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Unlocking Synergies: Exploring Key Drivers of Collaboration between Iran's Banking Sector and Fintech Innovators

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Abstract

This study investigates the factors underpinning strategic cooperation between Iran's banking system and fintech startups, shedding light on the dynamic landscape of the financial sector.

Employing a mixed-methods approach, the research unfolds in two phases: qualitative and quantitative. In the qualitative stage, 14 experts from both the banking system and fintech enterprises participated in semi-structured interviews. Data analysis was facilitated by Atlas.ti software, employing open coding, axial coding, and selective coding techniques. For the quantitative phase, questionnaires were distributed to 320 managers and experts, with data analyzed using structural equation modeling (SEM).

The study identifies eight categories: managerial acumen, science and technology infrastructure, structural elements, organizational facets, cultural dimensions, digital transformation, trust-building mechanisms, and legal considerations. All significantly influence strategic cooperation, providing a comprehensive framework for understanding collaboration within Iran's financial landscape. The findings highlight that all eight identified factors significantly influence the strategic cooperation between the banking system and fintech startups.

While this study focuses on Iran, its insights are widely applicable. It emphasizes harmonizing managerial, technological, and cultural components as stakeholders navigate the ever-evolving fintech landscape, benefiting policymakers, researchers, and industry actors.

The research can inform public policy and enhance corporate social responsibility. It may also influence public attitudes and improve the quality of life through innovative financial services and products.

This study provides a comprehensive framework for understanding the complexities of collaboration within Iran's financial landscape, offering valuable insights for comprehending and navigating the transformative crossroads of traditional banking and fintech innovation.

1. Introduction

The financial industry is undergoing a profound transformation due to the rise of financial technology, commonly referred to as fintech. This fusion of "finance" and "technology" represents a dynamic force that has significantly reshaped traditional banking, investment, and global payment systems. Before delving into the importance of collaboration between banks and fintech startups, it is crucial to understand the origins and consequences of the fintech revolution.

Fintech is a broad term encompassing innovative technologies like blockchain, artificial intelligence, mobile applications, and big data analytics, all aimed at enhancing and simplifying financial services (Yang and Wang, 2022). Its impact is extensive, disrupting conventional banking models and providing alternative, accessible, and often more cost-effective financial solutions.

Innovations such as peer-to-peer lending robo-advisors, and digital platforms, payment systems underscore fintech's influence across the entire financial landscape. These disruptions bring both opportunities and challenges for traditional primarily banks. Fintech empowers established banks to offer advanced and diverse services to their customers. These services include digital wallets, online account management, and automated financial guidance, effectively meeting the needs and preferences evolving customers (Parma et al., Additionally, fintech solutions streamline operational processes, reducing costs and enhancing efficiency. This optimization allows banks to allocate resources more effectively and focus on value-added services. However, these benefits come with fresh challenges.

The entry of fintech startups into the financial sector intensifies competition (Can, 2017). Their agility and innovation

pose a significant threat to traditional banks, compelling them to adapt or face obsolescence (Barz et al., 2023). Moreover, concerns about data security and regulatory compliance have become prominent challenges.

Given these developments, collaboration between banks and fintech startups is not just desirable but imperative. The synergy between established financial institutions and tech-savvy startups can create a winwin situation. This partnership allows banks leverage the innovation and technological expertise of fintech companies, which can be challenging to develop in-house. Simultaneously, banks can enhance their services and mitigate the risk of losing market share to fintech disruptors (Sarraf and Rahimi, 2023). Fintech startups, on the other hand, benefit from the financial stability, regulatory expertise, and customer trust that banks provide. This collaboration opens doors to financial capital, resources, and a broader customer base.

Iran's growing fintech landscape, driven by tech-savvy, young population and government-led digital transformation initiatives, aims to promote financial inclusion. However, Iran faces unique challenges, including complex regulatory frameworks, international sanctions, and a banking sector that has yet to fully embrace modern technology. In this dynamic environment, collaboration between banks and fintech startups is not just beneficial but essential for advancing the financial sector. Despite the clear importance collaboration Iran's between system and fintech startups, there is a research gap. Limited scholarly attention has been given to exploring the factors that facilitate or hinder strategic cooperation in this domain. These factors are crucial for informing policymakers, financial institutions, and fintech entrepreneurs. This study aims to bridge this research gap by

examining the explanatory and influential factors that govern strategic cooperation between Iran's banking system and fintech startups. By elucidating this complex relationship, the study provides valuable insights to guide stakeholders in making informed decisions.

The findings of this research are poised to benefit a wide range of stakeholders. Policymakers can use these findings to develop policies that promote and facilitate collaborations between banks and fintech catalyzing innovation startups. economic growth. Banking executives can gain a deeper understanding of their institutions' strategic positioning within the ever-evolving financial landscape. Fintech entrepreneurs, in particular, can benefit from insights into the factors that underpin successful partnerships with established banks. Therefore, the study's central question revolves around identifying the explanatory factors driving strategic cooperation between Iran's banking system and fintech startups.

Fintech (Financial Technology)

Fintech, a portmanteau of "financial technology," represents a multifaceted and transformative field that fuses financial services with cutting-edge technologies. This expansive array of innovations includes mobile banking applications, digital payment systems, blockchain. artificial intelligence, and robo-advisors. Fintech leverages these technologies to enhance and streamline financial processes, fundamentally redefining how financial transactions occur. investments managed, and interactions with financial institutions take place (Franklin et al., 2022).

Fintech has emerged as a disruptive force in the financial industry, challenging models traditional banking and revolutionizing the delivery of financial services. Its impact is profound, granting increased customers access and convenience while presenting both

opportunities and challenges to banks and financial institutions. A comprehensive understanding of fintech is pivotal in grasping the dynamics of strategic cooperation between banks and fintech startups.

