

Taxi App Market Analysis in Hong Kong

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Abstract—This paper proposes a framework of how current Taxi Apps evolve in the market structures of Hong Kong based on the analysis of the corresponding markets in China, Europe and the United States. Researches are conducted to show the difference and uniqueness of the Hong Kong Taxi App market from the global ones. In addition, conventional taxi-calling systems and methods of Hong Kong are assessed in order to reveal the challenges and opportunities in the future development of this market in Hong Kong. In this paper we also describe in Hong Kong what the transition processes of taxi calling methods are. We concluded with a discussion that to project the market potential in Hong Kong and to support the growth in the Hong Kong Taxi App Market.

Index Terms—Hong Kong, HK taxi, market analysis, taxi app.

I. INTRODUCTION

A. Background Introduction

In recent years, with the progress and development of information technology, smart phone is playing a more and more important role in daily life. Different kinds of apps in the smartphone change the ways of life in many ways. Taxi calling app, which we will call taxi app below, is one of the most popular and revolutionary kinds among them. With a taxi app, users can search for the available taxi around them or make a pre-order. They can fix their locations by GPS or typing in the target location, by which drivers can easily reach them. Passengers have better consuming experience using a taxi app and taxi drivers can benefit from getting more business as well.

Reducing information asymmetry between passengers and drivers, Taxi apps help facilitate resource allocation [1]. They really make taxi hailing more efficient, especially during peak time in traffic, when passengers feel hard to find an empty taxi along the street. Taxi apps are creating value while solving the mismatch between demand and supply, directing idle taxi to people in need [2]. Traffic problem, at the same time, is becoming more and more serious in the large cities all around the world. Addressing this problem, taxi apps are getting increasingly attention and being widely used. They are firstly popularized in U.S. and UK for years, and then have a booming development in eastern Asia in recent years, especially in Mainland China. These markets will be discussed in depth in the following parts.

In contrast to the boom in the markets mentioned above,

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taxi apps are still not remarkable in Hong Kong. There are already some taxi apps existing in Hong Kong now, however, they don't get as much attention as they do in other regions.

B. Goals and Objectives

Sharing many similarities with regions where taxi apps are playing a significant role, it seems unreasonable that Hong Kong is an exception. We would like to find out the reasons behind through comparisons between regions and studying the characteristics of taxi market in Hong Kong. It is hoped to give a better understanding of current situation and future opportunities and threats facing this market.

II. METHODOLOGY

In order to get more insights about both taxi app and Hong Kong market, we use secondary and primary research to gain useful information and analyze the target in detail. Next the brief introduction of our research will be shown, and the findings we get will be used in the report respectively.

A. Secondary Research

We use secondary data and information to learn about the situations of taxi apps in other countries. We want to get some useful points to support our own taxi app development. The analysis of Hong Kong taxi market and SWOT analysis of the existing taxi apps in Hong Kong are also conducted.

B. Global taxi App Market

The global market research contains the taxi apps in U.S., UK and Mainland China, where taxi apps are extremely popular. We will pick typical taxi apps in these markets, search for their advantages and characters based on some essays and data, in order to make some help to the design and launch of our new taxi app.

C. Hong Kong Taxi and Taxi App Market

In this part we will show the analysis of Hong Kong taxi market. It contains some basic data and some characters of this market, such as the total amount of taxi in Hong Kong, the competitors (taxi-calling channel/taxi radio). The SWOT analysis for Hong Kong taxi app market is also going to be conducted based on some secondary research results we find.

D. Methodology-Primary Research

The purpose of the primary research is to gain opinions and suggestions from potential consumers, as well as to know their demands. According to these results we can make the new taxi app more efficient and easy to be accepted by the market. To achieve these goals, we design a questionnaire that contains 11 related questions. The kinds of questions are specified as follows:

1) Popularity and recognition questions. For example, do

you know there are taxi apps in Hong Kong market?

- 2) Questions about competitor. For example, what problem have you found when calling taxi radio?
- 3) Function related questions. For example, have you ever get some credits/refunds by using taxi apps?
- 4) Using concern questions. For example, what do you concern most about the using of taxi apps?
- 5) Promotion related questions. For example, where will you prefer to see the promotion activities/advertisements of a taxi app?

Both of the complete version of questionnaire and the conclusion of questionnaire results will be offered in the appendix.

We distribute the questionnaire both online and offline. For the offline distribution, we also choose more than one place to ensure the useful of the sample. By now we have received 118 valid responses.

III. GLOBAL TAXI APP MARKET

The global taxi app markets, especially the markets of the United States and the European Union, are well developed. China as an emerging market with great potential is also studied due to its uniqueness. Through the study of these markets, we have gained some valuable references, especially in the areas of corporate strategy and consumer needs.

