Research framework for iFintech adoption

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ABSTRACT
This paper develops a framework for successful sustainable iFintech adoption research. It presents a research agenda as a three-stage network, and as one appropriate for mixed methods triangulation.

Keywords: Islamic Fintech, digital financial services, Shari'ah Law compliance, Islamic banking, unique sustainable advantage, competitiveness.

1. Introduction

Digital financial technology has accelerated the dynamism of financial services. This has driven security and altered consumer trust in financial services (Elouaourti & Ibourk, 2024). Recently, the Financial Stability Board (2019) defined new business models, processes, applications, and products are new technologies driven, and are supporting additional financial innovations. These are delivering associated and material effects throughout financial institutions and their service marketplaces.

Islamic fintech financial services' (hereafter termed iFintech) can now offer a different financial approach that remains shariah compliant, with services, and products based on the rules of shariah. These rules and guidelines are defined in the Holy Quran and by the Prophet Muhammad. They have particular relevance in and around Islamic countries, other Islamic population areas, and Islamic compliant institutions (Alshater & Othman, 2020).

Shariah-compliant iFintech operations, and the conventional Fintech operations, are differentiated with the term 'Islamic' to highlight the many differences available between the two financial systems. Today Fintech operations incorporate disruptive or new financial technologies. These encompass P2P lending, profit, and interest-based lending. This business model approach is totally rejected in iFintech. Under iFintech operations *riba* or interest charged is prohibited.

1.1. Fintech

The term Fintech emerged in the early 1990s but received little attention before 2010 (Lai & Samers, 2021). Fintech applies and uses information technology throughout financial, financial innovation, and digital innovation domains (Suryono et al., 2020). Fintech start-ups, and supporting firms now actively pursue innovative digital service transformations for the global financial sector (Schueffel, 2016).

Fintech encapsulates topics including adoption and use of new technologies (Mathur & Mathur, 2034), and social and stakeholder group consequences (Stewart & Jürjens, 2018). It includes domain-specific topics (Suryono et al., 2020), such as payment, clearing, settlement (Niu et al., 2020), risk management and investment (Lee, 2019), and market aggregators (Liu et al., 2017).

Today Fintech research areas cover crowdfunding and P2P lending (Basha et al., 2021), cryptocurrency and blockchain (Bello & Perez, 2019), innovation hubs (Lerner & Tufano, 2011), and regulation (Alaassar et al., 2021).

There is scant research on the management of Fintech. However, Nicoletti (2017) considered the specific factors making Fintech successful, and Milian et al. (2019) researched specific principles of Fintech business models in enabling successful start-ups, and their disruptive influences in these highly regulated and competitive markets (p.14). Hence this study explores the managerial side of Fintech.

1.2. Scale of Fintech

According to Islamic Finance Development Report 2021 and the report of Statista the net worth of the Islamic global finance is projected as approximately $4 trillion in 2024 and up to $5.9 trillion in 2026. The Islamic Financial Services Board Asia indicates the region where most Islamic finance is geographically located, along with some scattering of assets within the Middle East and North Africa and within the Gulf Cooperation Council. These predominantly Islamic regions are major contributors of global finance up to 95% in year 2017 and has a lion's share is of Islamic banking to the total asset???s. However, the global percentage of Islamic banking is not concentrative as per the population of these countries. Indonesia (87% Muslim) and Pakistan (87% Muslim) are Islamic countries, but their respective Islamic financial products are 15% and 5.8% (Durak et al., 2024).

Figure 1 shows in 2021 Islamic finance assets continue their expansions, with Islamic banking, followed by Sukuk, other Islamic institutions, Islamic funds and Takaful remaining the largest components. Across 2024 these financial assets are projected to reach US3.472 trillion dollars.