Fintech Startups

Fintech startups embody entrepreneurial ventures that specialize in the development of innovative technologies and financial solutions. These startups are characterized by agility, an innovation-centric culture, and often a disruptive approach to established financial methods. Their primary objective is to address gaps and inefficiencies within the financial sector, utilizing technology to create novel, user-friendly, and cost-effective solutions.

Fintech startups manifest in various forms, ranging from those concentrating on peerto-peer lending, online payments, and digital banking, to those specializing in digital currencies, insurance technology, and regtech (regulatory technology). These startups are typically agile, unburdened by legacy systems, and driven by a vision to challenge conventional financial services (Jia et al., 2023). The role of fintech startups within the financial ecosystem is pivotal, as they drive innovation, competition, and customer-centricity. For banks, partnering with fintech startups provides access to innovation and agility that may challenging to attain through in-house development.

Strategic Cooperation

In the context of this study, strategic cooperation refers to deliberate collaboration between traditional banks and fintech startups, encompassing the pooling of resources, expertise, and capabilities to achieve mutually beneficial objectives within the financial industry. This form of cooperation extends beyond mere financial transactions and encompasses a broader partnership aimed at achieving strategic goals.

Strategic cooperation can take various forms, including joint ventures, equity technology-sharing investments. agreements, or the development of cobranded products and services. The essence of this collaboration lies in combining the strengths of both parties to create value for customers, enhance operational efficiency, and intensify competition within the market (Bakker et al., 2023). Of utmost importance acknowledgment complementary nature of banks and fintech startups. Banks offer stability, regulatory expertise, and an established customer base, while fintech startups bring innovation, technological proficiency, and agility to the table. This synergy empowers institutions to navigate the rapidly evolving financial landscape and invest in emerging opportunities.

2. Literature Review

In a study by Jinsong et al. (2022), findings highlight the substantial growth potential of fintech startups. However, these startups concurrently face challenges, particularly in the form of limited financial resources and funding constraints. Fintech companies are characterized by agile and interactive management structures, often operating within tight timelines during product development and market entry. Collaborating with the banking system holds the potential to address these challenges by providing access to the financial resources and credit capabilities of established banks. This collaboration has the potential to result in improved service offerings for customers and bolster the competitive edge of banks. Furthermore, the study indicates that the success of global depends digitization significantly cooperation between financial institutions technological and financial service providers. The weaknesses of banks and the strengths of technological financial service

providers create fertile ground for collaboration.

Drasch et al.'s study (2018) delves into the various patterns of cooperation between banks and financial technologies, categorizing them into six primary models. These models vary based on factors such as technology type, technological advancement, bank type, the role of the strategic goals, communication channels, customer base, business ecosystem, licensing, position within the value chain, type of collaboration, innovation type, and owner of innovation. The models range from high to low levels of cooperation, encompassing: 1) Direct investment in financial technology by banks; 2) Focus on channel solutions and innovation in advanced financial platforms; 3) Innovation to streamline banking services for customers' benefit; 4) Capital market integration for enhanced services; 5) Reciprocal service enhancements among banks; and 6) Initial-stage collaboration with fintech companies for technology These patterns illustrate the access. versatility of collaboration approaches that can adapt based on technology type and the strategic goals of banks.

Payandeh et al. (2021) conducted an cooperation examination of between banks and fintech companies from the perspective of banks. Their research led to the identification of five optimal categories cooperation patterns: transformational, expedited, intelligent, investor-oriented. conventional. and Furthermore. the study revealed remarkable degree of similarity among many banks, indicating that factors such as the limited development of diverse fintech types and related business models can influence banks' cooperation patterns. Additionally, the type of bank, whether governmental or private, does not distinctly affect the relationship between banks and fintech companies.

Tahmasebi-aghbelaghi et al. (2021)introduced strategic a cooperation framework for private banking systems and fintech companies, highlighting the role of environmental uncertainties in shaping such cooperation. This framework comprises two dimensions. The first dimension features environmental factors, including opportunities offered by fintech, digital consumer behaviors, and customer needs as causal conditions influencing strategic cooperation. Furthermore, factors such as customer awareness of fintech. maintenance of a competitive environment, adherence to Islamic financial principles and legal standards, and accurate business valuation are cited as influential conditions. The second dimension encompasses internal factors of the private banking system, which can serve as either barriers or constraints to cooperation. Strategic cooperation between these two entities can vield multifaceted outcomes across financial, operational, process, and intervention dimensions.

Nguyen & Dinh (2020) conducted a study revealing five critical challenges and impediments encountered by fintech companies during their journey modernize the banking and financial systems: 1. Legal Corridor: This challenge involves aligning fintech activities with the existing legal framework and regulations within the banking and financial systems. 2. Infrastructure: Concerns are raised regarding the infrastructure and technologies required for the effective implementation of fintech solutions. 3. Fintech Companies: This challenge centers on issues related to the performance and establishment of fintech companies within the market. 4. Customers: It emphasizes the importance of educating and familiarizing

customers with fintech services and their utilization. 5. Human Resources: This challenge pertains to obstacles related to the workforce and human resource capabilities within fintech enterprises.

Proposed solutions to facilitate the modernization of the banking and financial systems through fintech adoption include the rapid completion of regulatory frameworks, the introduction of tax exemption policies, the promotion of blockchain technology study and utilization, harnessing human resource capacities, and fostering knowledge-related activities concerning fintech.

