فصلنامه پژوهش در علوم، مهندسی و فناوری
دوره ۹، شماره ۴، زمستان ۱۴۰۲
صفحات ۱۰۰-۱۱۰
Print ISSN: 2476-5082
www.uctjournals.com

طراحی مدل موفقیت ابزارهای نوین فناوری مالی (فین تک) در کسب و کارهای کوچک و متوسط مبتنی بر فناوری اطلاعات

مهدی انوری۱*، عبدالحمید پیله‌ور۲، میرحسین دزفولیان۳

۱نویسنده مسئول، دانشجوی دکتری، گروه فناوری اطلاعات، دانشگاه بوعلی سینا، همدان، ایران.

۲ -استادیار، گروه فناوری اطلاعات، دانشگاه بوعلی سینا، همدان، ایران

۳دانشیار، گروه فناوری اطلاعات، دانشگاه بوعلی سینا، همدان، ایران

چکیده

هدف از این پژوهش طراحی مدل موفقیت ابزارهای نوین فناوری مالی (فین تک) در کسب و کارهای کوچک و متوسط مبتنی بر فناوری اطلاعات بود. بنابراین از نظر هدف، یک پژوهش کاربردی است، زیرا علاوه بر جنبه آگاهی و علمی، جنبه کاربردی نیز برای سازمان های مربوطه خواهد داشت. یافته‌های پژوهش نشان داد که یکی از ابعاد ابزارهای جدید فناوری مالی (فین تک) در کسب‌وکارهای کوچک مبتنی بر فناوری اطلاعات عامل موفقیت ضروری است و مولفه‌های آن شامل (میزان پذیرش، تجربه کاربر، سفارشی‌سازی و یکپارچه‌سازی) است.

کلیدواژه: مدل موفقیت، ابزارهای فناوری مالی نوین (فین تک)، کسب و کارهای کوچک و متوسط، فناوری اطلاعات

Designing the success model of new financial technology tools (Fintech) in small and medium businesses based on information technology

Mahdi Anvari[1*], Abdolhamid Pilevar[2], Mirhosein Dezfoolian[3]

1- Corresponding author, PhD student, Department of Information Technology, Buali Sina University, Hamedan, Iran

2- Assistant Professor, Department of Information Technology, Buali Sina University, Hamedan, Iran

3- Associate Professor, Department of Information Technology, Buali Sina University, Hamedan, Iran

Abstract

The purpose of this research was to designing the success model of new financial technology tools (Fintech) in small and medium businesses based on information technology. Therefore, in terms of the goal, it is an applied research, because in addition to the awareness and scientific aspect, it will also have a practical aspect for the relevant organizations. The findings of the research showed that one of the dimensions of new financial technology tools (Fintech) in small businesses based on information technology is the essential success factor, and its components include (acceptance rate, user experience, customization, and integration).

Keywords: success model, new financial technology tools (Fintech), small and medium businesses, information technology

Introduction

Financial technologies (FinTech) are currently revolutionizing the entire financial industry and have the potential to change not only the principles of some financial products, but also the fundamental characteristics of the financial system. Fintech plays an important role as a financial intermediary for society and people's daily activities around the world. Some of the innovations in business processes and financial technology include artificial intelligence, big data, blockchain, cryptocurrency, initial coin offering, Internet of Things, machine learning that predicts company value and financial distress, increasing transparency and improving quantitative and qualitative financial reporting. Forming an optimal stock portfolio, facilitating capital attraction, improving cost management and process management, increasing data security, strengthening the effectiveness and efficiency of internal controls, reducing the risk of distortion and audit risk, more accurate and reliable tax forecasts by the government for budgeting, as well as obtaining environmental benefits.

The fintech ecosystem is made up of five components that work together to stimulate the economy, improve the customer experience, and promote social engagement: startups, technology-driven companies, government, customers, and traditional financial institutions such as banks. The emergence of fintech fundamentally disrupts the functioning of traditional companies and is therefore one of the most important developments (Luo et al, 2021).

Efficient and strong financial markets are among the important mechanisms in the economic field. The optimal functioning of the economic system in any society depends on the existence of two effective, powerful and complementary real and financial sectors.

With the introduction of new technology into organizations, financial management functions have undergone changes. New technologies in the financial field, called fintech, have helped companies and businesses in the field of better financial management, as well as increased customer satisfaction, and have had a significant impact on the way customers access financial services and the financial performance of different companies (Slazus et al, 2022).

Methodology

In terms of the goal, it is an applied research, because in addition to the awareness and scientific aspect, it will also have a practical aspect for different companies and organizations, especially small companies. According to the purpose and nature, this research is a mixed research (qualitative-quantitative) in terms of method. Also, since this research aims to design the model, it is exploratory. The approach of the qualitative part was theme analysis, which was done by interviewing experts.

