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Awareness and Perception of Central Bank Digital Currency for Cross Border Payments in Nepal

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Abstract

Purpose: This study examines the awareness, perceptions, adoption readiness, and perceived barriers of potential users regarding the use of Central Bank Digital Currency (CBDC) for cross border payments in Nepal.

Research Methodology: The study used a descriptive and exploratory design. Primary data were collected from 62 respondents through a structured online questionnaire using convenience sampling and were analyzed with frequency distributions, percentages, and mean scores, supported by a thematic reading of open ended responses and relevant secondary sources.

Results: A total of 83.9% of respondents had some prior familiarity with CBDC, but only 16.1% considered themselves very well informed, and 59.7% rated public awareness in Nepal as low. Respondents viewed CBDC positively in terms of ease and convenience, faster payments, lower costs, and financial inclusion, and 66.2% were willing to try or adopt a CBDC based cross border payment system if it proved reliable. The main barriers were lack of public awareness and digital literacy (72.6%), cybercrime and financial fraud (59.7%), and weak digital infrastructure (58.1%).

Conclusions: CBDC has good potential to make cross border payments faster, cheaper, and more convenient in Nepal, but successful adoption will depend on public education, strong security, reliable infrastructure, clear regulation, and international interoperability.

Limitations: The small convenience sample and the descriptive analysis limit the generalization of the findings.

Contributions: The study provides early evidence on CBDC readiness in a remittance dependent economy and offers practical guidance for Nepal Rastra Bank and policymakers.

Keywords: *Central Bank Digital Currency, Cross Border Payments, Digital Literacy, Nepal, Technology Acceptance*

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1. Introduction

Central Bank Digital Currency (CBDC) is a digital form of central bank money that can be made available to the general public. Kumhof and Noone (2021) describe CBDC as electronic central bank money that is accessible more broadly than bank reserves, that can offer greater functionality for retail transactions than cash, that operates under a separate operational structure from other forms of central bank money, and that may potentially bear interest. In a retail CBDC system, individuals and institutions hold CBDC in digital wallet accounts from which they can pay or transfer money to other wallets or bank accounts. Over the past decade, central banks around the world have moved from exploring the concept of CBDC to conducting pilots and, in some cases, launching live systems, and the research literature on CBDC has expanded rapidly (Auer et al., 2022, Ozili, 2023).

The interest in CBDC is closely linked to the broader digital transformation of finance. Financial technology has reshaped payments, lending, and remittances by introducing new business models and lowering transaction costs (Gomber et al., 2018), and digital finance has been shown to support financial inclusion and stability in emerging economies (Ozili, 2018). Fintech development is strongly associated with greater use of savings, borrowing, and remittance services in emerging markets (Lyons et al., 2022), and mobile money has improved the welfare of remittance receiving households by lowering transaction, transport, and time costs (Munyegera & Matsumoto, 2016). CBDC is often presented as the next step in this transformation because it combines the safety of central bank money with the convenience of digital payments.

In the context of Nepal, the possible use of CBDC for cross border payments is particularly important because the country depends heavily on international financial flows, especially remittances. Remittances are an important source of income for Nepalese households and contribute significantly to the country's foreign exchange reserves. According to Nepal Rastra Bank (NRB), personal remittances reached approximately (Nepalese Rupee) NPR 1.22 trillion in fiscal year 2022/23, equivalent to around 22.8% of gross domestic product (Nepal Rastra Bank, 2023). A large number of Nepalese migrant workers in the Gulf Cooperation Council countries, Malaysia, India, and other parts of the world regularly send money back to Nepal, and the cost and speed of these transfers directly affect household welfare.

NRB has established a dedicated CBDC division under its payment systems department to study the possible use of CBDC for domestic payments as well as cross border transactions, and it has published a concept report on the appropriate policy goals and design for a CBDC in Nepal (Nepal Rastra Bank, 2022). However, the successful introduction of CBDC will depend not only on technology and policy but also on public awareness, user perceptions, and willingness to adopt. Even a well designed CBDC may fail to achieve its policy objectives if the public lacks sufficient understanding and confidence in it (Bossu et al., 2020). Understanding the current level of awareness, public perceptions, and possible barriers to adoption is therefore essential for developing a practical and effective digital payment system in Nepal.

At present, most cross border payments to and from Nepal are made through traditional banks and remittance companies, which may involve higher charges and take more time to complete (Committee on Payments and Market Infrastructures & World Bank Group, 2022). A CBDC could provide a faster and more convenient way of making such payments, but its benefits can be realized only if people understand it and are willing to use it. The present study therefore investigates the awareness and perceptions of potential users toward CBDC for cross border payments in Nepal and addresses three research questions. The first question asks what the current level of awareness among general consumers and students regarding CBDC for cross border payments in Nepal is. The second asks how individuals perceive the safety, convenience, speed, and cost of using CBDC for cross border payments compared with traditional remittance systems. The third asks which challenges, such as limited digital literacy, cybersecurity concerns, privacy issues, and lack of trust, may discourage people from adopting CBDC for cross border payments.

Accordingly, the study has three objectives. The first objective is to determine the level of awareness among general consumers and students about CBDC and its possible use in cross border payments. The second is to understand perceptions of the benefits, speed, convenience, and reliability of CBDC for cross border payments compared with traditional remittance channels. The third is to identify the main challenges, such as limited digital literacy, technological difficulties, and security concerns, that may affect willingness to use CBDC for cross border transactions in Nepal.

