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Factors influencing the adoption of financial technology by small and medium-sized enterprises in Beijing, China

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Abstract

In the digital age, financial technology (fintech) plays a pivotal role in enhancing the efficiency, productivity, and financial inclusion of small and medium-sized enterprises (SMEs). Despite its potential, adoption among SMEs remains uneven, particularly in regions with diverse levels of digital readiness. This study investigates the factors influencing the intention of SMEs in Beijing to adopt fintech, focusing on technological factors, perceived usefulness, and perceived ease of use. Guided by the Technology Acceptance Model (TAM), a quantitative research design was employed, and data were collected from 384 SME respondents using structured surveys. Multiple regression analysis revealed that all three factors significantly influence fintech adoption, with perceived ease of use being the most prominent. The model explains 85.9% of the variance in adoption intention. The findings offer practical insights for fintech providers, policymakers, and industry stakeholders to develop more user-centric, secure, and accessible financial solutions. The study contributes to the broader discourse on digital innovation, financial accessibility, and inclusive economic growth.

Keywords: Business digitalization, Digital innovation, Economic empowerment, Financial inclusion, Financial technology, Fintech adoption, SMEs, Technology acceptance, User experience.

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1. Introduction

The rise of financial technology (Fintech) has revolutionized the global financial landscape, particularly following the 2008 financial crisis [1]. Driven by advancements in mobile technology, artificial intelligence, big data analytics, and internet technology, Fintech has led to the creation of digital payment systems, mobile wallets, cryptocurrencies, and

enhanced financial security measures [2]. By 2023, the global Fintech market was valued at $159 billion, with projections to reach $324 billion by 2026, growing at a compound annual growth rate (CAGR) of 26.87% [3]. Fintech has disrupted traditional financial institutions, introducing new opportunities for innovation, particularly in lending, insurance, and wealth management [4]. Regions worldwide have tailored Fintech solutions to meet local needs. For instance, Klarna's "buy now, pay later" model has gained significant traction in Europe, while in the U.S., robo-advisors like Wealthfront manage over $400 billion in assets [5]. In India, Paytm has over 350 million users, fostering financial inclusion, and in China, platforms like WeChat Pay and Alipay dominate, with over 1.2 billion active users by 2022 [6]. China's push for digital currencies, such as the Digital Currency Electronic Payment (DCEP), further solidifies its leadership in the global fintech space. Despite these successes, concerns about fraud and market integrity have prompted regulatory measures.

SMEs are crucial for economic recovery, accounting for 99% of businesses and 70-80% of global employment [7]. However, they face significant financing challenges due to information asymmetry, which limits their access to capital. Governments have introduced financial support programs, such as the $1 trillion SME loan package in the EU and the $350 billion Paycheck Protection Program (PPP) in the U.S [8]. Despite these initiatives, transparency issues persist, hindering effective policy implementation. SMEs are often hindered by financial difficulties related to information asymmetry, which limits their access to financing and resources. This issue has been exacerbated by the economic disruptions caused by the pandemic [9].

Moreover, the intrinsic opacity of SMEs, stemming from the lack of easily accessible and transparent information, continues to hinder the effectiveness of policies designed to aid them [10]. The challenges posed by the pandemic have rendered traditional financial support approaches insufficient. To overcome these obstacles, Hossain [8] argues that new, innovative, and unorthodox solutions are required to address the pressing concerns facing SMEs. This highlights the need for more efficient and accessible financial technologies that could help bridge the information gap and facilitate smoother access to financing for SMEs in the post-pandemic era [11]. Given these challenges, this study aims to investigate the adoption of Fintech by SMEs. Specifically, it will (1) explore the influence of technological factors on Fintech adoption, (2) examine how perceived usefulness impacts adoption, and (3) assess the role of perceived ease of use in the decision-making process.

2. Literature Review

2.1. Adoption of Financial Technology (Fintech)

The adoption of financial technology (Fintech) refers to the process by which individuals, businesses, and institutions integrate and embrace technological innovations in the financial services sector [12]. Past studies have defined Fintech adoption as the acceptance and use of digital financial solutions, such as mobile payments, digital wallets, blockchain, peer-to-peer lending, and robo-advisory services, to enhance financial activities and operations [13]. Fintech adoption is influenced by various factors, including technological advancements, user perceptions, and socio-economic conditions, making it a dynamic process that varies across regions and market conditions [14].

The evolution of Fintech has occurred in several phases. Fintech 1.0 (1866-1967) laid the foundation with infrastructure and computerization, enabling the creation of a global financial network. Fintech 2.0 (1967-2008) marked the digitalization of finance, particularly with the rise of internet banking. Fintech 3.0 (2008-present) introduced innovations such as mobile finance, online peer-to-peer lending, and crowdfunding, driven by the advent of mobile technology and cloud computing. The more recent phase, Fintech 4.0, emphasizes the integration of Fintech firms with traditional financial institutions, enabling innovations like digital currencies and decentralized finance [11]. Each phase has progressively enhanced the accessibility and functionality of financial services.

