



Assessing the Role of Government Policies and Regulations on the Growth of Mobile Payment Systems in Nepal: A Descriptive Analysis of Transaction Frequency and Volumes

Submitted To:

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BBIS 2020

Date: November, 2024

ABSTRACT

Government regulations are an important factor studies in the context of usage and adoption of fintech technologies. As mobile payments (an outcome of fintech) gain traction in Nepal's economy, this study explores the role of government policies and regulations — largely overseen by the Nepal Rastra Bank (NRB) — in shaping the growth of mobile payment systems in Nepal by focusing the timeline of policies and regulations overlayed on the patterns in transaction numbers and volumes. It combines descriptive analysis of transaction data from FY 2019/20 to 2024/25, with a review of key policies, such as the Payment and Settlement Act, QR code standardization, and Cyber Resilience Guidelines, to understand their impact. The findings show that these policies have supported the growth in use of mobile payment. However, while the overall transaction volume is rising, the pace of growth has slowed, suggesting that further adjustments are needed to fully utilize the potential in Nepal's digital economy. Thus, this study points out the need for continued government support and innovative measures to move Nepal closer to a cashless future.

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CHAPTER 1

INTRODUCTION

1.1 Background

The fintech revolution has created new technologies that are continually disrupting how the financial industry operates (Bhattarai et. al., 2023) and how its outcomes are received by individuals, businesses and nations at large. One of the prominent innovations emerging from this revolution is ‘mobile payment systems’ also often referred to by the terms ‘M-payment’, ‘Mobile Payment’, ‘Mobile Money’, and ‘Mobile Transaction’ (Rahman and Islam, 2021). Mobile payment can be defined as any payment or transaction that is initiated and performed using a portable i.e. mobile device, most commonly a smart phone. These systems are, hence, easy-to-use platforms that facilitate connections between buyers and sellers in mobile money transactions (Qardi, 2023).

As a tool of the national economy, mobile payments not only contribute to financial inclusion but also act as promoters of new techno-financial ecosystems by being the building blocks of a cashless society (Rahman and Islam, 2021). In Nepal, even with the short history of digital banking with the introduction of cards and SMS banking in early 2000s only, mobile payments evolved rapidly with their mass adoption with the COVID-19 pandemic, as per Payment Oversight Report 2021/22 by Nepal Rastra Bank. However, Nepal still has a long way to go to achieve a cashless society, despite the rise in digital transactions (Pathak, 2024).

In Nepal, mobile payments exist in the form of mobile banking, branchless banking, digital wallets, connectIPS and QR Payments, as categorized in the database of Nepal Rastra Bank (NRB). The NRB, as the central regulatory authority, plays a crucial role in overseeing and regulating these payment systems. It generates directives such as the Payment and Settlement Bylaw, that impact

mobile payment systems along with other initiatives such as establishing oversight functions and pushing for QR code interoperability.

Nepal has witnessed significant growth in the adoption of mobile payments, becoming a valuable asset of the nation's finance sector (Ali and Bhattacharya, 2023). Yet, the mobile payment services existing in global systems have not been implemented in Nepal which might have been delayed by the governmental regulations (Paudel, 2021). Pathak (2024) pointed out that one of the challenges of digitization is the lack of government support. The government holds the power to drive digital opportunities in the countries of Asia (Bhandari, 2019). National initiatives that create infrastructure for mobile payment systems, reduce red tape barriers, eased but strong guidelines, etc. are some commonly seen governmental roles that help boost the digitization of payments. Hence, to realize the potential of Nepal to benefit from the digital economy, it is essential to look into how existing governmental efforts have influenced the foundational block for digitization of the economy i.e. mobile payments.

1.2 Problem Statement

Despite the advancement in digital technology and rapid growth in their use, Nepal is still far from achieving a cashless society. Even after being termed as a 'mobile-first economy', a sizable chunk of Nepal's economy remains unbanked, acting as one of the largest blockers to the growth of the country's financial services sector. This facet can directly be associated with the difficulty faced by a large population portion in accessing physical bank branches, especially in remote and rural areas of the country.

Mobile payments are one of the key solutions to this issue. However, an underdeveloped digital financial services ecosystem with low use of digital payments, online and mobile banking, and restrictive government policies has cocooned the financial sector of Nepal in its infancy stage (Digital Nepal Framework 2019).

Thus, one of the key challenges hindering further expansion in the use and adoption of mobile payments is the influence of government policies and regulations. While NRB performs its regulatory and oversight functions, the role of these regulatory interventions on the growth and trends of mobile payments has not been sufficiently studied.