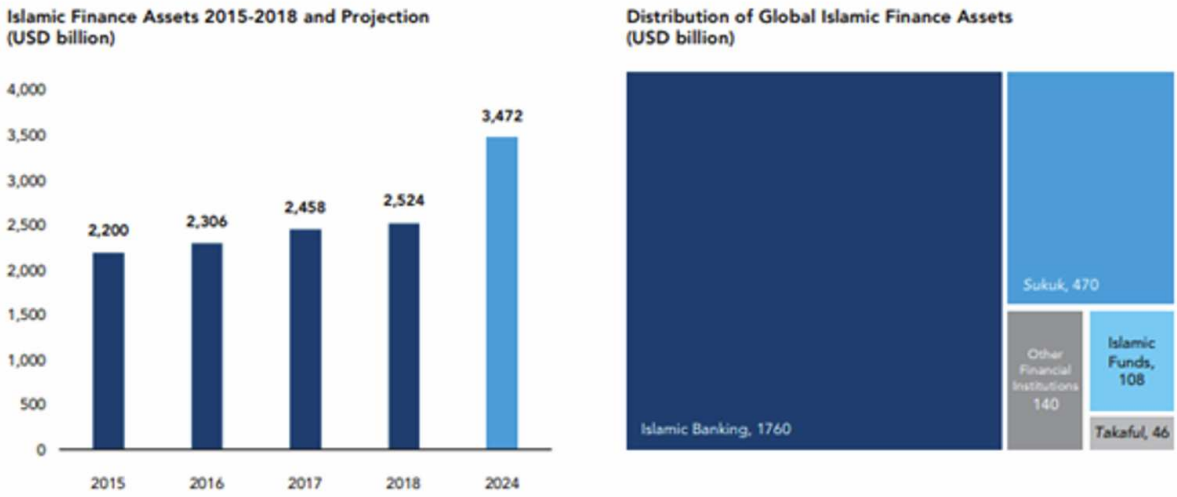

Figure 1: Global Islamic Finance Assets Projection with Distribution
(Islamic Finance Development Report 2021)

1.3. Islamic banking

Literature and research findings also show differences between commercial banks and Islamic banks. Abedifar et al., (2015) discuss evolution of Islamic banks over time. They show the Nasser Social bank of Egypt (established 1971), the Dubai Islamic bank (established 1975), and the Saudi Islamic Development Bank (established 1975) have gradually evolved requirements of Islamic banking (Iqbal and Molyneus, 2005). Other Islamic banking studies (Pranajayaet al., 2024) discuss such requirements. Abdul-Majid et al., (2010) and Baele et al, (2014) add performance comparisons against conventional banks.

Islamic banks are also assessed against corporate social responsibility (Zafar & Sulaiman, 2020). Panahi et al., (2024) model social responsibility, and Mollah and Zaman, (2015) model governance. Recently, Alghadi et al., (2024) studied enhancing governance in Islamic banks, and Mukhibad et al., (2024) studied corporate governance. Athari et al., (2016) introduced dividends as their study focus, whilst Sbai et al., (2024) considered dividend policy. Others considered various regulatory issues (Smaoui & Ghouma, 2020; Iqbal & Kassim, 2024).

Thus, Islamic banking products differentiate via their non-interest-bearing loans. These are classified into two broad categories.

First partnership-based products where Islamic banking partnerships can involve products packages via *Musaharakah* plus *Musharakah contracts* and/or *Mudaraba* contracts. These typically share the project's financial risks with their customers.

Second, sales-based products including *Murabaha* (cost plus sale) products, *Ijarah* (leasing products), and *Tawarruq* (commodity *Murabaha*) products where Khan et al. (2015) suggests such properties make Islamic banking products "Islamic" by nature. Many now agree sales-based products of Islamic banking can benchmark against conventional non-Islamic products such as interest-bearing loans via an 'internal rate of return' perspective. Two other Islamic banking products *Istisna'a* and *Salam* are used as risk management approaches via construction of derivative-like products. These are also classified as sale-based products.

1.4. Islamic banking History in Pakistan

Whilst pursuing independence during 1947, the State Bank of Pakistan founder Quaid-e-Azam Muhammad Ali Jinnah sought a financial and economical system based upon the rules of Islam. During his inaugural speech of the State Bank of Pakistan (1st July 1948) he emphasized pursuit of a banking mechanism and practices based on Islamic laws, and blending with economic and social life.

In the 1950s Pakistan's eminent shariah scholars assessed Islamic finance under the Islamic Economic division of the Research Department of State Bank of Pakistan. Until the late 1970s many attempts sought to remove the *Riba* (excess compensation). In the 1980s *Riba* removal, and other noteworthy steps achieved practical implementation, along with the Islamization of the economy. This Pakistan approach was the most technically advanced Islamic operating model world-wide.

