

# FinTech and Its Dynamics in the Digital Revolution of Nepal

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## Abstract

Financial technology, or fintech, has become essential in Nepal's digital economy. Banks and financial institutions in Nepal have implemented digital payment systems, allowing customers to conduct transactions without using cash. This study on the analysis of Nepal's payment system (Mid-July 2022 to Mid-July 2025) documents a rapid digital financial transformation. The ecosystem is defined by a decisive shift from traditional channels towards mobile-first, real-time platforms like wallets, QR payments, and the Faster Payment System. This is supported by an explosive growth of over 23-fold increase (2,300 percent) in PSP agents, embedding digital finance within communities. The findings confirm a structural move to a more accessible and efficient financial landscape. The report details critical implications for policymakers, financial institutions, and businesses to foster sustainable growth and inclusion in this new paradigm.

**KEYWORDS:** Digital economy, digital transactions, Fintech, Nepal

## Introduction

Originally, the word 'FinTech', which stands for Financial Technology, was used to describe the technology systems that improved the way corporations and financial institutions, such as banks, operate. But in recent years, this definition has changed dramatically, covering a wider range of economic sectors that use technological innovations to improve the effectiveness of financial institutions. Fintech, often known as internet finance or digital financial inclusion, simply refers to the combination of finance and information technology. It includes payment and settlement, risk management, networking channels, and resource allocation functions (Shim & Shin, 2016; Song & Appiah-Otoo, 2022; Xu, 2017). Fintech has grown substantially in the financial industry as a result of the fast development of the internet, information technology, mobile phones, and digital technologies.

Globally, the financial technology (FinTech) revolution is raging. Although technology has been a part of the financial services industry since the 1850s, it is only during the past two decades that FinTech has become a term to customarily describe breakthroughs in technology that potentially have the power to transform the provision of financial services, drive the creation of novel business models, applications, processes, and products, as well as lead to consumer gains (Arner et al., 2015; Feyen et al., 2021; Sironi, 2016). In the same time frame, the banking industry has experienced significant technological and regulatory transformations brought about, among other things, by digitization, cybersecurity

adjustments, deregulation and liberalization, and breakthroughs in information communication and technologies (ICTs) (Murinde et al., 2022). Fintech's continuous development is linked to key economic benefits, including reduced inflation and unemployment. Scholars note that it also fosters economic growth and job creation by encouraging entrepreneurial activity, lowering transaction costs, and making financial procedures more efficient (Bhusal, 2023; Telukdarie & Mungar, 2023).

When credit cards were first introduced by Nabil Bank Limited (previously known as Nepal Arab Bank) in 1990, Nepal's financial industry began to embrace technology. Up until the mid-2010s, the adoption of electronic payment technology in Nepal was rather slow, despite the country's population having cell phones and easy access to the internet. The COVID-19 pandemic's spread served as a trigger, increasing demand for and use of technology like cashless transactions, mobile banking, and Quick Response (QR) codes. The fast activities of banks to incorporate mobile banking services, Payment Service Providers (PSPs), and Payment Service Operators (PSOs), together with the growing trend of e-commerce in the nation, signaled the beginning of the Fintech revolution in Nepal.

The government constructed and made available an integrated data center by prioritizing electromechanical, information systems, and information technology security. A data recovery center was also established at Hetauda, near Makawanpur. The E-Payment Gateway has been established, allowing citizens to make government payments online. The National Portal has been upgraded, and mobile apps have been created. The process of uploading information from the appropriate office has also been developed. Data and information security are major problems in digital Nepal due to the country's weak cybersecurity (Giri, 2019a; Giri, 2019b; Giri, 2020). Similarly, the central bank of Nepal, Nepal Rastra Bank, formulated the National Payment Systems Development Strategy (NPSDS), 2014, under the Nepal Rastra Bank Act, 2002, to modernize the payment systems and develop a secure, robust, and efficient payment system.

