (Sarstedt et al., 2021). This theoretical and methodological framework not only measures the direct effects of each factor but also captures interactions and indirect effects, offering a more holistic understanding of fintech adoption.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. Theoretical Background

The rise of financial technologies has profoundly transformed the global banking sector, improving operational efficiency, optimising the customer experience and expanding financial inclusion. Financial institutions increasingly adopt these innovations to improve competitiveness and meet consumers' growing expectations for digital services. Current research highlights several key determinants of fintech adoption, such as financial inclusion, data analytics, cost reduction and improved customer experience, which contribute significantly to banking sector performance (Alafeef et al., 2024). This dynamic is taking place against a backdrop in which digital transformation plays a central role in developing financial markets and the evolution of banking services.

Fintech adoption is based on a variety of structural and behavioral factors. For example, perceived trust, performance expectations and enabling conditions are identified as determinants influencing the adoption decisions of banks and consumers (Elsaman et al., 2024). In addition, the use of cutting edge technologies such as artificial intelligence, blockchain and process automation promotes greater operational efficiency and cost reduction, enabling banks to significantly improve their performance (Kanaparthi, 2024). However, these advances are not without their challenges, particularly with respect to data security and regulation, which can act as brakes on the widespread adoption of these solutions. Integrating fintech solutions in the banking sector also influences financial stability and sustainable development. Several studies have demonstrated that fintech adoption promotes green finance and sustainable innovation, improving the performance of financial institutions while reducing their environmental footprint (Alsadoun and Alrobai, 2025). Furthermore, an analysis of banking performance in various regions highlights the importance of economic and regulatory factors in adopting and impacting fintech in financial institutions (Joshi and Karmacharya, 2024). The effect of fintech on financial markets is also notable, notably through its influence on transparency, the reduction of information asymmetry and the improvement of market liquidity (Reshma et al., 2024).

In addition, individual and organisational behaviours play a key role in the diffusion of financial technologies. Users' perceptions of the usefulness and ease of use of fintech solutions directly influence their adoption, a phenomenon observed in banking institutions and businesses (Gharaibeh, 2024). Small and medium sized enterprises also benefit from fintech integration, with significant performance gains due to improved digital payment processes and optimized financial management (Nurchayati et al., 2024). However, barriers to adoption, such as financial risk perceptions and digital literacy disparities, remain challenges to overcome (Sadiq et al., 2023).

Recent research has also explored the impact of fintech innovations on banking competitiveness and the financial performance of institutions. Competitiveness is often seen as a mediating factor between fintech adoption and improved banking performance, highlighting the need for banks to integrate these technologies to remain competitive in the market (Riaz et al., 2023). Similarly, digital transformation is changing traditional business models by promoting the digitisation of processes and the automation of financial services, a phenomenon particularly visible in emerging markets (Yáñez-Valdés and Guerrero, 2023).

Finally, the macroeconomic implications of fintech adoption cannot be ignored. Studies show that financial innovations influence not

only bank performance but also overall economic development by promoting financial inclusion and access to banking services for marginalised populations (Dwivedi et al., 2021). Thus, the regulation and governance of financial technologies appear to be essential in ensuring the fintech sector's harmonious and secure development while preserving financial stability and consumer confidence (Kalai and Toukabri, 2024).

2.2. Hypothesis Development

In what follows, we mobilize behavioral and economic theories, as well as relevant previous work, to identify the key determinants of financial technology adoption. This theoretical and empirical analysis enables us to formulate sound hypotheses based on an in depth understanding of the psychological, organizational, and technological mechanisms at play. Each subsection develops a specific hypothesis, drawing on contributions from the existing academic literature.

2.2.1. Psychology and fintech adoption

Psychology plays a fundamental role in fintech adoption, influencing consumer decisions through factors such as trust, transparency, satisfaction, financial services orientation, perceived value and cash perception. The theory of planned behavior explains that attitudes, subjective norms and perceived control determine behavioral intentions, suggesting that psychological attitudes directly shape fintech adoption (Ajzen, 1991). In addition, Keynes's liquidity theory states that liquidity preference is a key factor in determining interest rates and investment behavior, particularly in times of uncertainty. The theory states that individuals prefer to hold liquid assets to respond to contingencies, thereby influencing liquidity flows in financial markets (Keynes, 1937). Trust is a central element of this adoption, as consumers perceive fintechs as innovative, but their adoption relies on assurance regarding security and data protection (Basdekis et al., 2022). Similarly, transparency reinforces this trust by improving the visibility of transactions and reducing perceived risk (Rerung et al., 2024). Consumer satisfaction is also essential, as a positive perception of digital services stimulates loyalty and continued use (Alkhawaldeh et al., 2023). In addition, a strong customer focus enables fintechs to tailor their services to users' specific needs, optimizing their adoption (Bhutto et al., 2023). Perceived value directly influences the adoption decision of fintechs, notably through the perception of benefits offered versus perceived costs (Saif et al., 2024). Finally, the perception of cash impacts savings and investment behavior, highlighting the role of fintech in redefining cash management (D'Acunto et al., 2020).

Thus, these psychological elements, supported by behavioral and financial theories, allow us to formulate hypothesis

H_1: Psychological attitudes significantly influence fintech adoption.

2.2.2. Infrastructure and fintech adoption

The infrastructure plays a key role in the adoption of fintech, directly influencing connectivity, technological investment, technological advances, organisational capacity, the fluidity of financial processes and demographic factors. According to endogenous growth theory, investment in technological infrastructure and digital networks stimulates economic growth by fostering innovation and the diffusion of new technologies (Barro, 1990). Internet access is a key factor in the growth of fintech, as it conditions the participation of consumers and businesses in the digital economy, particularly in regions where the digital divide remains a significant challenge (Ravi and Pandey, 2024). In addition, technological investment in financial infrastructures enhances the effectiveness of monetary and economic policies while reducing the operating costs of financial services (Zahara and Situmorang, 2024). New technical advances, such as artificial intelligence and blockchain, offer considerable potential for improving the accessibility and security of financial services, thus contributing to increased adoption of fintech (Gopal et al., 2023). However, organisational inertia is a significant barrier to this adoption, as resistance to change can hinder digital transformation and limit the expected efficiency gains (Azam et al., 2023). Furthermore, the simplification of financial processes due to fintech facilitates access to banking services and optimises the management of public and private resources (Alzghoul and Al-Kasasbeh, 2024). Finally, demographic factors influence the adoption of fintechs, particularly in relation to users' age, level of education and income, highlighting the importance of adapting infrastructures to the specific needs of different populations (Swain et al., 2022).

This leads us to formulate hypothesis

H_2: Infrastructure significantly influences fintech adoption.