In 1991 'markup' based financial procedures were declared outside the Islamic Shariah, and by orders of the Federal Shariat Court. This ruling was soon suspended by the Shariat Appellate Bench of Supreme court. In 1999, the Shariat Appellate Bench of Supreme court ordered those laws which involved 'interest' cease by June 2002. A bank filed review via the Shariat Bench of Supreme Court then required the Federal Shariat Court to set aside its previous verdict regarding the *Riba* in June 2002.

At this time the government of Pakistan promoted Islamic banking at a parallel and compatible banking system, but with an interest-free economic approach. This Islamic banking solution brought a three prolonged strategy. It gave permission to the (1) private sector to establish a new and full-fledged Islamic bank. (2) conventional banks to setup their own Islamic windows or the subsidiaries. and (3) conventional banks to establish their Islamic Banking branches of their own (Ullah et al., 2024).

By 2015, five full-fledged Islamic banks were licensed, plus 17 conventional banks were licensed to open their dedicated Islamic banking branches or Islamic Banking Windows. The five banks provide Islamic Financial services based on Shariah Laws.

The estimated assets of the Islamic Banking industry in 2014 was 1250 billion rupees, or 10.4% of overall Pakistan banking industry assets, and the market share of Islamic banking was 11.6% of the total network. Islamic banking also offered 1500 branches across over 80 cities and towns spread across four provinces of Pakistan and also in Azad Jammu and Kashmir.

Today, a comprehensive framework of Islamic banking industry regulations contains the Sharia Governance Framework. The State Bank of Pakistan collaborates with local and international regulators to enhance infrastructure, promoting harmonization, and standardization of these regulatory frameworks. These now align with international best practices and enable close parity across both local and global standards.

1.5. Status and progress of Islamic Banking in Pakistan

Table 1 presents the list of current Islamic Banking institutions as two separate groupings - either solely Islamic, or as conventional banks with Islamic banking availabilities. Thus, Islamic banking is only available through a relatively small number of banking bodies in Pakistan.

Table 2 shows Islamic Banking Industry assets growth as approximately 300 billion rupees (Q3, 2023). Total of assets were PKR 8,417 billion rupees, and Islamic Banking Industry reached 6,160 billion rupees. Islamic Banking Industry assets 21.9% (1,515 billion rupees) and deposits 22.7% (PKR 1,139 billion

rupees) continue to increase on year-to-year. Thus, the Islamic Banking Industry continues to progress and spread further especially within Muslim nations.

Table 1: Islamic Banking Institutions (State Bank of Pakistan)

Type	Name of Bank	Website
Islamic Banks & Subsidiary	AlBaraka Bank (Pakistan) Limited	http://www.albaraka.com.pk
	BankIslami Pakistan Limited	http://www.bankislami.com.pk
	Burj Bank Limited	http://www.burjbankltd.com
	Dubai Islamic Bank Pakistan Limited	http://www.dibpak.com
	Meezan Bank Limited	http://www.meezanbank.com
	MCB Islamic Bank Limited	https://www.mcb.com.pk/islamic-banking/about-islamic-banking
Islamic Banking Divisions of Conventional Banks	Allied Bank Limited	https://abl.com/islamic-banking/
	Askari Bank Limited	http://www.askaribank.com.pk/islamic_banking.php
	Bank AL Habib Limited	https://www.bankalhabib.com/business/islamic-banking.php
	Bank Alfalah Limited	http://www.bankalfalah.com/islamicpk/
	Faysal Bank Limited	http://www.faysalbank.com/barkat/
	Habib Bank Limited	http://www.hbl.com/business-customers-islamic.php
	Habib Metropolitan Bank Limited	http://habibmetro.com/habibmetro-intro/
	National Bank of Pakistan	https://www.nbp.com.pk/Islamic/index.aspx
	Silkbank Limited	http://www.silkbank.com.pk/emaan/
	Sindh Bank	https://www.sindhbankltd.com/Islamic-web.html
	Soneri Bank Limited	http://www.soneribank.com/islamic-banking/
	Standard Chartered Bank (Pakistan) Limited	https://www.sc.com/pk/saadiq/
	Summit Bank Limited	http://www.summitbank.com.pk/?page_id=3480
	The Bank of Khyber	http://www.bok.com.pk/Islamic/index.htm
	The Bank of Punjab	https://www.bop.com.pk/view.aspx?id=1005
	United Bank Limited	https://www.ubldirect.com/Corporate/bankingservices/ameen.aspx