This study seeks to address the gap in understanding the relationship between government regulations and the growth of mobile payments in Nepal. It aims to assess whether the policies in the selected framework have had a hand in the growth in the use of mobile payments in the country. Studying the effectiveness of such regulatory efforts is a crucial enabler in truly creating a cashless Nepal.

1.3 Regulatory Framework

Nepal Rastra Bank (NRB), as the central bank of Nepal, is the authorized governmental body responsible to regulate and oversee the payment systems of the country and formulate required regulations as required by the environment. The body has been provided power by the Nepal Rastra Bank Act 2002. Within the domain of payment systems, the NRB Act hold the objective of developing a “secure, healthy and efficient system of payment in Nepal” and hence empowers NRB to regulate and supervise any arrangements related to payment systems.

Within NRB exists the Payment Systems Department, created specifically to target its efforts towards the payment systems of Nepal. Its key functions include formulating policy provisions to promote digital payments, regulating the issuance and revocation of licenses to Payment Service Providers (PSPs) and Payment Servicer Operators (PSOs) while also performing oversight and supervisory roles of these licensed PSPs and PSOs. The PSD also reports annually on the key legal and regulatory developments made in the nation's payment systems through the Payment Oversight Report.

The contributions of PSD and the NRB to the regulatory framework surrounding the payment systems and consequently, the mobile payment systems of Nepal, fall under the legal categories of acts, bylaws, policies, guidelines, manuals, etc. for targeted towards various institutions in the financial economy. As stated in the report by PSD (2023), the major contributions include the Payment and Settlement Act (2019), the Payment and Settlement Bylaw (2020), Licensing Policy for Payment Related Institutions (2016), Payment Systems Inspection and Supervision Bylaw (2021), Payment Systems Oversight Manual (2021) and Principles of Financial Market Infrastructures.

In addition to these laws, PSD has also issued several guidelines, notices and unified directives that are revised every year. Some notable guidelines include NepalQR Standardization Framework and Guidelines (2021), Digital Lending Guidelines (2022) and the Cyber Resilience Guidelines (CRG) targeting all the licensed institutions under PSD. Hence, by addressing the larger payment systems market, the regulatory framework created by the PSD is an influential factor in the mobile payment systems environment of Nepal.

Digressing from the specific contributions of PSD, NRB is also responsible for formulating and implementing the monetary policy of the country. The monetary policy is mandated to be formed and implemented by the NRB as stated in the NRB Act 2002, to promote economic stability and sustainable economic development, targeting economic indicators such as price and balance of payments. The monetary policy has been announced every fiscal year since 2002/03. Each monetary policy dedicates a section to the payment systems of the country. While the policies impact the entire payment systems environment at large and are also important, certain policies are relevant directly and hence impact the regulatory framework surrounding mobile payments.

CHAPTER TWO

LITERATURE REVIEW

Literature on mobile payments has existed in abundance since their introduction to the realm of digital technology and digital payments with some studies reaching back to the early 2000s. Both international as well as studies completed in the context of Nepal cover a myriad of dimensions of mobile payment systems. However, we can observe a relatively larger volume of literature in the international context that has attempted to study the effect on various facets of mobile payment systems as a consequence of government regulations.

Lowry (2016) concluded in her work that mobile payment, as a new technology, should be treated in the same manner as traditional transactions to avoid new regulations disrupting business innovation and consumer adoption. Yet, she also mentioned that the natural tendency for regulators to increase their scrutiny on a growing technology should result in a legal and regulatory

framework that is stern yet advocates for innovation and development in the space. A similar idea was drawn by Liu (2015) who concluded that regulations are not formed to interfere with innovation and development, but to mitigate the negatives and provide security, stability and efficiency instead. On the other hand, Mondego and Gide's (2020) study on consumer perspective rendered government factors as insignificant in the context of consumer's trust in mobile payments.

An active role of the government in the advancement of mobile payment systems was presented in the study on India by Jhawar et al. (2023) which concluded that the legislative efforts and regulatory framework formulated by the government fostered an environment for expansion of mobile payments. On the contrary, Pal et al.'s (2019) study took government regulations as a contextual factor from the TOE framework and drew evidence that regulations such as the KYC verification process in turn made customers reluctant to adopt and use mobile payment systems like digital wallets.

While such studies are plenty in the international space, they are yet to trickle down to Nepal. The literature on mobile payment systems in Nepal has focused on dimensions other than government regulations. The study by Pathak (2024) on general digital payments touched upon the realm of government regulations stating how Nepal Rastra Bank (NRB) has played a role in such mobile payment systems. Most other studies in Nepal focus on using theoretical frameworks such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) to assess factors affecting adoption and use in either consumers or businesses such as the studies of Maharjan et al. (2022) and Nepal & Nepal (2023).

