



The University of Hong Kong

Interim Report for
FITE4801 Final Year Project

In-depth Study on the Introduction and Application of e- HKD in Hong Kong

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Abstract

The rapid evolution of financial technology has prompted global exploration of Central Bank Digital Currencies (CBDCs), with retail CBDCs offering potential improvements in payment efficiency and financial inclusion. In Hong Kong, the Hong Kong Monetary Authority's e-HKD initiative aims to assess the feasibility and applications of a retail CBDC. However, challenges such as compliance, cybersecurity, and public awareness remain, as the e-HKD is still in its pilot phase. This project evaluates the potential benefits, challenges, and applications of e-HKD, drawing insights from the successful implementation of e-CNY in China and Project Sela. Using a mixed-methods approach, including a literature review and public survey, the study explores how e-HKD could enhance programmability, streamline payments, and support innovative use cases like digital rewards systems. Preliminary findings highlight operational challenges and limited public understanding, underscoring the need for robust frameworks and promotional strategies. It is hoped that this project will provide actionable recommendations for policymakers and financial institutions to navigate the rollout of e-HKD while fostering innovation in Hong Kong's financial ecosystem. Current progress includes the literature review and ongoing data collection, with next steps focused on data analysis and refining insights for the interim report.

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Abbreviations & Acronyms

AE	Access Enabler
BIS	Bank for International Settlements
CBDC	Central Bank Digital Currency
E-CNY	Digital Renminbi
E-HKD	Electronic Hong Kong Dollar
HKMA	Hong Kong Monetary Authority
KYC	Know Your Customer
PBOC	People's Bank of China

1. Introduction

1.1 Background

1.1.1 Current retail CBDC development around the world

The rapid evolution of financial technology has prompted central banks worldwide to explore the potential of Central Bank Digital Currencies (CBDCs). As shown in Fig 1.1, among the 134 countries tracked, 47 countries have launched CBDCs or are at the pilot stage, while 59 of them are at the development or research stage, reflecting the growing attention on CBDCs.

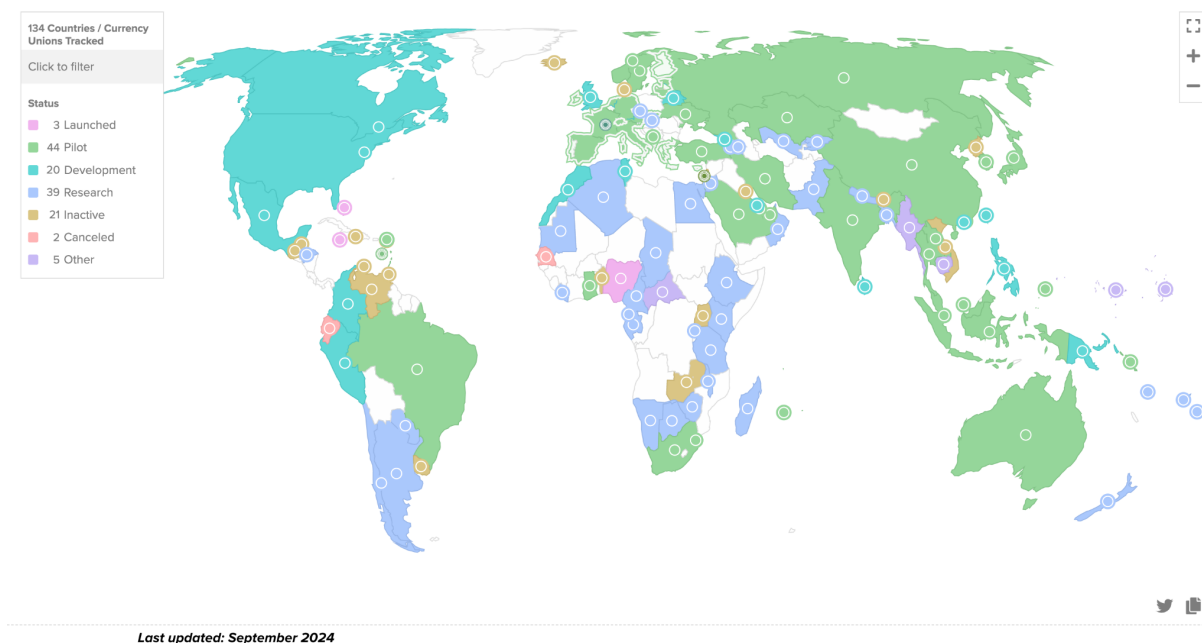


Fig 1.1 CBDC Development Around the World (Atlantic Council, 2024)

In particular, the development of retail CBDC has been rapid. According to a 2021 survey conducted by the Bank for International Settlements (BIS), 90% of participating central banks are engaged in CBDC initiatives, with work on retail CBDCs being more advanced than that on wholesale CBDCs (Kosse & Mattei, 2022). As of September 2023, Project Sela—a joint experiment by the BIS and the central banks of Hong Kong and Israel—has demonstrated the feasibility of a retail CBDC ecosystem that combines accessibility, competition, and robust cybersecurity while maintaining the key advantages of physical cash (BIS Innovation Hub et al., 2023).

In short, global interest in retail CBDCs is increasing, with significant advancements demonstrated by initiatives like Project Sela.

1.1.2 Development of retail CBDC in Hong Kong

Building on this foundation, retail CBDCs have received much attention of late, with extensive research conducted on their structure and cybersecurity concerns. The Hong Kong Monetary Authority (HKMA) has launched projects on e-HKD (Electronic Hong Kong Dollar), a retail CBDC aimed at digitizing Hong Kong's financial landscape. Therefore, a study on the practical introduction and future applications of e-HKD is essential.

To investigate the viability of issuing an e-HKD for individuals and enterprises, the HKMA launched Project e-HKD in June 2021 (Hong Kong Monetary Authority, 2024). This project addresses both technical and policy aspects. The initiative was refined as e-HKD+ in September 2024 to widen its scope and incorporate a thorough analysis of the digital money ecosystem. The HKMA also worked with industry partners to explore creative applications of e-HKD through the e-HKD Pilot Programme (Hong Kong Monetary Authority, 2024) and participated in international forums on CBDC. However, as of right now, no policy decision has been made regarding the introduction of e-HKD.

1.2 Motivation

As FinTech students, we frequently encounter the concept of CBDCs, which has become a compelling topic in both academic and professional discussions. The potential of retail CBDCs to transform financial systems and enhance payment efficiency has driven interest in projects related to Hong Kong's future financial and digital landscape. With the HKMA exploring the e-HKD, we are eager to investigate how this initiative can be practically introduced and utilized in the future.