Four market leaders from different markets are selected for in-depth study. In the Chinese market, they are DidiDache and KuaidiDache. In the U.S. and the EU market, they are Uber and Hailo respectively. These taxi apps have successfully occupied significant market share and become the major players in their regions.

A. The U.S. Market and the EU Market

Uber was found in the United States in 2009 with the initial business as luxury cars hiring. It has entered more than 200 cities in 45 countries up to September 2014 [3], and has become the most influential taxi app with an estimated value of \$18.2 billion [4]. The expected revenue of year 2014 is USD 680 million. Hailo was found in the United Kingdom in 2011 with sole focus on taxi hailing business since the very beginning. It has been growing fast. Being the market leader of 20 cities, Hailo is considered as the major competitor to Uber.

Hailo charges the taxi drivers 10% of the taxi fare while Uber charges 25%, which is highly above the market level [5]. Since the margins are leveraged against the dominance of the taxi apps, there is not much room for the drivers to bargain. They both adopt expensive strategies to attract new users, like to offer free rides for the newly-registered. However, this method is too commonly adapted by the global competitors to explain their success. So we turned to examine the period when they first started to boom.

We have found that Uber did very well at the marketing strategy in its early stage, focusing on target cities and dedicating on solving the problems of urban living. To elaborate, Uber demonstrated great work on maximizing the use of its well understanding of the local markets. A strategy to target at cities with a “booming nightlife and intense weather” made great success [6]. Uber solved the problems

that their users usually faced to get a taxi during nights or rainy days. Uber benefited a lot with the aid of word of mouth in terms of market share and user loyalty.

Besides, Uber and Hailo provide credit card as additional payment method. Such payment methods made the payment progress seamless and convenient to both drivers and riders.

B. The Chinese Market

The operating environment and history of development are quite different in the Chinese market. DidiDache and KuaidiDache are owned by big technological corporations, Tencent and Alibaba respectively. Instead of aiming for profit, these two taxi apps are dedicating on promoting payment systems of their parent companies in order to expend their virtual empire all over mainland China [7].

Tencent and Alibaba embedded their own electronic payment features in DidiDache and KuaidiDache. The habit of using such payment methods could be utilized for future development. For example, it will be helpful to build an ecosystem of electronic payment for Alibaba and Tencent for owning the entrance of the new era of consumption.

DidiDache and KuaidiDache are charging nothing, neither on drivers nor riders. Aiming solely on market share, they started the battle of giving away free money to drivers and customers as incentives since January 2014. Both drivers and passengers will receive subsidies for each deal of ride through DidiDache or KuaidiDache, \$10 for the early stage and \$5 for the latter stage [8]. This radical promotion campaign even caused a strange phenomenon that passengers could even make money by taking rides. Despite of the total cost, which is more than 2 billion CNY in total of these two taxi apps, this strategy had successfully driven away other competitors. DidiDache and KuaidiDache occupy 43.3% and 56.5% of the market share respectively at this moment [9].

To conclude, there are numerous factors for the success of these four taxi apps and two stands out, the focus on local networking and on payment methods.

IV. HONG KONG MARKET ANALYSIS

A. Taxi Market in Hong Kong

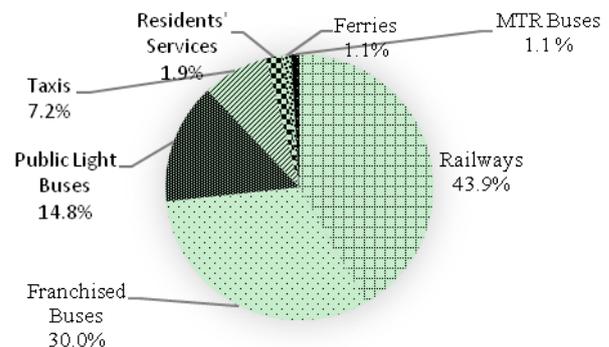


Fig. 1. Distribution of average daily public transportation passengers.

In Hong Kong, Taxi is acted as one of the main public transport service provider. There are currently 18,138 licensed taxis in Hong Kong, of which 5,250 are urban taxis (red), 2,838 are New Territories taxis (green) and 50 are Lantau taxis (blue) [10]. Except roads locating in outlying

islands, taxis can reach almost all areas within Hong Kong Island, Kowloon, and New Territories, covering areas that other public transports such as buses or railways cannot cover.