Past studies have identified several key drivers influencing the adoption of financial technology (Fintech), with technological factors being paramount [13]. Advances in mobile technology, cloud computing, big data analytics, and artificial intelligence (AI) have facilitated easier access to financial services, enabling innovations such as mobile payments and digital wallets, such as Alipay and WeChat Pay in China, which have significantly increased financial inclusion [15]. Blockchain technology, known for its security and transaction efficiency, further enhances Fintech adoption by addressing concerns about transparency and security [16]. Security remains a critical factor in Fintech adoption, as users are particularly concerned about data privacy, fraud, and cyber threats. Blockchain's decentralized nature offers a robust solution to these concerns, ensuring secure and transparent transactions [17]. Additionally, perceived usefulness, a core concept from the Technology Acceptance Model (TAM), drives Fintech adoption, as users are more likely to embrace solutions that improve financial activities, reduce costs, and enhance efficiency, as seen in the rise of neobanks and robo-advisors [18]. Perceived ease of use also plays a critical role, with user-friendly interfaces and seamless experiences boosting engagement and adoption, particularly in mobile payments and digital wallets. Nonetheless, the adoption of Fintech continues to expand globally, driven by the increasing availability of innovative, user-friendly, and secure financial technologies [19].

2.2. Technological Factors

The adoption of financial technology (Fintech) by small and medium-sized enterprises (SMEs) is heavily influenced by several technological factors, most notably system compatibility and security [20]. System compatibility refers to the extent to which Fintech solutions align with an SME's existing technological infrastructure, such as enterprise resource planning (ERP) systems and other operational software [21]. If Fintech solutions integrate seamlessly with these systems, SMEs are more likely to adopt them, as the adoption process becomes less disruptive and more efficient [22]. Research by Fang and

Wen [23] suggests that Fintech solutions with high compatibility not only enhance operational efficiency but also make the transition to digital finance smoother for SMEs.

Security is another critical factor driving Fintech adoption. SMEs are particularly concerned with the protection of sensitive financial and customer data, as any security vulnerabilities could lead to significant risks, such as fraud or data breaches [24]. The robustness of security features, including encryption protocols and authentication mechanisms, plays a pivotal role in the decision-making process of SME executives [25]. As SMEs often operate in highly competitive markets, the perceived security of a Fintech solution directly impacts their trust and willingness to adopt it. Moreover, SMEs' decisions to adopt Fintech are influenced by their technological context, including the availability of technical support, the adaptability of their current systems to Fintech solutions, and the scalability of these technologies [25]. Given that SMEs typically face resource constraints, they are more likely to invest in Fintech solutions that promise scalability and long-term viability without requiring excessive upfront investment or major system overhauls.

Hypothesis 1: Technological factors significantly influences the adoption of financial technology by Small and Medium-sized Enterprises.

2.3. Perceived Usefulness

Perceived Usefulness plays a critical role in influencing the acceptance of financial technology (Fintech) by small and medium-sized enterprises (SMEs) [26]. Defined by Davis [27], perceived usefulness refers to the extent to which individuals or organizations believe that using a particular technology will enhance their business performance. In the case of SMEs, perceived usefulness is particularly important because these businesses often face resource constraints and must carefully evaluate the value that Fintech solutions can bring to their operations [28]. For SMEs, the perceived usefulness of Fintech encompasses various tangible benefits that directly impact business operations. These benefits include improving financial management, increasing operational efficiency, enhancing transaction processing, and streamlining accounting systems [29]. For instance, Fintech solutions that automate accounting processes can save SMEs significant time and reduce human errors. Studies have shown that technology adoption in SMEs is largely driven by the desire to improve financial processes and achieve better cost efficiency [30].

Additionally, Fintech solutions offering real-time financial insights can help SME managers make more informed decisions, which is crucial for businesses operating with limited resources [31]. Research by Omokhoa et al. [32] emphasizes that when SMEs perceive Fintech as a tool that enhances financial visibility and helps with cash flow management, they are more likely to adopt these technologies. Similarly, a study by Chen [33] has highlighted that the use of digital payment platforms and invoicing tools in SMEs has been associated with faster processing times, reduced administrative overhead, and improved customer satisfaction. Moreover, the integration of Fintech solutions such as mobile payment systems and digital wallets offers SMEs a significant advantage in expanding their customer base, particularly in the e-commerce sector [34]. Mobile payments, for example, allow businesses to reach more customers by enabling transactions on a broader scale, even in regions with limited access to traditional banking infrastructure [35]. In essence, the perceived usefulness of Fintech solutions depends on their ability to provide SMEs with measurable benefits that enhance financial management, customer engagement, and overall business efficiency. As such, the more SME executives believe that Fintech will help them achieve these outcomes, the more likely they are to adopt the technology.

Hypothesis 2: Perceived Usefulness significantly influences the adoption of financial technology by Small and Medium-sized Enterprises.

2.4. Perceived Ease of Use

Perceived Ease of Use is a crucial determinant in the adoption of financial technology (Fintech) by small and medium-sized enterprises (SMEs). Defined by Davis [27] in the Technology Acceptance Model (TAM), Perceived Ease of Use refers to the degree to which potential adopters believe that using a particular technology will be free of effort and easy to use [36]. For SMEs, the ease with which Fintech solutions can be integrated into their existing operations and the simplicity of their use are key factors that influence adoption decisions. SMEs, often constrained by limited resources, are particularly sensitive to the level of complexity involved in implementing new technologies, as they cannot afford prolonged learning curves or costly training programs for their staff [18].

Perceived Ease of Use encompasses several factors that directly impact how SMEs evaluate Fintech solutions [37]. These include the simplicity of the user interface, the intuitiveness of the technology, compatibility with existing systems, and the ease of training staff to operate the technology. Solutions that are easy to integrate with existing enterprise resource planning (ERP) systems or accounting software are more likely to be adopted by SMEs because they minimize disruption to business operations and streamline day-to-day activities [38]. According to Warokka et al. [39], ease of use is one of the most important factors for SMEs when adopting new technologies, as it directly influences how quickly staff can adapt to and effectively use the system. Research has shown that perceived ease of use significantly enhances the likelihood of technology adoption across various sectors, including hospitality, healthcare, and retail.[40].