Table 2: Islamic Banking Industry Progress and Market Share

Table 1: Industry Progress and Market share									(Amount in PKR Billion)
Particulars	Period			Yearly Growth (%)			Share in Overall Banking Industry (%)		
	Sep-22	Jun-23	Sep-23	Sep-22	Jun-23	Sep-23	Sep-22	Jun-23	Sep-23
Assets	6,902	8,118	8,417	41.3	19.7	21.9	20.0	19.9	19.6
Deposits	5,021	5,870	6,160	31.4	20.9	22.7	21.1	21.9	22.5
Investments (net)	2,821	3,472	3,928	105.8	30.0	39.2	15.7	16.1	16.9
Financing (net)	2,985	3,324	3,026	31.7	12.3	1.4	27.0	27.6	26.1
Number of Islamic Banking Institutions	22	22	22	-	-	-	-	-	-
Number of Branches*	4,191	4,534	4,666	14.8	11.0	11.3	-	-	-
Number of Islamic Banking Windows	1,467	1,834	1,893	(7.1)	25.4	29.0	-	-	-
** including sub-branches*									
Source: Data submitted by banks under quarterly Reporting Chart of Accounts (RCOA)									

1.6. Branch Network of Islamic Banking Institutions

The State Bank of Pakistan (Q3 2023) says Islamic Banking has 22 Islamic Banking Institutions, six Islamic banks and 16 conventional banks with Islamic standalone banking branches. It added 132 branches in Q3 2023. Today there are 4,666 Islamic banking branches across 131 districts of Pakistan. Figure 2 presents the geographical distribution of this branch network. The Q3 2023 dedicated Islamic banking windows or counters across Pakistan totaled as 1,893.

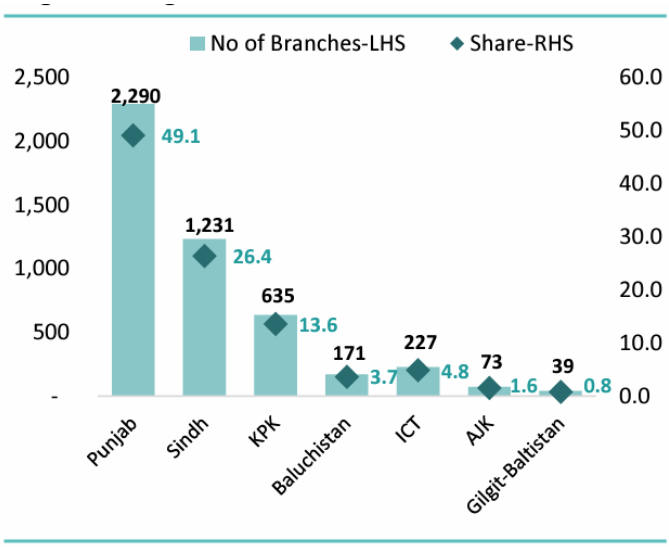

Figure 2: Geographical network of Branches

1.7. Issues Regarding growth of Islamic Banking

Today over 200 global Islamic financial institutions operate with investment funds exceeding $250 billion rupees. Their annual growth rate now exceeds 16%. different Muslim countries have adopted total or partial transformations towards Islamic banking. Islamic banking is now accepted by international financial institutions, professional bankers, and the academia.

Central banks of several Muslim countries have jointly accepted an Islamic banking international standard. Some standardization issues identified below, may help consolidation and growth of Islamic banking. Standardization still requires consistent (1) vocabulary of Islamic financing, (2) financial instruments and their documentation, and (3) pricing formulas for Islamic financial products.

1.7.1. Vocabulary of Islamic Banking

Islamic financing still lacks a universal terminology for interbank transfers. For example, most Islamic banks use the nomenclature *Murabahah* for financing via sale on deferred payment, but some name it Bai' Thaman bil Ajil. However, this second group of institutions also offer *Murabahah* financing products.

The selective interpretation of Arabic terms creates confusion among bank clients and the public. For example, *istisna*' originally means manufacturing, and delivery of something against advance payment. But in Islamic banking quarters, *istisna*' financing signifies payment by an Islamic bank to the manufacturer of an item for its delivery to the bank's client with whom the bank has sale-on-deferred-payment relationship. Thus, the term *istisna*' financing is somewhat of a misnomer. This, and a few other terms, remain as hurdles in communications amongst Shari'ah scholars. This too hinders the popularization of Islamic banking.