The qualitative part of the research included interviews with experts, so the intended statistical population consisted of experts familiar with the subject of the research (university professors in the field of information technology). In this section, sampling was done theoretically. In theoretical sampling, events are sampled, not necessarily people. If people are also referred to, the main and key goal is to explore events. Although there is no specific rule for sample size in qualitative strategy, 6 to 8 units for homogeneous groups and 12 to 20 units for heterogeneous groups are suggested.

Sampling was done in the framework of the logic of the qualitative method and purposefully. Two methods of targeted and snowball sampling were used in sampling. Usually, in qualitative researches, in order to obtain the most information, purpose-based sampling is used, so the researcher chose the participants who were so-called "rich in information". It means that based on the principle of qualitative research, samples were selected that presented a strong picture of the phenomenon under study. The selection of the participants was done based on the purposeful sampling method of experts in the field of study in the university who were also willing to be interviewed.

Results

Categorization of final themes

In the final stage, the obtained organizing themes are classified into similar and coherent groups and form the final themes. Decisions about how to group themes are made based on content and, if necessary, based on theoretical basis. The themes identified in this step are the main source of forming the theme network. Table 1 shows the overarching themes and their corresponding organizing themes.

Table 1- Final categories

	Theme code	Basic themes	Secondary themes	Final Themes
1	Q1,Q2,Q59	Number of small and medium-sized IT businesses adopting Fintech tools	Adoption rate	Fundamental Succes Factors
2	Q7,Q12	Percentage of small and medium-sized IT businesses adopting Fintech tools		
3	Q12	Time taken for adoption to reach critical mass		
4	Q5	Barriers to adoption faced by small and medium-sized		

		IT businesses		
5	Q9	Factors influencing adoption decisions		
6	Q2,Q4,Q9,Q11	Comparison of adoption rates across industries		
7	Q1,Q3,Q5,Q8,Q9	Impact of early adoption on long-term success		
8	Q6,Q7,Q8	Influence of peer networks and word-of-mouth referrals on adoption		
9	Q9,Q11,Q12	Role of government policies and initiatives in driving adoption		
10	Q1,Q2,Q6	Effectiveness of marketing campaigns and sales tactics in encouraging adoption		
11	Q3,Q4	Ease of navigation and use of Fintech tools	User experience	
12	Q3, Q11	Design aesthetics and visual appeal		
13	Q2Q1,	Clarity of instructions and prompts		
14	Q2	Intuitiveness of workflows and processes		
15	Q9	Availability of customizable settings and preferences		
16	Q2	Responsiveness and performance of applications		
17	Q3	Quality of technical support and assistance		
18	Q1Q2,Q3,Q4,Q5, Q6, Q7, Q8,Q9,Q11, Q12	Level of personalized attention and care received		
19	Q3, Q4,Q7, Q8,Q12	Degree of trust established with users		
20	Q7, Q9	Overall enjoyment and satisfaction with using Fintech tools		
21	Q6,Q7,Q8, Q10, Q11	Ability to modify default configurations and settings	Customization	
22	Q2, Q3, Q7, Q8	Options for selecting preferred layouts and themes		
23	Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q8. Q9. Q10,Q11,Q12	Support for integrating third-party plugins and extensions		
24	Q1,Q4,Q5,Q6,Q7,Q8,Q12 Q10,Q12,Q15,Q18	Capabilities for creating custom workflows and automations		
25	Q1, Q4, Q6,Q7,Q8,Q12	Features for configuring alerts and notifications		
26	Q9,Q11, Q12	Functionality for managing permissions and roles		
27	Q6	Possibilities for designing custom reports and dashboards		
28	Q12	Opportunities for developing bespoke solutions and add-ons		
29	Q5,Q6,Q9	Extent of flexibility in adapting to changing business requirements		
30	Q4,Q5	Feedback mechanisms for requesting additional customization options		
31	Q7, Q12	Compatibility with popular operating systems and platforms	Integration	
32	Q1	Seamless integration with common productivity tools		
33	Q1, Q3, Q6	Pre-built connectors and APIs for connecting with external systems		
34	Q9	Automated synchronization and data exchange between apps		
35	Q5	Standardized protocols and formats for exchanging information		
36	Q3	Robust error handling and fallback procedures		
37	Q2, Q5,Q8, Q12	Easy setup and configuration of integrated		