This study aims to explore the current development and potential applications of e-HKD specifically within the retail sector, thus providing insights on the measures to introduce e-HKD. By examining these aspects of the e-HKD, we hope to gain valuable insights that will not only enhance our professional knowledge but also deepen our understanding of the real-world applications of this emerging technology.

1.3 Objectives

This project aims to provide a comprehensive analysis of e-HKD and suggestions for the introduction and applications of e-HKD by referencing e-CNY (Digital Renminbi), a retail CBDC operating in China. The project scope includes three parts, the potential benefits and challenges, the introduction of e-HKD, and future applications of e-HKD.

The objectives of the study are as follows:

1. To provide suggestions for banks to introduce e-HKD.
2. To identify potential applications of e-HKD.

1.4 Project contribution

The study will identify challenges associated with the introduction of e-HKD, such as regulatory hurdles and cybersecurity risks. This understanding is crucial for policymakers and financial institutions to develop effective frameworks that ensure the safe and compliant rollout of digital currency. Additionally, by comparing e-HKD with e-CNY and analyzing the findings of Project Sela, the study will provide valuable lessons from another operational retail CBDC, highlighting best practices and potential pitfalls that can inform the implementation strategy and framework for e-HKD in Hong Kong.

Moreover, the study aims to offer actionable recommendations for banks and financial institutions regarding the introduction of e-HKD. These recommendations can assist stakeholders in navigating the transition to digital currency, ensuring a smooth and successful implementation, and ultimately empowering financial institutions to adapt to the changing landscape and innovate on the opportunities presented by e-HKD.

1.5 Report outline

This interim report is structured into five chapters. The first chapter offers an overview of retail CBDCs as well as previous studies on e-HKD by the HKMA. Chapter two presents the methodology used in the project. Chapter three presents the current progress of the project associated with the survey results and insights, which highlight the potential benefits and challenges of e-HKD. Chapter four outlines the project schedule and future plans for the report. Finally, chapter five concludes the report, summarizing the major findings and areas for improvement.

2. Methodology

This chapter presents methodologies we will use to achieve the objectives. This report will use a mixed approach, including a survey and a literature review.

2.1 Literature review on e-HKD, e-CNY and Project Sela

As the e-HKD initiative in Hong Kong is still in the pilot phase, the introduction of e-HKD cannot be specifically discussed based on experience. However, some studies regarding e-HKD have been conducted by the HKMA. Therefore, this project will briefly examine the current progress of the development of e-HKD in Hong Kong.

Thus, the successful implementation of e-CNY in China can help us understand the experiences and strategies used for the future development of e-HKD. Specifically, this report will analyze the e-CNY's current development and the current applications.

Project Sela, a collaborative project led by the BIS in partnership with the central banks of Hong Kong and Israel, also provides us with meaningful insights on how to operate an accessible, scalable and secure retail CDBC system. In this report, we will discuss their proposed framework for such digital currency.

2.2 Survey on public perception

A survey will be conducted to assess public awareness and potential usage of the e-HKD. By targeting individuals aged 18 and older and aiming for at least 80 responses, the online survey will gather comprehensive data that will help formulate recommendations for e-HKD in Hong Kong. The insights gained will be instrumental in understanding public sentiment and guiding future strategies for e-HKD implementation.

Survey question scope

1. **Public Acceptance:** Questions will assess the general perception of e-HKD among respondents, including their willingness to adopt digital currency and any concerns they may have regarding its use. Key data needed includes demographic information, prior experience with digital currencies, and specific attitudes toward the benefits and risks of e-HKD.
2. **Potential Usage:** The survey will explore scenarios in which individuals might use e-HKD, such as for daily transactions, online purchases, or cross-border payments. Data required for this section will include respondents' current payment behaviors, preferences for digital versus traditional payment methods, and anticipated use cases for e-HKD.

2.3 Summary

This chapter proposed the methods used in our project. The survey design and details of our literature review on e-CNY were discussed. The next section will show the current progress of the project.

3 Results and discussion

This chapter presents the current progress of the project. Sections 3.1 provide the findings from the literature review conducted. Section 3.2 shows our current progress on the survey. Sections 3.3 and 3.4 outline the project schedule and immediate next steps for the report. Sections 3.5 and 3.6 end this chapter by presenting the challenges and summarizing our findings.

3.1 Key findings from Literature Review

3.1.1 Current development of e-HKD

The current development of the e-HKD is progressing through its pilot stage, with the second phase of the e-HKD Pilot Programme officially commencing on September 23, 2024. This phase involves collaboration with 11 local financial institutions to explore innovative use cases centered around three key themes: the settlement of tokenized assets, programmability, and offline payments (Hong Kong Monetary Authority, 2024). These themes emerged from insights gained during Phase 1 of the pilot programme, which demonstrated that the e-HKD could significantly enhance efficiency in these areas.

For instance, Hang Seng Bank is participating in this phase to investigate how e-HKD can facilitate the development of an open, efficient, and scalable digital rewards system. This initiative exemplifies the practical applications being tested that could potentially transform customer engagement and loyalty programs in the digital currency landscape.

The HKMA aims to leverage Phase 2 to gain deeper insights into the operational challenges associated with implementing a digital currency. This includes addressing compliance, privacy, and security concerns that may arise as e-HKD is integrated into existing financial systems. The findings from this phase will be crucial for understanding how to design and operate a digital money ecosystem that encompasses both publicly-issued currencies like the e-HKD and privately-issued digital assets.

Overall, the HKMA's strategic approach to introducing e-HKD through a phased pilot program not only aims to explore innovative use cases but also seeks to address critical operational challenges. By engaging with industry participants and focusing on real-world applications, the HKMA is laying a solid foundation for potentially integrating e-HKD into Hong Kong's financial ecosystem in a way that maximizes its benefits while mitigating risks.

3.1.2 Project Sela's breakthrough with use of Access Enablers (AEs)

Project Sela is a collaborative project led by the BIS in partnership with the central banks of Hong Kong and Israel, it outlines the design and the implementation of accessible, scalable and secure retail CBDC system.

At the heart of Project Sela, a novel intermediary named the Access Enabler (AE) is designed to provide direct access to end users without ever holding or controlling their retail CBDC balances (BIS Innovation Hub et al., 2023). It performs several essential functions in the system, including onboarding customers, endorsing transaction requests, and ensuring security of the blockchain ledger.