2.2.3. Stakeholders and fintech adoption

Stakeholder involvement is a strategic lever in the adoption of fintech, influencing development through factors such as decision-making power, collaboration, financial education, global e-payment trends and expertise. According to the stakeholder approach, economic players must consider the interests of all parties involved to ensure sustainable growth and effective adoption of innovations (Freeman, 2010). The decision making power of financial institutions is strengthened by fintech technologies, which optimise risk management and enable informed decision making in real time (Kniazieva and Maryna, 2023). Moreover, stakeholder collaboration, particularly between companies, regulators and users, is a key driver for removing barriers to adoption and fostering successful integration strategies (Harlin et al., 2021). Furthermore, financial education plays a key role in democratising fintech services, as a better understanding of digital tools fosters their adoption and reduces reluctance linked to perceived risk (Enongene et al., 2024). The rise of electronic payments worldwide also illustrates the importance of these dynamics, with e-payment trends influenced by commercial policies and technological innovations (Al-Hazimeh et al., 2024). Finally, the expertise of stakeholders, including regulators and employees of fintech companies, is key to ensuring the effective and secure implementation of new financial technologies (Fahy, 2022).

Thus, these interactions between key players allow us to formulate hypothesis

H_3: Stakeholder collaboration significantly influences fintech adoption.

2.2.4. Financial technology innovation and fintech adoption

Financial technology innovations are a key driver of fintech adoption, transforming financial services through digital payments, big data, digital wallets and the adoption of technological tools. According to innovation diffusion theory, adopting new technologies is based on five factors: advantage, compatibility, complexity, trialability and observability (Rogers et al., 2014). Within this framework, digital payment services have redefined financial transactions by improving their speed and accessibility, accelerating their adoption in modern banking systems (Anifa et al., 2022). In addition, next generation technological solutions, including big data and artificial intelligence, optimize data management and enable advanced personalization of financial services, promoting their rapid adoption by businesses and consumers (Ahmadi, 2024). Moreover, digital wallets play a key role in financial inclusion, although their adoption is highly dependent on user trust and the perceived value of the service (Shrestha and Tamang, 2023). Finally, adopting technological tools in the financial sector requires appropriate regulation and better digital control to maximize their impact and minimize risks (Li and Ding, 2024).

These elements allow us to formulate hypothesis

H_4: Financial technological innovations significantly influence fintech adoption.

2.2.5. Risks and fintech adoption

Risk perception plays a key role in fintech adoption, influencing consumer and investor decisions across several key dimensions: Regulatory uncertainty, privacy, financial equity and risk aversion. According to the theory of perceived risk, individuals evaluate potential risks before adopting a new technology or financial service, which directly affects their behavior (Mitchell, 1999). Regulatory uncertainty is a significant constraint, as the absence of a clear legal framework can sometimes encourage innovation, and sometimes increase systemic risk and dampen user confidence (Frederiks et al., 2022). Similarly, the protection of privacy remains a central issue in a context where the massive exploitation of personal data by fintechs raises growing concerns about the security and confidentiality of information (Oyewole et al., 2024). Furthermore, financial equity, which reflects the accessibility of financial services and capital for various categories of actors, largely depends on the institutional framework and the opportunities offered by fintechs to reduce economic inequalities (Cornelli et al., 2021). Finally, risk aversion influences the willingness of consumers and investors to adopt these technologies, particularly in volatile markets such as cryptocurrencies, where uncertainty and risk tolerance shape behaviour (Corbet et al., 2024).

These different aspects of risk perception reinforce the relevance of hypothesis

H_5: Risk perception significantly influences fintech adoption.

2.2.6. Fintech adoption and organisational performance

The adoption of financial technologies is a strategic lever for improving user performance, optimizing the efficiency of financial operations, boosting profitability, reducing costs and facilitating sustainable international business. The balanced scorecard approach emphasizes that performance must be assessed from several interdependent perspectives, including financial and operational dimensions (Kaplan and Norton, 2009). The integration of fintechs enables a better allocation of resources and optimisation of banking processes, improving the efficiency of financial operations and the competitiveness of institutions (Muley et al., 2024). Furthermore, these technologies impact financial profitability by enabling automation, minimising information asymmetries, and expediting financial flows, though their effect may vary based on the level of integration with existing banking structures (Mirza et al., 2023). In addition, fintech solutions help reduce costs by eliminating intermediaries, optimising financing processes and promoting better risk management, notably through blockchain and smart contracts (Wang, 2024). Finally, they facilitate sustainable international business by enhancing corporate internationalisation and creating a more secure framework for cross-border trade, despite the regulatory and political challenges that remain (Cumming et al., 2023).

Thus, these elements allow us to formulate hypothesis

H_6: The adoption of fintech contributes significantly to user performance.

2.2.7. Fintech adoption and financial market reactions

The adoption of fintech redefines the economics of financial markets, disrupting traditional structures and directly influencing market response, financial sector transformation, competition and financial stability. According to the theory of disruptive innovation, emerging technological innovations often start with the bangs of established markets before they gain performance and establish themselves as dominant solutions (Christensen, 1997). In this context, fintech has introduced new financial service models that are changing investor perceptions and market dynamics, as illustrated by fluctuations in stock market returns in response to fintech acquisitions or bankruptcies of cryptocurrency companies (Martins, 2024). Furthermore, the financial sector's transformation is accelerating under the impact of digitalization, leading to a redefinition of regulatory standards and a restructuring of relations between traditional institutions and fintech startups (Harish et al., 2024). Competition is also intensifying, forcing banks to rethink their strategies to adapt to the rise of fintech, which offers more flexible and accessible services (Haddad and Hornuf, 2019). In terms of financial stability, while some fintech solutions strengthen the resilience of banking systems, others, such as digital lending, can accentuate market volatility and pose new regulatory challenges (Koranteng and You, 2024). Finally, the rapid growth of digital currencies and decentralized payments testifies to the transformational impact of fintechs on the global financial ecosystem (Verma and Atri, 2024).

These elements support hypothesis

H_7: The adoption of fintech contributes significantly to the reactions of financial markets.

To gain a deeper understanding of the dynamics surrounding the adoption of fintech technologies and their implications for financial markets, we have developed a conceptual model grounded in a thorough literature review, alongside current economic and

behavioral insight theories. This model aims to synthesize theoretical and empirical contributions from academic work while enabling the various hypotheses formulated to be tested. This highlights the interaction between exogenous and endogenous variables influencing the adoption of fintech, thus providing a relevant analytical framework to better understand the determining factors of this financial transformation (Figure 1).

3. MATERIALS AND METHODS

To ensure the integrity and scientific rigour of this research, a comprehensive methodological approach was adopted. It aims to validate the theoretical model and test the hypotheses formulated while structuring the study through appropriate tools and techniques. This approach guarantees a rigorous framework for data collection, analysis and interpretation, thus ensuring the reliability of the results and underpinning the validity of the conclusions drawn from the study.

3.1. Database Selection

Data collection and analysis were based on a questionnaire administered (Appendix) to a sample composed of various profiles, including professionals, directors, department heads, supervisors, managers and team leaders (Table 1). This representative and diversified sample provides relevant empirical data to verify the consistency of the concepts and measures employed. The collection instrument is based on a six-level Likert scale, which is frequently used to collect quantitative responses on psychological and behavioural variables (Likert, 1932). This scale enables respondents to indicate their degree of agreement or intensity on a series of statements, ranging from 0 "strongly disagree" to 5 "strongly agree," on the basis of their personal perception or experience.