		environments		
38	Q2, Q6	Transparent documentation and developer resources		
39	Q7	Clear communication channels for reporting issues and seeking help		
40	Q1, Q2, Q3, Q4, Q5,Q6, Q7, Q8, Q9, Q11, Q12	Ongoing maintenance and updates to ensure continued compatibility		
41	Q1,Q2	Processing times for financial transactions	Speed	Performance Metrics
42	Q6,Q8	Latency and lag in real-time data feeds		
43	Q2,Q3, Q6, Q8, Q9,Q12	Response times for queries and requests		
44	Q1, Q8, Q10,Q11	Load balancing and traffic management techniques		
45	Q2,Q5,Q8,Q11	Caching and prefetching strategies for improving performance		
46	Q9,Q10	Optimization of database indexes and query plans		
47	Q12	Multi-threading and parallel processing capabilities		
48	Q1,Q3	Edge computing and content delivery network architectures		
49	Q1,Q10,Q11,Q12	Dynamic scaling and load adjustment algorithms		
50	Q3,Q7,Q9	Continuous monitoring and profiling of system behavior		
51	Q11, Q12	Cross-platform support for desktop and mobile devices	Accessibility	
52	Q1	Offline functionality and syncing capabilities		
53	Q3	Voice recognition and natural language processing interfaces		
54	Q2	Screen reader and assistive technology compatibility		
55	Q4,Q6,Q7,Q12	Keyboard shortcuts and alternate input methods		
56	Q1,Q2,Q5,Q6,Q9,Q12	Localization and translation options		
57	Q8,Q9, Q11,Q12	Low-bandwidth and offline-first design patterns		
58	Q6,Q7	Progressive enhancement and graceful degradation approaches		
59	Q11	Web standards compliance and accessibility guidelines		
60	Q4,Q5,Q8,Q11	Testing with diverse user groups and personas		
61	Q1,Q5	Onboarding materials and getting started guides	Training and support	
62	Q1,Q11	Video tutorials and walkthroughs		
63	Q1	Interactive simulations and hands-on labs		
64	Q7	Community forums and discussion boards		
65	Q7	Email and phone support hotlines		
66	Q1,Q8, Q9,Q12	Live chat and instant messaging channels		
67	Q3,Q4,Q5,Q6	Personalized coaching and mentorship programs		
68	Q1,Q2,Q5,Q6	Consultancy services and professional advice		
69	Q1,Q10, Q11	Peer networking events and knowledge-sharing sessions		
70	Q10, Q11,Q12	Certification programs and credentialing pathways		
71	Q2,Q7	Novelty and originality of ideas and concepts	Innovation	
72	Q1,Q13,Q16,Q19	Intellectual property protections and patents granted		
73	Q3,Q6	Research collaborations and academic partnerships		
74	Q1,Q2,Q7	Industry awards and recognitions received		

75	Q8	Thought leadership contributions and thought pieces published		
76	Q2	Strategic investments and acquisitions made		
77	Q4,Q5	Open source projects and community engagement activities		
78	Q1,Q2,Q3,Q7	Experimental prototypes and proof-of-concept demos		
79	Q7	Crowdsourcing and open innovation initiatives		
80	Q1,Q7	Failure tolerance and iterative improvement mindset		
81	Q7,Q11	Legal frameworks governing Fintech operations	Regulation	Operatio n sspects
82	Q1,Q11	Licensing requirements and approval processes		
83	Q1	Consumer protection regulations and enforcement actions		
84	Q1,Q2,Q5	Anti-money laundering and know-your-customer rules		
85	Q2,Q3	Privacy laws and data protection mandates		
86	Q2,Q5,Q6	Cross-border transactional restrictions and trade barriers		
87	Q1,Q4	Lobbying efforts and advocacy campaigns		
88	Q9,Q11,Q12	Self-regulatory codes of conduct and ethics		
89	Q4	Risk disclosures and transparency requirements		
90	Q3, Q6	Penalties for noncompliance and legal liabilities		
91	Q3	Partnership agreements and joint ventures formed	Collaborati on	
92	Q1,Q4	Co-creation and co-development initiatives undertaken		
93	Q1,Q2,Q5 , Q7, Q10	Technology licensing and cross-licensing arrangements		
94	Q3,Q4,Q11	Referral networks and affiliate marketing schemes		
95	Q3, Q4, Q7,Q9,Q12	Joint promotions and co-marketing campaigns		
96	Q6	Knowledge transfer and skills development programs		
97	Q4, Q8, Q10	Shared infrastructure and platform ecosystems		
98	Q2	Platform interoperability and standardization efforts		
99	Q1, Q2, Q7, Q8, Q9, Q11, Q12	Communication channels and collaboration tools		
100	Q11,Q12	Conflict resolution mechanisms and dispute resolution processes		
101	Q1,Q5,Q16	Market share statistics and competitive landscape analyses	Competitio n	
102	Q11	Differentiation strategies and positioning statements		
103	Q1,Q2,Q3	Marketing messages and brand narratives		
104	Q1,Q7	Product roadmaps and feature backlogs		
105	Q7, Q9	Price wars and price skimming tactics		
106	Q9,Q10,Q11,Q12	Mergers and acquisitions activity		
107	Q4,Q5,Q6, Q10,Q11,Q12	Patent infringement lawsuits and intellectual property disputes		
108	Q1,Q2,Q4	Trade secret theft and industrial espionage allegations		
109	Q10	Antitrust investigations and regulatory scrutiny		
110	Q11	Emergence of disruptive innovators and market entrants		
111	Q2	Encryption techniques used to secure data transmissions	Security	
112	Q1	Authentication methods for verifying user identities		
113	Q3	Authorization controls for limiting access to sensitive		