In Nepal, FinTech is governed by key legislations such as the Payment and Settlement Bylaw 2015, which regulates institutions conducting electronic transactions; the Foreign Exchange Regulation Act 1962, which oversees foreign investments; and the Electronic Transaction Act 2006, which governs e-commerce and digital signatures, among others. Among the statutes, the Nepal Rastra Bank's Policy Related to Licensing to PSP/PSO, 2022 (First Amendment, 2023), released on July 9, 2023, and RTGS System Rules 2019 (Version 3.0), released on June 26, 2023, played an important role in promoting fintech growth in the Nepalese market. Though the paper tried to cover an emerging financial market integrating with technology in context to Nepal, the data are based on four fiscal years. The interpretation and conclusion of the paper is based on the secondary data record by the central bank of Nepal, Nepal Rastra Bank. The level of service performance by FinTech tools have not been evaluated by this paper. Hence, against this backdrop, the paper examines just the scenario of fintech and its contribution to the Nepalese digital economy.

### Literature Review

According to Romānova and Kudinska (2016), financial technology (FinTech) has become an intrinsic aspect of banking. Banks increasingly compete with non-financial companies offering payment services in addition to financial services. As a result, banks must boost their investment in FinTech, rethink service distribution methods, and standardize back-office processes and services.

Bhandari (2019) stated that telebanking was introduced in 1997, internet banking in 2002, and SMS banking in 2004. Still, there was a surge in India to adopt digital transactions for all economic activities, whereas in Nepal, 97 percent of economic activity is done in cash. The research revealed that cash remains the king of the Nepalese economy, but digitalization can assist growth in several sectors. Additionally, the increasing digital economy can boost productivity in non-ICT industries.

Kandpal and Mehrotra (2019) found that a proper public-private partnership in enhancing the fintech economy only boosts the credibility of the fintech economy. Similarly, customers' faith in established banking systems makes them less inclined to accept innovative technology. Customer satisfaction with privacy and security is crucial for the success of new technologies. While easier and less expensive than traditional approaches, it takes time to build customer trust.

Maharjan et al. (2020) found that most respondents are between the ages of 21 and 40, indicating that youngest people are drawn to technical innovation in FinTech during the COVID-19 lockdown in Nepal. The report also discovered that two-thirds of online purchasers in Kathmandu Valley were having difficulty adopting FinTech owing to poor internet and a lack of understanding about its applicability among online grocery customers.

Razzaque et al. (2020) sought to determine why Bahraini bankers are willing or hesitant to continue adopting FinTech services, depending on their perceived advantages and hazards associated with FinTech technology. According to the report, perceived advantage has a higher influence than perceived danger, with convenience regarded as the most useful, and financial risk perceived as the riskiest for Bahraini bankers when utilizing FinTech technology.

Shrestha (2020) found that the growth of fintech in the Nepalese economy could enhance the level of financial inclusion. However, Nepal has insufficient and uneven access, as well as relatively low utilization, notably of credit and digital media, signaling a long road ahead to make the financial system more accessible. Nepal faces various barriers to growing financial inclusion, including tough topography, scattered habitation in villages, illiteracy, and a significant digital knowledge gap.

Sarker et al. (2021) examined the relationship between the demographic dividend, the digital economy, and sustainable development in Nepal. The paper found that, while Nepal is still in the early stages of digitalization, encouraging improvements in the digital economy have been observed in recent years, which can help achieve successful digitalization through optimal utilization of the demographic window of opportunity while maintaining environmental sustainability.

Wang (2023) stated that fintech can alter the financial industry while ensuring long-term financial health by balancing innovation, regulatory supervision, and stability. The paper also stated that fintech's rapid growth poses dangers, necessitating cautious investment decisions that consider project length and volatility. Maintaining financial stability requires effective risk management and legal control. Machine learning and deep learning approaches can help identify and reduce these hazards.

Bhujel (2024) revealed that data security, perceived usefulness, and fintech service promotion have a significant positive effect on customers' intentions to adopt fintech services. Conversely, the influence of customer trust and perceived ease of use on adoption intentions was found to be statistically insignificant. Therefore, to increase adoption, providers should prioritize robust data security measures and clearly communicate the usefulness of their services to build customer confidence.

Adhikari et al. (2024) found that factors like trust, service quality, and performance expectancy significantly drive FinTech adoption in Kathmandu, which in turn promotes financial inclusion, with digital financial literacy playing a key mediating role.