Paudel (2021) and Tamang et al. (2021) focused their efforts on reviewing the growth of the system after the pandemic through different approaches. Customer satisfaction variables such as

convenience, communication and time savings drawn from mobile banking applications also have been contributed to Nepali literature on mobile payment systems (Sahani, 2024). Even on a macroeconomic level, studies have concluded to show the relationship between the fintech industry and the economy of Nepal (Bhandari, 2019).

Yet, literature that localizes the regulatory domain of the mobile payment system remains a lacking factor in the case of Nepal. This can partially be attributed to the fact that many regulations introduced for mobile payment systems are still young and are continually adapted as required. However, as the literature dictates, mobile payments cannot be treated as a distinct mechanism in the legal eyes. Thus, this study aims to begin the project of bridging the existent gap in the literature on the impact of government regulation on the mobile payment systems of Nepal by performing an initial assessment of the role of regulations in relation to the trends in usage and volume of m-payments.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This study employs a secondary data analysis approach, utilizing both quantitative and qualitative data to examine the role of regulatory policies on the growth of mobile payment systems in Nepal. Quantitative data include the number and volume of mobile payment transactions that are obtained from the publicly available database maintained by the Nepal Rastra Bank (NRB). To complement this, a qualitative analysis of regulatory documents and policies issued by NRB is conducted, offering a contextual understanding of regulatory intentions and directives over time.

Due to periodic gaps in database updates, supplementary data are gathered from NRB's official notices and public announcements. Descriptive statistical analysis is applied to present the average monthly number and volume of transactions for five fiscal years as well as the year-on-year growth of the figures. This data is then cross-referenced with the timeline of government regulations and policy implementations to assess how various regulatory changes have influenced mobile payment trends.

By comparing transaction data with the regulatory timeline, this study seeks to determine the role played by different regulatory measures over time.

3.2 Research Scope

To build an understanding of the relationship between the regulatory framework surrounding mobile payments in Nepal and its growth in the market, this study utilizes monthly transaction data from the fiscal year (FY) 2019/20 to 2024/25, and the policies and regulations relevant to mobile payment systems, this analysis reaches provides insights into the usage and growth trends in mobile payments and explores how key government policies and regulations have influenced these trends over time.

For this, the study utilizes data provided by NRB in its "Electronic Payment Transactions" database and the monthly payment system indicators report (from FY 2019/20 to FY 2024/25). However, due to the lack of accurate tracking in the past only the last month of data is available for the fiscal year 2019/20. Similarly, as of the date of the study, only the first two months of data on the number and volume of transactions are available for the fiscal year 2024/25.

The payment instruments selected as mobile payments, by definition of this study, include ‘connectIPS’, ‘mobile banking’, ‘branchless banking’, ‘digital wallet’ and ‘QR payment’ due to the predominant use of these instruments through mobile banking even though alternative platforms for using these instruments are available.

Similarly, the policies, regulations and guidelines selected for this study are timebound to have been introduced within the time period covered by the data (FY 2019/20 - FY 2024/25). The policies selected directly influence the domain of mobile payment systems and hence are relevant to the study. To have a distinct series of such policies, ‘unified directives’ that are primarily targeted towards the larger issues of banks and financial institutions (BFIs), as well as other notices and circulars have been considered out of scope for this research.

The policies, regulations and guidelines selected for the study are listed below:

- Monetary Policy (FY 2019/20 to FY 2024/25)
- Payment and Settlement Act, 2019
- Payment and Settlement Bylaw, 2020
- NepalQR Standardization Framework and Guidelines, 2021
- Digital Lending Guidelines, 2022
- Cyber Resilience Guidelines (CRG), 2023

CHAPTER FOUR

ANALYSIS AND REVIEW

4.1 Trend Analysis of Data

The analysis of the data on the number and volume of transactions per month throughout the scoped fiscal years focused on generating the mean number and volume of transactions per year, i.e. the average number and volume of transactions that occur in a month of the fiscal years. Additionally, the rate of growth of the metric from the previous year was also calculated to understand trends in the growth of the usage of mobile payment systems in Nepal. This analysis was performed for each of the five selected instruments and also aggregated to attain a summed value of all instruments.

4.1.2 Analysis of Number of Transactions

The number of transactions completed through mobile payment systems shows a steady growth across all instruments as seen in Figures 4.1 and 4.2. The total number of transactions across all instruments has increased from under 20 million transactions in FY 2019/20 to over 100 million transactions in FY 2024/25. Across all instruments, mobile banking currently experiences the highest number of transactions reaching over an average of 45 million transactions per month in FY 2024/25 with digital wallets closely following with 30 million transactions per month.