		data		
114	Q1, Q2, Q3, Q4, Q5,Q6, Q7, Q8	Firewall protection and intrusion detection mechanisms		
115	Q2, Q3, Q4, Q5,Q6, Q7, Q8, Q9, Q11, Q12	Regular vulnerability assessments and penetration testing		
116	Q2	Disaster recovery plans and backup procedures		
117	Q9	Policies for sharing and storing passwords and credentials		
118	Q2	Audit trails and logging mechanisms for tracking activity		
119	Q3	Employee education and awareness programs around cybersecurity best practices		
120	Q1Q2,Q3,Q4,Q5, Q6, Q7, Q8,Q9,Q11, Q12	Incident response planning and crisis management protocols		
121	Q3, Q4,Q7, Q8,Q12	Types and categories of data collected	Data analytics	Technical Enablers
122	Q7, Q9	Methods for acquiring and aggregating data sources		
123	Q6,Q7,Q8, Q10, Q11	Algorithms and machine learning techniques applied		
124	Q2, Q3, Q7, Q8	Real-time vs. batch processing modes		
125	Q1,Q2,Q3,Q4,Q5,Q 6,Q7,Q8. Q9. Q10,Q11,Q12	Visualizations and dashboard displays		
126	Q1,Q4,Q5,Q6,Q7,Q 8,Q12 Q10,Q12,Q15,Q18	Decision trees and predictive modeling frameworks		
127	Q1, Q4, Q6,Q7,Q8,Q12	Natural language processing and sentiment analysis		
128	Q9,Q11, Q12	Geospatial mapping and location intelligence		
129	Q6	Fraud detection and anomaly identification		
130	Q12	Ethical considerations and privacy concerns		
131	Q5,Q6,Q9	Vertical scalability via hardware upgrades and capacity increases	Scalability	
132	Q4,Q5	Horizontal scalability via distributed architecture designs		
133	Q7, Q12	Elastic compute provisioning and autoscaling capabilities		
134	Q1	Resource pooling and shared infrastructure utilization		
135	Q1, Q3, Q6	Containerization and virtualization technologies employed		
136	Q9	Microservices and API-driven architectural styles		
137	Q5	Event-driven programming paradigms and message queuing systems		
138	Q3	Load balancers and reverse proxy servers		
139	Q2, Q5,Q8, Q12	Service meshes and sidecar injection patterns		
140	Q2, Q6	High availability and fault tolerance techniques		
141	Q7	Target geographies and localization strategies	International expansion	Business Strategy
142	Q1, Q2, Q3, Q4, Q5,Q6, Q7, Q8, Q9, Q11, Q12	Cultural nuances and regional variations		
143	Q1,Q2	Currency conversion and payment gateway integrations		

