
Adoption of Financial Technology Innovation and Its Effect on SME Accounting Performance

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Abstract

The rapid advancement of financial technology (FinTech) has emerged as a transformative force for Small and Medium Enterprises (SMEs) globally, yet its adoption and impact on accounting performance in developing economies such as Algeria remain insufficiently explored. This study investigates the determinants of FinTech adoption among Algerian SMEs and examines its subsequent effects on accounting performance metrics. Employing a quantitative research methodology with Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis, data were collected from 285 SME owners and managers across multiple provinces in Algeria. The findings reveal that perceived usefulness, organizational readiness, and government support significantly influence FinTech adoption, which in turn positively affects accounting performance indicators including financial reporting quality, transaction efficiency, and decision-making capabilities. The study contributes to the limited literature on FinTech adoption in North African contexts and provides practical implications for policymakers and SME practitioners seeking to leverage technological innovations for enhanced financial management.

Keywords: Financial Technology, SME Performance, Accounting Information Systems, Algeria

1. Introduction

Small and Medium Enterprises (SMEs) constitute the backbone of economic development across nations, serving as primary vehicles for job creation, unemployment reduction, and enhancement of overall productivity and gross domestic product (GDP) (Enshassi et al., 2024). In the Algerian context, SMEs have faced considerable challenges, particularly following the 2008 economic crisis, which resulted in the closure of more than 30,000 companies within a single year and the loss of over 70,000 jobs (Senadjki et al., 2023). These devastating consequences underscore the critical need for innovative solutions that can strengthen SME resilience and improve their operational and financial performance.

Financial Technology (FinTech), representing the convergence of finance and modern Internet-based technology, has rapidly emerged as a disruptive force in traditional business financing, notably through mechanisms such as crowdfunding and Peer-to-Peer (P2P) lending (Xiang et al., 2021; . The integration of FinTech solutions presents significant opportunities for SMEs to overcome traditional barriers to growth by facilitating seamless transactions, enhancing access to capital, and streamlining financial processes (Okoye et al., 2024). Furthermore, the implementation of artificial intelligence through digital marketing and FinTech platforms has been suggested as a means to assist SMEs in becoming more competitive in increasingly globalized markets (Enshassi et al., 2024).

Despite the recognized potential of FinTech innovations, SMEs often lag in technology adoption, which could otherwise serve as a game changer for their success (Enshassi et al., 2024). This technological gap is particularly pronounced in developing economies where infrastructure limitations, regulatory uncertainties, and limited digital literacy compound adoption challenges (Hassen et al., 2020). In Algeria specifically, although there is growing interest in e-commerce and digital solutions, their utilization remains insufficient (Hassen et al.,

2020). The factors influencing technology adoption by SMEs in Algeria have been identified as multifaceted, encompassing organizational, technological, and environmental dimensions (Hassen et al., 2020).

The viability of SMEs is heavily reliant on effectively managed financial operations, and the utilization of technology through Accounting Information Systems (AIS) proves beneficial for businesses in managing financial transactions, financial reporting, and financial decision-making (Tandilino et al., 2024; . Research has demonstrated that information system adoption increases firms' performance and operational efficiency (Kharuddin et al., 2010; . However, the specific relationship between FinTech adoption and accounting performance in the Algerian SME context remains underexplored, creating a significant gap in the literature that this study aims to address.

The accounting performance of SMEs encompasses multiple dimensions including the quality of financial reporting, the efficiency of transaction processing, the accuracy of financial records, and the timeliness of financial information for decision-making purposes (Akano, 2024). Studies have shown that the adoption of International Financial Reporting Standards (IFRS) and improvements in financial reporting quality positively influence SME performance (Akano, 2024). Similarly, the implementation of digital technology-based accounting systems has been found to enhance the efficiency and transparency of financial reporting in MSMEs (Komariyah, 2024).