Figure 3.1 presents an example for a transaction between a merchant and a customer Alice within this framework, initiated by the merchant to facilitate a transaction from Alice. The key processes are as follows:

- 1) The merchant sends a message with a request for payment from Alice to their AE.
- 2) The merchant's AE runs appropriate compliance check and endorses the request by co-signing and submitting it to the retail CBDC app maintained by the central bank.
- 3) The retail CBDC app forwards the request to Alice's AE.
- 4) Alice's AE forwards the request to Alice for her approval.
- 5) Once Alice approves, the Alice's AE endorses and respond to the retail CBDC app.
- 6) The retail CBDC app then request the ledger to execute the transaction. After the ledger validates the correct signatures, it executes the transaction, an action of debiting Alice's retail CBDC account and crediting the merchant's CBDC account.

Finally, this sequence of message moves value from Alice's retail CBDC wallet to the merchant's wallet as indicated by red arrow in Figure 3.1.

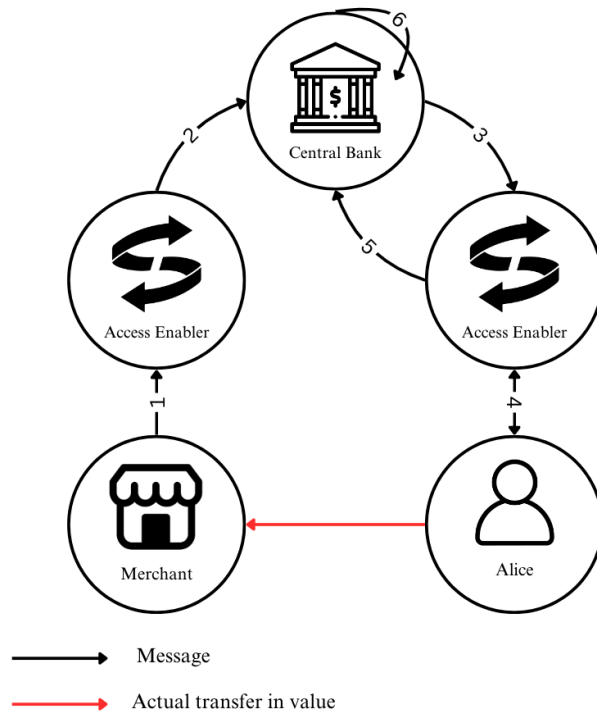


Fig 3.1 A proposed retail CBDC system for transaction between a merchant and a customer

The design of Project Sela not only enhances accessibility but also addresses critical issues related to cybersecurity and operational risks associated with digital currencies. By utilizing a two-tier system where the central bank operates the retail ledger while AEs handle customer interactions, Project Sela aims to combine the benefits of traditional cash—such as instant settlement and low-cost transactions—with modern technological advancements.

Project Sela represents a significant step forward in exploring how retail CBDCs can be structured to enhance user experience while ensuring security and compliance. The introduction of AEs as intermediaries facilitates broader access to digital currency services, promoting competition and innovation in the financial sector.

3.1.3 Current development of e-CNY

E-CNY serves as a compelling reference point for the development of the e-HKD due to several parallels in their objectives, functionalities, and implementation strategies. Understanding the evolution and current status of e-CNY can provide valuable insights into how the e-HKD might be structured and adopted in Hong Kong.

E-CNY is a digital version of fiat currency in China, issued by the People's Bank of China (PBOC) in 2019. It acts as the substitute for the circulation of money (M0), coexisting with physical cash and other forms of digital payment. As a retail CBDC, it mainly serves the demand for retail payment, with a mission to improve efficiency and reduce the cost of retail payment.

Currently, e-CNY is piloting in 26 cities in China, including Shenzhen, Shanghai and Beijing. As by July 2024, it has been reported by reported that the cumulative transaction value had reached 7.3 trillion yuan with 180 million wallet users. As shown in figure 3.2, it has showcased exponential growth comparing to only 100 billion yuan in August 2022 (Mu, 2024). However, when compared to China's total population, the number of wallet users represents only 10% of the entire population.

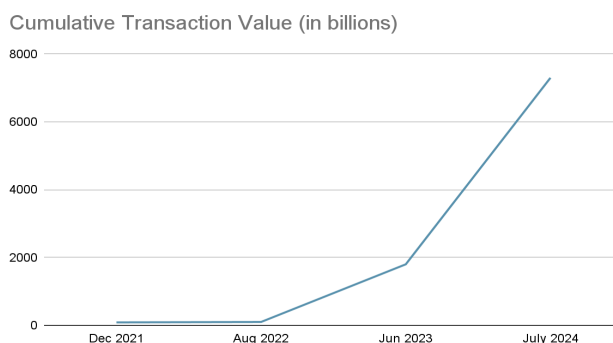


Fig 3.2 Cumulative Transaction Value of e-CNY (in billion yuan)

The e-CNY framework, involves the distribution of digital currency to authorized operators, including the six largest state-owned banks and two internet banks. This system incorporates a wallet matrix that varies by levels of Know Your Customer (KYC) compliance, allowing for increased transaction limits as KYC levels rise (Mu, 202124123). For example, a Level 4 wallet, which offers the lowest transaction limit and the highest level of anonymity, can be

registered using just a phone number. In contrast, a real-name wallets, requires different authentication methods such as phone numbers, ID cards, facial recognition, bank accounts, and in-person verification. Their difference is showcased by their transaction limit, 2,000 HKD for a Level 4 wallet, while real-name wallets have no such limit.

In Beijing, the digital yuan has been integrated into nearly 686,000 online and offline scenarios, with ambitious plans for comprehensive coverage of tax payments by 2024. Suzhou recorded over 1.18 million use cases and successfully conducting the nation's first cross-border tax payment using e-CNY. Meanwhile, Xiongan New Area has led the way with innovative applications, such as offline payments for public transportation and a streamlined wage payment system for migrant workers (Yang, 2024). These advancements highlight the increasing versatility of the digital yuan as cities expand its implementation across diverse sectors, setting the stage for broader adoption in the future.

Hong Kong can draw valuable lessons from the e-CNY experience as it explores e-HKD. Potential applications include:

1. Public Transportation Payments: Implementing e-HKD for seamless payments in public transport systems.
2. Retail Transactions: Encouraging local merchants to accept e-HKD to foster a more inclusive digital payment ecosystem.
3. Tax Payments: Streamlining tax collection processes using e-HKD, similar to Suzhou's approach.
4. Wage Payments: Establishing a digital wage payment system for workers, enhancing payroll efficiency.

By referencing these applications, Hong Kong can effectively position the e-HKD as a valuable tool for enhancing its financial infrastructure and promoting innovation.