### **Research Methodology**

The paper tries to see the contribution of fintech to the national economy of Nepal. Hence, the paper followed a descriptive and correlational research design. The paper used all the published data, hence using secondary data. The required data for the paper is used from the data published by the Payment System Department, Nepal Rastra Bank. The purposive sampling-based data used in the paper covering for the four fiscal years from Mid-July of F/Y 2022 to Mid-July of F/Y 2025. All the transactions recorded within the fintech-based payment by the Payment System Department, Nepal Rastra Bank are sample data for the paper.

### **Results and Discussion**

This section covers the data presentation and analysis related to the digital payments' scenario in Nepal.

#### ***Access to the Payment System***

Table 1 shows access to different fintech-based payment systems in Nepal. The numbers of operators, users, and agents registered under the fintech-based payment system in Nepal are illustrated in Table 1.

**Table 1**

*Access to Payment System*

Particulars	Numbers				Average
	Mid-Jul. 2022	Mid-Jul. 2023	Mid-Jul. 2024	Mid-Jul. 2025	
Payment System Operators (PSO)*	10	10	9	9	10
Payment Service Providers (PSP)*	27	27	26	23	26
PSP Agents	12,685	14,123	17,563	427,787	118,040
Wallet Users	13,675,993	18,941,793	23,461,107	26,765,660	20,711,138
ATM Machines (Terminals)	4,602	4,855	5,193	5,236	4,972
Debit Cards	10,856,357	12,245,485	12,893,528	13,665,792	12,415,291
Credit Cards	238,794	283,772	289,239	318,428	282,558
Prepaid Cards**	108,641	139,777	181,724	250,695	170,209
Mobile Banking Customers	18,307,255	21,363,989	24,648,846	27,741,284	23,015,344
Internet Banking Customers	1,684,310	1,856,195	1,919,322	2,219,341	1,919,792
Branchless Banking Centers	1,548	1,319	1,129	822	1,205
RTGS Participants	49	44	44	44	45
connectIPS Users	896,341	1,108,436	1,276,886	1,441,471	1,180,784
ECC Members	59	53	54	54	55
IPS Members	111	115	132	139	124

*Note.* Nepal Rastra Bank

*\*Other than Banks and Financial Institutions*

*\*\*Included card issued by PSPs*

Based on the data from the last four fiscal years, access to Nepal's payment system has undergone a dramatic and bifurcated transformation, characterized by an explosive growth in digital agent networks alongside a more gradual, steady increase in most digital service adoptions. The most staggering trend is the meteoric rise of PSP Agents, which grew moderately from 12,685 to 17,563 between 2022 and 2024, before surging by over 2,300% to 427,787 in 2025. This indicates a massive, recent push to decentralize and physically embed digital financial services across the country. In parallel, adoption of core digital channels showed consistent, strong growth: Mobile Banking Customers increased from 18.3 million to 27.7 million, Wallet Users grew from 13.7 million to 26.8 million, and connectIPS Users saw a steady rise from 896,341 to 1.44 million. This points to a population that is increasingly comfortable with and reliant on digital platforms for financial transactions.

However, this digital expansion is not uniform and reveals areas of slower adoption and outright contraction. Internet Banking Customer growth has been relatively muted, only increasing from 1.68 million to 2.22 million, suggesting it remains a niche channel compared to mobile-centric options. Furthermore, traditional physical access points are in

clear decline, with Branchless Banking Centers being sharply reduced from 1,548 to 822, indicating a strategic shift from semi-formal centers to a vast agent network. Card-based access showed steady but unspectacular growth, with Debit Cards reaching 13.7 million and Credit Cards 318,428 by 2025. The consolidation in industry is also evident from the slight reduction in PSOs and PSPs. In conclusion, the overall trend is decisively toward a more accessible, mobile-first, and agent-driven payment ecosystem, moving beyond traditional banking infrastructure to reach a broader population.

Usage of the Payment System by the Number of Transactions

Table 2 shows the usage of the payment system by the number of transactions through different types of fintech instruments in the Nepalese financial system.