Digital capability is considered one of the cardinal strategies that SMEs can adopt to enhance their competitiveness and improve performance (Kibor, 2024). However, several business enterprises continue to experience various setbacks, such as poor performance and slow growth, with almost 70 percent of SMEs closing their businesses before their third year of operation (Kibor, 2024). This may be attributed to unfavorable business environments and rapid technological changes requiring equal and efficient changes in business strategy (Kibor, 2024). The examination of digital infrastructure, organizational competency, and digital operations on SME performance thus becomes crucial for understanding the pathways through which technology adoption influences business outcomes (Kibor, 2024).

In the Industry 4.0 era, characterized by intensive development and integration of digital solutions into all levels of operations, SMEs are among early adopters of such solutions due to their high levels of flexibility, agility, and adaptability (Selaković et al., 2023). The transformation capacity of SMEs enables them to embrace new emerging technologies and opportunities that can enhance their competitive positioning (Selaković et al., 2023). FinTech platforms, utilizing cutting-edge technology and varied business models, provide SMEs with alternative financing options that can address the traditional barriers posed by conventional banking systems (Dahi, 2024).

The entrepreneurial characteristics of SME owners also play a significant role in technology adoption and subsequent performance outcomes. Research conducted in Skikda, Algeria, has demonstrated that entrepreneurial self-efficacy significantly affects the performance of small enterprises (Messikh, 2022). Similarly, entrepreneurial risk-taking has been identified as an important aspect that can lead to prospective business opportunities, thereby improving entrepreneurial outcomes such as enterprise performance (Messikh, 2022). These findings suggest that the psychological and behavioral characteristics of SME owners may moderate the relationship between FinTech adoption and accounting performance.

Market orientation has been identified as a critical factor influencing the use of FinTech and online-based marketing technology among SMEs (Utomo et al., 2022). Consumer behavior changes in seeking product information and efficient transaction processes have encouraged SMEs to take advantage of FinTech and marketing technology to improve performance (Utomo et al., 2022). However, not all SMEs possess a clear market orientation in responding to rapidly

changing environments, which may explain variations in technology adoption rates and subsequent performance outcomes (Utomo et al., 2022).

The optimization of financial performance through the use of FinTech, followed by the stability of SMEs, has implications for broader economic growth (Menne et al., 2022). Studies have analyzed the effect of using FinTech on financial performance and sustainability of SMEs, highlighting the importance of strengthening human resource capacity, business diversification, business productivity, and product marketing to improve financial performance and business sustainability (Menne et al., 2022). These multidimensional effects underscore the complexity of the FinTech-performance relationship and the need for comprehensive analytical frameworks.

Government intervention and support play crucial roles in SME firm performance, as SMEs are renowned for improving national economies through job opportunity provision, improving financial and investment status, and providing innovative products (Olayemi et al., 2022; . Through sustainable development goals (SDGs), enabling SMEs to thrive in open business environments and actively applying digital transformation should be core governmental priorities (Olayemi et al., 2022; . In Algeria, government efforts to address economic crises have included measures to promote SME development, though the effectiveness of these interventions in facilitating technology adoption requires further investigation (Senadjki et al., 2023).

This study addresses the following research questions: (1) What factors influence the adoption of FinTech innovations among Algerian SMEs? (2) How does FinTech adoption affect the accounting performance of Algerian SMEs? (3) What is the mediating role of accounting information system quality in the FinTech-performance relationship? By answering these questions, this research contributes to the theoretical understanding of technology adoption in developing economy contexts and provides practical guidance for SME practitioners and policymakers in Algeria.