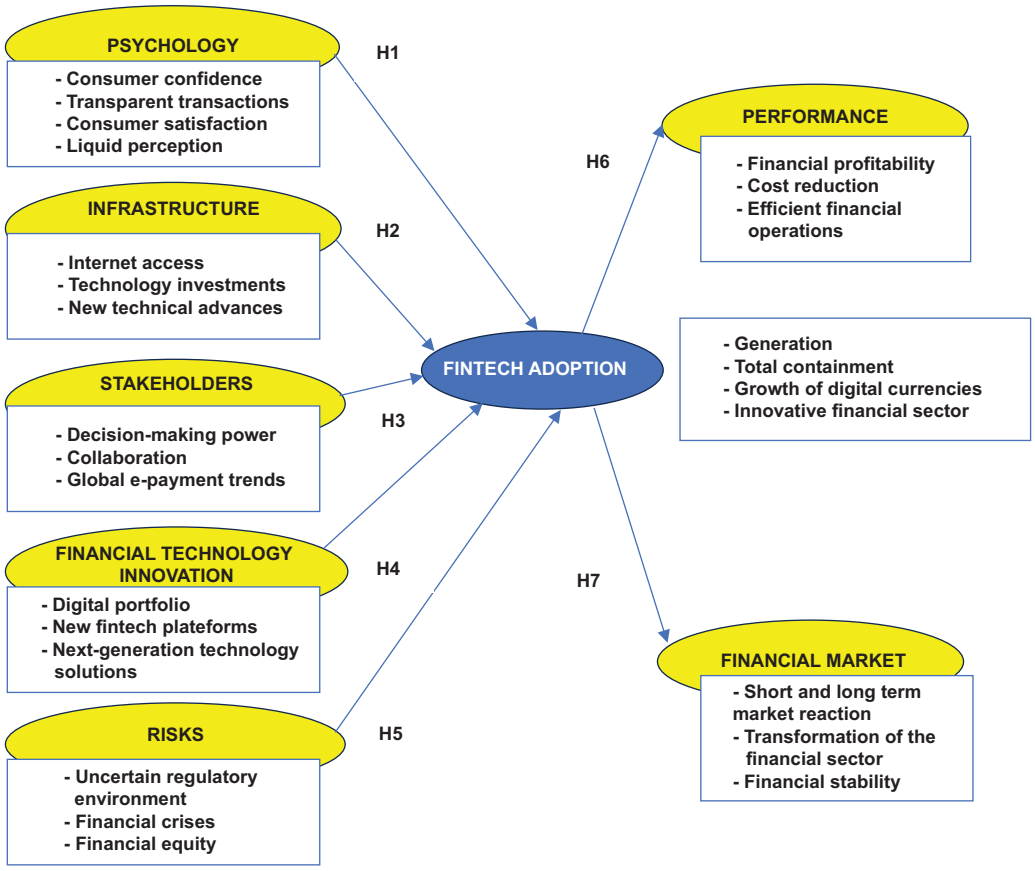
3.2. Search Strategy

Data analysis was carried out via structural equation modelling with the SmartPLS tool to examine the factors influencing fintech technology adoption. The questionnaire was designed to measure latent variables such as "Infrastructure," "Psychology," and "Risks," which are in line with the recommendations of Hair and Sarstedt (Hair Jr. and Sarstedt, 2019). After collection, the data were processed through a measurement model assessing construct validity and reliability (Fornell and Larcker, 1981). Subsequently, the structural model was tested by estimating the coefficients of the relationships between variables, and the bootstrapping method was used to assess their statistical significance (Chin, 1998). Finally, the results obtained were interpreted concerning the literature to ensure a critical discussion of the theoretical and practical implications.

4. RESULTS AND DISCUSSION

This section presents and interprets the empirical results obtained through the Partial Least Squares Structural Equation Modeling « PLS-SEM » approach. The analysis proceeds in two stages. First, the measurement model is assessed to verify the reliability and validity of the constructs used in the study. Second, the structural model is evaluated to test the hypothesized causal relationships among the latent variables. By

Figure 1: Conceptual model illustrating the factors influencing fintech adoption



examining both the statistical significance and the explanatory power of the estimated paths, the discussion highlights the key determinants that influence fintech adoption, as well as its effects on organizational performance and financial market dynamics. The findings are interpreted in light of the theoretical framework, thereby providing insights into the mechanisms through which technological, psychological, structural, and institutional factors shape the integration and impact of fintech within financial systems.

4.1. Analysis of the Structural Model and Validation of Relationships Among Variables

Once the conceptual model had been developed, a quantitative analysis phase was undertaken to empirically verify the hypothesized relationships between the latent variables. This crucial step aims to test the validity of the theoretical hypotheses formulated within the framework of the model. For this purpose, SEM structural equation model analysis was used, a method particularly suited to studying complex relationships between latent constructs (Byrne, 2010; Lomax, 2004).

Table 1: Sociodemographic characteristics of the sample

Sociodemographic characteristics		Sample	Percentage
Age range	0-14 years	52	26
	15-59 years	120	60
	≥60 years	28	14
Education level	None	64	32
	Primary	54	27
	Lower secondary (middle school)	34	17
	Upper secondary (high school)	24	12
	Higher education	20	10
	Preschool	4	2
Marital status	Single	66	33
	Divorced	7	3.5
	Married	117	58.5
	Widowed	10	5
Gender	Female	100	50
	Male	100	50
Area	Rural area	74	37
	Urbain area	126	63

PLS-SEM allows us not only to assess the overall model fit but also to accurately estimate the direct effects between the various structural dimensions. To ensure the results' robustness and reinforce the estimated coefficients' statistical credibility, a bootstrapping procedure was applied, which was based on 500 subsamples. This resampling technique generates confidence intervals for the path coefficients and produces the associated t statistics and P values, thus providing a sound basis for accepting or rejecting hypotheses (Richter et al., 2022).

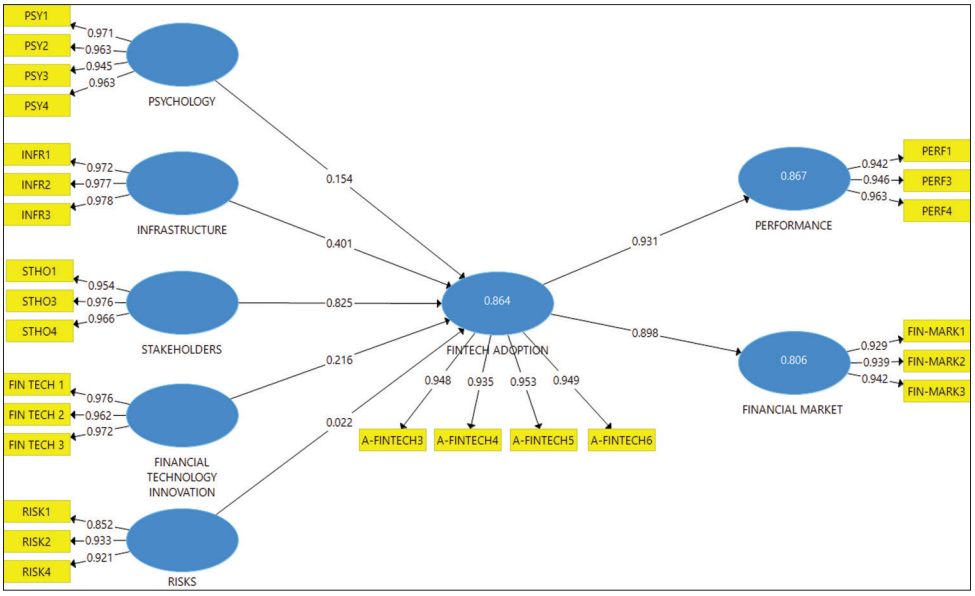
Figure 2 shows the structural relationships between the model's exogenous and endogenous variables. The adoption of fintech technologies occupies a central position as the primary endogenous variable. It is influenced by five exogenous factors: user psychology, the robustness of infrastructure, stakeholders' collaboration, financial technological innovation and perceived risk. This adoption then acts as a lever to explain two other endogenous variables: organizational performance and the financial market.