Moradi et al. (2021) conducted exploration of future scenarios for the banking industry and fintech startups in Iran, projecting developments until 2026. Using morphological analysis, they identified five scenarios from a pool of 16 possible ones. The five scenarios identified are as follows: "The Paradise of Fintechs in the Banking System", "Small Fintechs", Crucifixion Fintech", "Resistant Fintechs" and "Trending Fintechs". Experts' opinions favored "The Paradise of Fintechs in the Banking System" as the most favorable scenario envisioned for the year 2026.

Bartolacci et al. (2022) delved into the motivations underpinning the formation of strategic alliances between banks and fintech startups. From a theoretical perspective, banks' motivations stem from factors such as: outsourcing, innovation, and business model evolution, competitive advantage, leveraging past experiences, optimization, cost quality service enhancement and learning. Banks are inclined to harness external opportunities and resources, seek innovative solutions for performance improvement, and strive to enhance their business models. Meanwhile, fintech startups are chiefly motivated by objectives like: market and customer access, loan provisioning, securing banking licenses, benefiting from economies of scale in offering financial services and establishing trust and credibility in the market. Fintech startups seek opportunities for market and customer access and aspire to provide a diverse array of financial and security services. Additionally, obtaining banking licenses and cultivating customer trust stand out as major objectives. Key success factors in forging strategic alliances strategic encompass and hybrid compatibility, competency and expertise, shared values and geographical proximity, and professionalism, all of which are fundamental facets.

Shah-hosseini et al. (2022) highlight the collaborative nature of banks and fintech companies, emphasizing that the shape of this collaboration is influenced by the unique capabilities and advantages each party brings to the table. Their study examined the factors shaping cooperation patterns between banks and fintech companies, identifying 43 key factors that contribute to this phenomenon. These factors are categorized into 11 structures and four main categories, including party characteristics, communication attributes, cooperation prerequisites, and macro-level factors. The study underscores multifaceted nature of the cooperation patterns between banks and fintech companies and advises examining this intricate phenomenon from multidimensional perspective.

Asadollah et al. (2019) presented a business model for electronic banking, leveraging the emergence of fintechs and financial startups. The study underscores critical drivers in the e-banking business model, with a particular focus on factors such as: the structure of financial institutions, customer segmentation, financial technology developers, and the business

environment. Regarding the business model itself, the considerations revolve around proposed services. communication strategies with customers, infrastructure management, and financial aspects. The outcomes of this business model design emphasize the enhancement of the business environment. improvements in organizational performance, and the proliferation of virtual banking.

Gholami et al. (2023) conducted a comprehensive investigation and analysis of factors influencing the implementation of fintech within the banking industry, offering practical solutions to overcome challenges and foster industry development. Their findings stress the necessity for the banking sector to meet elevated regulatory and legal standards. Alongside this, the development of the requisite infrastructure and tools to facilitate fintech strategy implementation is crucial. These measures aim promote transparency, reduction, the provision of high-speed services, and the transition toward a smart economy.

Li et al. (2023) delve into the patterns and performance banks of in investments in the United States. They reveal that banks, in comparison to independent venture capitalists, allocate a larger proportion of their investments to fintech startups and yield higher returns, marking their success. This outperformance predominantly centers on domestically nurtured fintech startups and those whose operations align with banks' core business segments. This aligns with the venture capital literature and underscores that banks possess unique industry expertise facilitating their selections. Additionally, banks are more likely than other investors to participate on fintech startup boards, signifying that investment outperformance is not solely attributed to selection.

In the study led by Najafi et al. (2020), factors influencing the interaction between banks and emerging financial technologies are identified and ranked. These factors fall into four primary categories: beneficiary environmental characteristics. organizational factors, and financial factors. The study's findings underscore the significant impact of all these factors on the interaction between banks and financial technologies. Beneficiary characteristics are the most pivotal factors, holding the highest rank in this interaction. Following suit are environmental factors, financial considerations, and organizational elements, all contributing substantially to the dynamics.

According to Chen et al.'s (2020) research, cooperation with fintech profoundly influences the organizational dimensions of banks. The position and role of both cooperating parties, as well as their interactions in contractual matters, carry considerable influence in terms of power dynamics and commitment. Key factors that sway the selection and formation of cooperation models include the technical capabilities and existing infrastructure on both sides, the perceived fairness in benefit distribution, the handling of intellectual property concerns, and the foresight and expectations of each party regarding cooperation outcomes. These collective factors decisively impact cooperation model selection and formation, warranting careful consideration.

Morovat and Nazarizadh (2022) conducted a study to investigate the role of fintech startups in Iran's financial system, with a focus on the year 2032. They employed cross-effects analysis to identify influential factors and key components, analyzing how these elements interacted and outlining potential scenarios. The study outlined four plausible scenarios for the future of fintech

startups in Iran: "Conquering the Territory": This scenario signifies the complete dominance of startups in the financial landscape. "Competition in Conquering the Industry": This scenario highlights the competition between banks and fintech startups for supremacy within the industry. "Stagnant": In this scenario, fintech startups face a lack of acceptance by users and the banking industry, resulting in limited growth. "The Gradual Death of a Dream": This scenario reflects the failure of fintech startups to thrive and make a significant impact.

In a study by Franklin et al. (2022), three fundamental ways in which fintech can transform the financial and banking industry were outlined: 1. Reducing Costs and Elevating Service Quality: Fintechs have the ability to reduce operational costs and improve service quality by leveraging new technologies and optimizing processes. This not only attracts new customers but also enhances the satisfaction of existing ones. 2. Intelligent Risk Assessment and Management: Fintech startups play a crucial role in intelligently assessing and managing risks associated with financial operations. This enhances customer and investor confidence in their services. 3. Fostering Innovation and Diversification**: Smaller and startup companies within the banking sector can provide innovative and sustainable solutions and services. This helps them thrive in the competitive banking industry, attract a diverse customer base, and expand their market reach.