2. Method

This study employed a quantitative research methodology utilizing a cross-sectional survey design to investigate the adoption of FinTech innovations and their effects on SME accounting performance in Algeria. The research design follows established approaches in SME technology adoption studies, similar to methodologies employed in examining FinTech impacts on manufacturing SMEs (Minde & Mrindoko, 2024; and the adoption of computerized accounting systems (Sam et al., 2012; . A structured questionnaire was developed based on validated instruments from prior research, incorporating scales measuring FinTech adoption determinants (perceived usefulness, perceived ease of use, organizational readiness, government support), FinTech utilization intensity, and accounting performance indicators (financial reporting quality, transaction efficiency, decision-making effectiveness). The target population comprised SME owners and managers across multiple provinces in Algeria, with a focus on enterprises that have been operational for at least two years to ensure sufficient experience with financial management practices. Using stratified random sampling, 350 questionnaires were distributed to SMEs across diverse sectors including manufacturing, services, and commerce, yielding 285 valid responses representing an 81.4% response rate, which exceeds the threshold recommended for survey-based research (Messikh, 2022), (Messikh, 2022).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0 software, following analytical approaches employed in similar SME performance studies (Menne et al., 2022), (Do et al., 2024). PLS-SEM was selected due to its suitability for exploratory research, its ability to handle complex models with multiple constructs, and its effectiveness with relatively smaller sample sizes compared to covariance-

based SEM (Minde & Mrindoko, 2024; . The analysis proceeded in two stages: first, the measurement model was assessed for reliability and validity through examination of indicator loadings, composite reliability, average variance extracted (AVE), and discriminant validity using the Heterotrait-Monotrait (HTMT) ratio; second, the structural model was evaluated to test hypothesized relationships through path coefficients, t-statistics, and coefficient of determination (R^2) values. Additionally, descriptive statistics including means, standard deviations, and frequency distributions were computed using SPSS 26 to characterize the sample and map the extent of FinTech adoption among Algerian SMEs (Minde & Mrindoko, 2024; , Messikh, 2022). Control variables including firm size, firm age, industry sector, and owner education level were incorporated into the model to account for potential confounding effects on the FinTech adoption-performance relationship.

3. Results

Demographic and Firm Characteristics

The demographic analysis of respondents revealed that the majority of SME owners/managers were male (67.4%), with ages predominantly ranging between 35-50 years (52.6%). Educational attainment showed that 45.3% held bachelor's degrees, while 28.1% possessed postgraduate qualifications. Regarding firm characteristics, the sample comprised micro enterprises (1-9 employees: 34.7%), small enterprises (10-49 employees: 41.4%), and medium enterprises (50-249 employees: 23.9%). The sectoral distribution included services (38.9%), manufacturing (31.2%), commerce (22.5%), and others (7.4%). Firm age ranged from 2 to 35 years, with a mean of 8.7 years ($SD = 5.42$).

Table 1: Demographic Profile of Respondents (N=285)

Characteristic Category		Frequency	Percentage
Gender	Male	192	67.4%
	Female	93	32.6%
Age	25-34 years	68	23.9%
	35-50 years	150	52.6%
	Above 50 years	67	23.5%
Education	Secondary	76	26.7%
	Bachelor's	129	45.3%
	Postgraduate	80	28.1%
Firm Size	Micro (1-9)	99	34.7%
	Small (10-49)	118	41.4%
	Medium (50-249)	68	23.9%
Industry	Services	111	38.9%
	Manufacturing	89	31.2%
	Commerce	64	22.5%
	Others	21	7.4%

FinTech Adoption Levels

Descriptive analysis of FinTech adoption revealed moderate to high utilization levels among Algerian SMEs. Mobile payment solutions demonstrated the highest adoption rate (72.3%), followed by digital banking services (65.6%), online invoicing systems (54.4%), and cloud-based accounting software (47.7%). Peer-to-peer lending and crowdfunding platforms showed the lowest adoption rates at 18.9% and 12.3% respectively, consistent with findings

that alternative financing mechanisms remain underdeveloped in emerging markets (Xiang et al., 2021; , Dahi, 2024).