The results indicate that stakeholder involvement is the most decisive factor in fintech adoption, highlighting the importance of active support from consumer ecosystem players, regulators and financial institutions. As a prerequisite for both technology and organization, infrastructure also plays a significant role in facilitating this adoption.

Variables linked to psychology and technological innovation also exert a positive influence, albeit more moderate, reflecting the effects of perceptions, confidence and the dynamics of continuous innovation on adoption behavior.

Conversely, perceived risk had no significant impact in this context, suggesting that security, regulatory or privacy fears are not significant obstacles to accepting financial technologies.

Figure 2: Structural model illustrating endogenous and exogenous variables in fintech adoption



Finally, the adoption of fintech has a strong and positive effect on organizational performance as well as on the financial market, confirming its strategic role in value creation, both internal efficiency and competitiveness and external reputation, stability and stock market valuation.

4.2. Measurement Model Evaluation and Reliability Analysis

According to the results presented in Table 2, the coefficients of determination obtained clearly illustrate the explanatory strength of the model's key variables. Concerning the variable "Financial Market," the coefficient of determination R^2 is 0.806, indicating that 80.6% of the variance of this variable is explained by the model. Adjustment for the number of predictors remains minimal, with an adjusted R^2 of 0.805. This result confirms that stock markets react significantly to major financial scandals, increasing market volatility (Sree, 2019).

Similarly, "Fintech adoption" has a high R^2 of 0.864, with an adjusted R^2 of 0.860, meaning that 86.4% of the variance is explained by the model. This testifies to the effectiveness of technical analysis in financial markets (Kee and Chen, 2010). The "Performance" variable, meanwhile, displays a remarkable R^2 of 0.867 and an adjusted R^2 of 0.866, confirming that high R^2 values are often associated with higher company valuations, although this can lead to long term underperformance (Cao et al., 2023).

Analysis of the measures of variance completes this reading. For the variable "Financial market," the model presents a Q^2 value equal to 0.701, indicating a strong predictive capacity. This result is consistent with financial market reactions to fintech innovations, which can vary depending on many external factors (Dimitrova and Eswar, 2024). Similarly, the results show that "Fintech adoption" achieves a Q^2 value of 0.762, whereas "Performance" registers a Q^2 of 0.773, indicating excellent predictive ability in both cases. This underlines the complex impact of technological innovation on financial performance, although returns on equity show no significant differences after fintech adoption (Sadki and Bekkaoui, 2023).

At the same time, other variables such as "Financial technology innovation," "Infrastructure," "Psychology," "Risk" and "Stakeholders," although not directly measured by Q^2 values due to their endogenous or latent nature, remain influenced by other elements of the model; nevertheless, they possess significant potential to contribute to the transformation of fintech innovation, particularly with respect to market reactions and changes in financial dynamics linked to the adoption of new technologies (Schindler, 2017).

With regard to internal reliability indicators, the values obtained for Cronbach's alpha confirm good internal consistency. All the key variables have values above 0.70. In particular, the variable "Infrastructure" has a value of 0.975, "Financial technology innovation" reaches 0.968 and "Psychology" registers a value of 0.972, testifying to strong internal consistency, far exceeding the recommended threshold for good reliability (Metsämuuronen, 2022).

Although Cronbach' alpha may have several limitations, the high values obtained for rho_A and composite reliability reinforce the robustness of the results and further validate the model's reliability. Indeed, values above 0.70 for all variables indicate high model reliability (Hair et al., 2012). Composite reliability, often calculated alongside structural equation modelling, provides a more accurate estimate of reliability than traditional methods such as Cronbach's alpha, which can underestimate true reliability (Peterson and Kim, 2013). This is particularly relevant when dealing with nonhomogeneously linked items, where composite reliability offers a clearer picture of scale reliability (Raykov, 1998).

However, some variables, such as "Psychology" and "Risks," still show room for improvement in terms of explaining total variance. Nevertheless, the average variance extracted remains satisfactory, with all values well above the recommended threshold of 0.50, indicating adequate convergent validity (Fokoue and Gunduz, 2015).

Furthermore, alternative approaches, such as the omega coefficient, are recommended for more accurate assessments of measurement scale reliability (Trizano-Hermosilla and Alvarado, 2016).

4.3. Evaluation of Overall Model Fit

Model fit indices reported in Table 3 confirm an overall satisfactory quality of fit. The SRMR, which measures the root mean square of standardized residuals, is 0.026 for the saturated model and 0.033 for the estimated model. These results suggest an acceptable fit, although some room for improvement remains. Indeed, a value <0.08 is generally considered acceptable in structural equation models (Ximénez et al., 2022).

On the other hand, the saturated model's normalised shape index is 0.913, whereas the estimated model has a value of 0.909, which is slightly lower. Both values, although close to the conventional threshold of 0.90, represent a good but perfectible fit. This suggests that the estimated model manages to reproduce the structure of

Table 2: Summary of measurement model indicators

Variables	Notations	Measurement model assessment indicators						
		R^2	R^2_adj	Q^2	CA	rho_A	CR	AVE
Psychology	PSY				0.972	0.974	0.979	0.923
Infrastructure	INFR				0.975	0.979	0.983	0.951
Stakeholders	STHO				0.963	0.966	0.976	0.932
Financial technology innovation	FIN TECH				0.968	0.977	0.979	0.940
Risks	RISK				0.892	0.969	0.929	0.815
Fintech adoption	A-FINTECH	0.864	0.805	0.762	0.961	0.961	0.971	0.895
Performance	PERF	0.867	0.866	0.773	0.947	0.948	0.966	0.903
Financial market	FIN-MARK	0.806	0.805	0.701	0.930	0.931	0.955	0.877

the data satisfactorily while at the same time suggesting a scope for optimisation to further strengthen the overall fit (Baker, 1993).

The RMS theta indicator does not apply to the saturated model, as it specifically evaluates the measurement error in the reflected constructs, which are only estimated at model evaluation. The value obtained for the estimated model is 0.158. Although this value remains acceptable, it suggests that there is still room for improvement. Levels below 0.10 are preferred to ensure the optimal fit of reflective variable models, indicating lower measurement error (Olutende et al., 2019).

4.4. Analysis and Validation of Hypotheses

The hypothesis testing results in Table 4 indicate that user psychology positively affects fintech adoption, with a path coefficient of 0.154. This result shows that a favourable change in users' attitudes and perceptions toward fintech stimulates their adoption, although this effect remains moderate. This relationship is statistically significant with a P = 0.000, meaning that the probability of this relationship being due to chance is very low. The t = 6.185, well above the critical threshold of 1.96, confirms the statistical validity of this relationship. Psychological factors, such as trust and performance expectations, play crucial roles in adopting fintech (Amnas et al., 2023).