Despite the abundance of studies on financial technology (Fintech) and its impact on the banking industry, there exists a notable research gap. Addressing this gap requires a comprehensive study with a specific focus on Iran's unique context. Such research should explore the factors that underpin strategic cooperation between

Iran's banking system and fintech startups. Given Iran's distinctive economic and regulatory landscape, such research can offer insights into the complexities of collaboration between traditional banks and fintech innovators within this specific market. Consequently, this study not only enriches existing knowledge but also provides valuable recommendations for policymakers, financial institutions, and entrepreneurs looking to navigate and excel in Iran's evolving fintech landscape.

3. Methodology

The present study employs an exploratory-descriptive design for data collection and has practical objectives. It utilizes a mixed-method approach, encompassing both qualitative and quantitative components, as elaborated below.

• Qualitative Data Collection

For a comprehensive understanding of the experiences, perspectives, and perceptions of interviewees regarding the factors explaining strategic cooperation between Iran's banking system and fintech startups, a qualitative approach rooted in Grounded Theory (Strauss and Corbin, 1998) serves as the analytical framework. Grounded Theory employs a three-stage coding process: open coding, axial coding, and selective coding. Rather than validating existing theories, this methodology aims to develop new theories. Study variables were identified and explored within the theoretical framework and grouped into categories.

Sample Selection for Qualitative Analysis A purposeful sampling method was employed to select participants with a minimum of a master's degree, relevant knowledge, and a minimum of 10 years of experience in digital banking, startup management, or fintech companies. The qualitative analysis sample includes 14 experts and managers in the digital banking

and fintech sectors, all holding masters or doctoral degrees and boasting over a decade of experience in the banking industry.

Fourteen semi-structured interviews were conducted, reaching theoretical saturation after the 12th interview. To ensure data quality and accuracy, two additional interviews were conducted. Written agreements were signed before each interview to ensure confidentiality and obtain consent for recording. Interview durations varied from 30 to 45 minutes, depending on the interviewee's interest and the topic discussed. All interviews were conducted individually, recorded, and later transcribed for analysis.

• Qualitative Data Analysis

Qualitative data analysis was carried out using an open coding system, axial coding, and selective coding, with the assistance of Atlas software. The validity of the qualitative data was confirmed through Numan validation, and test-retest reliability analysis was applied. Two selected interviews were recorded and reanalyzed after a 10-day interval, resulting in a reliability rate exceeding 90%, which attested to the trustworthiness of the codings.

• Quantitative Data Collection

statistical population for the quantitative segment consisted of 1,900 active managers and experts in digital banking and fintech companies. The sample size, determined using Morgan's table, comprised 320 participants. Given the specialized nature of the study and the need for deep expertise, purposeful sampling was used to ensure the inclusion of individuals with substantial knowledge and familiarity with the subject matter. Participants were selected based on their expertise and relevance to the study. Demographic characteristics questionnaire of the respondents can be found in Table 1.

	Table 1. Profile of Questionnaire Respondents							
	Variable	Frequency	Frequency%	Variable		Frequency	Frequency%	
der	Male	231	72	nce	< 10 years	105	33	
Gender	Female	89	28	Experie	10-15 years	178	56	
	< 30 years	52	16	Work Experience	> 15 years	37	11	
Age	30-40 years	89	28		Bachelor's	149	46	
A	40-50 years	111	35	Education	Master's	130	41	
	> 50 years	68	21	1	PhD	41	13	

Note: This table provides demographic information about the questionnaire respondents, including gender, age, work experience, and educational background.

Data collection in the quantitative segment involved a questionnaire designed by the researcher. The questionnaire was constructed based on expert opinions and industry professionals and employed a Likert scale for data analysis.

• Reliability and Validity Assessment

To assess the reliability of the quantitative data, Cronbach's alpha coefficient was employed. All coefficients exceeded 0.70, indicating acceptable data reliability. For the validity of the model constructs, confirmatory factor analysis was utilized. The Kaiser-Meyer-Olkin (KMO) index and Bartlett's test confirmed the sample size's adequacy for factor analysis. A KMO index of 0.769 indicated suitability for factor analysis, and Bartlett's test, with a value less than 0.05, validated the correlation matrix for factor analysis.

• Structural Equation Modeling

The structural equation modeling (SEM) method in Amos software was utilized to assess the content and structural validity of the test. All variables were simultaneously

entered into the SEM, and hypotheses were confirmed or rejected based on the software's results.

4. Findings

• Qualitative Results

In this study, grounded theory coding was systematically employed to identify and categorize the factors that explain strategic cooperation between Iran's banking system and fintech startups. Each interview was treated as a unique comparison group, with interviewees carefully selected for their experience, education, extensive and expertise in the subject matter. Seven questions were posed in each interview session to ensure a shared understanding of the topic, addressing the concept of strategic cooperation in the banking system. The interview questions are detailed below: Q₁: How would you define strategic cooperation between Iran's banking system and fintech startups in the financial industry?

Q₂: From your perspective, what are the key drivers behind the strategic cooperation between traditional banks and fintech startups in Iran?

Q₃: Could you identify specific challenges or obstacles encountered by fintech banks and startups in their pursuit of strategic cooperation within the Iranian market?

Q4: Based on your experience, what potential benefits do strategic partnerships offer to both banks and fintech startups in Iran?

Q₅: Do regulatory or legal factors significantly impact the formation of cooperation between the banking system and fintech startups in Iran?

Q₆: In your view, how does technological innovation facilitate and strengthen strategic cooperation between traditional banks and fintech startups within Iran's financial sector?

Q₇: What is your perspective on the future prospects and trends in strategic cooperation between Iran's banking system and fintech startups?