**Table 2**

*Usage of the Payment System by Number of Transactions*

Particulars	Number of Transactions				Average
	Mid-Jul. 2022	Mid-Jul. 2023	Mid-Jul. 2024	Mid-Jul. 2025	
RTGS	81,817	76,307	82,605	91,581	83,078
ATM-Cash Withdrawal	10,169,331	11,042,117	11,316,030	11,078,861	10,901,585
ECC	1,486,551	1,336,586	1,292,363	1,478,268	1,398,442
IPS	1,322,174	1,808,046	5,150,393	5,441,164	3,430,444
Faster Payment System	4,270,099	9,783,842	13,051,828	17,985,607	11,272,844
Debit Cards	11,127,683	11,838,532	12,040,786	11,971,300	11,744,575
Credit Cards	227,920	262,057	282,728	287,985	265,173
Prepaid Cards**	57,942	73,017	107,663	152,769	97,848
Internet Banking	318,598	315,202	351,301	564,047	387,287
Mobile Banking	20,564,308	28,903,872	45,669,301	65,500,157	40,159,410
Branchless Banking	69,465	73,215	75,501	82,400	75,145
Wallet	16,206,356	20,822,861	32,105,917	40,236,413	27,342,887
QR-based Payments	4,281,994	9,766,216	20,825,615	40,236,413	18,777,560
Point of Sales (POS)	1,173,548	1,035,206	1,068,417	1,136,419	1,103,398
E-commerce**	68,944	94,509	145,977	196,326	126,439
Cross Border QR Acquiring	-	-	-	155,304	-

*Note.* Nepal Rastra Bank

*\*\*Online payments using cards*

Based on the transaction volume data, Nepal's payment ecosystem over the last four fiscal years has been decisively reshaped by the dominance of real-time and mobile-driven platforms, signaling a significant shift in user behavior. The most explosive growth is seen in Mobile Banking and the Faster Payment System (FPS), with transactions skyrocketing from 20.6 million to 65.5 million and 4.3 million to 18 million, respectively.

Similarly, Wallet transactions more than doubled, and QR-based Payments experienced a meteoric rise from 4.3 million to 40.2 million transactions, underscoring a strong consumer pivot towards instant, convenient, and scan-and-pay solutions. The IPS system also saw a dramatic increase, growing over fourfold, which highlights its growing adoption of bulk and interoperable payments. This collective surge demonstrates a clear market preference for speed and digital convenience.

In contrast, several traditional and card-based payment channels have stagnated or declined, revealing their diminishing role in daily transactional volume. ATM cash withdrawals and Debit Card transactions (excluding ATM withdrawals) plateaued after initial growth, with both showing a slight dip in 2025, suggesting that cash is being displaced for routine transactions even as card ownership grows. Credit Card and Prepaid Card usage, while growing, remains niche in terms of overall volume. Internet Banking, though showing a notable jump in the last year, still lags far behind mobile channels. Legacy systems like ECC have fluctuated without a clear growth trend, and Branchless Banking transactions remain minimal despite the massive expansion in agent networks, indicating these agents are likely facilitating wallet or mobile transactions rather than traditional branchless banking. The consistent growth in E-commerce and the introduction of cross-border QR transactions in 2025 further cement the trend towards a more digital, integrated, and modern payment landscape.

#### Usage of the Payment System by Total Amounts

Table 3 shows the usage of the payment system by total amounts through different types of fintech instruments in the Nepalese financial system

**Table 3**

#### *Usage of the Payment System by Total Amounts*

Particulars	Total Amounts in Million NPR				Average
	Mid-Jul. 2022	Mid-Jul. 2023	Mid-Jul. 2024	Mid-Jul. 2025	
RTGS	4,349,056	2,983,930	6,451,161	9,210,905	5,748,763
ATM-Cash Withdrawal	79,458	86,964	91,261	93,111	87,699
ECC	850,649	718,755	672,755	787,117	757,319
IPS	275,752	323,816	359,991	468,240	356,950
connectIPS	369,223	498,453	419,226	562,699	462,400
Debit Cards	83,200	90,541	95,260	97,633	91,659
Credit Cards	1,490	1,830	2,073	2,222	1,904
Prepaid Cards**	458	447	769	1,328	751
Internet Banking	15,638	15,502	17,738	25,335	18553
Mobile Banking	163,255	233,446	373,978	530,285	325,241
Branchless Banking	1,503	1,433	1,649	1,813	1,600
Wallet	17,752	20,326	38,147	48,441	31,167
QR-based Payments	14,526	30,148	61,737	113,196	54,902
Point of Sales (POS)	5,183	5,244	5,925	6,604	5,739
E-commerce**	504	605	913	1,466	872
Cross Border QR Acquiring	-	-	-	447	-