In the context of SMEs, Hasan et al. [26] demonstrated that technologies that are easy to use and require minimal effort to implement tend to have higher acceptance rates. Specifically, Fintech solutions that offer intuitive interfaces and do not require complex configurations or lengthy training programs are more likely to gain traction among SME managers and employees [41]. For instance, digital invoicing systems and mobile payment platforms that provide straightforward setups and clear user instructions have been widely adopted by SMEs due to their simplicity and convenience. Furthermore, studies have indicated that the adoption of Fintech is more successful when the technology is compatible with SMEs' existing infrastructure, making it easier for them to integrate without significant operational disruptions [42]. This

compatibility reduces the perceived effort associated with adoption, as SMEs do not need to overhaul their entire technological ecosystem to implement Fintech solutions. Therefore, the perceived ease of use of Fintech solutions is a critical factor for SMEs, as it directly impacts their willingness to adopt new technologies. When Fintech solutions are user-friendly, simple to integrate, and require minimal effort to operate, SMEs are more likely to adopt them, resulting in smoother transitions and greater operational efficiency.

Hypothesis 3: The perceived ease of use significantly influences the adoption of financial technology by Small and Medium-sized Enterprises.

2.5. Theoretical Background

This study is grounded in two prominent theories: the Technology Acceptance Model (TAM) and the Technology-Organization-Environment (TOE) framework, both of which provide a robust foundation for understanding the factors influencing the adoption of financial technology (Fintech) among small and medium-sized enterprises (SMEs).

The Technology Acceptance Model (TAM), developed by Davis [27], is widely used to examine the adoption of technology. TAM suggests that two key constructs, perceived ease of use and perceived usefulness, determine users' attitudes and behaviors toward adopting new technologies [43]. Perceived ease of use refers to how effortless and user-friendly the technology is, while perceived usefulness reflects the degree to which the technology improves efficiency or provides tangible benefits. TAM's simplicity and clarity make it an ideal model for studying SMEs, where understanding the decision-making process of executives and managers is crucial [36]. This model has been validated across various domains and continues to be effective in predicting technology adoption intentions. In the context of Fintech adoption among SMEs, TAM enables a focused exploration of how these two factors influence the willingness of SMEs to integrate Fintech solutions into their operations. Given that the model's constructs are well-defined and measurable, it allows for precise data collection and offers strong predictive capabilities, making it particularly useful for understanding Fintech adoption among SMEs. [44].

The TOE (Technology-Organization-Environment) model, developed by Tornatzky and Fleischer [45], complements TAM by incorporating a broader perspective [46]. It examines the interaction between technological, organizational, and environmental factors in the adoption process. The technological dimension focuses on the compatibility, complexity, and perceived benefits of the technology [47]. The organizational dimension includes factors such as company size, resources, and readiness to change, while the environmental dimension addresses external factors such as market competition, regulatory requirements, and technological trends [48]. The TOE model is particularly valuable for analyzing why some SMEs are more successful in adopting Fintech than others, providing insights into how organizational resources and external pressures influence adoption decisions. For example, SMEs with greater technological infrastructure and resources are more likely to adopt Fintech solutions, especially when regulatory frameworks and market trends support such innovations [49].

By integrating both TAM and TOE, this study captures both individual-level perceptions (ease of use and usefulness) and broader organizational and environmental factors. These theories provide valuable insights into the drivers and barriers to Fintech adoption, offering guidance for promoting its uptake in SMEs.

2.6. Research Framework

Figure 1 shows the research framework of this study. It reveals the relationship between the independent variables (Technological Factors, Perceived Usefulness, Perceived Ease of Use) and the dependent variable (Adoption of Financial Technology).

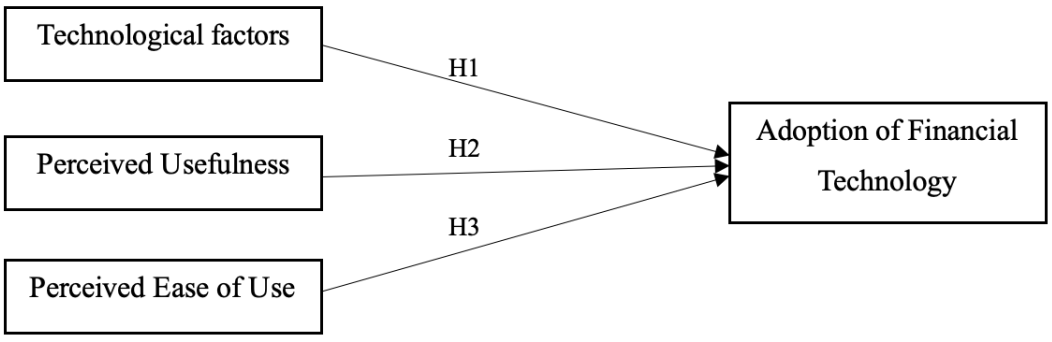

Figure 1.
Research framework.

3. Research Methodology

This study adopts a quantitative research approach, utilizing surveys to collect data from small and medium-sized enterprises (SMEs) in Beijing, China. The survey focuses on understanding the factors influencing the adoption of financial technology (Fintech), with independent variables including technological factors, organizational factors, perceived

usefulness, and perceived ease of use. SME performance is the dependent variable. Statistical methods such as descriptive statistics and regression analysis will be used to analyze the data and identify key relationships between the variables.