2. Literature Review

2.1 Concept and Rationale of Central Bank Digital Currency

The theoretical basis for CBDC draws on several principles from economics, finance, and monetary theory. The first is monetary sovereignty, which refers to a nation's authority to regulate its own currency and monetary policy. As private digital payment platforms and cryptocurrencies expand, central banks see CBDC as a way to preserve the role of public money in the payment system and to maintain control over monetary conditions (Auer, Frost, Gambacorta, Monnet, Rice, & Shin, 2022). The second principle is the digitalization of currency, which aligns with the global shift toward digital transformation in the economy. Digital transformation changes how organizations create value and how customers interact with services (Vial, 2019), and CBDC extends this transformation to money itself by seeking to make transactions faster, more secure, more affordable, and more widely accessible (Alber & Dabour, 2020).

A third rationale for CBDC is its potential to improve financial inclusion. In many developing countries, a significant portion of the population remains unbanked or underbanked and has limited access to conventional financial services. Fintech innovations have been shown to reduce income inequality by expanding financial inclusion, particularly for lower income groups (Demir, Pesqué-Cela, Altunbas, & Murinde, 2022), and studies of mobile money adoption show that performance expectancy and effort expectancy are key drivers of inclusion through digital channels (Senyo & Osabutey, 2020). Digital technologies, including artificial intelligence, also lower the cost of providing financial services to underserved populations (Mhlanga, 2020). A CBDC accessible through simple digital wallets could extend these benefits to people who currently rely on cash or informal channels.

A fourth rationale relates to the efficiency of payment systems. CBDC is expected to lower transaction costs and speed up settlement by offering a standardized digital currency that is easy to transfer, settle, and track. By reducing dependence on physical cash, CBDC could also cut costs related to printing, transporting, and securing currency (Náñez, Jorge-Vazquez, & Reier, 2021). A fifth rationale concerns monetary policy and financial stability. CBDC could facilitate more accurate monitoring of money flows and provide new tools for monetary policy, but it may also affect bank deposits and credit if households shift funds from banks to the central bank (Keister & Sanches, 2023). Reviews of the macro financial implications of CBDC conclude that it need not produce higher inflation but that financial stability risks must be managed carefully through design choices such as holding limits and remuneration (Chen, & Siklos, 2022; Kumhof, & Noone, 2021)

Despite these advantages, implementing CBDC involves technological hurdles, the need for strong cybersecurity, potential disruption to the banking sector, and legal questions about the mandate of central banks to issue digital currency (Bossu, Itatani, Margulis, Rossi, Weenink, & Yoshinaga, 2020). Bibliometric reviews show that CBDC research has grown quickly since 2018 and increasingly addresses design, privacy, financial stability, and international dimensions (Hoang, Ngo, & Vu, 2023). The success of CBDC will ultimately depend on whether people understand it, trust it, and are willing to use it.

2.2 CBDC for Cross Border Payments and Remittances

Cross border payments are widely regarded as slow, expensive, and opaque, particularly for remittance corridors that serve developing countries. International initiatives have therefore examined

how CBDCs could be designed to improve cross border payments through access arrangements and interoperability between national systems (Committee on Payments and Market Infrastructures & World Bank Group, 2022). Three broad interoperability models have been discussed, namely compatible national systems, interlinked systems, and a single multi currency system, and analysis suggests that the single system model can reduce cross border and cross currency risks and the number of intermediaries, although it requires advanced national CBDC infrastructure and shared economic and geopolitical interests among participating countries (Kochergin, 2024).

For remittance dependent economies such as Nepal, the potential benefits of CBDC for cross border payments are substantial. NRB's concept report notes that internet penetration in Nepal was around 38.4% in January 2022 and that average remittance costs into Nepal from major sending countries ranged between roughly 3% and 5% of the amount transferred, depending on the corridor and channel (Nepal Rastra Bank, 2022). These figures indicate both the scale of the connectivity gap that CBDC would need to overcome and the cost problem it would aim to solve. Evidence from mobile money shows that lower transfer costs can increase the frequency and value of remittances received by households (Munyegera & Matsumoto, 2016), which suggests that a well designed CBDC could produce similar welfare gains if it reaches remittance receiving families.

2.3 Technology Acceptance and Trust

The adoption of new payment technologies is commonly explained using the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT proposes that performance expectancy, effort expectancy, social influence, and facilitating conditions determine behavioral intention and use, and subsequent research has extended the model with constructs such as hedonic motivation, price value, and habit (Venkatesh et al., 2016). A meta analytic re examination of UTAUT found that attitude plays a central mediating role and that individual characteristics influence the strength of the main relationships (Dwivedi et al., 2019).

Trust is particularly important for financial technologies. In mobile banking, trust has been shown to significantly influence behavioral intention alongside performance expectancy, effort expectancy, hedonic motivation, and price value (Alalwan et al., 2017). In mobile payment adoption, anxiety about security and trust in the provider are central determinants of use (Patil et al., 2020). Similarly, research on Quick Response (QR) code payment adoption among micro, small, and medium enterprises in Indonesia found that trust, together with technology readiness, shapes the intention to adopt national QR payment systems (Nurqamarani et al., 2024). Financial literacy also matters, as research in Norway found that mobile payment users were less financially vulnerable than nonusers and that low financial literacy was associated with greater vulnerability (Seldal & Nyhus, 2022). These findings suggest that awareness, knowledge, and trust are likely to shape the acceptance of CBDC as much as its technical features.

