Hong Kong Becoming a Cashless City

FITE4801 Final Year Project
Detailed Project Plan
The University of Hong Kong

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1. Background

Exchange of goods is one of the core activities in a modern society. In order to successfully exchange goods, money was created and used. Consumption is a prerequisite of a country or city’s GDP while payment is a significant part of a complete consumption. There is no denying the prevalence of payment in people’s daily lives. With the rise of e-payment tools and platforms in Hong Kong, more options are provided to users. The variety of e-payment is an issue that needs more attention and study.

1.1 Introduction to E-payment and transaction

Hong Kong has experienced significant growth in electronic payment (e-payment) methods over the past decade. With the rapid advancement of technology and increasing demand for convenience, e-payment solutions have become increasingly popular among businesses and consumers in Hong Kong. The electronic smart card Octopus system was launched in September 1997, indicating Hong Kong being the pioneer in global electronic payments in its early years. However, the e-payment ecosystem in Hong Kong does not stand out anymore as observed in recent years. Mobile payment was rapidly developed in Mainland China while in Scandinavian countries like Sweden, more than 80% of transactions are completed through e-payments. Hong Kong seems to lack behind in this industry as nowadays cash is still everywhere in our daily lives.

1.2 Digital wallets in Hong Kong

The solution of digital wallet was raised. Digital wallets are payment instruments that allow people to use a smartphone or a computer to shop online or transact at physical stores. Each digital wallet allows users to add value on their digital wallets through a debit or credit card, or a bank account. An e-wallet user can easily get through an in-store purchase with a simple scanning or tapping his or her smartphone over the QR code or NFC-enabled card reader at the point of sale. In addition to merchant payment, digital wallets also support peer-to-peer ("P2P") payment where a person can transfer money from his or her digital wallet to the e-wallet of another person by touching their smartphones together, using the QR code technology, or making the transfer over the Internet. With the convenient transfer function, there is neither cash nor change involved when an e-wallet user splits expenses with others.

1.3 Incentives and resistances

With the launch of the consumption voucher scheme in 2021, people in Hong Kong have got more familiar with the use of digital payment tools. The financial incentives given by the Hong Kong government also acts as the incentives to people adopting e-payment. E-payment is gaining
higher frequencies and larger amounts of money involved in each transaction. In addition, discounts could be found easily in different mobile payment platforms so as to promote consistent usage rate of a specific e-payment tool. These factors, together with the unique advantages of e-payment, have contributed to the popularity of the adoption of digital payment systems. On the other hand, concerns arose regarding the security of the payment method itself and the feasibility of full adoption of e-payment.

1.4 Motivations of the project

The trend of e-payment changes each passing day in Hong Kong. The financial technology ecosystem and people’s attitude could be affected easily with newly developed applications. Therefore, one of the best ways to have a full picture of the e-payment development in Hong Kong at this moment is to conduct a comprehensive survey. By identifying the major factors leading to the adoption of e-payment and the concerns considered by most people, it is possible to give comments on the current available digital payment tools in the market. Whether there are loopholes or blindspots under an ideal “cashless” city, could be concluded at the end of the project. The matureness of the financial technology product, digital wallet, could gain an insight on its future development and room for improvement.

2. Objective

2.1 Study the trend of payment preference in Hong Kong

Payment options have varied since more payment tools were invented. In Hong Kong, apart from the most traditional payment tool – cash, octopus card, credit card, debit card, mobile payment tools are also popular when people are making transactions. The current trend of people’s payment preference is an important indicator of the development of the payment ecosystem in Hong Kong. Whether most people still stick to using cash or credit card services provided by the bank can directly show people’s attitude towards financial development. On top of the two, the rise of mobile payment has brought a huge change in payment choice due to its convenience. In short, people’s payment preference would be studied so as to have a clear overview of Hong Kong’s current trend.

2.2 Investigate consumers’ habits regarding e-payment and P2P transaction

Digital wallets have functions ranging from purchasing goods or services from the merchants, to direct transfer of e-money between peers which does not involve merchants. In the past, only
cash had the function of peer-to-peer transactions as credit cards and octopus cards require readers to complete transactions. With the growth of digital wallet, consumers could freely decide their consumption list as well as what payment method they choose in different conditions. In some specific scenarios, people may prefer using cash and it is significant to investigate the reasons pushing them to do so. While in other cases, e-payment is carried out with other expectations. Consumers’ habits of adopting different tools are the focus of this project.