It is key to note that the growth is more prominent across most instruments after the FY 2020/21 which may indicate a favorable change in the environment of mobile payment systems. This is indicated by the peak in the growth rate of most instruments during FY 2021/22 observable in Figure 4.3. QR-based payments experienced the highest growth with a rate of almost 400% growth in the number of transactions in FY 2021/22 from that of FY 2020/21. Other instruments also show

a relatively higher rate of growth during FY 2021/22 compared to the other fiscal years. This is shown in Figure 4.4 with FY 2021/22 having the highest average rate of growth across all instruments in the average monthly number of transactions.

While the absolute number of transactions from mobile payment systems is on a steady increase, it is important to notice that the rate of growth of such transactions has been on a steady decrease since its peak in FY 2021/22 clearly drawn in Figures 4.3 and 4.4.

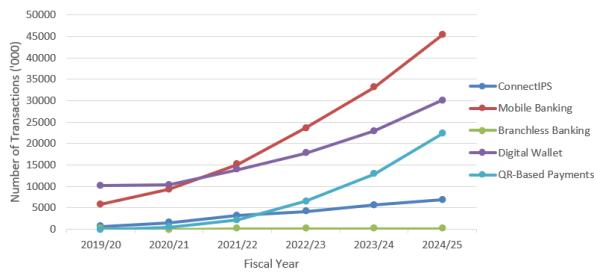


Fig: 4.1 – Average Monthly Transactions by Payment Instrument across Fiscal Years

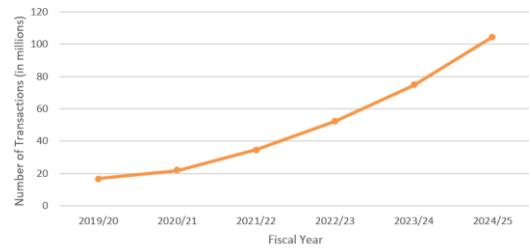


Fig: 4.2 - Average Monthly Transactions across Payment Instruments across Fiscal Years

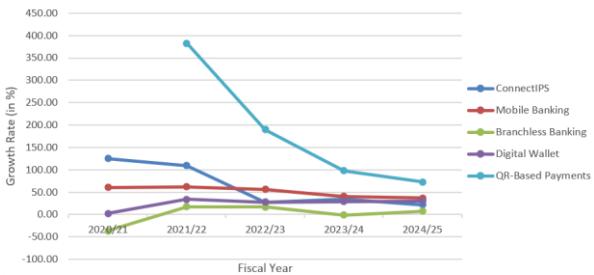


Fig: 4.3 - Growth Rate of Average Monthly Transactions by Payment Instrument across Fiscal Years

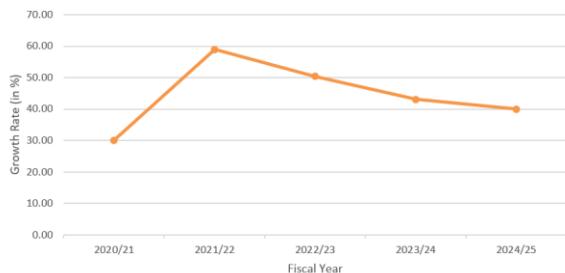


Fig: 4.4 - Growth Rate of Average Monthly Transactions across Payment Instruments across Fiscal Years

4.1.2 Analysis of Volume of Transactions

The volume of transactions processed through mobile payment systems has also shown a consistent growing trend across all instruments, as seen in Figures 4.5 and 4.6. Since FY 2019/20, the total volume of transactions has grown significantly, rising from under an average of NPR 100 billion in a month to over an average of NPR 1000 billion a month in FY 2024/25. Among the various instruments, ‘connectIPS’ leads in transaction volume, exceeding NPR 500 billion in monthly volume in FY 2024/25, followed closely by mobile banking at approximately NPR 350 billion in an average month.

In similarity to the number of transactions, transaction volume trends also show a noticeably prominent growth after FY 2020/21. This can be seen in the figures of the absolute volume of transactions as well as in the growth rate of these volumes (Figures 4.5 and 4.6). Another similarity between the two metrics is that QR-based payments have experienced the highest growth rate in FY 2021/22 reaching over 350% growth in transaction volume while other instruments also have a relatively higher rate of growth during the year in comparison to the other years as illustrated in Figure 4.7.

However, the transaction volume trends also follow the negatives of the number of transactions. While the absolute volume is on a steady increase, the rate of growth is on a gradual decline after the peak in growth rate in FY 2021/22. This trend is clear in Figures 4.7 and 4.8.