2.4 Empirical Evidence on CBDC Adoption

A growing number of studies have examined public attitudes toward CBDC. In the Netherlands, a representative survey found that roughly half of the public would open a CBDC current account and that intended use rises with knowledge of CBDC and trust in the central bank, while people who value privacy and security were also more interested in CBDC (Bijlsma et al., 2024). A study of Swedish households found that institutional trust plays a key role in the acceptance of CBDC (Söilen & Benhayoun, 2022). In China, research on the Digital Currency Electronic Payment project found that privacy concerns about existing payment methods and the fit between the technology and users' tasks positively influenced adoption, while switching costs significantly reduced adoption intention (Xia et al., 2023). This evidence shows that user acceptance, not government backing alone, ultimately determines whether a CBDC succeeds.

Other studies highlight the role of knowledge and perceived value. A survey of 408 respondents in China found that financial knowledge, perceived value, openness to innovation, and perceived

convenience positively affected the intention to use digital currency (Wu et al., 2022). Ma et al. (2022) extended technology adoption frameworks with perceived privacy, security, and system quality and found that these factors predict perceived trust, which in turn predicts the intention to use CBDC. In India, research on the digital rupee found that hedonic motivation, performance expectancy, and social influence affected the intention to use CBDC and that prior experience with the Unified Payments Interface moderated some of these relationships (Gupta et al., 2023). A study of Generation Z users in northern India found that attitude positively influenced the intention to use CBDC (Kaur et al., 2024), while an empirical study in Ahmedabad reported that CBDC awareness stood at 52.4% but only 34.7% of respondents demonstrated a real understanding of its benefits and features, even though institutional trust in the Reserve Bank of India remained very high (Modha & Trivedi, 2025). This comparison shows that awareness and genuine understanding are not the same, and that a population can trust an institution deeply while still knowing little about the specific product it introduces.

2.5 Digital Payments in Nepal

Research in Nepal has focused mainly on digital payments and fintech rather than on CBDC specifically. Niraula and Adhikari (2019) found a significant positive relationship between mobile and internet access and the number of deposit accounts, suggesting that expanding connectivity can improve financial inclusion. Since CBDC adoption for cross border and remittance purposes would similarly depend on smartphone and internet access in Nepal's remote regions, this finding highlights a basic infrastructural precondition for any CBDC rollout. Tamrakar and Shah (2019) used interpretive structural modeling to identify barriers to mobile payment systems and found that hardware and software limitations, together with a general lack of knowledge among users, sit at the foundation of most other barriers. Tamang et al. (2021) showed that the COVID 19 pandemic accelerated public willingness to try digital payment tools, which indicates that Nepalese consumers can adapt to new payment technology relatively quickly when there is sufficient incentive.

Several studies in Nepal emphasize the importance of security and trust. Poudel et al. (2023) examined digital payment adoption among 400 youths in Pokhara and found that security and privacy, performance expectancy, and facilitating conditions positively influenced adoption intention, while effort expectancy and social influence did not. Poudel and Acharya (2023) found a significant positive relationship between security and usage intention for fintech, with trust partially mediating the relationship. Dhungana et al. (2023) reported that security, convenience, and adaptability positively influence attitudes toward digital finance among customers in Pokhara, with security having the strongest effect. In contrast, a recent study found that ease of use, self efficacy, and perceived usefulness significantly shaped customer perceptions of digital payments in Nepal, while trust and privacy did not have a significant effect (Adhikari et al., 2025). These mixed findings suggest that the relative importance of security, trust, and usability may differ across user groups and payment technologies.

2.6 Research Gap and Conceptual Framework

The studies reviewed above show that a substantial body of empirical work exists on CBDC awareness and adoption internationally, particularly in countries such as China, India, and the Netherlands where pilots or detailed design studies have progressed further. Within Nepal, however, most research has focused on digital payments and fintech adoption in general, such as mobile banking, digital wallets, and QR code payments, rather than on CBDC. No study identified in this review has examined how general consumers and students in Nepal perceive CBDC in relation to cross border payments. This study addresses this gap by examining awareness, perceptions, adoption readiness, and perceived barriers among a broad group of respondents with specific attention to cross border and remittance related use cases. The conceptual framework of the study is presented in Figure 1.