2.3 Judge whether e-money change people’s value towards money

In the past, cash was tangible and touchable. In other words, there was a strong sense that someone owns a specific amount of money and wealth. Even if some parts of the money are deposited in the bank, every time when people need to spend money, they have to undergo the process of giving and taking. However, the same case does not work nowadays in digital payment and transaction. That is because everything is conducted virtually and the only difference after every transaction is the change in account balance only. People can hardly “obtain” money when they get their salary and “lose” money when they do purchasement. The money concept of people after the money revolution seems to experience a great change and the paper would try to judge its diversification.

2.4 Discuss the possibility to reach absolute cashlessness in Hong Kong

Although digital payment has gained popularity in current years in Hong Kong, there are still many concerns from consumers when considering their payment methods. In order to become a cashless city, everyone in Hong Kong has to replace cash with e-money. If a merchant is not willing to do so, the consumers of this merchant fail to pay by e-money. If a consumer is not willing to do so, the merchants of this consumer fail to receive e-money. Cash is used again as long as it could still work as the function of money. Someone would be spending cash while someone would be accepting cash, anyway. In other words, a cashless city relies on the complete cooperation of every party in the society. Whether absolute cashlessness could be reached in Hong Kong in an allotted time, for example, in 10 years, would be discussed at the end of the project.

3. Methodology

3.1 Questionnaire

A questionnaire would be designed and distributed to participants. The target participants would be Hong Kong residents aged 18 to 60 while the expected number of feedback given is 100 or
above. People with different educational backgrounds and living standards would be taking the questionnaire so that the sample could represent the majority of digital wallet users in Hong Kong. It is believed that the sample size could reflect the overview of people towards Hong Kong becoming a cashless city. The scope of the questionnaire would focus on digital wallets in Hong Kong, Alipay HK, WeChat Pay HK, Tap & Go, Payme, Octopus Wallet and BoC Pay.

The questions are designed with aspects to answer the objectives of the project.

- Most frequently used digital wallet
- Why do a person choose to use cash
- Why do a person choose to use e-money
- How often does a person use e-money to do P2P transaction
- How often does a person use e-money to pay merchants
- What actually motivates a person to use e-money (discount/consumption voucher)
- Without them, would a person continue to use e-money
- Cash vs e-money (mentally)
- What is the difference between owning cash and e-money
- Within 10 years, you wish? (scale) (e.g. 30%, 50%, 80%, 100% cashless in hk?)
- Within 10 years, you think? (scale) (e.g. 30%, 50%, 80%, 100% cashless in hk?)

3.2 Data Analysis

It is estimated that the size of the data collected would be quite large since the sample size is not small. The result regarding which digital wallet is the most used could be revealed, in the first place. Patterns of the choice between cash and e-money would be observed and analysed. Linear regression would be carried out to explain the relationship between digital payment preference and age, educational background and living standard. A finalised report is expected to include the integration of participants’ feedback, thus contributing to the road and pathway of Hong Kong becoming a cashless city.

4. Schedule and Milestones

The tentative schedule is given to seek feedbacks, make adjustments, and finally achieve objectives. The details may depend on the actual situation.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Timeline (2023-2024)</th>
<th>Task &amp; Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Inception</td>
<td>Jul - Sep</td>
<td>Early research of what makes a cashless city</td>
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<tr>
<td></td>
<td>1 Oct</td>
<td>Deliverables of Phase 1</td>
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</tbody>
</table>
| Phase 2: Elaboration | 2 - 31 Oct | Design of questionnaire  
| | | ➢ Questions  
| | | ➢ Target audience  
| | | ➢ English & Chinese versions  
| | | ➢ What platform to use  
| | 1 - 10 Nov | Distribution of questionnaire  
| | 11 Nov - 7 Jan | Collecting data & first round analysis  
| | | ➢ Graphs & charts  
| | | ➢ Linear regression  
| | | ➢ Finding patterns  
| | 8 - 12 Jan | First presentation  
| | 21 Jan | Deliverables of Phase 2  
| | | ➢ Preliminary implementation  
| | | ➢ Detailed interim report  
| Phase 3: Construction | 22 Jan - 21 Feb | In-depth analysis  
| | | ➢ People’s attitude towards cashless city  
| | | ➢ Income level v.s. Activeness  
| | | ➢ Does generation matters  
| | 20 Feb - 19 Mar | Result discussion & suggestions  
| | | ➢ Future trend  
| | | ➢ Optimisation in transaction & payment  
| | | ➢ Completely new ecosystem in hk  
| | 20 Mar - 14 Apr | Feedback and advice period  
| | 15 Apr - 19 Apr | Final presentation  
| | 23 Apr | Deliverables of Phase 3  
| | | ➢ Finalised tested implementation  
| | | ➢ Final report  
| | 26 Apr | Project exhibition  