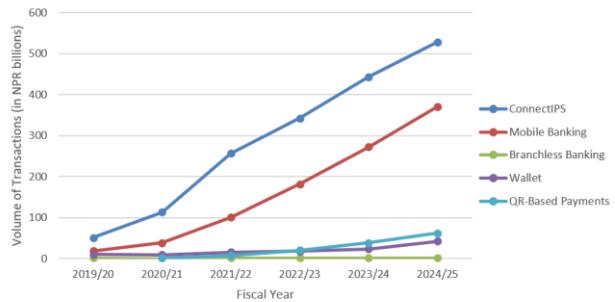


Fig: 4.5 - Average Monthly Transaction Volume by Payment Instruments across Fiscal Years

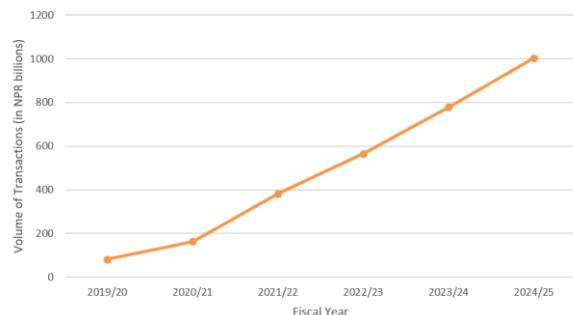


Fig: 4.6 - Average Monthly Transaction Volume across Payment Instruments across Fiscal Years

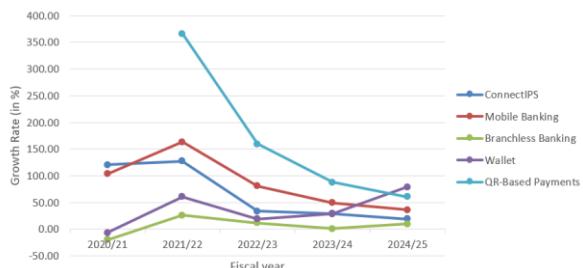


Fig: 4.7 - Growth Rate of Average Monthly Transactions Volume by Payment Instruments across Fiscal Years

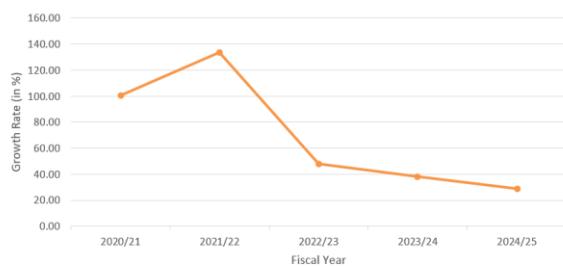


Fig: 4.8 - Growth Rate of Average Monthly Transactions Volume across Payment Instruments across Fiscal Years

4.2 Policy Review

4.2.1 Monetary Policy

Fiscal Year	Major Provisions for MPS	Implications on MPS
2019/20	<ul style="list-style-type: none"> Reducing cash transactions to focus on electronic payments Encouraging PSPs to expand to remote areas for payment through mobile phones Reporting of transactions by organizations involved in payment-related services 	<ul style="list-style-type: none"> Direct focus of government in reducing the use of cash resulting in increased focus on digital alternatives like MPS Expansion of MPS to ‘mobile-first’ areas encourages more people to use MPS for transactions

		<ul style="list-style-type: none"> • Transparency in transactions ensures more security in MPS and consequently impacts consumer trust
2020/21	<ul style="list-style-type: none"> • Beginning work on a national payment switch • Issuance of guidelines for QR Codes used in payments 	<ul style="list-style-type: none"> • National payment switch prepares for wider support and interoperability of payment instruments • Major implications of the QR Code guidelines discussed later
2021/22	<ul style="list-style-type: none"> • Emphasis on the development of necessary infrastructure to focus the year as “E-Payment Transactions Promotion Year” • Establishing the national payment switch to settle and record transactions conducted within the country • Reviewing transaction limits as well as fees to promote e-payment • Arrangement for PSPs to report suspicious transactions 	<ul style="list-style-type: none"> • A wider initiative of the government to promote digital payments • Review of transaction limits and fees promotes the usage of digital payments and consequently, MPS • Reporting arrangements contribute to making MPS more secure and reliable
2022/23	<ul style="list-style-type: none"> • Further promotions of electronic payment transactions • Preparations for the establishment of a digital bank 	<ul style="list-style-type: none"> • Minor addition to the previous year’s policy on promoting digital payments across the nation
2023/24	<ul style="list-style-type: none"> • Collection of government revenue by using electronic payment instruments 	<ul style="list-style-type: none"> • Government services utilizing digital payments is a good

		endorsement as per Lowry (2015)
2024/25	<ul style="list-style-type: none"> Arrangements to make transactions from agents of PSPs more transparent Preparation of infrastructure and institutional structure for national payment switch 	<ul style="list-style-type: none"> Transparency provisions contribute to making MPS more reliable

