

Bank of China (Hong Kong) explores the use of hypothetical e-HKD for prepaid services

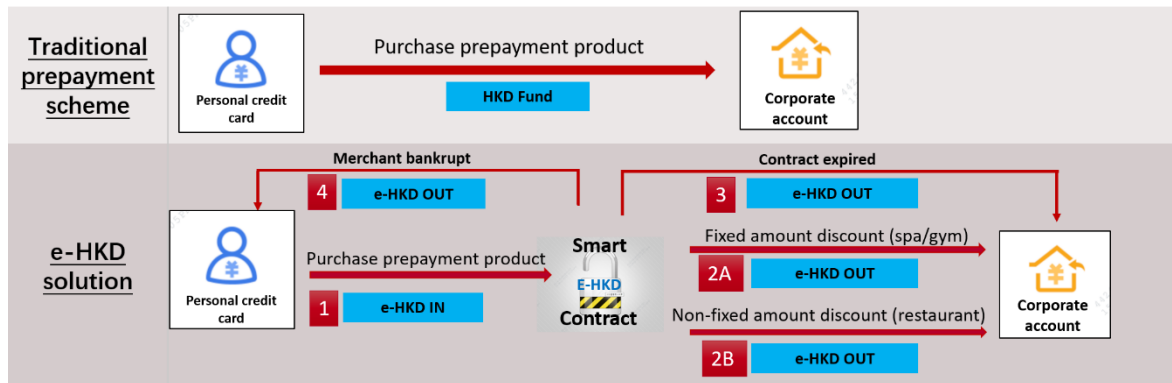
High Level Summary

As part of the e-HKD Pilot Programme, Bank of China (Hong Kong) ('BOCHK') has developed a one-stop digital platform that enables merchants to customize and manage their prepaid services through smart contracts using the hypothetical e-HKD ('e-HKD'). In addition, consumers can purchase prepaid services using the e-HKD on BOCHK's mobile payment App.

The proposed e-HKD prepaid service solution ensures the security of consumers' funds in prepaid consumption scenarios. Unlike traditional settlement methods, the prepayment is not transferred to merchants as a lump sum immediately upon a consumer's service purchase. Instead, with our innovative solution, the corresponding amount for each consumption is transferred to the merchant only after consumers use and redeem the service.

Through pilot testing, smart contracts enable us to embed the merchant's pre-determined contract terms and conditions into the contract tools. Once the smart contract is fulfilled, consumers can then authorize the execution of the transaction by scanning a QR code presented by the merchant, relevant funds will be automatically transferred.

Proposed and As-Is Flows



1. Following a consumer's purchase of a prepaid product, the funds are transferred according to the pre-determined conditions in the smart contract. When individual consumers purchase the contract via the BOCHK App, their own e-HKD wallet is created. Funds are then converted into e-HKD and deposited into the registered wallet.
- 2A. Upon a consumer's consumption of a fixed amount contract, e-HKD is deducted from the wallet according to the contract terms and the fixed amount is paid to the merchant.
- 2B. Upon a consumer's consumption of a non-fixed amount contract, the related amount of e-HKD is deducted from the wallet according to the contract terms and the corresponding funds are paid to the merchant.
3. When the contract expires, any unused e-HKD is automatically transferred to the merchant.
4. In the event of merchant bankruptcy, any unused e-HKD in the contract is automatically refunded to the consumer's personal credit card.

Possible Benefits of an e-HKD (Should It Be Issued)

Our solution can help to build a healthy and robust ecosystem for prepaid services. Our views are as follows:

- Should it be issued, an e-HKD could increase consumer confidence in using CBDCs for managing funds.
- A programmable e-HKD could facilitate easier and more rapid technical implementation of prepaid service applications.

Key Findings and Learnings

Merchant survey:

- Pilot merchants reported that they were unable to provide prepaid services to consumers via digital channels, with 60% expressing concerns about consumer confidence in prepaid services. However, 85% of merchants using e-HKD prepaid services believed it could increase consumer loyalty more effectively than non-monetary reward programmes.
- Following the provision of prepaid services using a hypothetical e-HKD, all feedback suggested that our solution could increase revenue. 80% of merchants were willing to offer prepayment discounts to consumers, and believed that our solution could help reduce financial burdens and technical resource input.
- 85% of merchants believed that the adoption of smart contract technology in e-HKD could reduce their contract fulfillment costs, and were eager to adopt standardized e-HKD prepaid services for obtaining operational funding support from the Bank in the future.

Consumer survey:

- Most consumers have purchased prepaid services in the past, with some of them experiencing financial losses when using traditional prepaid services.
- Following the pilot programme, 95% of participating customers expressed confidence and trust in prepayment using e-HKD. Few were worried about financial losses due to merchant bankruptcy.
- 70% of consumers were willing to purchase more prepaid services using e-HKD if merchants offered more compelling discounts exclusively for prepayment using e-HKD.

Next Steps

- BOCHK anticipates expanding the scope of the pilot and inviting more merchants to participate. Currently, our use case utilizes an e-HKD should it be issued for prepaid services, offering an alternative payment method to individual consumers who purchase prepaid services using BOCHK credit cards.
- In future exploratory studies, we plan to support more payment methods, such as other banks' credit cards, etc. We also plan to integrate e-HKD prepaid services into our existing merchant acquiring system, eliminating the need for our partner merchants to install our prepaid services separately.