*Note.* Nepal Rastra Bank

*\*\*Online payments using cards*

The most dominant trend is the clear stratification of the payment system into distinct tiers based on transaction value. At the very top, RTGS stands in a league of its own, facilitating trillions of NPR in high-value transactions. Despite volatility, its amount more than doubled from NPR 4.3 trillion to NPR 9.2 trillion, cementing its role as the backbone for wholesale and interbank settlements. The second tier is occupied by large-value retail and government payment systems like ECC and connectIPS, which consistently process hundreds of billions of NPR, indicating their use for substantial transactions such as salaries, trade payments, and government dues. The third and most dynamic tier comprises Mobile Banking and QR-based payments, which have seen explosive growth in value. Mobile Banking transaction amounts more than tripled from NPR 163 billion to NPR 530 billion, while QR payments surged nearly eightfold from NPR 14.5 billion to NPR 113 billion, signaling a mass-market shift towards high-volume, real-time digital transactions for everyday use.

In contrast, several channels show maturation or stabilization, reflecting their specific niches. ATM withdrawals and Debit Card payments have grown steadily but modestly in value, suggesting they remain essential for cash access and routine spending, but are not the primary drivers of digital financial growth. While starting from a very low base, Credit Card, Prepaid Card, E-commerce, and POS transactions have all consistently doubled or nearly doubled in value, indicating rapid adoption and growing comfort with formal credit and online commerce, albeit from a small footprint. The stagnation in Branchless Banking transaction value, despite the massive expansion of agents, implies these agents are primarily enabling low-value wallet transactions and cash-in/cash-out services rather than processing large sums themselves. Overall, the landscape is evolving towards a multi-layered system where RTGS anchors the high-value end, while mobile and QR-based platforms are rapidly becoming the dominant mediums for the burgeoning digital economy.

#### Correlation Coefficients between the Number of Transactions and Total Transactions Amount under Fintech in the Nepalese Financial System

Table 4 shows the correlation coefficient between the number of transactions and total transaction amount under different types of fintech in the Nepalese financial system during the sampled study period.



**Table 4**  
*Number of Transactions and Total Transactions Amount under Fintech in the Nepalese Financial System*

No. of Transactions	Transactions Amount	Correlation Coefficient
NT <sub>RTGS</sub>	TA <sub>RTGS</sub>	0.964** (0.008)
NT <sub>ATM-Cash Withdrawal</sub>	TA <sub>ATM-Cash Withdrawal</sub>	0.914* (0.030)
NT <sub>ECC</sub>	TA <sub>ECC</sub>	0.951* (0.013)
NT <sub>IPS</sub>	TA <sub>IPS</sub>	0.854 (0.066)
NT <sub>connectIPS</sub>	TA <sub>connectIPS</sub>	0.810 (0.097)
NT <sub>Debit Cards</sub>	TA <sub>Debit Cards</sub>	0.940* (0.017)
NT <sub>Credit Cards</sub>	TA <sub>Credit Cards</sub>	0.990** (0.001)
NT <sub>Prepaid Cards#</sub>	TA <sub>Prepaid Cards#</sub>	0.980** (0.004)
NT <sub>Internet Banking</sub>	TA <sub>Internet Banking</sub>	0.996** (0.000)
NT <sub>Mobile Banking</sub>	TA <sub>Mobile Banking</sub>	1.000** (0.000)
NT <sub>Branchless Banking</sub>	TA <sub>Branchless Banking</sub>	0.887* (0.045)
NT <sub>Wallet</sub>	TA <sub>Wallet</sub>	0.995 ** (0.000)
NT <sub>QR-based Payments</sub>	TA <sub>QR-based Payments</sub>	1.000** (0.000)
NT <sub>Point of Sales (POS)</sub>	TA <sub>Point of Sales (POS)</sub>	0.133 (0.831)
NT <sub>E-commerce#</sub>	NT <sub>E-commerce#</sub>	0.988** (0.003)
NT <sub>Cross Broder QR Acquiring</sub>	TA <sub>Cross Broder QR Acquiring</sub>	-