4.2.2 Laws and Guidelines

Year	Law / Guideline	Implications of Provisions on MPS
2019	Payment and Settlement Act, 2019	<ul style="list-style-type: none"> Laid out a legal foundation for the creation and management of payment systems. Empowered the NRB to regulate and supervise the payment system license holders. Also created bases for punishments and penalties – creating accountability on the side of PSOs and PSPs.
2020	Payment and Settlement Bylaw, 2020	<ul style="list-style-type: none"> Laid out the formation and responsibility of the legal body overseeing the payment systems. Provisions related to the Liabilities of licensed institutions – help ensure institutions are licensed, operate as soon as possible, create transparency in their activities and avoid any criminal activities (safeguard the market). Provisions regarding consumer protection – Conditions regarding the security of payments, necessary agreements with customers, and non-discriminatory practices with customers.

2021	NepalQR Standardization Framework and Guidelines, 2021	<ul style="list-style-type: none"> • Standardization of service quality and security for one of the most widely used forms of mobile payments. • Ensured interoperability across networks allowing customers more options for mobile payments. • Enhanced security for mobile payments promoting trust among the customers for the use of mobile payments.
2022	Digital Lending Guidelines, 2022	<ul style="list-style-type: none"> • Encourages individuals to acquire small loans through electronic means and spend them through electronic methods (Most likely through mobile devices). • Led to the creation of innovative products like ‘Foneloan’ that allow acquiring and using loans through mobile devices. • Diversifies the mobile payments market into other financial services than just payments through money deposited in a bank or wallet. • Also ensures the security of information, reliability and transparency in the systems.
2023	Cyber Resilience Guidelines, 2023	<ul style="list-style-type: none"> • Mobile payments are to be more secure with the enhanced and stricter data protection of financial and personal information. • Mobile payment services become more available with response and recovery guidelines from CRG – required to provide critical services quickly even in states of crisis. • Cyber risk management is built into the regulatory framework of LIIs, its processes, testing mechanisms, protection against and detection of intrusion, etc. mandating institutions to create a risk-minimized and mitigated payment systems environment.

CHAPTER FIVE

FINDINGS AND DISCUSSIONS

Policies and regulations since FY 2019/20 are supportive of electronic mechanisms and digital payments as a whole. In the monetary policy of each FY, there are numerous provisions focused on promoting the use of cashless digital transactions in various areas of the national economy. Provisions such as direct promotion of electronic payments in FY 2019/20, FY 2021/22 and FY 2022/23 represent a focus on government shaping the regulatory framework in support of digital payments. Similarly, the monetary policies have also clarified many of the government's efforts towards creating a stronger environment for the use of digital transactions. These efforts can be seen to have been focused on expanding accessibility of mobile payments and the internet to the rural areas of the nation, increasing transparency through reporting requirements in different aspects of the digital payments' domain, as well as inculcating such means of transaction within government's activities itself such as revenue collection for different state services.

These positive regulatory efforts, hence, can be attributed to having played a role in the steady growth of both the number of transactions and transaction volume across all instruments of mobile payments in Nepal throughout the fiscal years.

Additionally, the regulatory framework surrounding mobile payments is also being continually reshaped and strengthened through acts, laws and guidelines issued by the government and NRB. The Payment and Settlement Act 2019 (NRB, 2019) and Payment and Settlement Bylaw 2020 (NRB, 2020) can be assessed to have created a steady groundwork for the increase in usage of mobile payments. In particular, the peak in growth of usage of mobile payments in FY 2021/22 can be seen to have occurred post the issuance of NepalQR Standardization Framework and

Guidelines 2021 (NRB, 2021) which may have played a role in boosting both the number and volume of transactions conducted through solely QR-based Payments as well as other instruments that utilize QR codes for transactions. However, this peaked growth can also be partially attributed to external factors such as lockdowns from the COVID-19 pandemic that encouraged consumers to utilize non-contact payment options. Yet, we cannot diminish the role of such regulatory guidelines in assisting the growth of usage.

Guidelines following the peak of growth can be assessed as efforts of reinforcement that expand the financial services possible with mobile payment systems such as loaned payments, done through the Digital lending Guidelines (NRB, 2022) and mandate all service providers to ensure that security and risk management are maintained to the highest standard accepted, done through the Cyber Resilience Guidelines (NRB, 2023).