Infrastructure is another determining factor, with a positive relationship measured by a path coefficient of 0.401. This finding indicates that improved infrastructure significantly facilitates fintech adoption. This relationship is also statistically significant, with a P = 0.000, well below the 5% threshold, suggesting that the observed link is probably not due to chance. The t = 12.515, well above the critical threshold of 1.96, reinforces the statistical validity of this relationship. The development of suitable infrastructures thus appears essential to support the adoption of financial technologies by facilitating access to technological resources and financial services (Romanov and Khubulova, 2020). Stakeholder involvement has a particularly strong impact, with a path coefficient of 0.825. This demonstrates that stakeholder engagement largely favours the adoption of fintech technologies, with a P = 0.000, well below the 5% threshold, making it extremely unlikely that this relationship is due to chance. The t value reaches 24.774, well above the critical threshold of 1.96, attesting to high statistical robustness. The active involvement of stakeholders, especially consumers and financial institutions, thus appears to be a fundamental lever for stimulating the adoption of technological solutions, particularly in dematerialized payment systems (Lima et al., 2019).

Financial technological innovation also significantly influences fintech adoption, with a path coefficient of 0.216. This relationship is confirmed by a t = 6.802, well above the critical threshold, and a P = 0.000, indicating high significance. These results demonstrate the existence of a clear and robust positive effect of technological innovation on fintech adoption. Technological innovation profoundly transforms the financial sector, encouraging consumers to use faster, more efficient solutions (Rank, 2023).

Regarding perceived risk, the relationship with fintech adoption remains positive but weak, with a path coefficient of 0.022. However, this influence is statistically insignificant, as indicated by a P = 0.272, well above the 5% threshold. Moreover, the t = 0.607, below the critical threshold of 1.96, confirms the insignificance of this relationship. Therefore, while perceived risk may play a part in certain decisions, its overall impact on fintech adoption remains limited and insignificant, particularly concerning dimensions such as legal risk (Ryu, 2018).

The relationship between fintech adoption and corporate performance is particularly strong, with a path coefficient of 0.931. This relationship is highly significant, with a P = 0.000, suggesting that fintech adoption contributes significantly to improved financial performance; therefore, it is highly unlikely that this relationship is due to chance. The exceptionally high t = 112.726 validates

Table 3: Summary of overall model fit indices

Fit indices	Saturated model	Estimated model
SRMR	0.026	0.033
NFI	0.913	0.909
RMS THETA	-	0.158

Table 4: Summary and validation of the model assumptions

Hypotheses	Path coefficients and significance					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics (|O/STDEV|)	P-values	Results
PSY -> A-Fintech H_1	0.154	0.154	0.025	6.185	0.000	Accepted
INFR -> A-Fintech H_2	0.401	0.400	0.032	12.515	0.000	Accepted
STHO -> A-Fintech H_3	0.825	0.824	0.033	24.774	0.000	Accepted
FIN TECH -> A-Fintech H_4	0.216	0.215	0.032	6.802	0.000	Accepted
RISK -> A-Fintech H_5	0.022	0.017	0.037	0.607	0.272	Rejected
A-FINTECH -> PERF H_6	0.931	0.931	0.008	112.726	0.000	Accepted
A-FINTECH -> FIN-Mark H_7	0.898	0.898	0.012	73.715	0.000	Accepted

this relationship's statistical certainty and robustness. As a result, fintech adoption improves user satisfaction and strengthens companies' competitive advantage, indicating a significant positive effect on organizational performance.

Finally, the relationship between fintech adoption and financial market reactions is also very strong, with a coefficient of 0.898. This result highlights the substantial impact of fintech adoption on financial market dynamics, directly influencing company performance. The P = 0.000 attests to the high significance of this relationship, whereas the t value reaches 73.715, which is well above the critical threshold of 1.96, confirming the statistical strength of this relationship. Consequently, integrating financial technologies enhances corporate stability and reduces equity volatility, boosting market responsiveness (Haddad and Hornuf, 2023).

5. CONCLUSION

Moroccan financial institutions are evolving in a rapidly changing digital environment, where the adoption of fintech is becoming a strategic lever for strengthening their performance and competitiveness. This study aims to better understand the variables influencing fintech adoption and to empirically assess their impact on organizational performance and financial market reactions. The PLS-SEM method was used to test seven hypotheses based on multidimensional theoretical models incorporating technological, psychological, structural, and economic factors.

The results show that the measurement model evaluation (Table 2) highlights excellent construct reliability, with indicators such as Cronbach's alpha, rho_A and composite reliability well above the recommended thresholds. The high coefficients of determination for the main variables, notably fintech adoption, organizational performance and financial market reaction, testify to the model's strong explanatory power. Moreover, the Q^2 values confirm its predictive power. Regarding the model's overall fit (Table 3), indices such as SRMR and NFI, with values of 0.033 and 0.909, respectively, indicate a satisfactory fit quality, close to the standards expected in structural equation modelling. Although there is still room for improvement, the overall results validate the soundness of the proposed model and its relevance for analyzing financial technology adoption mechanisms.

In addition, all hypotheses were validated (Table 4) with statistically significant path coefficients and P values, confirming the robustness of the proposed model. Stakeholder involvement appears to be the most decisive factor in fintech adoption, with a particularly high path coefficient of 0.825. Except for hypothesis H_5 concerning risk perception, which was rejected owing to a P = 0.272, statistically exceeding the significance level, it appears that cybersecurity and regulation remain essential. However, perceived risk is not a significant barrier in the Moroccan context. On the other hand, fintech adoption has a highly significant and positive effect on both organizational performances, with a path coefficient value of 0.931, and financial market reaction, with a path coefficient value of 0.898, testifying to their strategic role in creating value and improving competitiveness (Figure 2).

These results suggest that the Moroccan ecosystem already enjoys a good level of acceptance of financial technologies, especially when supported by effective collaboration between players, a favourable technological infrastructure and a dynamic of continuous innovation. However, the rejection of the impact of perceived risk points to the need for better education on cybersecurity and regulatory issues. In this sense, the research offers both practical implications for decision makers and theoretical contributions to understanding fintech integration into emerging systems. To increase the robustness of the results, future studies could explore other dimensions, such as digital ethics, generational behaviour or technological resilience, while adopting mixed methods to enrich the understanding of the dynamics observed.

REFERENCES

Ahmadi, S. (2024), A comprehensive study on integration of big data and AI in financial industry and its effect on present and future opportunities. International Journal of Current Science Research and Review, 7(01), 66-74.

Ajzen, I. (1991), The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Alafeef, M.A., Kalyebara, B., Kalbouneh, N.Y., Abuoliem, N., Yousef, A.N., Al-Afeef, M.A. (2024), The impact of FINTECH on banking performance: Evidence from middle eastern countries. International Journal of Data and Network Science, 8, 2219-2230.

Al-Hazimeh, A.M., Al-Smadi, R.W., Al-Smadi, A.W. (2024), Future trends in Fintech and sustainability: Empirical study. Investment Management and Financial Innovations, 21(3), 51.