*Note.* NT= Number of Transactions, and TA= Transactions Amount

*\*Significant at the 0.05 level (2-tailed) \*\*Significant at the 0.01level (2-tailed)*

Table 4 illustrates that the digital finance ecosystem in Nepal is characterized by a core group of highly mature and deeply adopted channels that form its backbone. Mobile Banking, QR-based payments, Internet Banking, and Wallets demonstrate near-perfect correlations between transaction volume and total value. This indicates that usage of these platforms—such as Fonepay, eSewa, and Khalti—is consistent and predictable, with increases in transaction numbers leading to proportional increases in value. They have evolved into all-in-one financial tools, trusted for a wide spectrum of activities from daily micropayments to significant transfers and bill payments.

Beyond these core channels, other established systems also show strong and reliable relationships. Instruments like Debit Cards, along with high-value interbank systems (RTGS, ECC) and Branchless Banking, demonstrate that transaction volume is a dependable predictor of total value. This confirms that debit cards are a primary payment instrument for diverse spending, while interbank systems are consistently used for large, corporate transactions. Branchless banking's strong correlation underscores its crucial role in financial inclusion, as agent activity directly translates into substantial cash flow, often linked to remittances.

However, the analysis also reveals notable exceptions that highlight specific market dynamics. The Point of Sales (POS) channel stands out as a significant outlier, showing virtually no correlation between the number of card swipes and the total amount spent. This

indicates highly unpredictable usage patterns, where a high volume of transactions could represent many small purchases or a few very large ones, reflecting diverse merchant and consumer behavior. Furthermore, the absence of data for Cross Border QR Acquiring points to a channel that is either nascent or not yet systematically tracked, identifying a potential area for future growth as Nepal's digital payment landscape continues to evolve.

Based on the analysis of Nepal's fintech data from 2022-2025, the findings largely validate and extend the predictions of past literature. The explosive growth in mobile banking, wallets, and QR payments confirms the digital surge anticipated by researchers like Bhandari (2019), moving Nepal significantly beyond its former identity as a 97 percent cash-based economy. This adoption, particularly among the young demographic noted by Maharjan et al. (2020), has been driven by the perceived usefulness and convenience highlighted in earlier studies, shifting the landscape from one where trust was a primary barrier to one where digital utility is becoming mainstream.

However, the current data also reveals that persistent challenges have evolved rather than disappeared. While the massive expansion of agent networks addresses earlier issues of physical access raised by Shrestha (2020), a new digital divide is evident in the slow growth of internet banking compared to mobile platforms, reflecting ongoing issues of digital literacy and uneven service quality. The emergence of a multi-tiered financial ecosystem, with stratified transaction values, demonstrates that fintech is indeed promoting financial inclusion as predicted, but also underscores the continued need for robust regulatory frameworks and public-private partnerships emphasized by earlier researchers to ensure sustainable and secure growth.

### **Conclusion**

The analysis of Nepal's payment system from Mid-July 2022 to Mid-July 2025 reveals a nation undergoing a rapid and profound digital financial transformation. The ecosystem is characterized by a decisive bifurcation: the explosive, mass-market adoption of mobile-first, real-time payment channels is occurring alongside the stabilization or decline of traditional and card-based systems. This shift is not merely about changing technology but represents a fundamental evolution in user behavior, infrastructure, and economic interactions.

The most dramatic change is the structural move towards a decentralized, agent-driven network, evidenced by the over 2,300% surge in PSP Agents, which physically embeds digital finance into communities. This infrastructure supports the soaring adoption of Mobile Banking, Wallets, QR-based payments, and the Faster Payment System (FPS), which have become the dominant channels for both transaction volume and value. These platforms show near-perfect correlation between usage and value, confirming their maturity and role as all-in-one financial tools for a broad range of transactions.