Hence, regulatory efforts from the government and NRB efforts are found to be focused on the promotion of cashless transactions, expanding its access, standardization of different aspects through specific guidelines and ensuring the reliability and security of the system through strict transparency and risk management policies, provisions and guidelines which has resulted in a prominent growth in usage of mobile payments throughout the past fiscal years.

However, as the trend in growth rates has shown, efforts later in the period are found to be less impactful in increasing or maintaining the high rate of growth that was achieved previously. While the regulatory framework is still supportive and improving by the year, a few pitfalls can also be observed that may have resulted in the declining growth rate. The number of provisions created for payment systems, particularly electronic payments, in the monetary policy has been decreasing. This creates an idea that the focus of the government on digital payments is falling.

The declining rate of growth is problematic due to the low penetration rate of digital transactions in Nepal in the context of the larger economy. While the absolute number and volume of transactions are increasing, a large portion of the Nepalese economy still relies on cash due to several factors such as accessibility, reliability, literacy and even the ease of use of cash. As outlined in the Digital Framework Nepal, 2019, a large portion of the Nepalese population is still unbanked leaving the nation with a predominantly cash economy that acts as one of the biggest barriers to the growth of the financial sector of Nepal. Thus, future regulatory efforts have to address the declining growth rate.

CHAPTER SIX

CONCLUSION

Government regulations do play a role in shaping the environment around which mobile payment systems of Nepal can grow. Regulations that standardize different aspects such as payment instruments, financial services, security standards, as well as policies for promoting the usage of digital payments, mandating transparency as well as other projects for infrastructural development in the domain of electronic payments, have played a positive role in growing the usage of mobile payments in Nepal. While some regulations have led to monumental growth, others have failed to sustain the attained momentum yet have sustained the trend of growth.

To upturn the declining rate of growth, the government or the concerned body can take additional measures. As described by Pathak (2024), the government can offer discounts to the general public on transaction fees as well as to retailers on the costs of selling goods and services online to encourage the use of mobile payment solutions. The government can continuously promote its use as well as organize training programs to address digital literacy-related problems in a country like Nepal.

Governmental regulations are only one of the several factors that affect usage and adoption directly, but indirectly can affect several others like costs, societal perception, infrastructure, accessibility and availability in rural areas, etc. Efforts can be focused towards improving these factors to promote mobile payments.

Additionally, taking examples from the neighbouring country India with whom Nepal shares a myriad of aspects, the government needs to up the pace on the completion of several promised projects such as the national payment switch and its related frameworks. India has experienced a

large growth in mobile payments in its economy due to Unified Payments Interface (UPI) which is a real-time payment processing system introduced at the national level which makes registration as well as usage very easy and seamless through mobile phones. Similarly, other projects of Nepal such as the Central Bank Digital Currency (CDBC) project, digital bank, and other fintech projects outlined in the Digital Framework of 2019 can help boost this declining growth rate of mobile payments usage.

Future research on the regulatory framework around mobile payment systems in Nepal can adopt a different research design to identify the specific growth or decline that occur in the usage of mobile payment systems from change in the regulatory framework around it.

REFERENCES

- Mondego, D. Y., & Gide, E. (2020). Exploring the factors that have impact on consumers' trust in mobile payment systems in Australia. *Journal of Information Systems and Technology Management*, 17. <https://doi.org/10.4301/S1807-1775202017009>
- Liu, J., Kauffman, R. J., & Ma, D. (2015). Competition, cooperation, and regulation: Understanding the evolution of the mobile payments technology ecosystem. *Electronic Commerce Research and Applications*, 14(5), 372–391. <https://doi.org/10.1016/j.elerap.2015.03.003>
- Lowry, C. (2016). What's in your mobile wallet? An analysis of trends in mobile payments and regulation. *Federal Communications Law Journal*, 68(2). Retrieved from <http://www.fclj.org/wp-content/uploads/2016/09/68.2.4-Carolyn-Lowry.pdf>
- Jhawar, N., Agrawal, B., & Kumar, A. (2023). Advancement of mobile payment system in India: A collaborative effort of government & stakeholders. *International Bulletin of Management and Economics*, 15(2), 89–106. Retrieved from https://www.ipsacademy.org/unnayan/jul-23-xv-2/Paper%206_Final_Revised_Advancement%20of%20Mobile%20Payment%20System%20in%20India.pdf
- Pal, A., De, R., Herath, T., & Rao, H. R. (2019). A review of contextual factors affecting mobile payment adoption and use. *Journal of Banking and Financial Technology*, 3, 43–57. <https://doi.org/10.1007/s42786-018-00005-3>
- Paudel, P. (2021). A structured literature review on impact of COVID-19 pandemic on mobile payment in Nepal. *LBEF Research Journal of Science, Technology and Management*, 3(3), 12–25. Retrieved from <https://www.lbef.org/journal/3-3/download/3-3-12-25.pdf>
- 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>
- Pathak, A. (2024). Digital payment in Nepal: An overview and recommendations. *Rupandehi Campus Journal*, 4(1), 25–34. <https://doi.org/10.3126/rcj.v4i1.62916>
- Tamang, A., Bhaskar, P. K., & Chatterjee, J. M. (2021). Acceleration of digital payment adoption during COVID-19 pandemic: A case study of Nepal. *LBEF Research Journal of Science*,

