



The University of Hong Kong

Detailed Project Plan

FITE4801 Final Year Project

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

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Date: Sep 24, 2024

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1. Introduction

1.1 Background

The rapid evolution of financial technology has prompted central banks worldwide to explore the potential of retail Central Bank Digital Currencies (CBDCs). 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 SAR 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 growing rapidly, with significant advancements demonstrated by initiatives like Project Sela.

Building on this foundation, retail CBDCs are currently a topic of intense discussion, with extensive research conducted on their structure and cybersecurity concerns. The Hong Kong Monetary Authority (HKMA) has launched projects on e-HKD, 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.

This study aims to evaluate the potential benefits of e-HKD compared to traditional payment methods while also discussing the challenges and compliance issues that may arise. By conducting a comparative analysis of e-HKD and its counterpart, e-CNY (the digital yuan), we hope to gain valuable insights into the introduction and future applications of e-HKD in Hong Kong.

1.2 What is available now: Project e-HKD

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 renamed 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 uses of e-HKD through the e-HKD Pilot Programme (Hong Kong Monetary Authority, 2024).

The HKMA has participated in international forums on CBDC and new digital currencies and has been highly active in interacting with the sector and other stakeholders. However, as of right now, no policy decision has been taken regarding the introduction of e-HKD.

1.3 Motivation for the Project

As a FinTech student, I have frequently encountered 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 deeply motivated me to work on projects related to Hong Kong's future financial and digital landscape. With the HKMA exploring the e-HKD, I am eager to investigate how this initiative can be practically introduced and utilized in the future.

I aim to explore the tangible benefits that e-HKD could offer compared to existing payment methods and its potential applications specifically within the retail sector. By examining these aspects of e-HKD, I hope to gain valuable insights that will not only enhance my career in financial technology but also deepen my understanding of the real-world applications of this emerging technology.

1.4 Significance

The study will identify challenges and compliance issues 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 the digital currency. Additionally, by comparing e-HKD with e-CNY, the study will provide valuable lessons from another operational retail CBDC, highlighting best practices and potential pitfalls that can inform the implementation strategy 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 to innovate on the opportunities presented by e-HKD.

2. Objectives

The primary objective of this project is to conduct a comprehensive evaluation of the e-HKD and its implications for its introduction and applications in Hong Kong, with the following specific objectives:

2.1 Evaluate Potential Benefits of e-HKD

This objective involves an analysis of the advantages that e-HKD may offer compared to traditional payment methods, specifically Faster Payment System (FPS), PayMe, and credit cards. Key benefits to be examined include increased transaction efficiency, enhanced security, and the ability to meet future payment needs. By assessing these factors, the project will provide insights into future applications of e-HKD.

2.2 Evaluate Challenges and Compliance Issues

The introduction of e-HKD is likely to present various challenges and compliance issues that must be addressed. This objective focuses on identifying potential obstacles such as regulatory hurdles, cybersecurity risks, and the need for infrastructure changes. A crucial aspect to consider is the issue of user anonymity associated with e-HKD, which raises concerns regarding anti-money laundering (AML) and counter-terrorist financing (CTF) issues. The project will explore how these concerns may require special attention in e-HKD's rollout.

2.3 Analysis of e-CNY's Introduction and Applications

An analysis of e-CNY, a retail CBDC in China, will be conducted to draw lessons from the experiences of another operational retail CBDC. The analysis will focus on several key aspects: the introduction process of e-CNY and its current applications. By examining these elements, the project aims to identify best practices and potential pitfalls that could inform the rollout of e-HKD in Hong Kong.

2.4 Suggestions for Banks to Introducing e-HKD

Based on the evaluations and analyses conducted, the project will suggest practical strategies for banks in Hong Kong to introduce e-HKD. This may include recommendations for customer education, integration with existing payment systems, and collaboration with regulatory authorities. Additionally, insights will be drawn from the implementation of e-CNY, including its strategies and challenges. The goal is to provide practical insights that facilitate a smooth transition to the new digital currency.

2.5 Identify Potential Applications of e-HKD

Finally, the project will explore potential applications of e-HKD within the financial ecosystem in Hong Kong. This includes examining its use in retail transactions, cross-border payments, and integration with emerging technologies such as smart contracts and the Internet of Things (IoT). By identifying these applications, the project aims to highlight the versatility of e-HKD and its potential to revolutionize financial interactions in Hong Kong.

3. Methodology

This chapter presents methodologies we will use to achieve the objectives, including conducting a survey, interviewing and literature review.

3.1 Survey on Public Perception

A survey will be conducted to assess public awareness, potential usage, and perceived applications of the e-HKD. The online survey will target individuals aged 18 and older, with the aim of collecting at least 100 responses to ensure meaningful analysis. This data will provide insights on suggesting ways to introduce e-HKD and potential applications for e-HKD.

3.2 In-Depth Interview with Compliance Expert

We will conduct an in-depth interview with a compliance expert in a FinTech company, to gain insights into the compliance challenges e-HKD may face during its implementation. The company is participating in the HKMA Stablecoin Issuer Sandbox, its compliance team possesses expertise in digital currencies, particularly regarding implementation and applications. This interview will help identify specific compliance issues brought by e-HKD and ways that could guide the implementation of e-HKD.

3.3 Literature Review on e-CNY

An analysis of the e-CNY will be performed to identify lessons learned and best practices that could help with the introduction of e-HKD in Hong Kong. This analysis will also consider the benefits brought by the introduction of e-CNY. While the economic contexts of China and Hong Kong differ, the operational experiences of e-CNY can provide valuable guidance for e-HKD's implementation and future development.

3.4 Literature Review on e-HKD

An analysis of current reports from the HKMA will be conducted to understand the current situation of e-HKD in Hong Kong. This will involve reviewing HKMA's latest publications, including policy statements and research reports, to gather relevant data and insights regarding its development, regulatory environment, and strategic goals. The analysis will identify key themes and trends that highlight the HKMA's vision for e-HKD and the potential introduction method for e-HKD.

4. Project Schedule

Stage	Timeline (2024 - 2025)	Description
1 - Inception	Sep-Oct	Early research on e-HKD
	Oct 1	Deliverables of Phase 1 <ul style="list-style-type: none"> ● Detailed project plan ● Project web page (set up)
2 - Design and Research	Oct	<ul style="list-style-type: none"> ● Design of questionnaire and interview ● Research on e-CNY ● Research on the current development of e-HKD in Hong Kon
3 - Data collection	Nov-Dec	<ul style="list-style-type: none"> ● Distribution and collection of data from the questionnaire ● Conduct interview ● Continuation of research topics
4 - Data analysis	Jan	<ul style="list-style-type: none"> ● Preparation of the first presentation and interim report ● Analyze collected data from the questionnaire and interview
	Jan 13-17	First presentation
	Jan 26	Deliverables of Phase 2 (Elaboration) <ul style="list-style-type: none"> ● Preliminary implementation ● Detailed interim report
5 - Construction and Enhancement	Feb	<ul style="list-style-type: none"> ● Collect feedback from my supervisor for further improvements in the project
	Mar-Apr	<ul style="list-style-type: none"> ● Summarize findings into a report ● Prepare final deliverables and exhibition of the project
5 - Dissemination	Apr 21	Deliverables of Phase 3 (Construction) <ul style="list-style-type: none"> ● Finalized tested implementation ● Final report
	Apr 22-26	Final presentation
	Apr 30	Project exhibition <ul style="list-style-type: none"> ● 3-min video

References

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