3.2 Survey results

As of now, we are in the process of analyzing survey results for our research project. The survey aimed to gauge public perception regarding the e-HKD, collecting responses from a total of 81 participants. The demographic data reveals a age distribution, majority (56.8%) falling within the 26-35 age range. Employment status shows a significant portion of respondents are students (40.7%) and full-time employees (46.9%). In terms of monthly income, over half (53.1%) earn less than HK\$10,000, while educational attainment is notably high, with 81.5% holding a bachelor's degree or higher. This demographic insight provides a foundational understanding of the survey's respondents, essential for interpreting their views on digital currency.

The survey questionnaire is designed to capture a comprehensive range of insights, and the complete set of questions and graphs are included in Appendix A for reference.

3.2.1 Suggestions for Banks to Introduce e-HKD

To effectively introduce the e-HKD, banks should prioritize public education initiatives, as survey results indicate that 61.5% of respondents lack knowledge about Central Bank Digital Currencies (CBDCs) and 70.4% are unfamiliar with e-HKD. Implementing educational campaigns through workshops, informational websites, and social media outreach can significantly enhance awareness and understanding among potential users. Additionally, addressing dissatisfaction with current payment methods is crucial, nearly half of the respondents expressed concerns about existing payment methods. Banks can leverage the e-HKD's advantages such as enhanced convenience, lower transaction costs, and improved transaction speeds to alleviate these issues. Furthermore, targeted marketing strategies should be developed to highlight the benefits of e-HKD, particularly since over half of the respondents prefer digital payments for their convenience and speed. Lastly, incorporating feedback regarding security risks and privacy issues will be essential for building trust and encouraging adoption.

3.2.2 Identifying Potential Applications of e-HKD

The survey results reveal several promising applications for e-HKD that banks can explore. Notably, 44.4% of respondents indicated they would use e-HKD for daily transactions, while 39.5% expressed interest in using it for online purchases. This suggests that integrating e-HKD into everyday financial activities could position it as a viable alternative to cash and traditional payment methods. Additionally, the interest in using e-HKD for cross-border payments highlights its potential in international remittances and trade, which could streamline processes and reduce costs. The significant demand for peer-to-peer transfers also points to an opportunity for banks to create a platform that facilitates easy and efficient money transfers among individuals. Finally, banks should consider financial inclusion initiatives by partnering with local businesses and communities to promote e-HKD adoption, especially among demographics that would benefit from improved access to financial services.

3.3 Follow-up Interview

3.4 Project Schedule

Table 3.1 shows the project schedule. We have completed phase 1 to handle the design of questionnaire and major research on e-CNY and e-HKD. Next, we will continue to work on the enhancement stage, which is stated in the next section.

Table 3.1 Project Schedule

Stage	Time period	Work description	Status
1 - Design and research	October	Design of questionnaire	Completed
		Research on e-CNY & e-HKD	Completed
2 - Data collection and analysis	November	Distribution and collection of questionnaire	Completed
	December	Analyze collected data	Ongoing
3 - Construction			Prepare interim presentation
	January	Summarize findings into report	Completed
		Align findings with objectives	Ongoing
4 - Enhancement	February	Follow-up interview with participants	Pending
		Collect feedback for further improvements	Ongoing
5 - Closure	March - April	Prepare final report	Pending
		Prepare final presentation	Pending

3.4 Future plans

To further advance the project, the next step involves conducting a detailed analysis of the survey results and literature review findings to ensure alignment with the defined objectives.

Additionally, after receiving feedback on the interim presentation, in order to better align survey results and our objectives, we would select a few critical questions in the survey or design new questions to emphasize in follow-up interviews with participants that coincide with the objectives, mainly on potential application. These interviews can provide deeper insights into public perceptions and experiences regarding e-HKD, enriching the overall understanding of the subject and informing future recommendations.

3.5 Challenges

In our report, we identified two major challenges. First, we face difficulties in evaluating the e-HKD, as it has not yet been issued in Hong Kong. This lack of implementation makes it challenging to assess its effectiveness. To navigate this issue, we will shift our focus to a case study on the e-CNY, which will serve as a reference for the evaluation of e-HKD. Second, our survey results indicate that Hong Kong citizens have limited understanding of e-HKD, largely because it is a relatively new concept. This gap in knowledge presents an opportunity for us to delve deeper into the data collected from the feedback.

3.6 Summary

This chapter presents our preliminary progress for the report, mainly on literature review and survey design. We will continue to further work to align findings with objectives and a follow-up interview with participants.

4 Conclusion

In conclusion, as emphasized in the introduction, the rapid advancement of financial technology highlights the pressing need to address the challenges posed by traditional payment systems. Central Bank Digital Currencies (CBDCs) present a significant opportunity to enhance efficiency and inclusivity in financial transactions. Our project focuses on studying the introduction and future applications of the e-HKD, and if executed successfully, it aims to provide valuable recommendations for its implementation in Hong Kong.

Having completed a thorough literature review on the development of both e-HKD and e-CNY, we have progressed to designing our survey. Our next steps involve aligning our findings to the objectives. While we recognize the challenges associated with evaluating the e-HKD, we plan to utilize insights from e-CNY and Project Sela as case studies to inform our analysis. This approach will help us navigate the complexities of assessing the e-HKD and contribute to a more comprehensive understanding of its potential impact on Hong Kong's financial landscape.

References

- Atlantic Council. (2024, September 16). Central Bank Digital Currency Tracker - Atlantic Council. Retrieved on October 9, 2024 from <https://www.atlanticcouncil.org/cbdctracker/>
- BIS Innovation Hub, Bank of Israel, Hong Kong Monetary Authority. (2023). Project Sela: an accessible and secure retail CBDC ecosystem. <https://www.bis.org/publ/othp74.pdf>
- Hong Kong Monetary Authority. (2024, September 22). Central Bank Digital Currency (CBDC). Retrieved September 30, 2024, from <https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech/central-bank-digital-currency/#:~:text=The%20HKMA%20has%20embarked%20on,both%20technical%20and%20policy%20considerations>.
- Hong Kong Monetary Authority. (2024, September 23). Annex: Participants of e-HKD Pilot Programme Phase 2 and their proposed use cases. Retrieved November 27, 2024, from <https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2024/20240923e3a1.pdf>
- Kosse, A. & Mattei, I. (2022). Gaining momentum – Results of the 2021 BIS survey on central bank digital currencies. In BIS Papers (No 125). <https://www.bis.org/publ/bppdf/bispap125.pdf>
- Mu, C. (2021). Balancing Privacy and Security: Theory and Practice of the E-CNY's managed Anonymity [Journal-article]. *Journal of Economic Literature*, 1, 1. Retrieved on January 17, 2025 from <http://www.pbc.gov.cn/en/3935690/3935759/4696666/2022110110364344083.pdf>
- Mu, C. (2024). Changchun of the Central Bank: Prudently Advancing the Research and Application of Digital Renminbi to Firmly Support the Strategy of Building a Financially Strong Nation. Sina Finance. Retrieved on October 27, 2024 from <https://finance.sina.com.cn/roll/2024-10-11/doc-incscxha4537055.shtml?data=h87gscrypto8u433news9uj4>
- Mu, C. (2023). Theories and Practice of Exploring China's e-CNY. De Gruyter eBooks (pp. 179–190). <https://doi.org/10.1515/9783111002736-013>
- The Government of the Hong Kong Special Administrative Region. (2024, May 17). Expanding cross-boundary e-CNY pilot in Hong Kong. Retrieved on October 9, 2024 from <https://www.info.gov.hk/gia/general/202405/17/P2024051600533.htm>
- Yang, S. (2024, September 6). The application scenarios for the digital renminbi are diverse, with various regions releasing their "report cards.". CCTV. Retrieved on October 27, 2024 from <https://news.cctv.com/2024/09/06/ARTIQ2VirM3yZhOAoOBSCuNy240906.shtml>