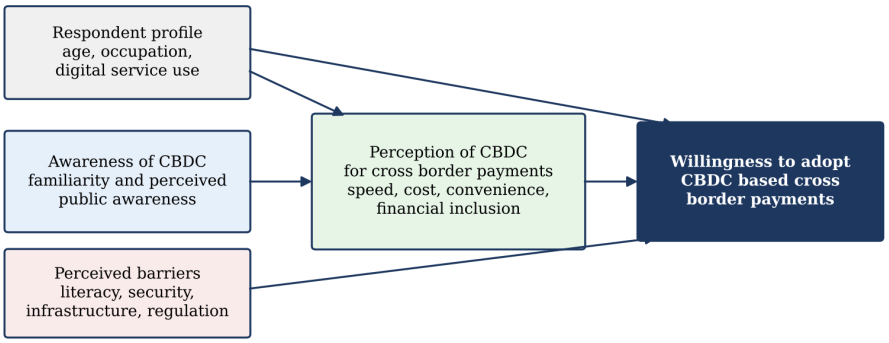


Figure 1. Conceptual framework of the study

Figure 1 shows that the study treats willingness to adopt CBDC based cross border payments as the central outcome and links it to four groups of factors drawn from the literature. Respondent profile, including age, occupation, and frequency of digital service use, provides the context in which perceptions are formed. Awareness of CBDC, measured through prior familiarity and perceived public awareness, is expected to shape perceptions of the speed, cost, convenience, and financial inclusion benefits of CBDC for cross border payments. Perceived barriers related to digital literacy, security, infrastructure, and regulation are expected to condition willingness to adopt even when perceptions are positive. Because the study is descriptive, the framework is used to organize the analysis rather than to test causal relationships.

3. Research Methodology

3.1 Research Design

A descriptive and exploratory research design was adopted because the main aim was not to test cause and effect relationships but to explore and describe the existing state of awareness, perception, and attitude of respondents toward a concept that is still relatively new in the Nepalese context. Since CBDC has not yet been implemented in Nepal and remains at the discussion and policy review stage (Nepal Rastra Bank, 2022), the study focuses on capturing the present understanding and opinions of respondents rather than predicting or explaining behavioral outcomes.

3.2 Population, Sample, and Sampling

The population of the study consists of general consumers and individuals with some exposure to digital payment services and cross border money transactions in Nepal, including students, working professionals, and banking customers. The study is based on responses from 62 respondents gathered through a combination of online distribution and direct contact with willing participants. A convenience sampling method was used because no sampling frame of potential CBDC users exists and because the study aimed to obtain an initial picture of awareness and perceptions rather than population estimates.

3.3 Sources of Data and Instrument

The study is based on both primary and secondary data. Primary data were collected through a structured questionnaire distributed through Google Forms. The questionnaire covered demographic background, frequency of engagement with digital financial services, familiarity with CBDC, perceived public awareness, perceptions of the benefits of CBDC for cross border payments, likelihood of using a CBDC based cross border payment system, perceived barriers to adoption, and open ended questions about expectations and suggestions. Perceptions of benefits were measured using a five point Likert scale, where 1 represents strongly disagree and 5 represents strongly agree, so a mean above 3 indicates an overall tendency toward agreement. The structure of the questionnaire is summarized in Table 1. Secondary data were drawn from the concept report and publications of Nepal Rastra Bank, reports of international organizations, and academic articles on CBDC and digital payment systems.

Table 1. Structure of the questionnaire

Section	Content	Response Format
Respondent profile	Age, occupation or academic focus, frequency of digital financial service use	Single choice and multiple choice
Awareness	Prior familiarity with CBDC, perceived public awareness in Nepal	Single choice
Perception of benefits	Faster payments, lower remittance cost, ease and convenience, financial inclusion	Five point Likert scale
Adoption readiness	Likelihood of using a CBDC based cross border payment system	Five response categories
Barriers	Awareness and literacy, cybercrime, infrastructure, regulation, trust	Multiple choice, up to two or more options
Open ended questions	Expectations, concerns, and suggestions for implementation	Free text

Table 1 shows that the questionnaire was organized into six sections that correspond to the research questions and the conceptual framework of the study. The respondent profile and awareness sections address the first research question on the current level of awareness, while the perception and adoption readiness sections address the second question on how respondents view the speed, cost, convenience, and reliability of CBDC. The barriers section and the open ended questions address the third research question on the challenges that may discourage adoption. Combining closed questions with open ended questions allowed the study to quantify the main patterns while also capturing concerns and suggestions that were not anticipated in the predefined options.

3.4 Data Collection and Analysis

Data were collected through a self administered online questionnaire, supplemented by direct distribution to willing participants. Participation was voluntary, and respondents were informed that their answers would be used only for research purposes. The collected data were analyzed using descriptive statistics. Frequency distributions and percentages were used to summarize the demographic profile, awareness, adoption readiness, and perceived barriers, and mean scores were used to summarize perceptions of benefits measured on the Likert scale. The results are presented in tables and charts. Responses to the open ended questions were read and grouped into recurring themes to complement the quantitative findings.

4. Results and Discussions

4.1 Respondent Profile

The demographic characteristics of the respondents provide important context for interpreting the findings. Variables such as age, occupation, and exposure to digital financial services may influence awareness and perceptions of emerging financial technologies such as CBDC. Because the respondents were selected through convenience sampling, the distribution presented below reflects the characteristics of the individuals who participated in the survey rather than the wider population. The age distribution of respondents is presented in Table 2.

Table 2. Age distribution of respondents

Age Group	Frequency	Percent (%)
Under 20 years	7	11.3
20 to 25 years	29	46.8
26 to 30 years	10	16.1
31 to 40 years	9	14.5
Above 40 years	7	11.3
Total	62	100.0

Table 2 shows that respondents belong to different age groups, with the largest proportion, 46.8%, falling within the 20 to 25 years category. Respondents aged 26 to 30 years accounted for 16.1%, followed by those aged 31 to 40 years at 14.5%, while respondents under 20 years and those above 40 years each represented 11.3% of the sample. Overall, younger respondents make up the majority of the sample, with almost three quarters aged 30 years or younger. This composition is relevant because younger people tend to have greater exposure to digital payments and technology based financial services, so their views may represent an early adopter perspective on CBDC rather than the views of older or less digitally active segments of the population.