Alkhawaldeh, B., Alhawamdeh, H., Al-Afeef, M., Al-Smadi, A., Almarshad, M., Fraihat, B., & Alaa, A. (2023), The effect of financial technology on financial performance in Jordanian SMEs: The role of financial satisfaction. Uncertain Supply Chain Management, 11(3), 1019-1030.

Alsadoun, M., Alrobai, F.S. (2025), Influence of Fintech adoption on sustainable performance via mediation role of green finance and green innovation. American Journal of Business Science Philosophy, 1(1), 61-72.

Alzghoul, A., Al-kasasbeh, O. (2024), The moderating role of information technology infrastructure in the relationship between fintech adoption and organizational competitiveness. Investment Management and Financial Innovations, 21(2), 155.

Amnas, M.B., Selvam, M., Raja, M., Santhoshkumar, S., Parayitam, S. (2023), Understanding the determinants of FinTech adoption: Integrating UTAUT2 with trust theoretic model. Journal of Risk and Financial Management, 16(12), 505.

Anifa, M., Ramakrishnan, S., Joghee, S., Kabiraj, S., Bishnoi, M.M. (2022), Fintech innovations in the financial service industry. Journal of Risk and Financial Management, 15(7), 287.

Azam, Q.S., Siddiqui, M.Z., Yosufzai, S. (2023), Financial technology adoption and organizational competitive performance: Mediating role of employee engagement. Journal of Social Research Development, 4(4), 729-727.

Baker, F.B. (1993), Sensitivity of the linear logistic test model to misspecification of the weight matrix. Applied Psychological Measurement, 17(3), 201-210.

Barro, R.J. (1990), Government spending in a simple model of endogeneous growth. Journal of Political Economy, 98(5, Part 2), S103-S125.

Basdekis, C., Christopoulos, A., Katsampoxakis, I., Vlachou, A. (2022), FinTech's rapid growth and its effect on the banking sector. Journal of Banking and Financial Technology, 6(2), 159-176.

Bhutto, S.A., Jamal, Y., Ullah, S. (2023), FinTech adoption, HR competency potential, service innovation and firm growth in banking sector. Heliyon, 9(3), e13967.

Byrne, B.M. (2010), Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming. 2nd ed. London: Routledge.

Cao, Y., Chen, Z., Lu, M., Xu, Z., Zhang, Y. (2023), Does fintech constrain corporate misbehavior? Evidence from research and development manipulation. Emerging Markets Finance and Trade, 59(10), 3129-3151.

Chin, W.W. (1998), The partial least squares approach to structural equation modeling. Modern Methods for Business Research, 295(2), 295-336.

Christensen, C.M. (1997), The Innovator's Dilemma: When New Technologies cause Great Firms to Fail. Boston: Harvard Business Review Press.

Corbet, S., Hou, Y., Hu, Y., Oxley, L. (2024), Time varying risk aversion and its connectedness: Evidence from cryptocurrencies. Annals of Operations Research, 338(2), 879-923.

Cornelli, G., Doerr, S., Franco, L., Frost, J. (2021), Funding for fintechs: Patterns and drivers. BIS Quarterly Review, 20, 31-43.

Cumming, D., Johan, S., Reardon, R. (2023), Global fintech trends and their impact on international business: A review. Multinational Business Review, 31(3), 413-436.

D'Acunto, F., Rauter, T., Scheuch, C.K., Weber, M. (2020), Perceived Precautionary Savings Motives: Evidence from Fintech (No. w26817). Cambridge: National Bureau of Economic Research.

Dimitrova, L., Eswar, S. (2024), Does financial innovation lead to technological innovation? Evidence from foreign exchange derivatives. SSRN Working Paper No. 2801066. Available from: https://ssrn.com/abstract=2801066

Dwivedi, P., Alabdooli, J.I., Dwivedi, R. (2021), Role of FinTech adoption for competitiveness and performance of the bank: A study of banking industry in UAE. International Journal of Global Business and Competitiveness, 16(2), 130-138.

Elsaman, H., Dayanandan, R., Dawood, Z., Al Akrabi, S. (2024), Navigating fintech innovation: Performance, trust, and risk factors in UAE's banking sector. Journal of Eastern European and Central Asian Research, 11(2), 332-341.

Enongene, G.N., Isoh, A.V.N., Mbarika, V., Fofanah, S.A., Itoe, M.M. (2024), The effects of financial education on the adoption of financial technology (FinTech) services in the Buea Silicon Mountain community of Cameroon. Business Management and Strategy, 15(1), 51-76.

Fahy, L. (2022), Regulator reputation and stakeholder participation: A case study of the UK's regulatory sandbox for fintech. European Journal of Risk Regulation, 13(1), 138-157.

Fokoué, E., Gunduz, N. (2015), An information-theoretic alternative to the Cronbach's Alpha Coefficient of Item Reliability. arXiv preprint arXiv:1501.04070.

Fornell, C., Larcker, D.F. (1981), Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Frederiks, A.J., Costa, S., Hulst, B., Groen, A.J. (2022), The early bird catches the worm: The role of regulatory uncertainty in early adoption of blockchain's cryptocurrency by fintech ventures. Journal of Small Business Management, 62(2), 790-823.

Freeman, R.E. (2010), Strategic Management: A Stakeholder Approach. Cambridge: Cambridge University Press.

Gharaibeh, M. (2024), Determinants affecting the intention to adopt financial technology. International Journal of Data and Network Science, 8(6), 2087-2096.

Gopal, S., Gupta, P., Minocha, A. (2023), Advancements in fin-tech and security challenges of banking industry. In: 2023 4th International Conference on Intelligent Engineering and Management. p1-6.

Haddad, C., Hornuf, L. (2019), The emergence of the global fintech market: Economic and technological determinants. Small Business Economics, 53(1), 81-105.

Haddad, C., Hornuf, L. (2023), How do fintech start-ups affect financial institutions' performance and default risk? The European Journal of Finance, 29(15), 1761-1792.

Hair, J.F. Jr., Sarstedt, M. (2019), Factors versus composites: Guidelines for choosing the right structural equation modeling method. Project Management Journal, 50(6), 619-624.

Hair, J.F., Ringle, C.M., Sarstedt, M. (2012), Partial least squares: The better approach to structural equation modeling? Long Range Planning, 45(5-6), 312-319.

Harish, D., Vennila, R., Kumar, R.H.B. (2024), The role of fintech and its influence on transforming retailers from informal financial sector to formal financial sector. International Journal of Research and Review, 11(7), 458-470.

Harlin, U., Berglund, M., Skagert, K., Elg, M. (2021), Stakeholder collaboration inspired by the Nordic model-Towards sustainable work and competitiveness during an industrial startup. European Journal of Workplace Innovation, 6(1-2), 198-219.

Joshi, P.R., Karmacharya, B. (2024), Effect of FinTech adoption, green finance and green innovation on sustainability performance of nepalese financial institutions. Far Western Review, 2(1), 265-288.

Kalai, L., Toukabri, M. (2024), Risks, regulations, and impacts of FinTech adoption on commercial banks in the United States and Canada: A comparative analysis. Thunderbird International Business Review, 66(6), 609-641.