3.1. Population and Sampling

The target population consists of SMEs in Beijing, totaling approximately 1.8518 million (Beijing Municipal Bureau of Statistics). Using Krejcie and Morgan [50] guidelines, a sample size of 400 participants is chosen to ensure reliability, accounting for non-responses. A 95% confidence level and a 5% margin of error yield a calculated sample size of 384, further confirming the appropriateness of 400. Participants are selected from various SME sectors, focusing on employees and management, with demographic variables such as gender, age, and position verified through the survey form. This sample size ensures a representative understanding of Fintech adoption within SMEs in Beijing [51].

3.2. Research Instrument

The study is quantitative in nature and consists of 29 questions. The first section gathers demographic information about the respondents, including age, gender, years of work experience, educational background, and current position in their respective SMEs in Beijing. Sections B and C of the questionnaire focus on key factors influencing Fintech adoption, including the dependent variable (DV) of Fintech adoption and three independent variables (IVs): technological factors, perceived usefulness, and perceived ease of use. These variables have been adapted from prior research to ensure relevance and accuracy. The questionnaire employs closed-ended questions, and respondents are asked to indicate their level of agreement or disagreement using a five-point Likert scale, where 1 represents "strongly disagree" and 5 represents "strongly agree." This structured approach enables participants to provide detailed insights into the factors affecting Fintech adoption [52]

Table 1.
Questionnaire design.

Section	Variable	Items	Source	Adapt/Adopt
A	Demographic Profile	6		Adapted
B (Independent Variable)	Technological Factors	7	Putra and Santoso [53]	Adapted
	Perceived Usefulness	6	Herzallah and Mukhtar [54]	Adapted
	Perceived Ease of Use	5	Herzallah and Mukhtar [54]	Adapted
C (Dependent Variable)	Adoption of Financial Technology	5	Wu and Chen [55]	Adapted

3.3. Analysis Tool

Data were analyzed using SPSS through a structured three-stage process: preliminary testing, hypothesis testing, and supporting analyses. Preliminary assessments evaluated construct validity and reliability: the Kaiser-Meyer-Olkin measure (KMO ≥ 0.6) and Bartlett's test confirmed sampling adequacy; exploratory factor analysis retained items with loadings ≥ 0.6; and Cronbach's alpha ($\alpha \geq 0.7$) established internal consistency. All variables were measured on five-point Likert scales. For hypothesis testing, multiple regression models quantified the impact of technological factors, perceived usefulness, and perceived ease of use on Fintech adoption; an R^2 above 0.5 indicated strong explanatory power. Analysis of variance (ANOVA) compared group means, with relationships deemed significant at $p < 0.05$ (F-test). Finally, beta coefficients assessed the strength and direction of each independent variable's effect on adoption. This comprehensive approach ensured robust validation of the instruments and rigorous testing of the study's hypotheses [56].

4. Results and Discussion

Table 2 summarizes the demographic characteristics of the 384 survey participants retained for analysis. The sample comprises a slight majority of male respondents and predominantly mid-career professionals, with substantial representation from long-established firms. Executive and assistant manager levels are most prevalent, and educational attainment is uniformly high, with all participants holding tertiary qualifications. Departmentally, transportation and finance are the largest groups. This distribution provides a representative cross-section of Beijing's SME workforce for examining Fintech adoption.

Table 2.
Respondents' demographic profile.

	Variables	Frequency	Percentage (%)
Gender	Male	216	56.3
	Female	168	43.8
Age	18-25	34	8.9
	26-35	106	27.6
	36-45	146	38
	46-55	98	25.5
Company number of years in operation	< 5 years	32	8.3
	6 yrs to 10 yrs	53	13.8
	11 yrs to 15 yrs	143	37.2
	> 15 yrs	156	40.6
Position	Executive	121	31.5
	Sr executive	104	27.1
	Assistant Manager	108	28.1
	Manager	27	7
	Sr Manager	24	6.3
Education Level	High school	0	0
	Diploma	0	0
	Bachelor's Degree	147	38.3
	Master	110	28.6
	PhD	127	33.1
Which department are you from?	Operations	26	6.8
	Manufacturing	69	18
	Transplantation	110	28.6
	Finance	105	27.3
	HR	74	19.3

4.1. Reliability Test Result

The internal consistency of the survey instrument was evaluated using Cronbach's Alpha for each construct and for the overall scale. As summarized in Table 1, all individual constructs and the combined set of items exceed the 0.70 threshold, indicating excellent reliability. With Cronbach's Alpha values ranging from 0.944 to 0.959 for individual constructs and 0.951 for the full 23-item instrument, the questionnaire demonstrates strong internal consistency and is well suited for further statistical analysis [57].

Table 3.
Reliability test result.

Variables	Construct	Number of Items	Cronbach's Alpha
Dependent Variable	Adoption of Fintech (Dependent)	5	0.944
Independent Variable	Technological Factors	7	0.959
Independent Variable	Perceived Usefulness	6	0.952
Independent Variable	Perceived Ease of Use	5	0.944
Overall variables		23	0.951

4.2. Multiple Regression

The multiple regression analysis indicates a strong relationship between the independent variables and the adoption of digital insurance services, with an R value of 0.927 [33]. The R^2 value of 0.859 suggests that 85.9% of the variance in fintech adoption is explained by technological factors, perceived usefulness, and perceived ease of use, while 14.1% remains unexplained. This high R^2 demonstrates the model's strong explanatory power (Table 4).

Table 4.
Multiple regression.

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0.927[a]	0.859	0.858	0.4

Note: a. Predictors: (Constant), IV3, IV2, IV1.