The occupational and academic focus of respondents is presented in Figure 2. Respondents were allowed to select more than one category, so the percentages are based on the 62 respondents and their total exceeds 100%.

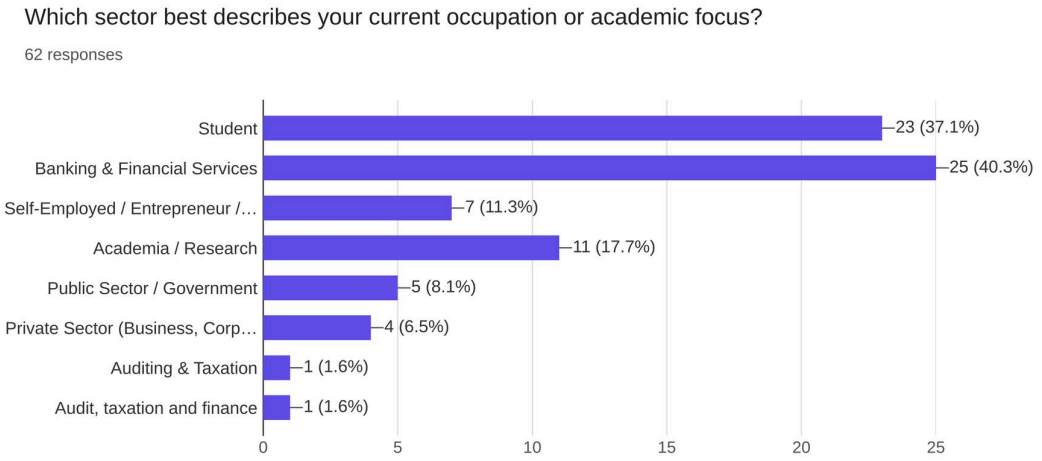


Figure 2. Occupational or academic focus of respondents

Figure 2 shows that banking and financial services form the largest group of respondents at 40.3%, followed closely by students at 37.1%. Academia and research account for 17.7%, self employment or entrepreneurship for 11.3%, the public sector or government for 8.1%, and the private sector for 6.5%, while auditing, taxation, and finance together account for a small share. The strong representation of banking and financial professionals is relevant because they are more likely to have practical knowledge of digital payments, banking operations, and emerging financial technologies. The substantial participation of students provides insight into the perspectives of a younger group that may become important users of future digital financial services, so the sample combines potential CBDC users with respondents who have greater exposure to the financial system.

The frequency with which respondents use digital financial services is presented in Table 3.

Table 3. Frequency of engagement with digital financial services

Engagement Status	Frequency	Percent (%)
Daily	30	48.4
Several times a week	20	32.3
Once a week	7	11.3
Rarely	4	6.5
Never	1	1.6
Total	62	100.0

Table 3 indicates a high level of engagement with digital financial services among the respondents. Nearly half, 48.4%, use such services daily, and another 32.3% use them several times a week, so 80.7% of respondents engage with digital financial services regularly. Only 1.6% reported never using digital financial services, while 6.5% use them rarely and 11.3% once a week. This pattern suggests that most respondents already have considerable experience with digital transactions, so their views on CBDC are likely to focus less on basic acceptance of digital payments and more on specific concerns such as security, cost, reliability, infrastructure, and cross border functionality.

4.2 Awareness of CBDC

Since CBDC is still an emerging concept in Nepal, it is important to distinguish between simply having heard of CBDC and having a deeper understanding of its purpose and possible applications. Respondents' familiarity with CBDC before reading the definition provided in the questionnaire is presented in Figure 3.

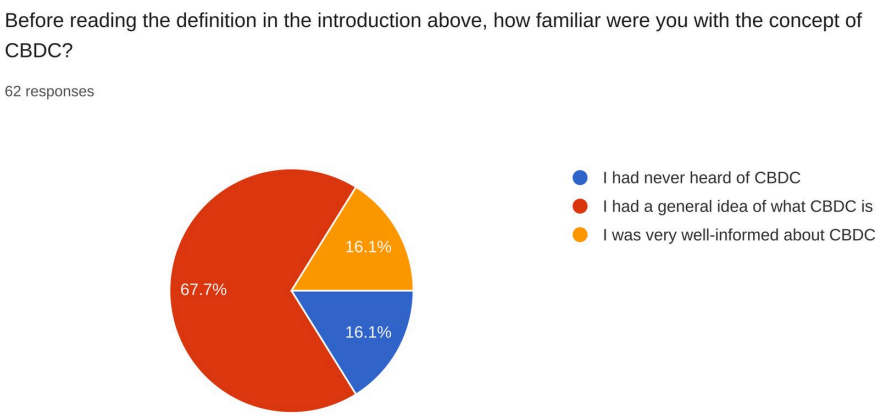


Figure 3. Familiarity with CBDC before reading the definition in the questionnaire

Figure 3 shows that 67.7% of respondents had a general idea of what CBDC is and 16.1% considered themselves very well informed, so a total of 83.9% had at least some prior familiarity with CBDC. The remaining 16.1% had never heard of CBDC before taking part in the survey. These results indicate that basic awareness of CBDC is relatively high in this sample, which is not surprising given the large share of respondents from banking, finance, and academia. However, the fact that only one in six respondents felt very well informed shows that understanding remains shallow, and communication by NRB should therefore focus not only on creating awareness but also on explaining the purpose, benefits, risks, security, privacy, and possible applications of CBDC in Nepal.