Following the analysis of the initial 12 interviews, a total of 219 codes were observed during the first stage of open Reviewing coding. interviews these revealed recurring confirming and information related to concepts and Therefore, categories. the researcher concluded that the theoretical saturation point was near. However, to mitigate the possibility of overlooking new codes or connections and enhance the study's validity, two additional interviews were conducted.

In the axial coding stage, the categories derived from open coding were logically interconnected, elucidating their relationships. This phase involved an innovative approach to integrating the 219 elements identified during open coding, eventually leading to the recognition of eight core factors.

Further analysis during axial coding revealed a total of 48 subcategories, which were subsequently organized into the framework of these eight main concepts. The study then proceeded to selective coding, using insights from the previous stages, and established a regular structure of interrelations between the main categories. These relationships were presented in a narrative format, and categories that demanded refinement and development were duly modified. This phase involved a deep analysis of the data.

Following the completion of the two key coding stages, namely open and axial coding, study indicators were extracted. To validate the accuracy and titles of these indicators, expert opinions were consulted once more. Ultimately, a total of 48

indicators were identified, and their titles are detailed in Table 2.

Table	2. Qualitative Findings Indicators**					
Categories	Indicators					
	MT1: Talent search					
lanagerial Traits (MT)	MT2: Creating recognition and training					
Tr	for managers					
ial (T)	MT3: Influence of managers' attitudes,					
ger (M	knowledge, and preferences					
ma	MT4: Management support					
Mg	MT5: Necessity of familiarity with					
	banking knowledge and literature					
	TI1: IT knowledge					
zy rres	TI2: Bank and company strategic					
olog ictu	planning					
hinc stru (TI	TI3: University and industry linkages					
Fechnolog: frastructur (TI)	TI4: Innovation Centers					
T III	TI5: Desire to innovate					
	TI6: Role of incubators					
	SF1: Structural differences					
	SF2: Novelty in cooperation between					
	banks and startups					
	SF3: Agility and creativity of fintech					
ÍT.	startups					
Structural Factors (SF)	SF4: Decision-making structure					
OFS	SF5: Modern and horizontal					
acte	organizational structure of fintech					
1 Fe	startups					
ura	SF6: Need to increase banks' risk-taking					
ıctı	levels					
Strı	SF7: Necessity of making the bank's					
	structure flexible					
	SF8: Bank architecture					
	SF9: Architecture and data structure					
	SF10: Architecture and structural					
	processes					
S	OF1: Monopoly of banks and large					
tor	organizations					
Зас	OF2: Difficulty in the acceptance of					
al 1	startups within banks					
tiona (OF)	OF3: Fear of unemployment OF4: State-owned banks					
zat (OF5: Organizational preferences					
ganizational Factors (OF)	OF6: Resistance within the bank					
Org	organization					
	OF7: Role of organizational factors					
	CF1: Influence of government thinking					
ural ors (°	CF2: Changing consumer behavior					
actc	CF3: Cultural structure					
Cultural Factors (CF)	CF4: Role of organizational culture					
_	DT1: Importance of IT industry in					
ion	banking					
nat	DT2: Digital banks					
Orr	DT3: Transformation of the banking					
msf VT)	system					
Tra (E	DT4: Digital transformation					
igital Transformatior (DT)	DT5: Digitization of the banking					
igit	industry					
D	DT6: Generation Z					
r u	TM1: Establishing trust with banks					
	. ~					

Table 2. Qualitative Findings Indicators**				
Categories	Categories Indicators			
	TM2: Forming long-term contracts with			
	fintechs			
	TM3: Discussions about the future			
	TM4: Selection and evaluation of			
	fintechs			
	TM5: Need for a well-structured			
	proposal from startups			
	TM6: People and customers			
S	LF1: Legal requirements and restrictions			
gal tor F)	LF2: Legal aspects of contracts			
Legal Factors (LF)	LF3: Rules and Regulations			
	LF4: Legal infrastructure			

Based on the findings at this stage, the study's hypotheses have been formulated as follows:

H₁: Managerial traits affect strategic cooperation between Iran's banking system and fintech startups.

H₂: Technology infrastructure affects strategic cooperation between Iran's banking system and fintech startups.

H₃: Structural factors affect strategic cooperation between Iran's banking system and fintech startups.

H₄: Organizational factors affect strategic cooperation between Iran's banking system and fintech startups.

H₅: Cultural factors affect strategic cooperation between Iran's banking system and fintech startups.

H₆: Digital transformation affects strategic cooperation between Iran's banking system and fintech startups.

H₇: Trustworthy methods affect strategic cooperation between Iran's banking system and fintech startups.

H₈: Legal factors affect strategic cooperation between Iran's banking system and fintech startups.

• Quantitative Results

In the quantitative phase of the study, statistical analysis was carried out using SPSS software. Various tests were applied to assess the data, including skewness and kurtosis tests to evaluate its normality. Additionally, to ensure data validity,

confirmatory factor analysis, path analysis, fitting of the conceptual model, and hypothesis testing were conducted using structural equation modeling with Amos software.

The results of descriptive statistics and the normality test for each indicator are presented in Table 3. Notably, all indicators displayed an average score exceeding 3, indicating a high level of agreement among respondents regarding the influence of these indicators. Furthermore, the skewness and kurtosis coefficients for all indicators fell within the range of +3 to -3, signifying a normal data distribution.