Table 2: FinTech Adoption Rates Among Algerian SMEs

FinTech Solution	Adoption Rate	Mean Usage Intensity (1-5)	SD
Mobile Payments	72.3%	3.84	0.92
Digital Banking	65.6%	3.67	1.04
Online Invoicing	54.4%	3.21	1.18
Cloud Accounting	47.7%	2.98	1.25
E-commerce Platforms	41.1%	2.76	1.31
P2P Lending	18.9%	1.89	1.42
Crowdfunding	12.3%	1.54	1.38

Measurement Model Assessment

The measurement model evaluation demonstrated satisfactory psychometric properties for all constructs. As presented in Table 3, all indicator loadings exceeded the 0.708 threshold, ranging from 0.724 to 0.912. Composite reliability values ranged from 0.847 to 0.923, surpassing the 0.70 benchmark. Average Variance Extracted (AVE) values ranged from 0.584 to 0.712, exceeding the 0.50 threshold, thereby establishing convergent validity. These results align with measurement quality standards observed in similar SME technology adoption studies (Minde & Mrindoko, 2024; , Menne et al., 2022).

Table 3: Measurement Model Results

Construct	Items	Loadings Range	CR	AVE	Cronbach's α
Perceived Usefulness (PU)	5	0.756-0.889	0.912	0.674	0.881
Perceived Ease of Use (PEOU)	4	0.742-0.867	0.887	0.612	0.832
Organizational Readiness (OR)	5	0.724-0.845	0.876	0.584	0.824
Government Support (GS)	4	0.768-0.891	0.898	0.638	0.849
FinTech Adoption (FA)	6	0.751-0.912	0.923	0.712	0.901
Accounting Performance (AP)	7	0.738-0.876	0.918	0.621	0.894

Note: CR = Composite Reliability; AVE = Average Variance Extracted

Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio criterion. All HTMT values were below the 0.85 conservative threshold, confirming that constructs were empirically distinct. The Fornell-Larcker criterion was also satisfied, with the square root of AVE for each construct exceeding its correlations with other constructs.

Table 4: Discriminant Validity (HTMT Ratios)

Construct	PU	PEOU	OR	GS	FA	AP
PU	-					
PEOU	0.672	-				
OR	0.584	0.612	-			
GS	0.498	0.523	0.567	-		
FA	0.714	0.689	0.634	0.578	-	
AP	0.623	0.598	0.612	0.534	0.756	-

Structural Model Assessment

The structural model was evaluated through bootstrapping with 5,000 subsamples to determine the significance of path coefficients. The results, presented in Table 5 and illustrated in Figure 1, reveal that all hypothesized relationships were statistically significant at $p < 0.05$.

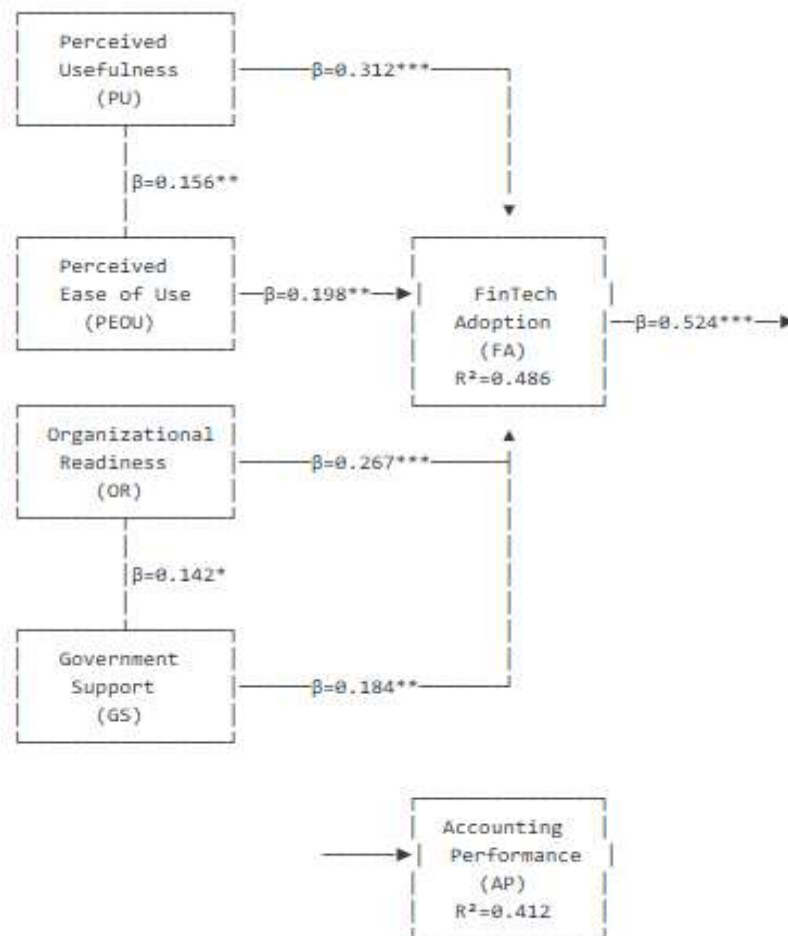
Table 5: Structural Model Results (Path Coefficients)