144	Q6,Q8	Taxation regimes and accounting standards		
145	Q2,Q3, Q6, Q8, Q9,Q12	Import/export regulations and customs duties		
146	Q1, Q8, Q10,Q11	Logistics and supply chain complexities		
147	Q2,Q5,Q8,Q11	Political instability and macroeconomic uncertainties		
148	Q9,Q10	Foreign currency exposure hedging and risk management		
149	Q12	Global talent acquisition and remote team coordination		
150	Q1,Q3	Multinational governance structures and subsidiary relationships		
151	Q1,Q10,Q11,Q12	Energy consumption profiles and carbon footprints	Sustainability	
152	Q3,Q7,Q9	Renewable energy sourcing and green power procurement		
153	Q11, Q12	Waste reduction and recycling initiatives		
154	Q1	Circular economy principles and extended producer responsibilities		
155	Q3	Greenhouse gas emissions measurement and offsetting		
156	Q2	Environmental certifications and ratings obtained		
157	Q4,Q6,Q7,Q12	Carbon credits trading and renewable energy certificate schemes		
158	Q1,Q2,Q5,Q6,Q9,Q12	Supply chain sustainability auditing and verification		
159	Q8,Q9, Q11,Q12	Corporate social responsibility reporting and stakeholder communications		
160	Q6,Q7	Long-term strategic vision and commitment to sustainability goals		
161	Q11	Philanthropic giving and charitable donations	Social responsibility	
162	Q4,Q5,Q8,Q11	Volunteering and employee volunteer programmes		
163	Q1,Q5	Inclusive hiring practices and diversity metrics		
164	Q1,Q11	Living wage policies and fair labor standards		
165	Q1	Workplace safety and health promotion initiatives		
166	Q7	Human rights due diligence and responsible sourcing		
167	Q7	Code of ethics and whistleblower protection mechanisms		
168	Q1,Q8, Q9,Q12	Stakeholder engagement and public accountability		
169	Q3,Q4,Q5,Q6	Contributions to policy debates and societal discourse		
170	Q1,Q2,Q5,Q6	Leadership examples and role model behaviors		
171	Q1,Q2,Q7	Pricing models and subscription fees	Cost	
172	Q8	Upfront costs and ongoing expenses		
173	Q2	Volume discounts and bulk purchasing incentives		
174	Q4,Q5	Free trial periods and money-back guarantees		
175	Q1,Q2,Q3,Q7	Hidden charges and unexpected expenses		
176	Q7	Comparison with alternative financing options		
177	Q1,Q7	Value proposition and return on investment		
178	Q7,Q11	Total cost of ownership and lifetime value analysis		
179	Q1,Q11	Budget constraints and resource allocation considerations		
180	Q1	Financial risk assessment and mitigation strategies		

181	Q1,Q2,Q5	Net Promoter Score surveys and loyalty indicators	Customer satisfaction	End Gosls
182	Q2,Q3	Usability testing and user acceptance criteria		
183	Q2,Q5,Q6	A/B testing and experimentation methodologies		
184	Q1,Q4	Focus group discussions and interview studies		
185	Q9,Q11,Q12	Online reviews and app store ratings		
186	Q4	Help desk ticketing systems and issue tracking databases		
187	Q3, Q6	Case studies and reference stories		
188	Q3	Churn analysis and retention optimization		
189	Q1,Q4	Upsell and cross-sell opportunity discovery		
190	Q1,Q2,Q5 , Q7, Q10	Brand perception surveys and reputation management		
191	Q3,Q4,Q11	Technological advancements and breakthroughs expected	Future outlook	
192	Q3, Q4, Q7,Q9,Q12	Macrotrends shaping the industry landscape		
193	Q6	Potential threats and emerging competitors		
194	Q4, Q8, Q10	New business models and revenue streams		
195	Q2	Evolution of consumer expectations and demands		
196	Q1, Q2, Q7, Q8, Q9, Q11, Q12	Changes in regulatory frameworks and policy priorities		
197	Q11,Q12	Demographic shifts and global megatrends		
198	Q1,Q5,Q16	Economic cycles and business cycle fluctuations		
199	Q11	Public attitudes towards digital transformation and automation		
200	Q1,Q2,Q3	Black swan events and extreme scenario planning.		

The results show that the final identified categories include 6 categories, under which 20 secondary themes and 200 Basic themes were identified and classified. Finally, the final model of thematic analysis was presented.

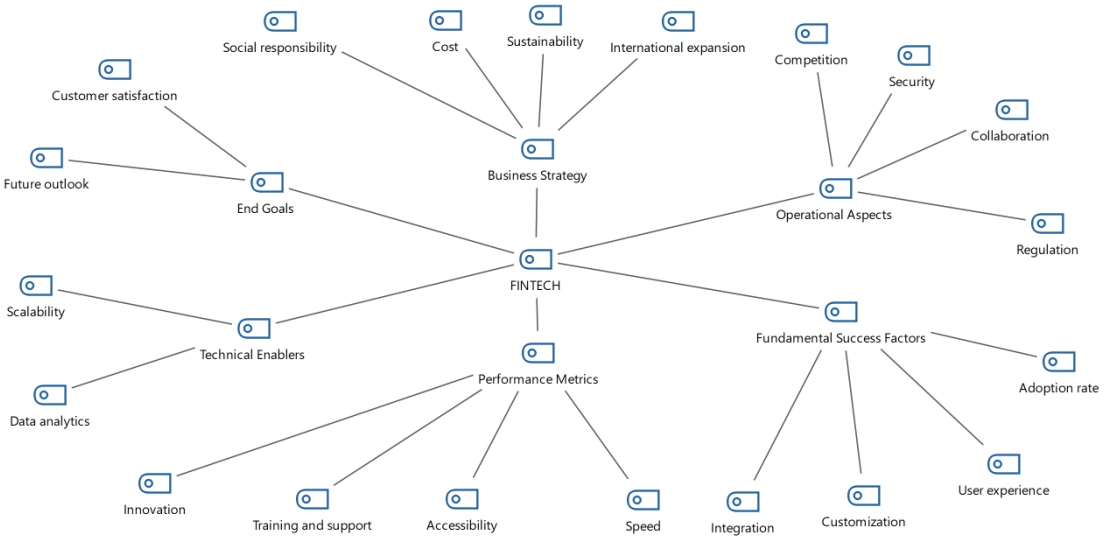

Figure 1- Model of dimensions

Discussion

The findings of the research showed that one of the dimensions of new financial technology tools (Fintech) in small businesses based on information technology is the essential success factor, and its components include (acceptance rate, user experience, customization, and integration).