4.3. Analysis of Variance (ANOVA)

The investigation into the factors affecting the intention to utilize digital insurance services employs analysis of variance (ANOVA) to discern statistically significant mean disparities among the variables. The P-value derived from the ANOVA analysis serves as an indicator of substantial mean differences between the groups. At a 95% confidence level, if the P-value exceeds 0.05 or the F-ratio approximates one, it suggests an absence of noteworthy differences, thus leading to

the acceptance of the null hypothesis [58]. In the study, the obtained significant value (P-value) for the means of both the dependent and independent variables is less than 0.001, with an F-ratio of 770.014 (as shown in Table 5). This outcome underscores the significant influence of the independent variables on the dependent variable.

Table 5.
Multiple regression – ANOVA.

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	370.402	3	123.467	770.014	<.001[b]
	Residual	60.931	380	0.16		
	Total	431.333	383			

Note: a. Dependent variable: DV.
b. Predictors: (Constant), IV3, IV2, IV1.

4.4. Beta Coefficient and Multicollinearity

Table 6 presents the beta coefficients and VIF values for the independent variables. All three variables, technological factors (β = 0.347), perceived usefulness (β = 0.257), and perceived ease of use (β = 0.362), show a positive and significant impact on the adoption of fintech ($p < 0.001$), confirming H1, H2, and H3. VIF values range from 5.496 to 5.751, indicating moderate correlation but not severe multicollinearity [59]. These findings highlight the importance of all three factors in influencing Beijing SMEs' intention to adopt fintech solutions.

Table 6.
Coefficients.

Coefficients[a]										
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**95.0% Confidence Interval for B**		**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Lower Bound**	**Upper Bound**	**Tolerance**	**VIF**
1	(Constant)	0.142	0.072		1.966	0.05	0	0.283		
	IV1	0.338	0.045	0.347	7.507	<.001	0.25	0.427	0.174	5.751
	IV2	0.253	0.045	0.257	5.597	<.001	0.164	0.342	0.176	5.682
	IV3	0.359	0.045	0.362	8.003	<.001	0.271	0.447	0.182	5.496

Note: a. Dependent variable: DV

4.5. Discussion

The most significant outcome of this study is the strong and positive influence of perceived ease of use on the intention of SMEs in Beijing to adopt financial technology, indicated by the highest beta value (β = 0.362, $p < 0.001$). This suggests that SMEs are more likely to engage with fintech solutions when they are intuitive, flexible, and require minimal effort to operate. Ease of use not only lowers the entry barrier for adoption but also enhances user confidence, particularly among smaller businesses that may lack advanced technical expertise. In addition, technological factors also showed a substantial and statistically significant influence on fintech adoption (β = 0.347, $p < 0.001$). SMEs that perceive fintech as compatible with their business operations, cost-effective, and secure are more inclined to adopt it.

This reflects the growing importance of digital infrastructure, cybersecurity, and perceived alignment with business processes in shaping fintech adoption behavior. Improved connectivity, enhanced digital literacy, and mobile accessibility are seen as enablers for the smoother integration of fintech into daily operations. Perceived usefulness emerged as the third significant factor (β = 0.257, $p < 0.001$), indicating that SMEs are motivated to adopt fintech when they believe it improves efficiency, productivity, and task performance. Although it has a slightly lower impact than the other two variables, its influence remains essential, emphasizing the practical benefits fintech offers in streamlining financial processes. Collectively, these three variables explain 85.9% of the variance ($R^2 = 0.859$) in SMEs' intention to adopt fintech, which indicates a highly predictive model. This finding aligns well with the Technology Acceptance Model (TAM) and its extended versions, reinforcing that both the functional and experiential aspects of technology play key roles in shaping user behavior.

5. Conclusion

5.1. The Summary of Findings

Table 7 provides a summary of the hypotheses tested in this study. Each hypothesis was evaluated based on the significance level (p-value) and the standardized beta coefficient (β). The results indicate that all three independent variables, technological factors, perceived usefulness, and perceived ease of use, have a significant positive influence on the adoption of financial technology among Small and Medium-sized Enterprises (SMEs) in Beijing. As all p-values are below 0.001, the corresponding hypotheses (H1, H2, and H3) are accepted.

Table 7.
Summary of hypothesis.

Hypothesis Statement	Findings	Conclusion
H1: Technological factors have a significant influence on the adoption of financial technology by Small and Medium-sized Enterprises.	P-value < 0.001 β value = 0.347	Accepted
H2: Perceived usefulness has a significant influence on the adoption of financial technology by Small and Medium-sized Enterprises.	P-value < 0.001 β value = 0.257	Accepted
H3: Perceived ease of use has a significant influence on the adoption of financial technology by Small and Medium-sized Enterprises.	P-value < 0.001 β value = 0.362	Accepted

5.2. Implications

The findings of this study carry important implications for stakeholders involved in the development and adoption of financial technology among small and medium-sized enterprises (SMEs) in Beijing. For policymakers, the results highlight the need to strengthen digital infrastructure and implement regulatory frameworks that enhance data security and user trust in fintech systems. Promoting digital literacy and providing incentives for fintech adoption can help close the digital divide and support SMEs in transitioning toward digital financial services. For fintech providers and industry stakeholders, the study emphasizes the value of designing user-centered solutions that prioritize ease of use, seamless integration with existing systems, and practical features tailored to SME operations. Ensuring robust cybersecurity, affordability, and intuitive interfaces can significantly improve user experiences and increase adoption rates. For SME owners and managers, the study provides insight into the benefits of adopting fintech solutions, including improved productivity, operational efficiency, and financial decision-making. These findings can guide SMEs in making more informed strategic decisions and embracing digital transformation in a competitive economic landscape.