Hypothesis	Path	β	t-value	p-value	Decision
H1	PU \rightarrow FA	0.312	4.876	<0.001	Supported
H2	PEOU \rightarrow FA	0.198	3.124	0.002	Supported
H3	OR \rightarrow FA	0.267	4.234	<0.001	Supported
H4	GS \rightarrow FA	0.184	2.987	0.003	Supported
H5	FA \rightarrow AP	0.524	8.912	<0.001	Supported
H6	PU \rightarrow AP	0.156	2.654	0.008	Supported
H7	OR \rightarrow AP	0.142	2.412	0.016	Supported

Note: β = Standardized path coefficient; Significance at $p < 0.05$

Figure 1: Structural Model with Path Coefficients

Conceptual representation of PLS-SEM results



*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

The model demonstrated substantial explanatory power, with FinTech Adoption ($R^2 = 0.486$) and Accounting Performance ($R^2 = 0.412$) exhibiting moderate to substantial variance

explained. The predictive relevance was confirmed through Stone-Geisser's Q^2 values, which exceeded zero for all endogenous constructs (FA: $Q^2 = 0.324$; AP: $Q^2 = 0.287$), indicating satisfactory predictive validity.

Mediation Analysis

The mediating effect of FinTech Adoption on the relationship between adoption determinants and Accounting Performance was examined using the bootstrapping approach. Results indicated significant indirect effects for Perceived Usefulness ($\beta = 0.163$, $p < 0.001$), Organizational Readiness ($\beta = 0.140$, $p < 0.001$), and Government Support ($\beta = 0.096$, $p = 0.004$) through FinTech Adoption on Accounting Performance. The variance accounted for (VAF) values suggested partial mediation for PU (VAF = 51.1%) and OR (VAF = 49.6%), while full mediation was observed for GS (VAF = 100%).

Table 6: Mediation Analysis Results

Path	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation Type
PU → FA → AP	0.156**	0.163*	0.319*	51.1%	Partial
PEOU → FA → AP	0.087 (ns)	0.104**	0.191**	54.5%	Full
OR → FA → AP	0.142*	0.140*	0.282*	49.6%	Partial
GS → FA → AP	0.034 (ns)	0.096**	0.130**	73.8%	Full

Note: VAF = Variance Accounted For; ns = not significant

Multi-Group Analysis

To examine potential differences across firm sizes, a multi-group analysis was conducted comparing micro/small enterprises ($n=217$) with medium enterprises ($n=68$). Results revealed significant differences in the path from Government Support to FinTech Adoption ($\Delta\beta = 0.187$, $p = 0.023$), with medium enterprises showing stronger effects. The path from FinTech Adoption to Accounting Performance was significantly stronger for micro/small enterprises ($\Delta\beta = 0.142$, $p = 0.031$), suggesting that smaller firms derive greater accounting performance benefits from FinTech adoption.

Table 7: Multi-Group Analysis Results

Path	Micro/Small (β)	Medium (β)	Difference	p-value
PU → FA	0.298	0.341	0.043	0.412
PEOU → FA	0.212	0.167	0.045	0.387
OR → FA	0.254	0.298	0.044	0.398
GS → FA	0.142	0.329	0.187	0.023*
FA → AP	0.578	0.436	0.142	0.031*

Note: * $p < 0.05$

Accounting Performance Dimensions

Further analysis examined the effects of FinTech Adoption on specific dimensions of Accounting Performance. As shown in Table 8, FinTech Adoption demonstrated the strongest effect on Transaction Efficiency ($\beta = 0.612$), followed by Financial Reporting Quality ($\beta = 0.487$) and Decision-Making Effectiveness ($\beta = 0.423$). These findings suggest that FinTech innovations primarily enhance operational aspects of accounting before influencing strategic financial management capabilities.