1.7.2 Financial Instruments and their documentation

No 'identical' Islamic financial instrument or documentation applies to all Islamic financial institutions. Practical concerns vary from institution to institution, practical needs are not always the same, and emergent financial innovation always remains a possibility. Nevertheless, some standardization of financial instruments now allows regulatory pathways towards to a near 'identical' inclusive Islamic financial system across the Muslim world.

1.7.3. Pricing Formulas for Islamic Financial Products

Any Islamic banking financing operation involves the accommodation of interests of (1) the bank's principals, (2) the bank staff, and (3) the fund-seeker(s). These concerns are addressed mainly through 'pricing' of the required financial products, and the security for the financing activities. Standard pricing formulas, modelled and aligned to Shari'ah principles, can offer efficient front desk real-time solutions to the Islamic banking client. Such real-time models help understanding of Islamic financing within academic and professional circles.

1.7.4. Other iFintech Issues

The State Bank of Pakistan (SBP) continues to aspire to deliver an Islamic economic and financial system. It follows a three-pronged strategy for promotion of Islamic Banking:

- Permission to establish new full-fledged Islamic banks in the private sector
- Permission to the conventional banks to set up Islamic banking subsidiaries
- Permission to the existing conventional banks to open Stand-alone Islamic banking branches.

A comprehensive regulatory framework including Shari'ah Governance framework also has been introduced for the development of Islamic banking industry. SBP is collaborating with local and international financial regulators and infrastructure development institutions to further promote standardization and harmonization in regulatory framework in line with international best practices, to facilitate the development of Islamic financial services industry locally and globally.

Islamic Financial services and banking extends to iFintech domains including consideration of microfinance, poverty alleviation, economic improvement, societal conditions and improvements, redistribution of wealth, and increased intellectual level in society. Against a raft of legislative frameworks iFintech adoption requires banks and financial institutions also to show commitment towards achieving the financial goals of all involved.

1.8. Status of Islamic Banking

Today Islamic banking is trending towards a technologies-driven, innovative digital iFintech model, that also accommodates real-time digital engagement, digital assessment, and digital decision making for each marketplace consumer or business client.

Hence this paper seeks to frame the issues, enablers, and barriers for a successful Pakistan (banking) iFintech adoption. It pursues the development of a research framework that may shed light on how iFntech enablers can deliver a better state of iFintech adoption readiness.

2. Literature Review

Fintech in Pakistan is a new sustaining digital technology that includes debit cards, credit cards, and ATM machines as basic and popular products. Rizvi et al. (2018) see this as revolutionary financial technologies change in Pakistan. Technologies have improved the main financial services and financial products and changed productivity across financial systems. In Pakistani Fintech is either traditional or emergent Fintech. Traditional Fintech banking systems work with the incumbent price models and the products, whereas emergent Fintech banking systems work digitally with the banks and the firms. Both can offer iFintech solutions.

2.1. Comparison of Pakistan iFintech

Risk exposure differs between Islamic banks and conventional banks. The resilience of Islamic banks remained solid during the 2007/2008 global financial crisis, and being mostly overcapitalized, they better absorbed this financial shock (Green, 2010; Mollah & Zaman, 2015). In the Middle East and North Africa Islamic banks also have substantive proportions of government owned equity. Grira et al. (2019) hypothesizes Islamic banks with on-average, higher risk than their conventional peers, still retain a government guarantee that prevails as a back-up during periods of financial distress.

Further, unlike conventional banks, and despite their on average higher risk, Islamic banks can still make limited use of financial derivatives. For example, *Salam* and *Istisna'a* are derivative-like contracts, but are exceptions to the basic rule of trade in Islam whereby transactions should be asset-backed. This means the

existence of the traded asset is required at the time of the transaction. In both cases, *Salam* and *Istisna'a* agreements take place initially, while delivery of the asset happens later. Shari'ah allows for these exceptions because of historical use of such contracts during the lifetime of Prophet Mohammed to accommodate farmers, and to facilitate specific economic activities.

The prior prohibition of derivatives is motivated by harmful consequences associated with potential speculative strategies. According to the three monotheist religions (including Islam), money should not generate money, but rather only the diligence of men's work should generate money. Hence, the higher risk levels of Islamic banks typically occur through risk-sharing within its contracts, whilst lower risk levels of conventional banks typically arise via lending activities, investment activities, and/or speculation activities. Thus, both banking systems can co-exist, but each can serve its differing economic agendas (Abedifar et al., 2016). However, both banking systems now rely upon integration of digital technologies, and the delivery of their chosen real-time artificial intelligence (AI) business solutions.