Appendix A: Survey questions

Title: Survey on Public Perception and Potential Usage of e-HKD 關於數碼港元 (e-HKD) 的公眾認知及潛在使用調查

We are BAsC (FinTech) students from The University of Hong Kong (HKU) working on our final year project focused on the e-HKD (electronic Hong Kong Dollar). The aim of this survey is to assess public acceptance and potential usage of e-HKD among residents. Your insights will help us understand perceptions, willingness to adopt this digital currency, and how it might be utilized.

Thank you for taking the time to participate in our survey! Your feedback is invaluable to our research.

我們是香港大學 (HKU) 的金融科技學士 (BAsC (FinTech)) 學生，正在進行以數碼港元 (e-HKD) 為主題的畢業專題研究。這項調查的目的是評估居民對數碼港元的接受程度和潛在使用情況。您的意見將幫助我們理解公眾的認知、對這種數字貨幣的接受意願，以及其的使用方式。

感謝您花時間參加我們的調查！您的反饋對我們的研究至關重要。

* Indicates required question

* 表示必填問題

Section 1: Personal Information 第一部分：個人信息

In this section, we will collect some personal information to better understand the background information of our respondents. Your responses will remain confidential and will only be used for research purposes.

在這一部分，我們將收集一些個人信息，以便更好地了解受訪者的背景信息。您的回答將保持保密，僅用於研究。

Q1 What is your age 您的年紀？*

<18

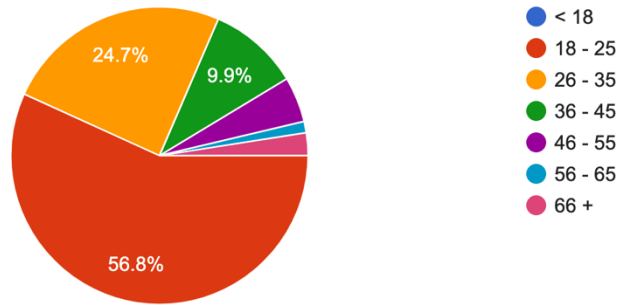
18 - 25

26 - 35

36 - 45
46 - 55
56 - 65
66+

1. What is your age 您的年紀？

81 responses



Q2 What us your employment status 您的就業狀況？*

Student 學生

Full-time 全職

Part-time 兼職

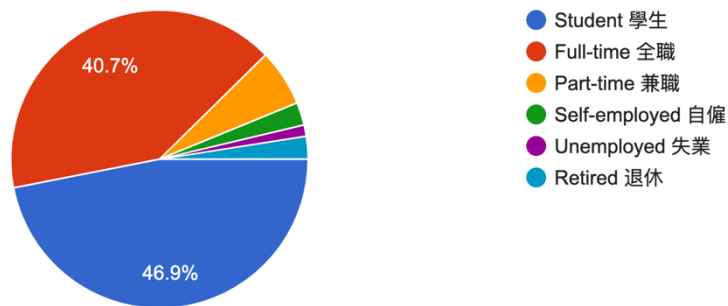
Self-employed 自僱

Unemployed 失業

Retired 退休

2. What us your employment status 您的就業狀況？

81 responses



Q3 What is your monthly income 您的月收入是多少？

< HK\$10,000

HK\$10,001 - HK\$30,000

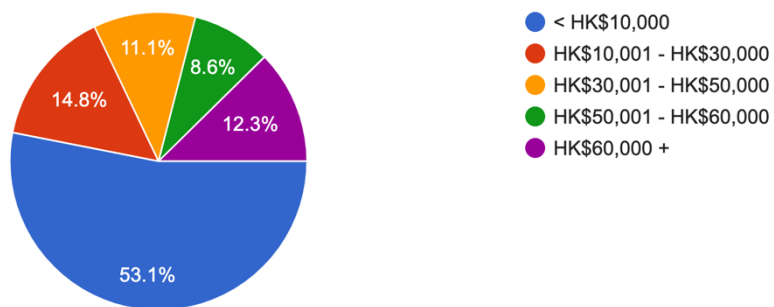
HK\$30,001 - HK\$50,000

HK\$50,001 - HK\$60,000

HK\$60,000 +

3. What is your monthly income 您的月收入是多少？

81 responses



Q4 What is your highest level of education 您的最高學歷是什麼？*

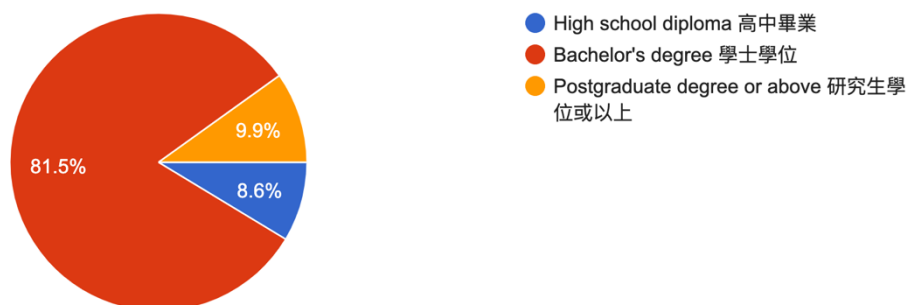
High school diploma 高中畢業

Bachelor's degree 學士學位

Postgraduate degree or above 研究生學位或以上

4. What is your highest level of education 您的最高學歷是什麼？

81 responses



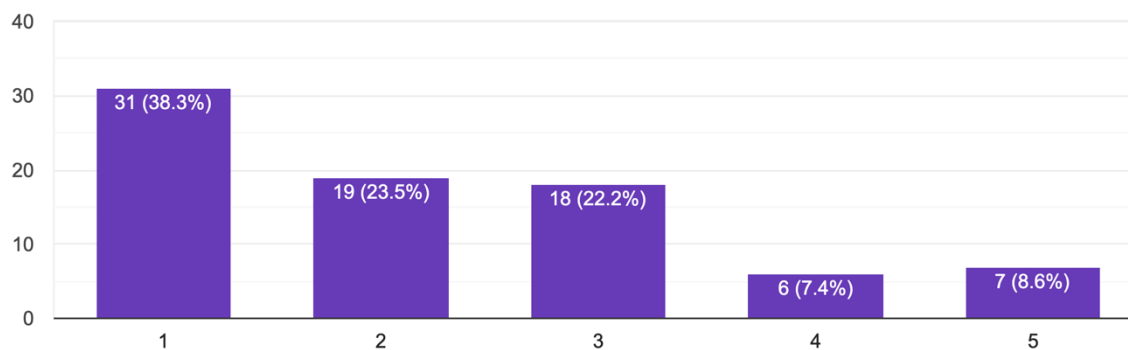
Q5 How much do you know about Central Bank Digital Currencies (CBDCs) 您對 中央銀行