Respondents were also asked to rate the level of public awareness about CBDC in Nepal as a whole. The results are presented in Figure 4.

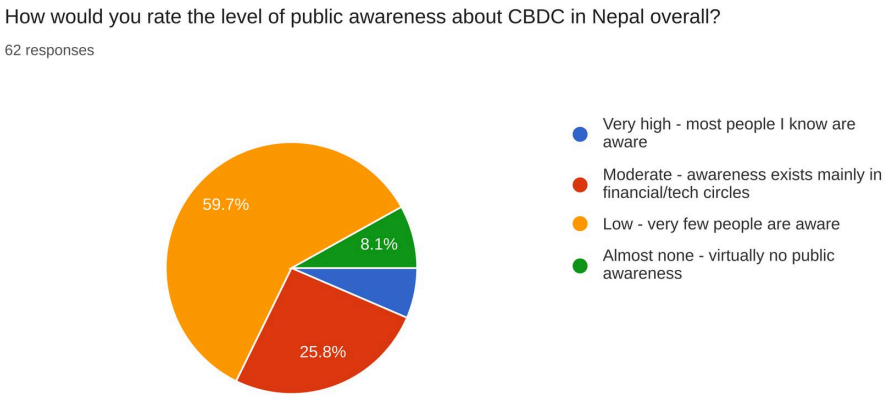


Figure 4. Perceived level of public awareness about CBDC in Nepal

Figure 4 shows that respondents generally perceive public awareness of CBDC in Nepal as low. A majority, 59.7%, rated public awareness as low, meaning that very few people are aware, while 25.8% considered it moderate and mainly limited to financial and technology circles. Only 6.4% rated awareness as very high, and 8.1% believed that there is almost no public awareness. Taken together with Figure 3, these results show a clear contrast between the respondents' own familiarity and their assessment of the general public, which suggests that CBDC knowledge is concentrated in professional and academic groups and highlights the need for broader public education campaigns before wider implementation.

4.3 Perceptions of the Benefits of CBDC

Respondents were asked to rate the potential benefits of CBDC for cross border payments in terms of speed, cost, convenience, and financial inclusion. The mean scores are presented in Table 4.

Table 4. Mean scores of perceived benefits of CBDC for cross border payments

Perceived Benefit	Mean Score	Interpretation
Ease and convenience	3.48	Agreement
Faster cross border payments	3.47	Agreement
Reduction of remittance and transaction costs	3.44	Agreement
Improvement of financial inclusion	3.23	Mild agreement

Table 4 shows that all four perceived benefits have mean scores above the neutral point of 3, indicating an overall tendency toward agreement that CBDC could improve cross border payments. Ease and convenience received the highest mean score of 3.48, followed closely by faster cross border payments at 3.47 and cost reduction at 3.44. Improvement of financial inclusion received the lowest mean score of 3.23, which suggests that respondents are less certain that CBDC will reach people who are currently excluded from the financial system. The relatively narrow range of mean scores, all between 3.2 and 3.5, indicates moderate rather than strong optimism, which is consistent with a technology that respondents have heard of but have not yet experienced.

These perceptions are consistent with the literature on technology acceptance. Perceived usefulness and convenience are central drivers of the intention to use digital payment technologies (Venkatesh et al., 2016, Patil et al., 2020), and perceived value and convenience have been found to predict the intention to use digital currency in China (Wu et al., 2022). The lower score for financial inclusion reflects the infrastructure and literacy constraints that limit the reach of digital finance in Nepal (Niraula & Adhikari, 2019) and suggests that respondents recognize that CBDC alone cannot overcome these barriers without complementary investments.

4.4 Willingness to Adopt CBDC for Cross Border Payments

Respondents were asked how likely they would be to use a CBDC based cross border payment system. The results are presented in Table 5.

Table 5. Likelihood of using a CBDC based cross border payment system

Response	Frequency	Percent (%)
Very likely, I would switch immediately	4	6.5
Likely, I would try it if the process is reliable	37	59.7
Neutral, I would wait and see how it performs	17	27.4
Unlikely, I would prefer existing options	2	3.2
Very unlikely, I am not interested	2	3.2
Total	62	100.0

Table 5 shows a generally positive willingness to adopt CBDC for cross border payments. A total of 59.7% of respondents stated that they would likely try it if the system were reliable, and another 6.5% would switch immediately, so 66.2% fall within the positive adoption categories. In contrast, 27.4% are neutral and prefer to observe the system before deciding, while only 6.4% fall into the negative categories. The dominance of the conditional response, trying CBDC only if the process is reliable, shows that willingness is real but depends on the system proving itself, so the key challenge may not be generating initial interest but building enough trust and confidence to encourage regular use.

This conditional willingness mirrors international evidence. In the Netherlands, roughly half of consumers said they would open a CBDC account, and intended use increased with knowledge and trust in the central bank (Bijlsma et al., 2024). Institutional trust has also been identified as a key driver of household acceptance of CBDC in Sweden (Söilen & Benhayoun, 2022). In China, switching costs reduced the intention to adopt the digital currency even when users saw its advantages (Xia et al., 2023). For Nepal, these findings imply that reliability, security, and low switching costs will be as important as awareness in converting positive attitudes into actual use.