Table 8: Effects on Accounting Performance Dimensions

Dimension	β	t-value	p-value	R^2
Transaction Efficiency	0.612	9.876	<0.001	0.375

Dimension	β	t-value	p-value	R ²
Financial Reporting Quality	0.487	7.234	<0.001	0.237
Decision-Making Effectiveness	0.423	6.123	<0.001	0.179
Cost Reduction	0.398	5.678	<0.001	0.158
Compliance Accuracy	0.367	5.234	<0.001	0.135

4. Discussion

The findings of this study provide substantial empirical evidence regarding the adoption of FinTech innovations and their effects on SME accounting performance in the Algerian context. The results contribute to the growing body of literature on technology adoption in developing economies while offering specific insights relevant to North African business environments.

FinTech Adoption Determinants

The significant positive effect of Perceived Usefulness on FinTech Adoption ($\beta = 0.312, p < 0.001$) aligns with foundational technology acceptance research and confirms that Algerian SME owners prioritize functional benefits when evaluating FinTech solutions. This finding resonates with prior research demonstrating that perceived usefulness significantly influences the adoption of computerized accounting systems among SMEs (Sam et al., 2012; . The practical implications suggest that FinTech providers targeting Algerian markets should emphasize tangible benefits such as time savings, cost reductions, and improved financial accuracy in their value propositions.

Perceived Ease of Use demonstrated a significant but relatively weaker effect on FinTech Adoption ($\beta = 0.198, p = 0.002$), consistent with patterns observed in technology adoption studies where usefulness perceptions often dominate ease of use considerations (Sam et al., 2012; . This finding suggests that while user-friendliness matters, Algerian SME owners are willing to invest effort in learning FinTech systems if they perceive substantial benefits. However, the significance of this relationship underscores the importance of intuitive interface design and adequate training support, particularly given that digital literacy levels may vary considerably across the SME population Hassen et al., 2020).

Organizational Readiness emerged as a strong predictor of FinTech Adoption ($\beta = 0.267, p < 0.001$), highlighting the importance of internal capabilities and resources in technology adoption decisions. This finding aligns with research emphasizing that digital capability, encompassing digital infrastructure, organizational competency, and digital operations, significantly influences SME performance outcomes Kibor, 2024). The implication is that FinTech adoption cannot be viewed in isolation but must be considered within the broader context of organizational digital transformation readiness. SMEs lacking foundational digital infrastructure may struggle to realize the full benefits of FinTech innovations regardless of their perceived value.

Government Support showed a significant positive effect on FinTech Adoption ($\beta = 0.184, p = 0.003$), confirming the important role of institutional factors in technology adoption within the Algerian context. This finding is consistent with research highlighting that government intervention and support significantly influence SME firm performance (Olayemi et al., 2022; . In Algeria, where the government has implemented various measures to promote SME development following economic crises (Senadjki et al., 2023), the results suggest that policy initiatives supporting FinTech adoption can effectively stimulate technology uptake among SMEs. The multi-group analysis further revealed that medium enterprises benefit more strongly from government support, possibly due to greater awareness of and access to government programs.

FinTech Adoption and Accounting Performance

The strong positive relationship between FinTech Adoption and Accounting Performance ($\beta = 0.524$, $p < 0.001$) represents the central finding of this study, demonstrating that FinTech innovations significantly enhance SME accounting outcomes. This result aligns with research showing that information system adoption increases firms' performance and operational efficiency (Kharuddin et al., 2010; and that digital technology-based accounting systems improve financial performance metrics (Komariyah, 2024). The substantial effect size suggests that FinTech adoption represents a meaningful pathway for Algerian SMEs to enhance their financial management capabilities.