2.2. iFintech

The national Digital Research Center describes 'financial technology' as an innovational service related to finance. These two terms paired as the single word 'Fintech.' Islamic Fintech (iFintech) encompasses the technologies, and financial services based on Shariah law (The Rules and Regulations of Holy Quran and the Prophet Muhammad).

The collecting of a loan or lending a loan with interest charges (*Usury*) and haram businesses are forbidden in Islam. Thus, conventional banks cannot guarantee full compatibility to Shariah rule in case of investment, or financial startups, or services. Hence, many banks provide customized services that are tailored with rules and regulations of Islam, and most Islamic governments promote iFintech (Tarique et al. 2020).

2.3. Global Landscape of iFintech

The growing marketability and developments within the Islamic digital economy is shown as Figure 3. Oseni & Nazim (2019) suggest academic iFintech research is progressing slower than the industry requires. Today iFintech companies need availability to the internet or mobile app-based financial services, financial services must be based on Islamic shariah compliance, and the company must have finalized a business, or must be within development stages of the final minimum viable product.

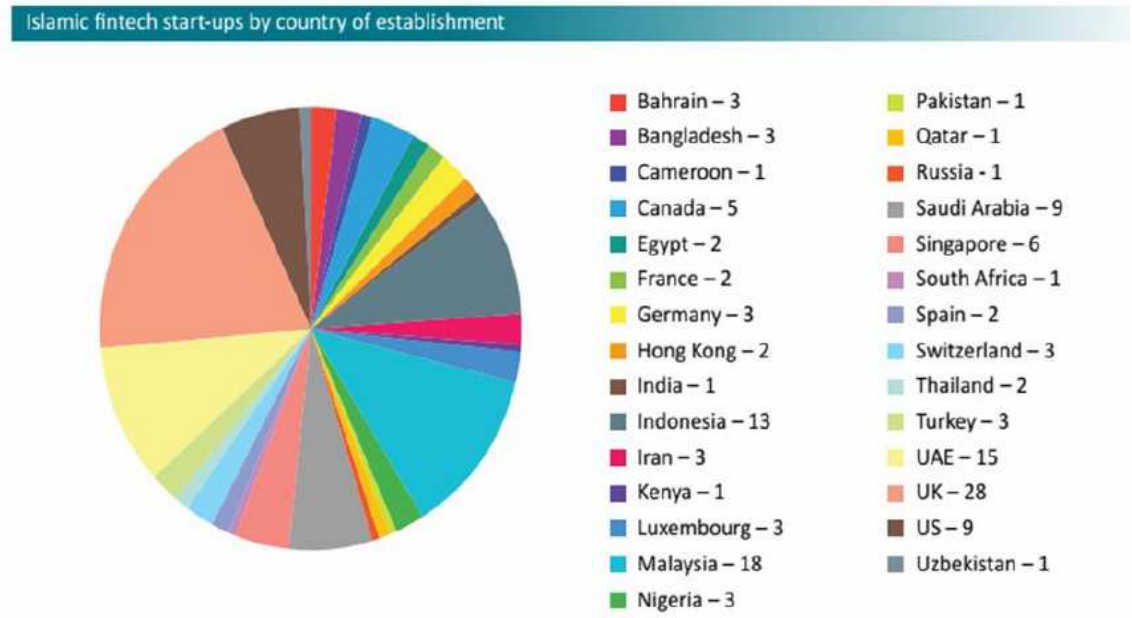

Figure 3: National Fintech Startups, {*Source*: (IFN, 2020, p.17)}

2.4. Theoretical Landscape around iFintech

Today iFintech captures new technologies as vehicles to advance, automate and deliver financial service. This digital financing of the economy brings a new quality and real-time dynamic experience into the financial market (Khotinskay, 2019). iFintech fits under economic theory and particularly frames around banking theory (Bhattacharya & Thakor, 1993) along with the supply and demand of financial services. This approach recognizes activities/services of banks and their related non-bank facilities interact and deliver financial intermediation solutions for their clients. In developing levels of acceptance, the Technology Acceptance model (TAM) is often included when the level of adoption of new technologies and innovative digital solutions is important (Rahayu, et al. 2024). This is often associated with Rogers Theory of diffusion to capture innovative and early adopter consumers or clients when engaging in digital transfer processes (Miller, 2018).