In contrast, traditional access points like Branchless Banking Centers are in sharp decline, and while card ownership grows, its transactional use has plateaued. The high-value interbank settlement system (RTGS) continues to anchor the financial system, processing

trillions, but the growth engine of Nepal's digital economy is unequivocally centered on real-time, mobile-centric platforms. The result is a more accessible, efficient, and inclusive payment landscape that is rapidly moving the population beyond the limitations of traditional banking infrastructure. The findings of this paper carry significant implications for various stakeholders in the financial ecosystem:

1. *For Policymakers and Regulators (Nepal Rastra Bank):* Investment in digital infrastructure and security is essential due to the rise in digital transactions, focusing on network reliability and cybersecurity. Regulators need to establish frameworks for agent network regulation to manage risks and protect consumers, particularly in underserved areas. Financial literacy initiatives are necessary to educate users on safe practices and rights in digital transactions, fostering trust in the financial system. Additionally, data-driven policy formulation should leverage predictive modeling to forecast transaction volumes and design evidence-based policies.
2. *For Financial Institutions (Banks, PSPs, PSOs):* Institutions must focus on mobile banking, wallet, and QR ecosystems due to stagnation in traditional channels, reallocating investment towards digital innovation. Agents should be utilized as service hubs for various financial services beyond cash transactions. Banks could revitalize card products tailored for e-commerce and specific retail segments, fostering growth amid modest overall card transaction increases. Additionally, embracing open banking and partnerships with Fintech is essential to enhance interoperability and provide seamless customer experiences.
3. *For Businesses and Merchants:* To stay competitive, businesses must adopt digital payment options, particularly QR codes and mobile payment gateways, to meet evolving consumer preferences and enhance operational efficiency. Analyzing data from digital transactions aids in sales forecasting, inventory management, and understanding consumer behavior. Additionally, the rise in e-commerce transactions and cross-border QR payments presents new market opportunities, prompting businesses to enhance online sales and familiarize themselves with cross-border digital trade.
4. *For Consumers and the Broader Economy:* Enhanced financial inclusion is achieved through a mobile-first, agent-led model that facilitates access to formal financial services for millions of unbanked and underbanked individuals. There is a shift towards a less-cash society, promoting transparency and potentially lowering transaction costs. Additionally, consumers are increasingly utilizing a single mobile platform for various financial activities, improving personal finance management and predictability in financial planning.

Further research must assess the digital shift's socio-economic impact on financial inclusion and income stability. Concurrently, studying cybersecurity threats and consumer trust is vital for sustainable growth. The long-term viability of PSP agent business models needs evaluation to ensure ecosystem health. Finally, exploring how regulation can balance risk management with fostering fintech innovation is crucial.

### Conflict of Interests

The author confirms that there is no conflict of interest to declare for this publication.

### References

- Adhikari, M., Ghimire, D. M., & Lama, A. D. (2024). Fintech and financial inclusion: Exploring the mediating role of digital financial literacy in enhancing access to financial services. *Journal of Emerging Management Studies*, 1(2), 117-136. <https://doi.org/10.3126/jems.v1i2.71512>
- Akter, U., Anwar, S.M.R., Mustafa, R., & Ali, Z. (2021). Revisiting the impact of mobile banking in financial inclusion among the developing countries. *International Journal of Financial Research*, 12(2), 62-74. <https://doi.org/10.5430/ijfr.v12n2p62>
- Arner, D. W., Barberis, J. N., & Buckley, R. P. (2015). *The evolution of Fintech: A new post-crisis paradigm?* University of Hong Kong Faculty of Law Research Paper No. 2015/047, UNSW Law Research Paper No. 2016-62. <https://doi.org/10.2139/ssrn.2676553>.
- Bhandari, D.R. (2019). Economic contribution by digital economy in Nepal. *Indian Journal of Scientific Research*, 10(1), 133-140. <https://doi.org/10.32606/IJSR.V10.I1.00020>
- Bhujel, S. (2024). Factors driving the adoption of fintech services: An empirical analysis of customers of commercial banks in Kathmandu. *Apex Journal of Business and Management (AJBM)*, 3(2), 67–85. <https://doi.org/10.61274/apxc.2024.v03i02.007>
- Bhusal, T. P. (2023, December 17). The importance of FinTech in the banking industry of Nepal: Opportunities and challenges. *NeBEU*, 5(4), 22-43.
- Brandi, B., & Hornuf, L. (2020). Where did FinTechs come from, and where do they go? The transformation of the financial industry in Germany after digitalization. *Frontiers in Artificial Intelligence*, 3(8), 1-12. <https://doi.org/10.3389/frai.2020.00008>
- Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). *Fintech and the digital transformation of financial services: Implications for market structure and public policy*. BIS Papers. No 117. <https://www.bis.org/publ/bppdf/bispap117.htm>.
- Giri, S. (2019a). Cloud computing and data security challenges: A Nepal case. *International Journal of Engineering Trends and Technology*, 67(3), 146-150.
- Giri, S. (2019b). Cyber-crime, cyber threat, cyber security strategies and cyber law in Nepal. *Pramana Research Journal*, 9(3), 62-672.
- Giri, S. (2020). Dimensions of digital Nepal framework and appropriate roadmap. *International Journal of Science and Research (IJSR)*, 9(1), 719-724. <https://doi.org/21275/31121901>