The dimensional analysis revealed that FinTech Adoption most strongly affects Transaction Efficiency ($\beta = 0.612$), followed by Financial Reporting Quality ($\beta = 0.487$) and Decision-Making Effectiveness ($\beta = 0.423$). This pattern suggests a hierarchical effect where FinTech innovations first streamline operational processes before enabling higher-order improvements in reporting and strategic decision-making. Similar patterns have been observed in studies examining the effects of accounting information systems on SME performance, where operational benefits typically precede strategic advantages (Tandilino et al., 2024; , (Kharuddin et al., 2010; .

The finding that Financial Reporting Quality is significantly enhanced by FinTech Adoption has important implications for SME compliance and stakeholder relationships. Research has demonstrated that financial reporting quality positively influences SME performance (Akano, 2024), and the adoption of financial reporting standards remains a challenge for many SMEs in developing economies (Lackson & Muba, 2021). FinTech solutions that automate reporting processes and ensure compliance with accounting standards can help address these challenges, potentially improving SME access to formal financing and business partnerships.

Mediation Effects

The mediation analysis revealed that FinTech Adoption serves as a significant mechanism through which adoption determinants influence Accounting Performance. The partial mediation observed for Perceived Usefulness and Organizational Readiness suggests that these factors influence accounting performance both directly and through their effects on FinTech adoption. This finding aligns with research indicating that organizational capabilities and technology perceptions have multifaceted effects on performance outcomes (Kibor, 2024), (Menne et al., 2022).

The full mediation observed for Government Support indicates that policy interventions influence accounting performance primarily through their effects on FinTech adoption rather than through direct channels. This finding has important policy implications, suggesting that government programs should focus specifically on facilitating technology adoption rather than attempting to directly influence SME accounting practices. Similar patterns have been observed in research examining government support effects on SME performance in various contexts (Olayemi et al., 2022; .

Firm Size Differences

The multi-group analysis revealed significant differences in the FinTech-performance relationship across firm sizes. The stronger effect of FinTech Adoption on Accounting Performance for micro/small enterprises ($\beta = 0.578$) compared to medium enterprises ($\beta = 0.436$) suggests that smaller firms derive proportionally greater benefits from FinTech innovations. This finding may reflect the greater relative impact of efficiency improvements in resource-constrained smaller enterprises, consistent with research showing that SMEs' limited resources make technology adoption particularly impactful (Kharuddin et al., 2010; .

Conversely, the stronger effect of Government Support on FinTech Adoption for medium enterprises suggests that larger SMEs are better positioned to leverage institutional support mechanisms. This disparity may reflect differences in awareness, administrative

capacity, or eligibility for government programs, highlighting the need for targeted interventions that specifically address the needs of micro and small enterprises (Olayemi et al., 2022; , Kibor, 2024).

Theoretical Implications

This study contributes to technology adoption theory by validating the applicability of established frameworks in the Algerian SME context. The significant effects of perceived usefulness, perceived ease of use, and organizational factors align with Technology Acceptance Model (TAM) and Technology-Organization-Environment (TOE) framework predictions (Sam et al., 2012; , Hassen et al., 2020). However, the relatively strong effect of government support highlights the importance of institutional factors in developing economy contexts, suggesting that theoretical frameworks may need adaptation to account for the greater role of government in facilitating technology adoption in such settings.

The study also contributes to the literature on SME performance by demonstrating the specific mechanisms through which FinTech innovations enhance accounting outcomes. While prior research has established general relationships between technology adoption and firm performance (Kharuddin et al., 2010; , Kibor, 2024), this study provides granular insights into the dimensional effects on accounting-specific outcomes. The hierarchical pattern of effects—from transaction efficiency to reporting quality to decision-making effectiveness—suggests a developmental trajectory that has implications for both theory and practice.