The rapid growth and development of financial technology (FinTech) tools has revolutionized various sectors, including small businesses. Fintech has provided numerous opportunities for small businesses to access financial services quickly, efficiently and cost-effectively. However, despite the potential benefits of fintech, there is limited information on the factors that contribute to the successful adoption of that vote by small businesses. This research discusses and concludes the findings of a recent study that identified adoption rate, user experience, customization, and integration as critical success factors for fintech tools in IT-based small businesses. In addition, this paper compares the results with previous studies to provide insight into the current state of knowledge regarding fintech adoption in small businesses.

Adoption rate refers to the willingness of small business owners to use fintech tools. Previous studies have shown that ease of use and perceived usefulness significantly influence technology adoption intention in general (Davis, 1989; Venkatesh et al., 2003). Similarly, the present study found that adoption rate is a functional determinant of fintech adoption in small businesses. Practically, small business owners who find fintech tools easy to use and beneficial to their operations are more likely to adopt them. Therefore, fintech tool developers should focus on increasing usability and providing tangible benefits to increase the likelihood of adoption by small businesses.

Also, user experience is related to the overall satisfaction of users when interacting with fintech tools. This study found that user experience is an important predictor of fintech adoption in small businesses. Small business owners value positive experiences when using technology, which can increase their trust and confidence in fintech tools. Developers should prioritize creating intuitive interfaces, seamless navigation, and fast response times to improve user experience. Additionally, ongoing support and updates are essential to ensure a satisfactory user experience over time.

Customization also refers to the ability of fintech tools to adapt to the specific needs and preferences of small businesses. According to this study, customization is an important success factor for fintech adoption in small businesses. Customizable features allow small businesses to tailor the tool's functionality to their unique needs, resulting in increased efficiency and productivity. Developers should consider flexible configurations and settings to enable personalization and ensure that small businesses get the most out of fintech tools.

On the other hand, integration refers to the compatibility of fintech tools with current systems and processes in small businesses. This study found that integration is a critical success factor for fintech adoption. Seamless integration aligns small businesses to leverage existing data and workflows, reducing traditional effort and minimizing hassles. Developers should ensure that fintech tools can interface with popular accounting software, payment gateways, and other relevant platforms to facilitate integration and promote adoption.

Several studies have investigated the factors influencing the adoption of fintech in different fields. For example, Koffaris and Hampton Sosa (2004) examined consumer adoption of e-commerce and identified ease of use, usefulness, and enjoyment as key drivers of adoption. Similarly, Nguyen and Aspinwall (2017) examined the adoption of mobile banking by Vietnamese SMEs and found that perceived usefulness, ease of use, and security were significant predictors of adoption. In contrast, the current study focused specifically on small businesses and identified other success factors such as customization and integration.

References

Aaron, M., Rivadeneyra, F. & Sohal, S. (2017). Fin tech: is this time different? A framework for assessing risks and opportunities for central banks. Bank of Canada, 1-32.

Abadli, R., Kooli, C., & Otmani, A. (2020). Entrepreneurial culture and promotion of exporting in Algerian SMEs: perception, reality and challenges. International Journal of Entrepreneurship and Small Business, 41(2), 227-240.

Amjad, T., Rani, S. H. B. A., & Sa'atar, S. B. (2020). Entrepreneurship development and pedagogical gaps in entrepreneurial marketing education. The International Journal of Management Education, 18(2), 100379.

Anderson,J.C., Mouris, D.W. (2016), " Structural equation Modeling in Practice: a review and recommended two-step approach" , psychological Bulletin, vol. 103, no. 3,pp.411-423.

Beck, T., Demirgüç-Kunt, A., & Pería, M. S. M. (2011), "Bank Financing for SMEs: Evidence Across Countries and Bank Ownership Types", Journal of Financial Services Research, 39(1-2), 35-54.

Belanche, D., Casalo, L., & Flavian, C. (2019). Artificial intelligence in Fin Tech: understanding rob advisor adoption among customers. Industrial Management & Data Systems.

Bellucci, M., Cesa Bianchi, D., & Manetti, G. (2022). Blockchain in accounting practice and research: systematic literature review. Meditari Accountancy Research, 30(7), 121- 146.