- Kandpal, V., & Mehrotra, R. (2019). Financial inclusion: The role of fintech and digital financial services in India. *Indian Journal of Economics & Business*, 19(1), 85-93.
- Maharjan, P., Devkota, N., Mahapatra, S.K., Padda, I.U.H., Dhakal, K., Mahato, S., Khanal, G., Parajuli, S., Paudel, U.R., & Bhattarai, U. (2020). FinTech adoption among online grocery buyers during COVID-19 lockdowns in Nepal. *The Journal of Private Enterprise*, 37(2), 57-89.
- Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risk. *International Review of Financial Analysis*, 81, 102103, 1-27. <https://doi.org/10.1016/j.irfa.2022.102103>
- Razzaque, A., Cummings, R.T., Karolak, M., & Hamdan, A. (2020). The prosperity to use Fin Tech: Input from bankers in the Kingdom of Bahrain. *Journal of Information and Knowledge Management*, 19(1), 1-25. <https://doi.org/10.1142/S0219649220400250>
- Romãnova, I., & Kudinska, M. (2016). Banking and fintech: A challenge or opportunity? *Contemporary Studies in Economic and Financial Analysis*, 21–35.
- Telukdarie, A., and Mungar, A. (2023). The effect of digital financial technology on accelerating financial inclusion in developing economies. *Procedia Computer Science*, 21(7), 670–678. <https://doi.org/10.1108/s1569-375920160000098002>
- Shim, Y., & Shin, D.H. (2016). Analyzing China's fintech industry from the perspective of actor-network theory. *Telecommunication Policy*, 40, 168-181.
- Sironi, P. (2016). *FinTech innovation: From Robo-advisors to goal-based investing and gamification*. John Wiley & Sons.
- Shrestha, P.K. (2020). Financial inclusion in Nepal: Progress and Constraints. *Journal of Development Innovations*, 4(2), 1-23.
- Sarker, T., Tandukar, S., & Dey, S.R. (2021). *Promoting sustainable development through realizing the demographic dividend opportunity in the digital economy: A case study of Nepal*. ADBI Working Paper Series No. 1225. Asian Development Bank Institute.
- Song, N., & Appiah-Otoo, L. (2022). The impact of fintech on economic growth: Evidence from China. *Sustainability*, 14, 6211. <https://doi.org/10.3390/su14106211>
- Telukdarie, A., & Mungar, A. (2023). The impact of digital financial technology on accelerating financial inclusion in developing economies. *Procedia Computer Science*, 217, 670–678. <https://doi.org/10.1016/j.procs.2022.12.263>
- Wang, L. (2023). *Fintech: Digital transformation in finance*. Proceedings of the 7th International Conference on Economic Management and Green Development, 22-27. <https://doi.org/10.54254/2754-1169/40/20231983>
- Xu, J. (2017). China's internet finance: A critical review. *China World Economy*, 25, 78-92.