數字貨幣 (CBDC) 了解多少？

Not at all 完全不了解 1 2 3 4 5 Very much 非常了解

5. How much do you know about Central Bank Digital Currencies (CBDCs)

您對中央銀行數字貨幣 (CBDC) 了解多少？

81 responses



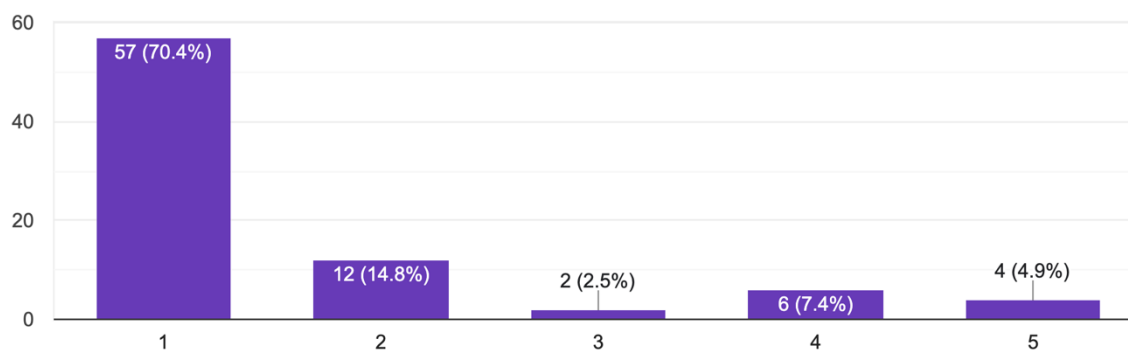
Q6 How much do you know about e-HKD (electronic Hong Kong Dollar) 您對數碼 港元
(e-HKD) 了解多少？

Not at all 完全不了解 1 2 3 4 5 Very much 非常了解

6. How much do you know about e-HKD (electronic Hong Kong

Dollar) 您對數碼港元 (e-HKD) 了解多少？

81 responses



Section 2: Acceptance and Potential Usage of e-HKD 第二部分：e-HKD 的接受度與潛在

使用 Before we head towards the next section, here is a brief introduction to the e-HKD. The proposed retail Central Bank Digital Currency (rCBDC), known as e-HKD, has been initiated by the Hong Kong Monetary Authority (HKMA) as part of its exploration into digital currencies, starting in June 2021. The e-HKD aims to enhance the availability and usability of central bank money, potentially improving transaction efficiency, supporting financial inclusion, and reinforcing monetary policy. As a digital form of the Hong Kong dollar, e-HKD would allow individuals and businesses to conduct transactions electronically, thus providing a safer and more efficient means of payment. Its introduction could address the challenges posed by declining cash usage and the rise of private digital currencies, ensuring that the central bank maintains its role in the financial ecosystem. In the following section, we would like to gather your feedback on your acceptance of eHKD and your thoughts on its potential usage.

在進入下一部分之前，這裡簡要介紹一下數碼港元（e-HKD）。這項提議的零售中央銀行數字貨幣（rCBDC），被稱為 e-HKD，由香港金融管理局（HKMA）於 2021 年 6 月開始探索數字貨幣的一部分。e-HKD 旨在提高中央銀行貨幣的可用性和易用性，潛在改善交易效率，支持金融包容性，並加強貨幣政策。作為港元的數字形式，e-HKD 將允許個人和企業以電子方式進行交易，從而提供更安全和更高效的支付方式。其引入可以解決現金使用下降和私人數字貨幣興起所帶來的挑戰，確保中央銀行在金融生態系統中的角色。在接下來的部分中，我們希望收集您對 e-HKD 的接受度以及對其潛在使用的看法。

Q7 What methods do you currently use for daily transactions (Select all that apply) 您目前使用哪些方法進行日常交易（選擇所有適用的選項）？*

Cash 現金

Credit/Debit cards 信用卡/借記卡

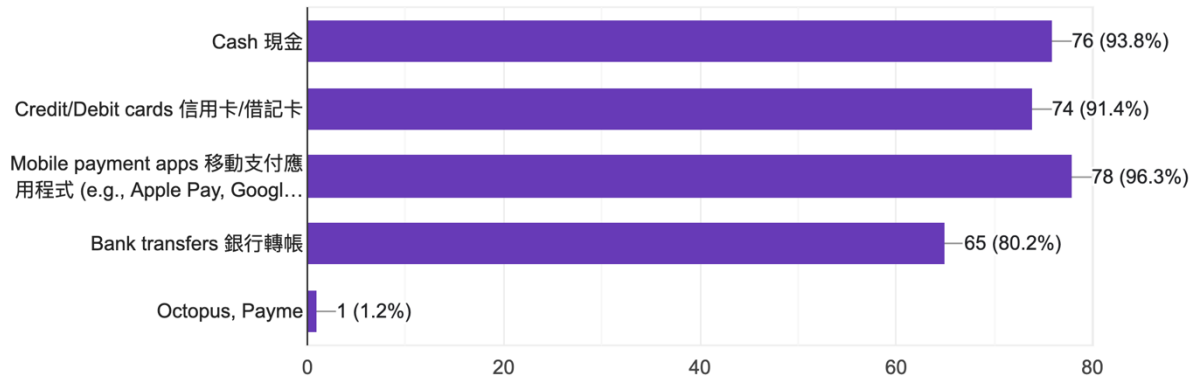
Mobile payment apps 移動支付應用程式 (e.g., Apple Pay, Google Pay)