Beyond consumer or client innovativeness, self-efficacy adds a personal belief to perform a task or transaction (Schwarzer, & Luszczynska, 2008). Behavioral motivation theory and social cognitive theory also interplay in such iFintech tasks and transactions (Bandura, 1997). Another consideration in developing a research model is the consideration of risk, and which type of risk is most prevalent from a consumer or client perspective. Hence this study links economic supply and demand theory, behavioral theory, TAM, and Banking theory in its development of a research model for iFintech adoption in Pakistan.

2.5. iFintech Religious Ideology Competencies

Islamic religious ideology underpins the reason for iFintech as a digital means to meet its financial services requirements. Such Islamic motives are fundamental, intentional, and likely influence (or support), an appropriate response towards delivering purposeful Shari'ah Law relevant financial services and banking. iFintech motives likely trend towards a convenience environment, a new digital technological block chain inclusion, a capacity to peer-to-peer transact, and an ability to create an ongoing economic benefit. Thus, a motivational framework towards being prepared to enter Islamic banking adoption is likely available. Hence from a supply-side inputs perspective motivational measures are now under investigation as supply side competencies.

2.5.1 iFintech Financial Services and Banking Tech and Digital Skills Competencies

This competencies aspect is a digital and technologies driven approach that incorporates necessary input capacities required to implement a digital iFintech solution.

2.5.2 iFintech Capacities Additions

This is a banking competencies dimension. From an iFintech perspective these capacities need to draw on additional external capacities to help capture each stakeholder's understanding and trust with the available Intellectual properties, and the digital iFintech system (likely including blockchain peer-2-peer transaction capacities).

2.6. iFintech Capabilities

This capabilities suite of iFintech actions is an operational and agile demand side model component. It requires combinations of technological drivers including (1) the ongoing development of technical or device optimization, (2) the advancement of digital qualities enlisted, (3) the financial values being developed, and (4) the social consumer or client acceptance of the bank servicing instruments. These are all capable of adjustment, improvement, or change.

2.6.1. iFintech Convenience and Social Acceptance Capabilities

iFintech also has a convenience component, and a social acceptance component. These two capabilities bring a human involvement, or presence, into consideration as an adjustable dimension that can be improved.

2.6.2. iFintech Risks Capabilities

This is an economic and banking supply side dimension. From an iFintech perspective risks are likely of a digital and technical nature, and so encompass the capacity to gauge financial, or legal, or security, or operational, or personal formats. These formats are also adjustable.

2.6.3. iFintech Economic Worth Capabilities

There is also an economic and net value dimension to the banking supply side capabilities suite and these are also adjustable.

2.7. iFintech Sustainability or Adoption Readiness

This is likely a multi-construct adoption dimension. It requires a process outcome that likely includes (1) a sustainable performance capturing iFintech adoption outcomes, (2) a sustainable operation capturing IFintech's innovativeness and optimism outcomes, and (3) a sustainable connectivities dimension across the banking iFintech environment capturing IFintech's consumer/client linkages (including discomfort/insecurity) along with other readiness-to-connect adoption outcomes.

2.8. iFintech framework model to pursue Sustainability or Adoption Readiness

Thus, a causal framework for research, likely can be established moving progressively from as shown in Figure 4. This causal framework is literature based and frames as three stage deliverance model structure, but likely involves a complex network of interconnecting and combination pathways.