Bendickson, J; Muldoon, J; Liguori, E; Davis, P. E. (2016). Agency theory: the times, they are a-changin'. Management Decision, 54(1), 174–193
Bhar, R., & Mallik, G. (2012). Components of inflation uncertainty and interest rates: Evidence from Australia and New Zealand. Economic Analysis & Policy, 42(1), 39-49.
Bing, X., Shenghong, Zh., & Xiaohui, Ch. (2020). Uncertainty in financing interest rates for startups. Industrial Marketing Management.
Branzoli, N., & Supino, I.(2020).FinTech Credit: A Critical Review of Empirical Research Literature. Bank of Italy Occasional. Available
Brege, H., & Kindström, D. (2020). Exploring proactive market strategies. Industrial Marketing Management, 84, 75-88.
Cainelli, G., & Giannini, V. (2019), "Small firms and bank financing in bad times", Springer science +Business Media, LLC, part of Springer Nature, 1-11.
Carree M.A. & Thurik, A.R. (1998), Small Firms and Economic Growth in Europe,Atlantic Economic Journal (AEJ),26 (2), 137-146.
Chen, P.W., Jiang, B.S., & Wang, C.H. (2017). Blockchain-based payment collection supervision system using pervasive bitcoin digital wallet. IEEE 13th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), IEEE, 139-146
Chen, Y., Chiu, J., & Chung, H. (2022). Givers or Receivers? Return and volatility spillovers between FinTech and the Traditional Financial Industry. Finance Research Letters, 46, 102458.
Chishti, S. & Barberis, J. (2016). The Fintech book: The financial Technology Handbook for Investors, Entrepreneurs and Visionaries: John Wiley & Sons; 2016.
Chishti, S. & Barberis, J. (2017). The Fintech book: The financial Technology Handbook for Investors, Entrepreneurs and Visionaries: John Wiley & Sons; 2016.
Chou, S., Chen, C. W., & Kuo, Y. T. (2018). Flexibility, collaboration and relationship quality in the logistics service industry: An empirical study. Asia pacific Journal of marketing and logistics, 33(3), 555-570.
Damoah, O. B. O. (2018). A critical incident analysis of the export behaviour of SMEs: evidence from an emerging market. critical perspectives on international business, 14(3), 309-334.
Dapp, T., Slomka, L., AG, D. B., & Hoffmann, R. (2014). Fintech–The digital (r) evolution in the financial sector. Deutsche Bank Research, 1-39.
Dapp, T., Slomka, L., AG, D. B., & Hoffmann, R. (2014). Fintech–The digital (r) evolution in the financial sector. Deutsche Bank Research, 1-39.
Daud, S. N. M., Ahmad, A. H., Khalid, A., & Azman-Saini, W. N. W. (2022). FinTech and financial stability: Threat or opportunity? Finance Research Letters, 47, 102667.
Davis, Blake, (2016), "Determinats of employment externalization" administration Sciences,38.
Davudi Matin, Z., & Hosseini Shakib, M. (2021). Studying the role of mobile application technologies in improving the brand equity of Refah Bank. Industrial Technology Development Quarterly, 19(43), 59-76. (in Persian).
Deloitte. (2018). Blockchain TechnologyL: A game- changer in accounting?
Jones, M. (2012). The impact of accounting scandals and creative accounting. Creative accounting, fraud and international accounting scandals, 479-491.
Kahn, M., Martins de Melo, L., and Pessoa de Matos, M. G. (2014). *Financing innovation*. IDRC, Ottawa, ON, CA.
Karimi, A., & Bouzarjamhari, Sh. (2012). Analysis of the barriers to financing in small and medium-sized enterprises. Journal of Entrepreneurship Development, 6(1), 125-144. (In Persian)
Katau, Ngui Thomas.(December 2014), The Role of SMEs in Employment Creation and Economic Growth in Selected Countries,International Journal of Education and Research, 2 (12),461-472.
Kaya, O., & Masetti, O. (2019), "Small- and medium-sized enterprise financing and securitization: Firm-level evidence from the euro area:SME financing" , Economic Inquiry, 57(1), 391-409.
Mascarenhas, A. B., Perpetuo, C. K., Barrote, E. B. & Perides, M. P. (2020). The influence of perceptions of risks and benefits on the continuity of use of Fintech services. Brazilian Business Review. (Vol. 18(1), pp. 1-21).
McGee, R. W., & Tyler, M. (2006). Tax evasion and ethics: A demographic study of 33 countries. Available at SSRN 940505.
Mckinsey and Company (2019). "Beyond Banking: How Banks Can Use Ecosystems to Win in the SME Market". Working Paper.
Memili, Esra, Fang, Hanqing, Chrisman, James J. &De Massis, Alfredo (2015), The Impact of Small and Medium-Sized Family Firms on Economic Growth,Small Business Economics, 45,771-785.