Bank transfers 銀行轉帳

Others 其他

7. What methods do you currently use for daily transactions (Select all that apply) 您目前使用哪些方法進行日常交易（選擇所有適用的選項）？

81 responses

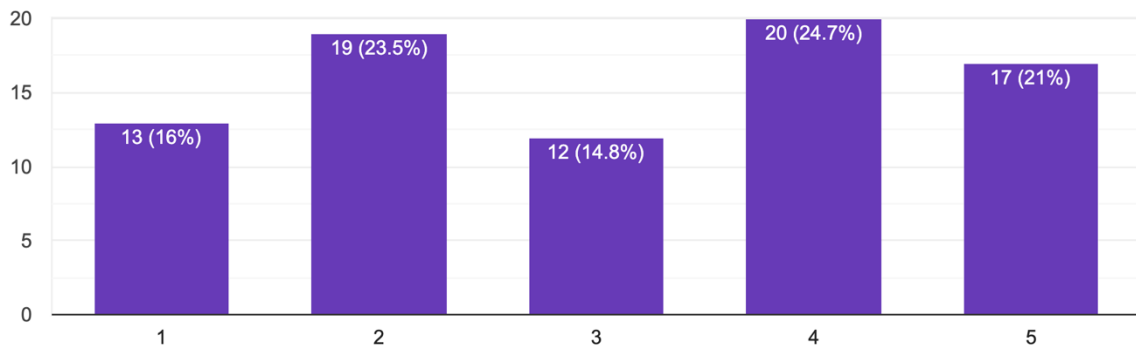


Q8 How satisfied are you with your current payment methods 您滿意目前的付款方式嗎？*

Not satisfied 非常不滿意 1 2 3 4 5 Very satisfied 非常滿意

8. How satisfied are you with your current payment methods 您滿意目前的付款方式嗎？

81 responses



Q9 Have you ever used a digital currency (e.g., Bitcoin, stablecoins) 您是否曾使用過數碼貨幣（例如，比特幣、穩定幣）？

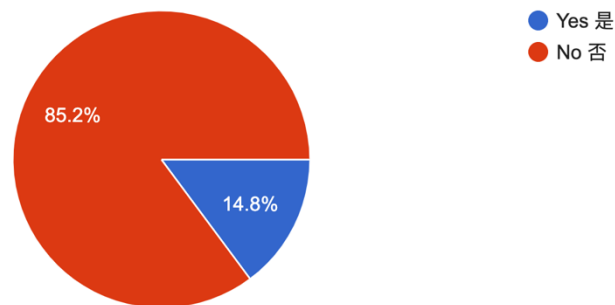
Yes

No

9. Have you ever used a digital currency (e.g., Bitcoin, stablecoins)

您是否曾使用過數碼貨幣（例如，比特幣、穩定幣）？

81 responses



Q10 If yes, how frequently do you use digital currencies 如果是，您多頻繁使用數碼貨幣？*

Daily 每天

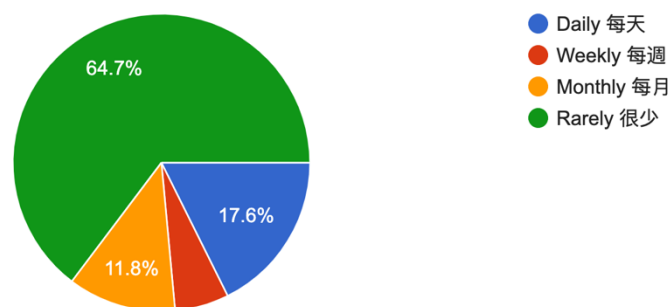
Weekly 每週

Monthly 每月

Rarely 很少

10. If yes, how frequently do you use digital currencies 如果是，您多頻繁使用數碼貨幣？

17 responses



Q11 How often do you prefer using digital payment methods over cash 您多常更偏好使用線上支付方式而非現金？*

Always 總是

Often 經常

Sometimes 有時

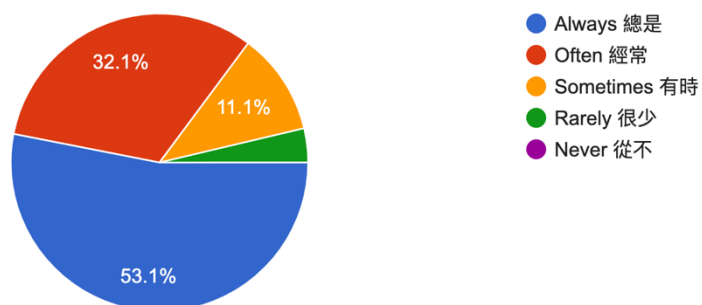
Rarely 很少

Never 從不

11. How often do you prefer using digital payment methods over cash

您多常更偏好使用線上支付方式而非現金？

81 responses



Q12 What factors influence your preference for digital payments (Select all that apply) 影響

您偏好數碼支付的因素是什麼（選擇所有適用的選項）？*

Convenience 便利性

Security 安全性

Speed of transaction 交易速度

Acceptance by merchants 商家接受度

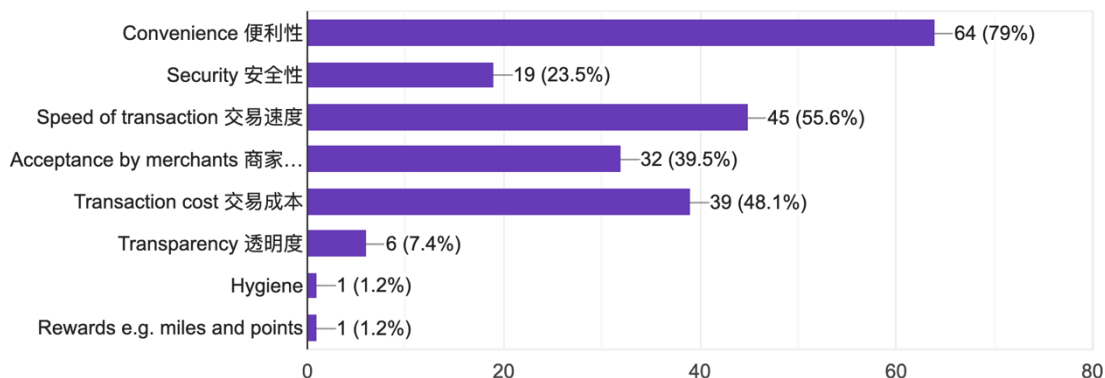
Transaction cost 交易成本

Transparency 透明度

Others 其他

12. What factors influence your preference for digital payments (Select all that apply) 影響您偏好數碼支付的因素是什麼（選擇所有適用的選項）？

81 responses



Q13 What benefits of e-HKD do you find most appealing (Select all that apply) 您認為 e-HKD 的哪些好處最具吸引力（選擇所有適用的選項）？*