Kanaparthi, V. (2024), Exploring the Impact of Blockchain, AI, and ML on Financial Accounting Efficiency and Transformation. In: International Conference on Multi-Strategy Learning Environment. Singapore: Springer Nature Singapore. p353-370.

Kaplan, R.S., Norton, D.P. (2009), Putting the balanced scorecard to work. In: The Economic Impact of Knowledge. London: Routledge. p315-324.

Kee, K.B., Chen, Q. (2010), Stock Return Synchronicity and Technical Trading Rules. SSRN Working Paper No. 1645962. Available from: https://ssrn.com/abstract=1645962

Keynes, J.M. (1937), The general theory of employment. The Quarterly Journal of Economics, 51(2), 209-223.

Kniazieva, T., Maryna, A. (2023), Fintech in Information and Analytical Support of Decision-making of Financial Institutions. Latvia: Publishing House "Baltija Publishing".

Koranteng, B., You, K. (2024), Fintech and financial stability: Evidence from spatial analysis for 25 countries. Journal of International Financial Markets, Institutions and Money, 93, 102002.

Kou, M., Yang, Y., Chen, K. (2024), Financial technology research: Past and future trajectories. International Review of Economics and Finance, 93 (Part A), 162-181.

Li, W., Ding, H. (2024), Research on the impact of technological innovation on the financial services industry. Frontiers in Sustainable Development, 4(4), 109-119.

Likert, R. (1932), A technique for the measurement of attitudes. Archives of Psychology, 140, 55.

Lima, L.C., Ziviani, F., Corrêa, F., de Paula Ferreira, E., de Souza França, R. (2019), Mensuração do Envolvimento do Consumidor com as Fintechs. In: Anais do Congresso Internacional de Conhecimento e Inovação-ciki. Vol. 1., No. 1.

Lomax, R.G. (2004), A Beginner's Guide to Structural Equation Modeling. 4th ed. and 2nd ed. New York: Psychology Press.

Martins, A.M. (2024), Short-term market impact of crypto firms' bankruptcies on cryptocurrency markets. Research in International Business and Finance, 70, 102370.

Metsämuuronen, J. (2022), Attenuation-corrected estimators of reliability. Applied Psychological Measurement, 46(8), 720-737.
Mirza, N., Umar, M., Afzal, A., Firdousi, S.F. (2023), The role of fintech in promoting green finance, and profitability: Evidence from the banking sector in the euro zone. Economic Analysis and Policy, 78, 33-40.
Mitchell, V.W. (1999), Consumer perceived risk: Conceptualisations and models. European Journal of Marketing, 33(1/2), 163-195.
Muley, A., Bawa, R., Verma, P., Uvaneswaran, S.M. (2024), Role of Fintech adoption on banking sector efficiency: A survey-based research approach. Journal of Informatics Education and Research, 4(1), 636.
Neave, E.H. (1998), Financial Systems: Principles and Organization. 1st ed. United Kingdom: Routledge.
Nurchayati, N., Ariyanti, R., Marianingsih, I. (2024), How fintech adoption, digital payment systems, and consumer trust shape financial performance of MSMEs. International Journal of Business, Law, and Education, 5(2), 2458-2469.
Olutende, O.M., Wanzala, M.N., Wamukoya, E.K. (2019), Psychometric properties of the health-promoting lifestyle profile II: Validation of the self-realization and health responsibility constructs among Kenyan University Students. Saudi J Nurs Heal Care, 2(11), 365-373.
Oyewole, A.T., Oguejiofor, B.B., Eneh, N.E., Akpuokwe, C.U., Bakare, S.S. (2024), Data privacy laws and their impact on financial technology companies: A review. Computer Science and IT Research Journal, 5(3), 628-650.
Peterson, R.A., Kim, Y. (2013), On the relationship between coefficient alpha and composite reliability. Journal of Applied Psychology, 98(1), 194-198.
Rank, D. (2023), Financial technology as an innovation strategy for digital payment services in the millennial. International Journal of Management, Public Policy and Research, 2(4), 32-38.
Ravi, R., Pandey, N.N. (2024), Intention to use fintech services: An investigation into the moderation effects of quality of internet access and digital skills. Humanities and Social Sciences Letters, 12(3), 543-555.
Raykov, T. (1998), Coefficient alpha and composite reliability with interrelated nonhomogeneous items. Applied Psychological Measurement, 22(4), 375-385.
Rerung, A., Paranita, E.S., Agung, R.A.A.Y, Budiandru, B., Tandililing, E.M. (2024), The influence of fintech innovations, ESG reporting, and blockchain technology on financial transparency and accountability. The Journal of Academic Science, 1(2), 111-117.
Reshma, M., Jahnavi, B., Cherishma, A., Hope, T. (2024), The impact of fintech innovations on stock market efficiency. The International Journal of Advanced Multidisciplinary Research and Studies, 4, 168-171.
Riaz, N., Riaz, A., Tariq, R., Talha, M. (2023), The nexus between Fintech adoption & bank performance: A role of competitiveness. Pakistan Journal of Humanities and Social Sciences, 11(4), 3981-3993.
Richter, N.F., Hauff, S., Ringle, C.M., Gudergan, S.P. (2022), The use of partial least squares structural equation modeling and complementary methods in international management research. Management International Review, 62(4), 449-470.
Rogers, E.M., Singhal, A., Quinlan, M.M. (2014), Diffusion of innovations. In: An Integrated Approach to Communication Theory and Research. London: Routledge. p432-448.
Romanov, V.A., Khubulova, V.V. (2020), The fintech industry: key technologies and directions of development of the financial digitization. RUDN Journal of Economics, 28(4), 700-712.
Ryu, H.S. (2018), Understanding Benefit and Risk Framework of Fintech Adoption: Comparison of Early Adopters and Late Adopters. In: Conference: Hawaii International Conference on System Sciences.
Sadiq, N., Baneen, U., Abbas, S.F. (2023), Fintech adoption and its impact on sustainability: Risk benefit analysis of an emerging economy. Audit and Accounting Review, 3(2), 95-126.
Sadki, S., Bekkaoui, A. (2023), The impact of technological innovation and its effect on the banking sector. sector. Post-Print hal-04377063, HAL. https://doi.org/10.5281/zenodo.10440180
Saif, M.A., Hussin, N., Husin, M.M., Muneer, A., Alwadain, A. (2024), Beyond conventions: Unravelling perceived value's role in shaping digital-only banks' adoption. Technological Forecasting and Social Change, 203, 123337.
Sarstedt, M., Ringle, C.M., Hair, J.F. (2021), Partial least squares structural equation modeling. In: Homburg, C., Klarmann, M., Vomberg, A.E., editors. Handbook of Market Research. Cham: Springer.
Schindler, J. (2017), FinTech and Financial Innovation: Drivers and Depth. Finance and Economics Discussion Series 2017(081).
Schueffel, P. (2016), Taming the beast: A scientific definition of fintech. Journal of Innovation Management, 4(4), 32-54.
Shrestha, R., Tamang, L. (2023), Financial inclusion through fintech innovation: Predicting user acceptance of digital wallet. The Batuk, 9(2), 37-48.
Sree, D. (2019), Impact of white collar scams on stock market behavior in India. International Journal for Research in Applied Science and Engineering Technology, 7(9), 9037.
Swain, K.R., Chaudhury, S., Panigrahi, C.M.A. (2022), Impact of demographic variables on consumers' adoption of e-banking services in Ganjam District of Odisha: An empirical investigation. Journal of Management Research and Analysis, 9(4), 210-217.
Trizano-Hermosilla, I., Alvarado, J.M. (2016), Best alternatives to Cronbach's alpha reliability in realistic conditions: Congeneric and asymmetrical measurements. Frontiers in Psychology, 7, 769.
Verma, S., Atri, R. (2024), Cryptocurrency adoption and financial innovation. International Journal of Advanced Research in Science, Communication and Technology, 4(2), 560-565.
Wang, L. (2024), Can fintech reduce the cost of corporate debt financing? -- Evidence from chinese listed companies. Transactions on Economics, Business and Management Research, 5, 172-179.
Wilkening, E.A. (1962), Diffusion of Innovations. By Everett M. Rogers. Social Forces, 41(4), 415-416.
Wu, R. (2024), Changes and challenges of financial technology (FinTech) for the banking industry. Transactions on Economics, Business and Management Research, 12, 51-58.
Ximénez, C., Maydeu-Olivares, A., Shi, D., Revuelta, J. (2022), Assessing cutoff values of SEM fit indices: Advantages of the unbiased SRMR index and its cutoff criterion based on communality. Structural Equation Modeling: A Multidisciplinary Journal, 29(3), 368-380.
Yadav, O.P., Teotia, R., Baliyan, R. (2025), Fintech and data science: Shaping the future of the digital economy. In: Synergy of AI and Fintech in the Digital Gig Economy. Boca Raton: CRC Press. p332-349.
Yáñez-Valdés, C., Guerrero, M. (2023), Assessing the organizational and ecosystem factors driving the impact of transformative FinTech platforms in emerging economies. International Journal of Information Management, 73, 102689.
Zahara, M., Situmorang, S.H. (2024), Pengaruh perceive ease of use dan perceive usefulness terhadap minat membeli kembali melalui kepuasan pelanggan pada menggunakan aplikasi online shopping di kota medan. Jurnal Ilmiah Wahana Pendidikan, 10(22), 33-49.