4.5 Perceived Barriers to Adoption

Respondents were asked to identify the main barriers to CBDC adoption for cross border payments in Nepal and could select two or more options. The results are presented in Figure 5.

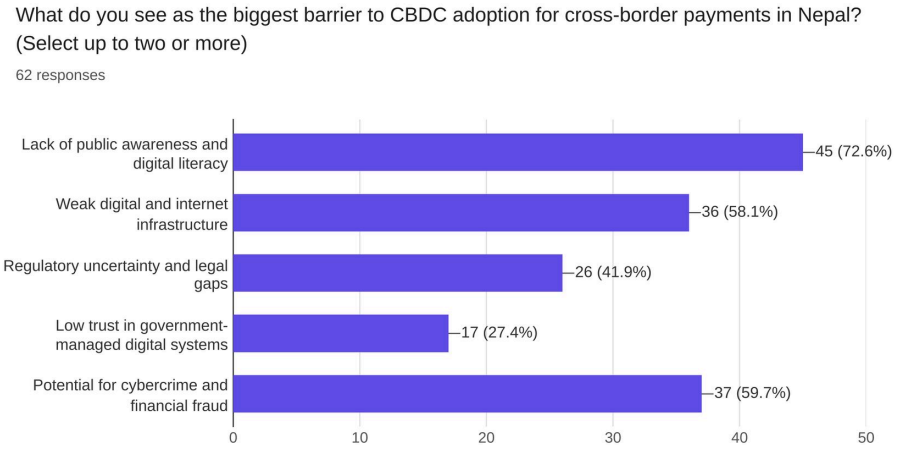


Figure 5. Perceived barriers to CBDC adoption for cross border payments in Nepal

Figure 5 shows that lack of public awareness and digital literacy is the most significant perceived barrier, identified by 72.6% of respondents. This is followed by the potential for cybercrime and financial fraud at 59.7% and weak digital and internet infrastructure at 58.1%. Regulatory uncertainty

and legal gaps were identified by 41.9% of respondents, while low trust in government managed digital systems was the least frequently reported barrier at 27.4%. The ranking shows that respondents see the main obstacles as issues of public readiness, security, and infrastructure rather than outright distrust of the state, which is encouraging for NRB because these barriers can be addressed through education, investment, and regulation.

The prominence of awareness and digital literacy is consistent with the finding that most respondents had only a general understanding of CBDC and that public awareness is perceived as low. Research in Nepal has identified lack of knowledge as a foundational barrier to mobile payment adoption (Tamrakar & Shah, 2019), and evidence from Norway shows that low financial literacy is associated with financial vulnerability (Seldal & Nyhus, 2022). The concern about cybercrime and fraud echoes Nepalese studies that identify security as the strongest influence on attitudes toward digital finance (Dhungana et al., 2023, Poudel & Acharya, 2023), while concerns about infrastructure reflect the limited internet penetration reported by NRB (Nepal Rastra Bank, 2022). Legal clarity is also essential because the legal basis for issuing CBDC must be established before implementation (Bossu et al., 2020).

4.6 Qualitative Insights from Open Ended Responses

The open ended questions allowed respondents to share views beyond the fixed response options. Although not all respondents provided additional comments, the responses revealed several recurring themes related to the practical implementation of CBDC in Nepal. The first theme concerned cybersecurity and data privacy. Respondents mentioned cyberattacks, fraud, misuse of personal information, and technical failures, which reinforces the quantitative findings on cybersecurity risks. The fact that respondents raised these concerns without being prompted by predefined options indicates that security is a genuine issue that must be addressed before CBDC is widely introduced. Privacy concerns are central to CBDC acceptance internationally, and privacy, security, and system quality have been found to predict trust in CBDC (Ma et al., 2022).

The second theme concerned public awareness and digital literacy. Respondents suggested educating the public about how CBDC works, its benefits, and its potential risks, which supports the quantitative finding that 72.6% identified lack of awareness and literacy as the main barrier. Several respondents also stressed that public communication should clearly distinguish CBDC from cryptocurrencies. The third theme concerned gradual introduction through pilot projects. Respondents generally favored a gradual approach rather than an immediate nationwide launch and suggested starting with pilots to test system performance, user acceptance, cybersecurity, and technical challenges before wider adoption.

The fourth theme concerned the uses and features of CBDC. Respondents saw potential uses beyond remittances, including international education fees, software and online subscriptions, online courses, business payments, and tourism. They stressed that CBDC should align with international standards and connect with existing domestic and international payment systems, and they suggested features such as affordable transactions, cross border QR code payments, and offline functionality for areas with unreliable internet connectivity so that rural communities are not excluded. Some respondents also suggested reviewing the 13% tax on digital transactions and reducing transaction charges so that digital payments become more attractive. These suggestions are consistent with international discussions on interoperability as a precondition for effective CBDC based cross border payments (Kochergin, 2024).