Т	Table 3. Descriptive Statistics and Normality Test of Indicators								
Indicators	Mean	Standard	Skewness	Kurtosis	Indicators	Mean	Standard	Skewness	Kurtosis
MT1	3 38	1.222	866:-	995:-	OF4	3.17	832	322	461
MT2	3 54	.920	363	430	OF5	3.31	.824	304	264
MT3	3.42	1.159	356	654	OF6	3.26	.865	381	227
MT4	375	1.304	197	-1.023	OF7	3.26	.865	381	227
MT5	3.21	.845	117	600.	CF1	3.06	1.169	172	845
TII	3 35	1.050	197	902	CF2	3.23	1.192	347	818
T12	3.40	.994	399	617	CF3	3.24	1.194	351	<i>6LL</i> -
TI3	3.40	1.068	408	609:-	CF4	3.06	1.143	249	908:-
TI4	3 53	1.134	419	765	DT1	3.04	1.212	570.	-1.031
TIS	3.41	.982	613	342	DT2	3.04	1.287	080	-1.028

Т	Table 3. Descriptive Statistics and Normality Test of Indicators								
Indicators	Mean	Standard	Skewness	Kurtosis	Indicators	Mean	Standard	Skewness	Kurtosis
TI6	3.42	.940	905:-	471	ELQ	3.96	1.328	.074	-1.083
SF1	3.66	1.349	764	231	DT4	3.05	1.339	122	-1.016
SF2	3.69	1.106	617	307	DT5	3.87	1.193	115	-1.013
SF3	3.64	1.183	077	012	9LQ	3.91	1.239	075	995
SF4	3 77	966	8/9:-	105	TM1	3.04	1.234	102	885
SF5	3 68	1.133	622	315	TM2	3.14	1.145	104	716
SF6	3 63	1.192	747	990:-	TM3	3.27	1.062	315	665
SF7	3 70	995	726	.037	TM4	3.15	1.018	194	841
SF8	3.62	1.339	543	621	SMT	3.12	1.045	134	798
SF9	3.80	.982	835	.300	TM6	3.31	1.022	405	727
SF10	3 55	1.420	613	544	LF1	3.32	1.027	453	665
OF1	3.21	.901	458	461	Γ F2	3.16	186	186	794
OF2	3.25	.727	320	355	LF3	3.56	906	600	310
OF3	3 47	.638	332	511	LF4	3.38	1.096	441	470

The study utilized confirmatory factor analysis (CFA) to estimate the

measurement model. For an indicator to be included in the model, two criteria had to be met: the factor loading of the indicator should exceed 0.5, and the t-value should surpass 1.96 (Hair et al., 2006).

The CFA results are depicted in Figure 1.

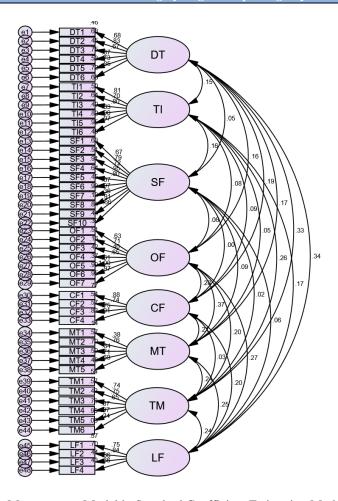


Figure 1. Measurement Model in Standard Coefficient Estimation Mode

Following data analysis with Amos software, it was established that SF8, OF3, MT1, and TM6 indicators did not meet the minimum desirability criteria and were subsequently removed from the model. The modified measurement model, excluding these four indicators, is illustrated in Figure 2, and the CFA results are summarized in Error! Reference source not found..

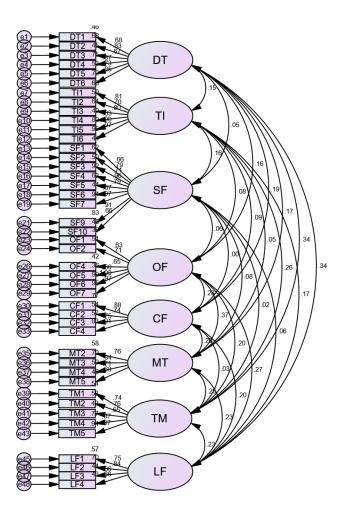


Figure 2. Modified Measurement Model in Standard Coefficient Estimation Mode

In Error! Reference source not found., both factor loading and significance coefficient of each indicator are presented for both the primary and modified models. Table 5 presents the results of composite reliability, convergent validity, divergent validity. The average variance extracted (AVE) and composite reliability (CR) values for all variables exceeded 0.5 and 0.7, respectively. Additionally, AVE was greater than 0.5 for all model constructs, and in all cases, CR exceeded AVE (CR > AVE). Thus, the study

instrument demonstrated both convergent validity and composite reliability.

Furthermore, the AVE for each variable exceeded the values of average squared common variance (ASV) and maximum squared common variance (MSV) between all variables in the measurement model, confirming divergent validity.

Table 4. Results of Confirmatory Factor Analysis						
Categories	Indicators	Primary	model	Modifie	d model	
Categ	Indic	factor Ioading	t-value	factor loading	t-value	
	DT1	829.	13.429	.678	13.429	
	DT2	.826	17.835	.826	17.834	
DT	DT3	.671	13.242	.671	13.239	
	DT4	.866	19.171	798.	19.180	
	DT5	727.	14.769	727.	14.777	
	DT6	.846	1	.847	1	
	TI1	.812	20.260	.812	20.259	
	TI2	.705	15.719	.705	15.719	
TI	TI3	767.	19.542	767.	19.542	
	TI4	.635	13.398	.635	13.398	
	TIS	.903	1	.903	1	
	9I.L	.972	31.105	.972	31.106	
G.T.	SF1	.670	13.128	.662	12.898	
SF	SF2	.794	16.355	.789	16.122	