Technology and Management, 3(2), 1–13. Retrieved from <https://www.lbef.org/journal/3-2/download/3-2-1-13.pdf>

Maharjan, P., Devkota, N., Mahapatra, S., Padda, I. U. H., Dhakal, K., Mahato, S., Khanal, G., Parajuli, S., Paudel, U. R., & Bhatarai, U. (2022). FinTech adoption among online grocery buyers during COVID-19 lockdowns in Nepal. *The Journal of Private Enterprise*, 37(2), 57–89. Retrieved from

http://journal.apee.org/index.php/2022_Journal_of_Private_Enterprise_Vol_37_No2_Summer_for_printers_parte6

Nepal, S., & Nepal, B. (2023). Adoption of digital banking: Insights from a UTAUT model. *Journal of Business and Social Sciences Research*, 8(1), 17–34. <https://doi.org/10.3126/jbssr.v8i1.56580>

Sahani, A. K. (2024). Factors affecting customer satisfaction of mobile banking services at commercial banks in Nepal. *Journal of Corporate Finance Management and Banking System*, 4(46), 50–60. <https://doi.org/10.55529/jcfmbs.46.50.60>

Ali, M. A., & Bhattacharya, S. (2023). User satisfaction with mobile payments in Nepal. *LBEF Research Journal of Science, Technology and Management*, 5(3). Retrieved from <https://www.lbef.org/journal/5-3/download/5-3-32-44.pdf>

Rahman, M. A., & Islam, M. A. (2021). Identifying the factors affecting adoption of mobile payment system by small and medium sized enterprises in Bangladesh. *Journal of Business Studies*, 42(2). <https://doi.org/10.3329/dujbst.v42i2.59715>

Qadri, E. N. (2023). Critical factors that affect the adoption of mobile payment services in developed and developing countries (Dissertation). Retrieved from <https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-512546>

Bhatarai, B., Shrestha, R., Maharjan, S., Malla, S., & Shakya, S. (2023). Effectiveness of digital payments in the performance of Nepalese micro, small and medium enterprises (MSME). *New Perspective Journal of Business and Economics*, 6(1), 9–22. <https://doi.org/10.3126/npjbe.v6i1.58868>

Nepal Rastra Bank (2019-2024), Monetary Policy, <https://www.nrb.org.np/category/monetary-policy/?department=ofg>

National Information Technology Center. (2019). Digital Framework Nepal, <https://drc.gov.np/storage/backend/pages/resources/others/D8Ip6S0TBu0kqwXB7V90hB9aodF4v6qTLGzUvN7M.pdf>

Payment Systems Department (NRB). (2019-2023). Payment Oversight Report, <https://www.nrb.org.np/category/reports/?department=psd>

Payment Systems Department (NRB). (2023). Cyber Resilience Guidelines, <https://www.nrb.org.np/contents/uploads/2023/08/Cyber-Resilience-Guidelines-2023.pdf>

Payment Systems Department (NRB). (2022). Digital Lending Guidelines, <https://www.nrb.org.np/category/policies-guidelines/?department=psd>

Payment Systems Department (NRB). (2021). NepalQR Standardization Framework and Guideline, <https://www.nrb.org.np/contents/uploads/2021/03/NepalQR-Standardization-Framework-and-Guidelines.pdf>

Payment Systems Department (NRB). (2020). Payment and Settlement Bylaw, https://www.nrb.org.np/contents/uploads/2020/06/Payment_and_Settlement_bylaws_2077-1.pdf

Payment Systems Department (NRB). (2019). Payment and Settlement Act, <https://www.nrb.org.np/category/acts/?department=psd>

Payment Systems Department (NRB), (2024), Payment System Indicators, <https://www.nrb.org.np/category/indicators/?department=psd>