4.7 Discussion

The findings show that awareness of CBDC among respondents is relatively high but shallow, that perceptions of its benefits are moderately positive, and that willingness to adopt is positive but conditional on reliability and security. This pattern closely resembles the Indian experience, where awareness exceeded understanding and trust in the central bank was high despite limited knowledge of the product (Modha & Trivedi, 2025). It also aligns with Dutch evidence that knowledge and trust

increase the intended use of CBDC (Bijlsma, van der Cruijsen, Jonker, & Reijerink, 2024). For Nepal, the gap between awareness and understanding suggests that NRB should invest in explaining how CBDC works, how it differs from existing digital wallets and cryptocurrencies, and how user data will be protected.

The results also highlight the importance of security and trust in the Nepalese context. Respondents ranked cybercrime and financial fraud as the second most important barrier, and the open ended responses repeatedly mentioned security and privacy. This emphasis is consistent with Nepalese studies showing that security is the strongest determinant of attitudes toward digital finance and that trust mediates the relationship between security and usage intention (Dhungana, Adhikari, Ojha, Ranabhat, Lamichhane, & Acharya, 2023; Poudel, Ranabhat, Sapkota, & Ranabhat, 2023). Internationally, trust in mobile banking and payment systems has been shown to influence adoption alongside usefulness and ease of use (Alalwan, Dwivedi, & Rana, 2017). A CBDC that is perceived as secure and privacy preserving is therefore more likely to gain acceptance.

Finally, the findings suggest that CBDC could complement rather than replace existing payment channels in Nepal. Respondents preferred gradual implementation through pilots, emphasized interoperability with existing systems, and identified uses beyond remittances. Given the importance of remittances to the Nepalese economy (Nepal, 2023) and the potential of digital channels to lower transfer costs and increase household welfare (Lyons, Kass-Hanna, & Fava, 2022), a carefully designed CBDC for cross border payments could generate substantial benefits. At the same time, design choices must manage the risks to bank funding and financial stability identified in the literature (Chen & Siklos, 2022).

5. Conclusions

5.1 Conclusion

This study examined the awareness, perceptions, adoption readiness, and perceived barriers of potential users regarding CBDC for cross border payments in Nepal. The findings show that awareness of CBDC among respondents is relatively high, with 83.9% having at least some prior familiarity, but that understanding is still limited, as only 16.1% considered themselves very well informed and 59.7% rated public awareness in Nepal as low. Respondents viewed CBDC positively, with ease and convenience, faster payments, and cost reduction receiving the highest mean scores, and 66.2% expressed willingness to try or adopt a CBDC based cross border payment system if it proved reliable.

The main barriers identified were lack of public awareness and digital literacy, the potential for cybercrime and financial fraud, and weak digital and internet infrastructure, followed by regulatory uncertainty. Respondents also saw potential uses of CBDC beyond remittances and emphasized interoperability, affordability, offline functionality, and gradual implementation through pilot projects. Overall, the study suggests that CBDC has good potential to make cross border payments in Nepal faster, cheaper, and more convenient, but that successful adoption will depend on public readiness as much as on technology. Increasing awareness and digital literacy, strengthening infrastructure and cybersecurity, protecting user privacy, establishing clear regulations, and ensuring international interoperability are important steps, and a gradual implementation in which CBDC operates alongside existing payment methods may be more suitable for Nepal than an immediate replacement of the current system.

5.2 Research Limitations

This study has several limitations. First, the use of convenience sampling and a small sample of 62 respondents means that the sample may not represent all groups and backgrounds in Nepal and may contain selection bias, particularly given the large share of respondents from banking, finance, and academia. Second, the analysis is descriptive and does not test relationships between awareness, perceptions, barriers, and willingness to adopt. Third, the data were collected through a self

administered questionnaire, so responses may reflect respondents' own beliefs and understanding of CBDC and may be subject to response bias. Fourth, limited access to research on CBDC in the Nepalese context and time constraints for data collection restricted the scope of the study.

5.3 Suggestions and Directions for Future Research

To support the development and adoption of CBDC for cross border payments, Nepal Rastra Bank should prioritize public education, strong security, and infrastructure improvements. Regular awareness campaigns through educational institutions and social media are needed to explain how CBDC works and to distinguish it from cryptocurrencies. Addressing user concerns requires robust cybersecurity frameworks, data privacy safeguards, and clear fraud resolution mechanisms, while investment in digital infrastructure is needed to ensure stable internet connectivity and to prevent rural communities from being excluded. Accessibility features such as simple interfaces and offline transaction capabilities should be integrated to accommodate users with low digital literacy, and system design should emphasize affordability, interoperability, and clear legal frameworks. By adopting a gradual and well tested implementation strategy, NRB can identify practical challenges, build public trust, and establish CBDC as a secure and efficient complement to Nepal's existing payment infrastructure.

Future research should use larger and probability based samples that include remittance receiving households, migrant workers, and rural residents in order to obtain more representative evidence. Researchers could apply inferential methods such as structural equation modeling based on TAM or UTAUT to test how awareness, trust, perceived risk, and perceived usefulness influence the intention to use CBDC. Comparative studies across South Asian countries and longitudinal studies that follow public attitudes during pilot projects would also help policymakers understand how perceptions change as CBDC moves from concept to practice.

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Author Contributions

RKS contributed to the conceptualization of the study, the design of the questionnaire, data collection and analysis, and the writing and revision of the manuscript. AM contributed to the conceptualization of the study, the design of the questionnaire, data collection and analysis, and the writing and revision of the manuscript.

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