APPENDIX

Appendix: Survey measurement for fintech adoption

Variable	Item	Code	Question	Source
Performance	Financial profitability	PERF1	Adopting financial technology solutions has improved my financial profitability	(Kaplan and Norton, 2009)
	Cost reduction	PERF2	Financial technology solutions have enabled me to reduce my operating costs.	
	Sustainable international business	PERF3	The adoption of fintech solutions has strengthened the sustainability of my international business.	
	Efficient financial operations	PERF4	Adopting financial technology solutions has improved the efficiency of my financial operations	
	Respect for scaled effects	PERF5	Adopting fintech solutions has improved my ability to meet bill payment deadlines	
Financial market	Short and long term market reaction	FIN-MARK1	The adoption of financial technology solutions has a significant influence on market reaction in both the short and long term	(Christensen, 1997)
	Transformation of the financial sector	FIN-MARK2	The rise of financial technologies has profoundly transformed the financial sector	
	Competition	FIN-MARK3	The adoption of fintech solutions has intensified competition on the financial market	
	Financial stability	FIN-MARK4	The rise of financial technologies helps reinforce financial stability	
	Bank tolerance levels	FIN-MARK5	The adoption of fintech solutions has influenced banks' tolerance of new financial market players	
	Economic performance of the market	FIN-MARK6	Adopting fintech solutions has helped improve the economic performance of the financial market.	
Fintech adoption	Entrance barrier	A-FINTECH1	Adopting fintech solutions has lowered the barriers to entry for new players in the financial market.	(Wilkening, 1962)
	Transaction traceability	A-FINTECH2	The adoption of fintech solutions has improved the traceability of financial transactions	
	Generation	A-FINTECH3	Younger generations more readily adopt financial technology solutions to manage their day-to-day finances	
	Total containment	A-FINTECH4	Pandemic and total containment accelerated the adoption of financial technology services	
	Growth of digital currencies	A-FINTECH5	The rise of cryptocurrencies represents a major step forward in the adoption of financial technology solutions	
	Innovative financial sector	A-FINTECH6	Innovation in the financial sector drives the adoption of financial technologies by individuals and businesses	
Psychology	Consumer confidence	PSY1	I trust the use of financial technology services to manage my financial transactions	(Ajzen, 1991)
	Transparent transactions	PSY2	Fintech services guarantee greater transparency in financial transactions	
	Consumer satisfaction	PSY3	My experience with fintech services is generally satisfactory	
	Financial services orientation	PSY4	The adoption of fintech solutions has influenced my move towards digital financial services	
	Perceived value of use	PSY5	The adoption of fintech solutions has reinforced my perception of the added value of using them	
	Liquid perception	PSY6	I prefer to use fintech services rather than cash payments	
Infrastructure	Internet access	INFR1	Reliable internet access is essential for using fintech services	(Barro, 1990)
	Connection speed	INFR2	Connection speed is key to the adoption of fintech services	
	Technology investments	INFR3	Investment in new technologies is essential to improve fintech's accessibility and performance	
	New technical advances	INFR4	Rapidly evolving technologies drive adoption of fintech solutions	
	Organizational inertia	INFR5	Organizational inertia hinders the adoption of fintech services	
	Ease of financial processes	INFR6	The ease of financial processes plays a key role in the adoption of fintech services	
	Demographic factors	INFR7	Demographic factors influence the adoption of fintech services	

(Contd...)

Appendix: ***(Continued)***

Variable	Item	Code	Question	Source
Stackeholders	Decision-making power	STHO1	Stakeholders significantly influence strategic decisions related to fintech adoption	(Freeman, 2010)
	Collaboration	STHO2	Cooperation between financial sector players (banks, fintech startups, regulators) is essential to stimulate financial innovation	
	Financial education	STHO3	The financial education of stakeholders influences the adoption of fintech services.	
	Global e-payment trends	STHO4	Evolving global e-payment trends influence local fintech adoption	
	Expertise	STHO5	Stakeholder expertise plays a key role in the adoption of fintech services	
Financial technology innovation	Digital payment services	FIN TECH1	Digital payment services drive fintech adoption	(Rogers et al., 2014)
	Next-generation technology solutions	FIN TECH2	I'm ready to use a digital wallet for my daily financial transactions	
	New fintech platforms	FIN TECH3	New fintech platforms offer better solutions than traditional banking services	
	Digital portfolio	FIN TECH4	Continuous innovation in financial technologies plays a key role in the future of financial services	
	Adoption of technological tools	FIN TECH5	The adoption of technological tools drives the growth of fintechs	
Risks	Uncertain regulatory environment	RISK1	Regulatory uncertainty is a major barrier to the adoption of fintech solutions	(Mitchell, 1999)
	Financial crises	RISK2	Fintechs are more vulnerable to financial crises than traditional banking institutions	
	Privacy policy	RISK3	Privacy protection influences fintech adoption	
	Financial equity	RISK4	The development of fintech promotes greater financial equity by facilitating access to financial services for all	
	Risk aversion	RISK5	Risk aversion a barrier to fintech adoption	