Oguji, N., & Owusu, R. A. (2021). Market entry into Africa: Acquisitions and international joint ventures. Studies of foreign firms' market entry strategies, challenges, and performance in Africa. Thunderbird International Business Review, 63(1), 5-9.
Ono, A., & Uesugi, I. (2014). "SME Financing in Japan during the Global Financial Crisis: Evience from Firm Surveys". International Review of Entrepreneurship, 12(4): 191-218.
Ooghe, H. & De Prijcker, S. (2016). Failure process and causes of company bankruptcy: a typology, Management Decision, 46(2): 223-242.
Rocha, S., Farazi, S., Khouri, R., & Pearce, D. (2011). The status of bank lending to SMEs in the middle east and north Africa region. Financial Flagship, 23, 29-41. Doi: 10.1596/1813-9450-5607
Rocha, S., Farazi, S., Khouri, R., & Pearce, D. (2011). The status of bank lending to SMEs in the middle east and north africa region. Financial Flagship, 23, 29-41. Doi: 10.1596/1813-9450-5607.
Roy, P.K., Shaw, K. A. (2021). A Multicriteria credit scoring model for SMEs using hybrid BWM and TOPSIS. Financial Innovation, 7, 77.
gamification. John Wiley & Sons.
Sironi, P. (2016). FinTech innovation: from robo-advisors to goal based investing and gamification. John Wiley & Sons.
Skan, J., Dickerson, J., & Masood, S. (2015). "The Future of Fintech and Banking: Digitally disrupted or reimagined". Accenture, London
Slazus, B.J., & Bick, G.(2022).Factors that Influence Fintech Adoption in South Africa: A Study of Consumer Behaviour towards Branchless Mobile Banking, Athens Journal of Business & Economics 8(1): 43-64
Snkeve, N,, & Kabulova, J. (2022). Financial technology impact on stability of financial institutions. Technological and Economic Development of Economy, 28(4): 1089–1114.
Report on SME Exchanges. London: WFE.
Vucinic, M. (2020). FinTech and Financial Stability Potential Influence of FinTech on Financial Stability, Risks and Benefits. Journal of Central Banking Theory and Practice, 2, 43-66.
Vyas. K. (2021). What is the Metaverse and How Do Enterprises Stand to Benefit? [30.11.2021].
Wales, W., Gupta, V. K., Marino, L., & Shirokova, G. (2019). Entrepreneurial orientation: International, global and cross-cultural research. International Small Business Journal, 37(2), 95-104.
Wang, H., Liang, P., Li, H., and Yang, R. (2016). "Financing sources, R&D investment and enterprise risk". Procedia Computer Science, 91, pp. 122-130.
Wang, S. & Zhou, H. (2005). "Staged Financing in Venture Capital: Moral Hazard and Risks". Journal of Corporate Finance **10**(1): 131-155.
Wasiuzzaman, S. (2012): Profitability of Islamic banks in Malaysia. Journal of Islamic economics, banking and finance, Vol, 6.No, 4.
WEF: World Economic Forum. (2020). Global COVID-19 Fintech Market Rapid Assessment Study.
Wennekers, S.& Thurik, R. (1999), Linking Entrepreneurship and Economic Growth,
Xia, L., Zhang, W., & Han, Q. (2019), "Research on the impact of financial ecological environment SMEs financing", Ekiloji, 28(107), 3383-3391.
Xiang, D., Chen, J., Tripe, D., & Zhang, N. (2018), "Family firms, sustainable innovation and financing cost: Evidence from Chinese hi-tech small and medium-sized enterprises" , Technological Forecasting and Social Change.
Xiao, L. (2011). "Financing High-Tech SMEs in China: A Three-Stage Model of Business Development". Entrepreneurship & Regional Development, 23(3-4): 217-234.
Zavolokina, L., Dolata, M., & Schwabe, G. (2016). FinTech transformation: How it-enabled innovations shape the financial sector.
Zavolokina, L., Dolata, M., & Schwabe, G. (2016). The FinTech phenomenon: Antecedents of financial innovation perceived by the popular press. Financial Innovation, 2(1), 175.
Zavolokina, L., Dolata, M., & Schwabe, G. (2016a). FinTech transformation: How it-enabled innovations shape the financial sector.
Zavolokina, L., Dolata, M., & Schwabe, G. (2016b). The FinTech phenomenon: Antecedents of financial innovation perceived by the popular press. Financial Innovation, 2(1), 175. 7
Zouari, G. & Abdelhedi, M. (2021). Customer satisfaction in the digital era: evidence from Islamic banking. Journal of Innovation and Entrepreneurship, 10(1), 1-19.