5.3. Limitations and Future Research

Despite its valuable contributions, this study is subject to several limitations. The research was conducted solely in urban areas of Beijing, potentially limiting the generalizability of the findings to SMEs in rural or less developed regions. Additionally, most participants held undergraduate or higher educational qualifications, which may not fully reflect the experiences of SMEs with lower levels of digital literacy or educational attainment. Moreover, the study focused on only three variables: technological factors, perceived usefulness, and perceived ease of use which, although statistically significant, do not capture the full range of factors influencing fintech adoption. Other relevant variables, such as trust, perceived risk, organizational readiness, financial literacy, and external regulatory influences, were not examined.

Future research could address these limitations by broadening the sample to include diverse geographic regions and SME profiles. Longitudinal studies would offer valuable insights into how fintech adoption behaviors evolve over time and affect business performance. Incorporating qualitative approaches, such as interviews and case studies, could uncover deeper contextual factors and personal experiences influencing adoption. Furthermore, comparative cross-cultural research could explore how different institutional and cultural contexts shape fintech perceptions and usage. As financial technology continues to evolve, future studies should also investigate the impact of emerging innovations such as blockchain, artificial intelligence, and decentralized finance on SME operations and strategic decision-making. These directions would contribute to a more comprehensive understanding of fintech adoption dynamics and support the development of more inclusive and responsive digital financial ecosystems.

References

[1] S. A. Alam, R. Akter, S. N. Khan, and S. Ahmad, *FinTech: A new financial revolution. In financial landscape transformation: Technological disruptions*. United Kingdom: Emerald Publishing Limited, 2025.

[2] S. Ekasari, M. Hastin, S. Hakim, P. Bani, and I. S. Supyan, "Fintech revolution: Transforming the financial landscape through technological innovation," *The Journal of Academic Science*, vol. 1, no. 5, pp. 615-621, 2024.

[3] Statista, *Value of the global Fintech market in 2023, with a forecast for 2026*. Germany: Statista, 2023.

[4] V. Murinde, E. Rizopoulos, and M. Zachariadis, "The impact of the FinTech revolution on the future of banking: Opportunities and risks," *International Review of Financial Analysis*, vol. 81, p. 102103, 2022. https://doi.org/10.1016/j.irfa.2022.102103

[5] M. Casanova, "The rise of FinTech: A case study of Klarna: A buy now pay later company," Master's Thesis, ISCTE-Instituto Universitario de Lisboa (Portugal), 2023.

[6] X. Chen, X. You, and V. Chang, "FinTech and commercial banks' performance in China: A leap forward or survival of the fittest?," *Technological Forecasting and Social Change*, vol. 166, p. 120645, 2021. https://doi.org/10.1016/j.techfore.2021.120645

[7] C. Daraojimba, K. M. Abioye, A. D. Bakare, N. Z. Mhlongo, O. Onunka, and D. O. Daraojimba, "Technology and innovation to growth of entrepreneurship and financial boost: a decade in review (2013-2023)," *International Journal of Management & Entrepreneurship Research*, vol. 5, no. 10, pp. 769-792, 2023.

[8] M. Hossain, *COVID-19 stimulus for MSMEs: Hard to reach out to right firms*. India: Business Standard, 2020.

[9] B. Ma, Z. Zhou, and X. Chen, "Financing difficulties for SMEs and credit rationing–an expanded model of mortgage loans with asymmetric information," *Applied Economics*, vol. 51, no. 48, pp. 5243-5257, 2019.

[10] D. Kumar, B. Phani, N. Chilamkurti, S. Saurabh, and V. Ratten, "Filling the SME credit gap: A systematic review of blockchain-based SME finance literature," *Journal of Trade Science*, vol. 11, no. 2/3, pp. 45-72, 2023.

[11] A. Khan, S. H. Jafar, and H. El-Chaarani, "Evolution of fintech in the financial sector: Recent trends and future perspectives," *The Adoption of Fintech*, pp. 17-33, 2024.