T	able 4.		f Confirm	atory Fac	etor
Categories	Indicators	Primary		Modifie d model	
Categ	Indic	factor loading	t-value	factor loading	t-value
	SF3	.716	14.283	80 <i>L</i> °	14.016
	SF4	.953	21.452	856.	21.351
	SF5	86 <i>L</i> °	-	<i>1</i> 94	ı
	SF6	.673	13.209	999.	12.994
	SF7	996:	21.910	976.	21.773
	SF8	.356	6.448	1	1
	SF9	.915	20.102	.911	19.783
	SF10	099'	12.889	<i>L</i> 59 [.]	12.775
	OF1	.626	14.204	.625	14.177
	OF2	.713	17.872	.711	17.829
OF	OF3	.399	7.731	1	1
	OF4	.649	15.072	.648	15.049
	OF5	909.	13.446	.604	13.416
	OF6	966	ı	766.	ı

Т	Table 4. Results of Confirmatory Factor Analysis						
Categories	Indicators	Primary		Modifie d model			
Cate	Indic	factor Ioading	t-value	factor loading	t-value		
	OF7	576:	63.576	676.	63.356		
	CF1	878.	21.557	878.	21.540		
CF	CF2	.737	16.117	.738	16.123		
	CF3	.754	16.719	.755	16.727		
	CF4	.912	1	.912	1		
	MT1	.379	6.216	1	ı		
	MT2	.758	12.041	.761	11.953		
МТ	MT3	.837	12.881	.839	12.715		
	MT4	.710	1	902.	1		
	MT5	929.	10.868	.675	10.770		
	TM1	.735	17.820	.736	17.804		
TM	TM2	.755	18.766	<i>65L</i> .	18.872		
1111	TM3	.649	14.365	.648	14.278		
	TM4	.873	26.435	.875	26.395		

Т	Table 4. Results of Confirmatory Factor Analysis						
Categories	Indicators	Primary	model	Modifie d model			
Categ	Indic	factor Ioading	t-value	factor Ioading	t-value		
	SMT	.974	-	126.	-		
	TM6	.237	4.253	1	-		
	LF1	.755	10.905	.754	10.899		
LF	LF2	.835	11.467	.835	11.461		
	LF3	.662	9.875	.662	9.876		
	LF4	.657	ı	759.	ı		

Т	Table 5. Results of Composite						
	bility, C	onverger	nt Validit				
	Dive	ergent Va	alidity				
Variable	CR	AVE	MSV	ASV			
MT	0.834	0.559	0.134	0.047			
TI	0.919	0.659	0.068	0.023			
SF	0.940	0.640	0.024	0.006			
OF	0.897	0.604	0.134	0.052			
CF	0.894	0.679	0.080	0.029			
DT	0.898	0.598	0.115	0.049			
TM	0.901	0.649	0.112	0.049			
LF	0.819	0.534	0.115	0.053			

To ascertain the model fit, several fit indices were assessed. At least two indices from each category (parsimonious, absolute, and comparative) should fall within acceptable ranges. Error! Reference source not found. presents the results of the measurement model fit evaluation, indicating a good fit for the model. The structural model, shown in Figure 3, was obtained using standard coefficient estimation.

According to the results from Amos software (Error! Reference source not found.), all t-value coefficients exceeded the absolute value of 1.96, indicating that the eight identified factors significantly explain strategic cooperation between Iran's banking system and fintech startups.

Table 6. Results of Model Fit Evaluation						
Fit indicators	Allowed amount	Results				
X2/df	< 3	2.376				
RMSEA	< 0.1	0.066				
PNFI	> 0.5	0.769				
PCFI	> 0.5	0.816				
GFI	> 0.8	0.812				
CFI	> 0.9	0.914				
TLI	> 0.9	0.904				
IFI	> 0.9	0.915				

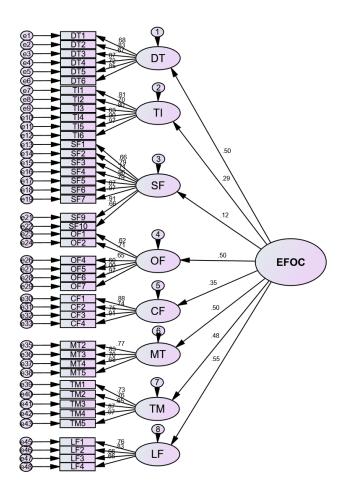


Figure 3. Structural Model in Standard Coefficient Estimation Mode

Table 7. Results of Hypothesis Testing						
II. mothodia	T-	P-	Path			
Hypothesis	value	value	coefficient			
H1	4.819	***	.50			
H2	3.589	***	.29			
Н3	2.622	.004	.12			
H4	4.819	***	.50			
H5	4.103	***	.35			
Н6	5.048	***	.50			
H7	5.072	***	.48			
Н8	4.956	***	.55			
Note: *** means p < 0.01.						

5. Results and discussion

The primary objective of this study was to delve into the factors that elucidate the strategic cooperation between Iran's banking system and fintech startups. Over recent years, the fintech industry has witnessed rapid growth, ushering in innovative solutions that challenge traditional banking paradigms. Recognizing the significance of bolstering collaboration between these two domains, this study sought to shed light on pivotal factors that either facilitate or hinder these partnerships. The impetus behind this research lies in the ever-evolving landscape of the financial where technology-driven sector. disruptions are reshaping the delivery of financial services. Grasping these factors is of utmost importance for both banking institutions and fintech startups as they navigate the intricacies of strategic cooperation, optimize their operations, and furnish advanced services to their clientele. The study's findings have unveiled eight categories of factors that impact the cooperation between strategic banking system and fintech startups. These categories encompass a diverse array of considerations, spanning managerial

science and technology aspects, infrastructures. structural and organizational factors, cultural elements, transformation, trust-building mechanisms, and legal aspects, which have materialized as 48 distinct indicators. It's worth noting that the quantitative analysis affirms the significance of 44 out of the 48 identified indicators, underscoring the robustness of the study's framework.