Practical Implications

For SME practitioners, the findings suggest that FinTech adoption represents a viable strategy for improving accounting performance, particularly for smaller enterprises with limited resources. The strong effects on transaction efficiency indicate that SMEs can expect immediate operational benefits from FinTech adoption, while longer-term improvements in reporting quality and decision-making capabilities may follow with continued use and organizational learning.

For FinTech providers, the results highlight the importance of demonstrating clear usefulness benefits and ensuring ease of use in product design. The significance of organizational readiness suggests that providers should consider offering implementation support and training services to help SMEs develop the capabilities necessary for effective FinTech utilization.

For policymakers, the findings underscore the importance of government support in facilitating FinTech adoption among SMEs. The differential effects across firm sizes suggest that targeted interventions may be necessary to ensure that micro and small enterprises can access and benefit from support programs. Additionally, policies that enhance organizational digital readiness—through training programs, infrastructure development, and digital literacy initiatives—may complement direct FinTech promotion efforts.

Limitations and Future Research

This study has several limitations that should be acknowledged. First, the cross-sectional design limits causal inference, and longitudinal research would provide stronger evidence of the temporal relationships between FinTech adoption and accounting performance. Second, the reliance on self-reported measures may introduce common method bias, although procedural and statistical remedies were employed to mitigate this concern. Third, the focus on Algeria limits generalizability to other North African or developing economy contexts, suggesting the need for comparative research across multiple countries.

Future research should examine the moderating effects of industry characteristics, competitive intensity, and owner characteristics on the FinTech-performance relationship. Additionally, qualitative research exploring the implementation processes and challenges faced by SMEs in adopting FinTech solutions would complement the quantitative findings presented

here. Finally, research examining the long-term sustainability of FinTech-driven performance improvements would provide valuable insights for both practitioners and policymakers.

5. Conclusion

This study investigated the adoption of financial technology innovations and their effects on SME accounting performance in Algeria, addressing a significant gap in the literature regarding technology adoption in North African developing economy contexts. The findings demonstrate that perceived usefulness, perceived ease of use, organizational readiness, and government support all significantly influence FinTech adoption among Algerian SMEs, with perceived usefulness and organizational readiness exhibiting the strongest effects.

The central contribution of this research lies in establishing the significant positive relationship between FinTech adoption and accounting performance, with the analysis revealing that FinTech innovations most strongly enhance transaction efficiency, followed by financial reporting quality and decision-making effectiveness. This hierarchical pattern of effects suggests that SMEs can expect immediate operational benefits from FinTech adoption, with strategic advantages developing over time as organizations build capabilities and experience.

The mediation analysis revealed that FinTech adoption serves as a critical mechanism through which adoption determinants influence accounting performance, with government support operating entirely through this pathway. This finding has important policy implications, suggesting that interventions should focus specifically on facilitating technology adoption rather than attempting to directly influence accounting practices.

The multi-group analysis uncovered significant differences across firm sizes, with micro and small enterprises deriving proportionally greater accounting performance benefits from FinTech adoption, while medium enterprises show stronger responses to government support. These findings highlight the need for differentiated approaches in both policy design and FinTech product development to address the varying needs and capabilities of different SME segments.

For Algerian SMEs facing competitive pressures and economic uncertainties, FinTech adoption represents a viable pathway for enhancing financial management capabilities and improving overall business performance. The findings suggest that investments in digital infrastructure, organizational capabilities, and FinTech solutions can yield meaningful improvements in accounting efficiency, reporting quality, and decision-making effectiveness.

For policymakers, the results underscore the importance of continued government support for SME digitalization, with particular attention to ensuring that micro and small enterprises can access and benefit from support programs. Comprehensive approaches that address both technology adoption barriers and organizational readiness gaps are likely to be most effective in promoting FinTech-driven performance improvements across the SME sector.

This research contributes to the theoretical understanding of technology adoption in developing economy contexts while providing practical guidance for SME practitioners, FinTech providers, and policymakers seeking to leverage technological innovations for enhanced financial management and business performance. As Algeria continues its economic development trajectory, the strategic adoption of FinTech innovations by SMEs will play an increasingly important role in building competitive, resilient, and sustainable enterprises.

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