[12] S. Obeng, T. V. Iyelolu, A. A. Akinsulire, and C. Idemudia, "The transformative impact of financial technology (FinTech) on regulatory compliance in the banking sector," *World Journal of Advanced Research and Reviews*, vol. 23, no. 1, pp. 2008-2018, 2024.
[13] S. Balaskas, M. Koutroumani, K. Komis, and M. Rigou, "FinTech services adoption in Greece: The roles of trust, government support, and technology acceptance factors," *FinTech*, vol. 3, no. 1, pp. 83-101, 2024.
[14] M. Adhikari, D. M. Ghimire, and A. D. Lama, "FinTech and financial inclusion: Exploring the mediating role of digital financial literacy in enhancing access to financial services," *Journal of Emerging Management Studies*, vol. 1, no. 2, pp. 117-136, 2024.
[15] P. K. Valaboju, *Transformative impact of AI and cloud technologies: A comparative analysis across healthcare, retail, and mobile financial services*. Switzerland: Springer Nature, 2024.
[16] M. B. Farah *et al.*, "A survey on blockchain technology in the maritime industry: Challenges and future perspectives," *Future Generation Computer Systems*, vol. 151, pp. 54–71, 2024.
[17] S. E. V. S. Pillai and W. C. Hu, "Security and Privacy Challenges and Opportunities in FinTech," presented at the 2024 Cyber Awareness and Research Symposium (CARS), IEEE, 2024.
[18] S. Helmi, W. R. Sesotya, and A. Pranata, "The effects of perceived ease of use, perceived usefulness, attitude, and trust on fintech adoption in MSMEs," presented at the 2nd International Conference on Management and Business (ICOMB 2023), Atlantis Press, 2024.
[19] Y. Y. Bahri, R. Damayanti, R. Anggraini, A. Lestari, F. D. W. Erivia, and R. R. Noviansyah, "The effect of profit perception on intention to use x fintech: The role of security as mediation and ease of use as moderation," *Review: Journal of Multidisciplinary in Social Sciences*, vol. 1, no. 11, pp. 432-444, 2024.
[20] A. Chand, D. Liu, M. Zulfiqar, M. R. Ullah, and M. J. Khan, "Perceived quality in Fintech services: expanding UTAUT2 and the Delone and McLean Information System Success Models," *Business Process Management Journal*, 2025. https://doi.org/10.1108/BPMJ-08-2024-0754
[21] Y. Wang, Z. Shen, J. Chew, Z. Wang, and K. Hu, "Research on the cross-industry application of autonomous driving technology in the field of FinTech," *International Journal of Management Science Research*, vol. 8, no. 3, pp. 13-27, 2025.
[22] A. Ibrahim, N. A. Almasria, F. A. Almaqtari, O. Al-Kasasbeh, Z. Alhatabat, and D. Ershaid, "The impact of green finance, fintech and digital economy on environmental sustainability: Evidence from advanced panel techniques," *International Journal of Energy Economics and Policy*, vol. 14, no. 6, pp. 621-627, 2024.
[23] Y. Fang and G. Wen, "Stability analysis of innovation collaboration between commercial banks and fintech companies," *Mathematics*, vol. 12, no. 17, p. 2724, 2024. https://doi.org/10.3390/math12172724
[24] J. A. Jafri, S. I. M. Amin, A. A. Rahman, and S. M. Nor, "A systematic literature review of the role of trust and security on Fintech adoption in banking," *Heliyon*, vol. 10, no. 1, p. e22980, 2024.
[25] G. Kaur, Z. H. Lashkari, and A. H. Lashkari, "Understanding cybersecurity management in fintech," 2021.
[26] R. Hasan, M. Ashfaq, and L. Shao, "Evaluating drivers of fintech adoption in the Netherlands," *Global Business Review*, vol. 25, no. 6, pp. 1576-1589, 2024.
[27] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, vol. 13, no. 3, pp. 319–340, 1989.
[28] A. Shamar, R. Patel, and Y. Liu, "Adoption of Fintech solutions among SMEs: Examining perceived usefulness and performance outcomes," *Journal of Small Business and Enterprise Development*, vol. 31, no. 2, pp. 245–262, 2024.
[29] M. A. Bhat, S. T. Khan, A. F. Alkhwaldi, and A. A. Abdulmuhsin, *Investigating the critical drivers of Fintech adoption to promote business sustainability of SMEs, Global Knowledge, Memory and Communication*. United Kingdom: Emerald Publishing Limited, 2024.
[30] H. Yang, H. Song, C. Cheung, and J. Guan, "How to enhance hotel guests' acceptance and experience of smart hotel technology: An examination of visiting intentions," *International Journal of Hospitality Management*, vol. 97, p. 103000, 2021. https://doi.org/10.1016/j.ijhm.2021.103000
[31] F. Halawa, M. J. Gulo, B. Halawa, H. E. Sinaga, and F. Yunanda, "Fintech innovation: A solution to enhance the sustainability of Micro, small, and medium enterprises," *KETIK: Jurnal Informatika*, vol. 2, no. 03, pp. 28-41, 2025.
[32] H. E. Omokhoa, C. S. Odionu, C. Azubuike, and A. K. Sule, "Digital transformation in financial services: Integrating AI, fintech, and innovative solutions for SME growth and financial inclusion," *Gulf Journal of Advance Business Research*, vol. 2, no. 6, pp. 423-434, 2024.
[33] H. Chen, "Using multiple linear regression SPSS method to analyze the promotion effect of information education on college Chinese," presented at the 2022 2nd International Conference on Education, Information Management and Service Science (EIMSS 2022), Atlantis Press., 2022.
[34] A. Hamid, W. Widjaja, F. Napu, and B. Sipayung, "The role of fintech on enchancing financial literacy and inclusive financial management in MSMEs," *TECHNOVATE: Journal of Information Technology and Strategic Innovation Management*, vol. 1, no. 2, pp. 81-88, 2024.
[35] N. M. Zayed, I. S. Mohamed, K. M. A. Islam, I. Perevozova, V. Nitsenko, and O. Morozova, "Factors influencing the financial situation and management of small and medium enterprises," *Journal of Risk and Financial Management*, vol. 15, no. 12, p. 554, 2022. https://doi.org/10.3390/jrfm15120554
[36] R. Krah, L. A. Tetteh, A. Boateng, and R. F. Amankwa, "Financial technology adoption among small and medium enterprises in Ghana," *Cogent Business & Management*, vol. 11, no. 1, p. 2321786, 2024.
[37] D. Alassaf, T. Daim, M. Dabic, and S. Alzahrani, "Fintech and entrepreneurship: An assessment model to evaluate policy instruments for Fintech adoption by small and medium enterprises (SMEs)," *IEEE Transactions on Engineering Management*, vol. 71, no. 1, pp. 123–135, 2024.
[38] S. N. Sende and A. Y. u. Usman, *Impact of financial technology penetration on small and medium enterprises (SMEs) growth in Nigeria: 2012Q1–2022Q4*. Abuja, Nigeria: National Bureau of Statistics, 2022.
[39] A. Warokka, A. Setiawan, and A. Z. Aqmar, "Key factors influencing Fintech development in ASEAN-4 countries: A mediation analysis," *Journal of Asian Business and Economic Studies*, vol. 32, no. 2, pp. 145–163, 2025.
[40] J. Luo *et al.*, "Role of perceived ease of use, usefulness, and financial strength on the adoption of health information systems: The moderating role of hospital size," *Humanities and Social Sciences Communications*, vol. 11, no. 1, pp. 1-12, 2024.