These findings underscore the multifaceted nature of strategic cooperation within this domain. Notably, the pivotal role of leadership and management support, coupled with the necessity for innovative infrastructures and flexible organizational structures, underscores the importance of adaptability for both banks and startups. Cultural and legal dimensions, including the influence of government perspectives and legal prerequisites, accentuate the need to align with evolving socio-cultural norms and regulatory frameworks. Furthermore, the advent of digital transformation and the rise of a digital banking industry, especially with the participation of Generation Z, necessitate continuous adaptation innovation.

Consequently, this study imparts valuable insights to both banking institutions and fintech startups in Iran, offering a comprehensive comprehension of the molding factors their strategic collaboration. The implications of these findings extend to policy development, frameworks, regulatory and strategic planning to successful foster sustainable collaborations in this dynamic and ever-evolving landscape. Drawing from the findings of this study, practical recommendations can be formulated to guide banking institutions and fintech startups in advancing their strategic cooperation efforts. The aim of these recommendations is to cultivate successful collaborations and drive innovation in the financial sector:

In order to promote a culture of innovation, it is imperative for banking institutions to nurture innovation from within. This can be achieved by encouraging employees to wholeheartedly embrace new technologies and novel ideas. The establishment of dedicated innovation centers or units within the organization can further expedite the development of cutting-edge solutions. On the other side of the coin, fintech startups should steadfastly uphold creativity and agility as fundamental strengths. They should remain prepared to explore innovative solutions that seamlessly align with the ever-evolving needs of their banking partners.

To fortify the pillars of strong leadership and management support, banking institutions should direct their efforts toward talent acquisition and development. Ensuring that their managers possess the requisite knowledge and skills necessary for effectively overseeing collaborations is paramount. This includes the implementation of comprehensive training programs that encompass the latest fintech digital banking and trends. Simultaneously, fintech startups should proactively seek partnerships with banks that visibly champion robust leadership support for fintech initiatives. Open and transparent discussions with banking partners should be held to ensure alignment of attitudes, knowledge, and strategic goals. In the pursuit of unwavering digital transformation initiatives. it is recommended that banking institutions channel their focus towards prioritizing transformation digital efforts. venturing into the establishment of digital banks. This digitalization drive should permeate every nook and cranny of banking processes and operations. In parallel, fintech startups should channel their energies towards offering digital solutions that impeccably cater to the dynamic nature of the banking system. A specific emphasis should be placed on targeting Generation Z customers, who epitomize the digitally savvy demographic.

To elevate trust-building mechanisms, banking institutions should actively endeavor to establish trust with fintech partners through crystal-clear communication and the forging of longterm contracts. Collaborative endeavors should orbit around discussions concerning future strategic objectives. Fintech startups, conversely, must exhibit a knack for presenting well-structured proposals and business plans when engaging with banks. These proposals should compellingly demonstrate the sustainability and enduring value of their solutions. Furthermore, nurturing and fortifying relationships with key decision-makers and customers is pivotal.

When it comes to legal and regulatory considerations, banking institutions should remain steadfast in their commitment to being well-informed about the legal requirements and evolving regulations fintech cooperation. governing Collaboration with legal experts becomes indispensable ensuring part of compliance ever-evolving with the financial laws. For fintech startups, it is of utmost importance cultivate to comprehensive understanding of legal aspects, including contractual obligations and the fine print of terms and conditions. Engaging legal counsel when embarking on partnerships with banks is an advisable course of action.

To foster collaboration within innovation ecosystems, banking institutions can take the proactive step of engaging in partnerships with universities, innovation centers, and fintech incubators. These partnerships serve as a crucial bridge between academic research and practical industry implementation. They offer access to emerging talents and fresh ideas. Conversely, fintech startups should proactively seek to engage with banking partners who are active participants in innovation ecosystems. These connections can serve as fountains of valuable resources, guidance, and access to essential funding.

By implementing these practical suggestions, banking institutions and fintech startups can effectively navigate the intricacies of strategic cooperation. This proactive approach empowers them to seize for opportunities innovation, differentiation, and sustainable growth in Iran's ever-evolving financial landscape.

However, while this study has offered valuable insights into the factors influencing strategic cooperation between Iran's banking system and fintech startups, it's essential to acknowledge certain limitations that should guide future research endeavors. The primary focus of this study is on the factors influencing cooperation between banking institutions and fintech startups in Iran. Future studies could broaden their horizons by conducting comparative analyses with other countries to explore the unique dynamics and challenges inherent in various financial ecosystems.

Additionally, it's important to recognize that the findings are specific to Iran's financial sector, which is characterized by distinct cultural, regulatory, and economic features. Future studies should aim to investigate how these factors influence cooperation in other regions and assess the applicability of the identified elements.

The financial technology landscape is in a perpetual state of change. To remain

relevant, future studies should vigilantly monitor shifts in the industry. This includes keeping a close watch on changes in regulatory frameworks, technological advancements, and emerging fintech trends. While this study primarily focused on internal factors affecting cooperation, future research could delve into the impact of external factors, such as economic conditions, global financial trends, and geopolitical considerations, on strategic cooperation within the financial sector.

Given these limitations, future studies in this field should strive to address these gaps and enhance the depth and breadth of knowledge regarding strategic cooperation between banking institutions and fintech startups. Such endeavors will contribute to a more precise understanding of the dynamics shaping the financial industry, thereby assisting stakeholders in effectively navigating evolving challenges and opportunities.

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