Increased convenience 增加便利性

Enhanced security 增強安全性

Faster transactions 更快的交易速度

Reduced transaction costs 降低交易成本

Increased transparency 提高透明度

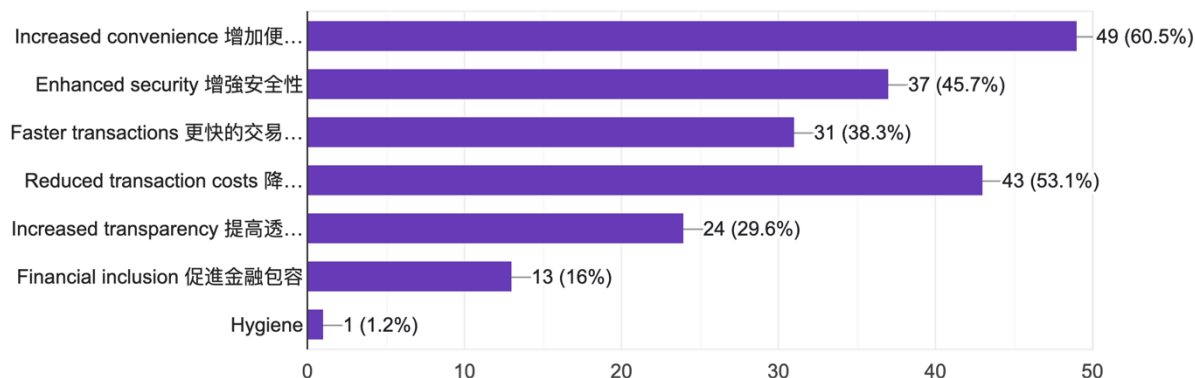
Financial inclusion 促進金融包容

Others 其他

13. What benefits of e-HKD do you find most appealing (Select all that apply)

您認為e-HKD的哪些好處最具吸引力（選擇所有適用的選項）？

81 responses



Q14 In which scenarios do you think you would use e-HKD (Select all that apply) 您認為在

以下哪些情境中會使用e-HKD（選擇所有適用的選項）？*

Daily transactions (e.g., groceries, bills) 日常交易（例如，購買雜貨、支付賬單）

Online purchases 在線購物

Cross-border payments 跨境支付

Peer-to-peer transfers 點對點轉帳

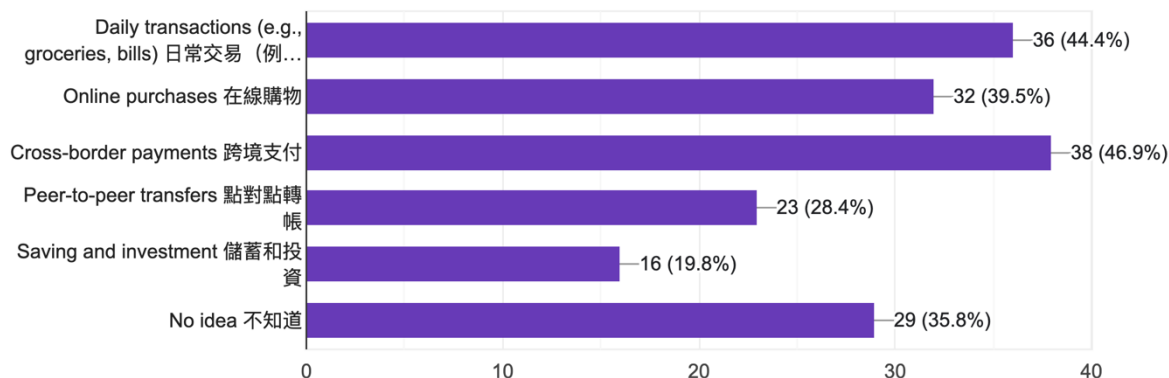
Saving and investment 儲蓄和投資

No idea 不知道

Others 其他

14. In which scenarios do you think you would use e-HKD (Select all that apply) 您認為在以下哪些情境中會使用e-HKD（選擇所有適用的選項）？

81 responses



Q15 What concerns do you have regarding the use of e-HKD (Select all that apply) 您對使用e-HKD 有什麼擔憂（可選擇所有適用的選項）？*

Privacy issues 隱私問題

Security risks (e.g., hacking) 安全風險（例如，黑客攻擊）

Difficult in using it 使用困難

Lack of regulation 缺乏監管

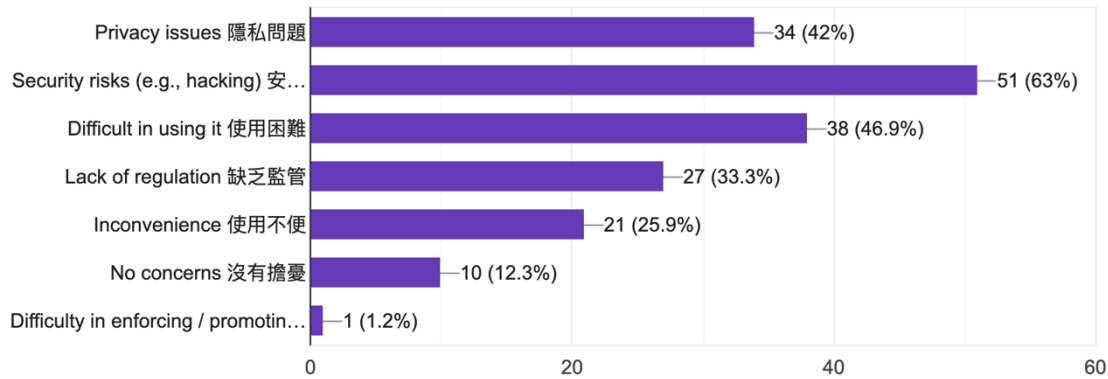
Inconvenience 使用不便

No concerns 沒有擔憂

15. What concerns do you have regarding the use of e-HKD (Select all that apply)

您對使用e-HKD有什麼擔憂（可選擇所有適用的選項）？

81 responses



Q16 How likely are you to adopt e-HKD for your transactions if it were available 如果 e-HKD 可供使用，您有多大可能性會在交易中採用它？*

Very unlikely 非常不可能 1 2 3 4 5 Very likely 非常可能

16. How likely are you to adopt e-HKD for your transactions if it were available 如果e-HKD可供使用，您有多大可能性會在交易中採用它？

81 responses