[41] I. J. Ismail and F. U. Rashidi, "Linking dynamic entrepreneurial capabilities and behavioral intentions to adopt FinTech in small and medium enterprises through digital financial innovation," *Cogent Business & Management*, vol. 12, no. 1, p. 2470915, 2025. https://doi.org/10.1080/23311975.2025.2470915

[42] X. Xing, T. Chen, X. Yang, and T. Liu, "Digital transformation and innovation performance of China's manufacturers? A configurational approach," *Technology in Society*, vol. 75, p. 102356, 2023. https://doi.org/10.1016/j.techsoc.2023.102356

[43] P. K. Ozili, "Technology impact model: A transition from the technology acceptance model," *AI & Society*, vol. 40, no. 2, pp. 1-3, 2025.

[44] P. Somesanook, "Developing the technology acceptance model (TAM) to examine fintech adoption in the microfinance institution (MFI): An empirical study in Laos," *Journal of East Asian Studies*, no. 22, pp. 1-34, 2024.

[45] L. G. Tornatzky and M. Fleischer, *The processes of technological innovation*. Lexington, MA: Lexington Books, 1990.

[46] Y. Teng, K.-C. Shang, H.-C. Wang, S.-Y. Kuo, and C.-S. Lu, "The implementation of blockchain adoption in China's manufacturing industry: the technology organization environment (TOE) method," *Humanities and Social Sciences Communications*, vol. 12, no. 1, pp. 1-11, 2025.

[47] J. Yang, S.-C. Chu, and Y. Cao, "Adopting AI advertising creative technology in China: A mixed method study through the technology-organization-environment (TOE) framework, perceived value and ethical concerns," *Journal of Current Issues & Research in Advertising*, pp. 1-24, 2024.

[48] C. Yoopetch and T. Chareanporn, "Measuring hotel financial and non-financial performance in Thailand: The application of technology-organization-environment (TOE) framework," *Journal of Ecohumanism*, vol. 3, no. 6, pp. 1703-1718, 2024.

[49] H. Hanifah, Y. X. Lee, and H. Abdul, "Revitalizing SMEs' performance: Unleashing the dynamics of Technology-Organization-Environment factors for M-Commerce adoption," *Journal of Science and Technology Policy Management*, 2025. https://doi.org/10.1108/JSTPM-02-2024-0067

[50] R. V. Krejcie and D. W. Morgan, "Determining sample size for research activities," *Educational and Psychological Measurement*, vol. 30, no. 3, pp. 607–610, 1970.

[51] C. Uakarn, K. Chaokromthong, and N. Sintao, "Sample size estimation using Yamane and Cochran and Krejcie and Morgan and Green formulas and Cohen statistical power analysis by G* power and comparisons," *Apheit Int J*, vol. 10, no. 2, pp. 76-88, 2021.

[52] M. A. I. Gazi *et al.*, "Paving the way of entrepreneurship for university students: The role of innovativeness, technological adaptability, and self-management, with risk-taking and family support as moderator," *Cogent Education*, vol. 12, no. 1, p. 2455230, 2025. https://doi.org/10.1080/2331186X.2025.2455230

[53] P. O. H. Putra and H. B. Santoso, "Contextual factors and performance impact of e-business use in Indonesian small and medium enterprises (SMEs)," *Heliyon*, vol. 6, no. 3, p. e03568, 2020. https://doi.org/10.1016/j.heliyon.2020.e03568

[54] F. A. T. Herzallah and M. Mukhtar, "The effect of technology, organization factors on e-commerce adoption among Palestinian SMEs," *Indian Journal of Science and Technology*, vol. 9, no. 38, pp. 1–4, 2016.

[55] I. L. Wu and J. L. Chen, "An extension of Trust and TAM model with TPB in the initial adoption of online tax: An empirical study," *International Journal of Human-Computer Studies*, vol. 62, no. 6, pp. 784–808, 2005. https://doi.org/10.1016/j.ijhcs.2005.03.003

[56] G. O. Okello, *Simplified business statistics using SPSS*. Florida, USA: Chapman and Hall/CRC, 2022.

[57] S. Afifah, A. Mudzakir, and A. B. D. Nandiyanto, "How to calculate paired sample t-test using SPSS software: From step-by-step processing for users to the practical examples in the analysis of the effect of application anti-fire bamboo teaching materials on student learning outcomes," *Indonesian Journal of Teaching in Science*, vol. 2, no. 1, pp. 81-92, 2022.

[58] M. Wulandari, S. Sriwahyuni, and D. Gunawan, "Quality management of health services on patient satisfaction at montella private hospital west ACEH district," *MEDALION JOURNAL: Medical Research, Nursing, Health and Midwife Participation*, vol. 4, no. 2, pp. 49-64, 2023.

[59] M. Tsagris and N. Pandis, "Multicollinearity," *American Journal of Orthodontics and Dentofacial Orthopedics*, vol. 159, no. 5, pp. 695-696, 2021.