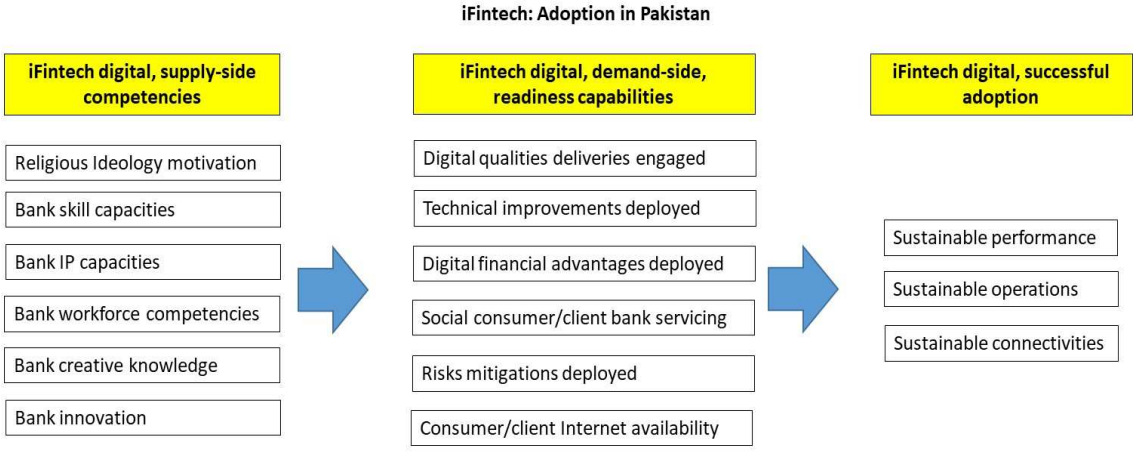

Figure 4. Framework for successful sustainable iFintech adoption

3. Methodology

Figure 4's Framework for successful sustainable iFintech adoption is now under development both as complex CB-SEM and an NVivo thematic causal approach. A Qualtrics online open access survey houses the questionnaires and their demographics. Five questions per construct are framed into the literature-refined, Likert scale (1-strongly disagree to 5 =strongly agree) questionnaire. The quantitative dataset size is targeted at over 20 respondents per construct. The qualitative survey is framed using researcher summaries of quantitative constructs, combined with independent ChatGPT and CoPilot AI summations. These are drawn into one open-ended question per construct.

4. Analysis and Results

A mixed method triangulation approach is to be adopted as this original research is likely to provide directions for future research and advancements towards iFintech adoption.

5. Discussion and Conclusion

Figure 4 sets a research agenda. It shows at least six supply-side competencies must be developed as precursor components before operationalizing a digital iFintech adoption solution. It shows the operational demand-side actions split across at least six capabilities components and each needs to be deliverable conjointly as part of a deliverance network to deliver a successful digital iFintech adoption that can be gauged as a performance, operational and connectivities achievement measures. Thus, Figure 4 sets the research agenda for this team of researchers.

This paper also considers the current state of research in Islamic banking, Islamic fund management, and Islamic risk management and sheds some light on regulatory challenging in dealing with dual banking systems. The Authors believe further efforts could be invested in designing more authentic Islamic financial products in order to move away from the approach of replicating or mimicking products of conventional finance.

Financial engineering (tech skills) is a key competency in that regard because it provides the technical skills for product design, but also for Islamic risk management and Islamic fund management. Moreover, it feeds regulators with valuable competencies that would enhance the offer and improve responsiveness of Islamic financial institutions to their customers.

Furthermore, as research in Islamic finance started with Shari'ah compliance it has now expanded across the Middle East, North Africa, and Southeast of Asia. Hence, further research work is warranted on the active management of risks in Islamic financial institutions and Islamic funds, and this research extends beyond nations and across the international arena.

Closer coordination between Islamic regulatory bodies and conventional (national) regulators also may contribute towards increasing integration between Islamic and conventional financial systems. This approach likely bring benefit to economic agents regardless of their individual beliefs.

How Islamic regulatory bodies move to deal with the emerging technological trends, namely digital iFintech, blockchain peer-2-peer transactions, and smart contracts, still remains an open question - as Islamic financial institutions are still lagging across moves to fully initiating such digital Shari'ah Law compliant approaches, and they still lack in establishing comparative compliance costings when compared against their conventional Western Banking institutions.

Future research on topics at the frontiers of innovation and Islamic finance and beyond this study's planned agendas, may further contribute to the body of knowledge in this niche digital iFintech banking and financial services domain, However, where religious beliefs, and financial approaches differ, there remains a resistance to change, and this impediment is likely to exist into the near future.

5. Contributions to Research

This supply-demand study adds to digital Islamic Fintech adoption understanding. It introduces a mixed methods approach framed around Figure 4 and deploying competencies and capabilities component(s) as conjoint potential contributors towards delivering an iFintech digital successful adoption.

6. Limitations to Research

This study provides limited detail in the model development as this work is to be placed elsewhere. However, it sets a meaningful research agenda for new and original research into digital iFintech – and this Islamic approach potentially may reach across the Muslim population – currently 25.8% of the world's population.

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