Referring to statistic data on average daily public transportation passengers in 2014 [11], taxi, ranking forth, contributes 7.2% to the total public transportation usage, behind the railways (43.9%), franchised buses (30.0%), and public light buses (14.8%) (see Fig. 1). Its average daily passengers achieve over one million [12]. Considering a taxi consists of maximum passengers' seats of four, there are at least 250 thousands of average daily trading in taxi industry currently.

B. Taxi-Calling System in Hong Kong

Before the introduction of taxi apps, people in Hong Kong consume taxi services by hailing a taxi on street or call a taxi through taxi radio channel.

Hailing taxi is the most basic and command way used for consuming taxi service. However, a problem of high empty-loading ratio¹ exists, causing high consumption of fuel, low income of drivers, serious air pollution issues and unnecessary occupying of road resources. This traditional method is kept as the only way for taxi consumption in some countries for years (e.g. China) resulting a consistent inefficient productivity [13].

To solve the problem of high empty-loading ratio, Hong Kong taxi market has developed taxi radio channel² allowing an indirect information transfer between drivers and potential passengers. An indirect communication achieved by taxi radio channel helps better allocate taxi resources. However, taxi radio channel, being a high labor intensive industry, due to the high labor wages, has become more challenging to survive in Hong Kong as time pass by.

Taxi calling system in Hong Kong developed from no communication between supply and demand sides to indirect communication, causing the taxi industry to improve from high inefficiency to better allocation of resources. However, the best economic efficiency and fully utilization of resources can only be achieved with a direct communication between potential passengers and drivers, which introduces taxi apps.

Taxi apps, comparing to taxi radio channel which applies "many to one" and "one to many" order matching system, introduce a direct matching as "many to many" automatically with app between drivers and potential passengers, achieving best economic efficiency. Taxi apps are introduced to taxi calling systems as a revolution, and is expected as a major trend in the future.

C. Taxi App Market in Hong Kong

At present, there are around 20 taxi apps³ in Hong Kong. Their general business model is to supply an automatic matching and direct communication services between drivers and potential passengers, to obtain best economic efficiency

in taxi industry, and charge a monthly subscription fee for profitability from drivers who enjoy the economic efficiency provided by the app.

For an introduction and development of taxi apps, comparing to market in other countries, Hong Kong holds its own characteristics of taxi radio channels and 20% discounted taxis⁴.

- 1) Taxi radio channels: Current taxi radio channels are operating with high cost and not as efficient as taxi apps. In the long trend, taxi-calling apps is expected to replace taxi radio channel in Hong Kong.
- 2) 20% discounted taxis: Drivers of 20% discounted taxis are not potential users of taxi apps, and will not be included in the total market share due to the fact that taxi apps apply business model charging from drivers. However, these taxis do not occupy much of the market.

A SWOT analysis to development of taxi apps in Hong Kong is conducted to show a complete view.

Strengths are as follows:

- 1) Improvement in efficiency: Empty loading ratio is expected to decrease.
- 2) Easy assessment from taxi drivers: Drivers can open service of taxi apps by downloading at any time.
- 3) Online payment: A brand new taxi service without paying cash is enjoyed by passengers.
- 4) Rating system of taxi drivers: Market of potential passengers is increased due to confidence of enjoying taxi service.
- 5) Customization: Passengers can order with customized requirement, e.g. requiring a driver who can speak simple English.

Weaknesses are as follows:

- 1) Privacy Security: Customers may concern when credit card no., phone no., and names are required for apps registration.
- 2) Inconvenience in usage: Drivers are unfamiliar to taxi apps after years of using taxi radio channels.
- 3) High start-up investment for enlarging market share: Cash Refund/Coupons are offered to attract users due to unfamiliarity of the market to taxi apps.

Opportunities are as follows:

- 1) High operation cost of taxi radio channel: Taxi radio channel, main competitor to taxi apps, is a labor intensive industry requiring high operation cost in Hong Kong such a developed city.
- 2) High Penetration of smart device: Hong Kong is a developed city of which citizens are common to own smart devices.

Threats are as follows:

- 1) Low Penetration of taxi apps usage: After 2 years of introduction of taxi apps to Hong Kong, the market is still unfamiliar to taxi apps.
- 2) 20% Discounted Taxi: Drivers of 20% discounted taxis are excluded from potential users.

¹Percentage of mileage without passengers among the entire traffic. Empty-loading rate = mileage with passengers/ total driving mileage

²A media between potential passengers and drivers. Taxi Radio channels receive calls from potential passengers, and transfer orders to drivers through radio wave for possible matching.

³Including HK taxi, 85飛的, chok的, 的士通, HK 的士台, 紅綠的, Uber, Easy Taxi, HK Cross Harbour, Taxier, 的的打車, 快的打車, I call car HK, call車app, GoGo Taxi, 香港的士通, 一路發的士, 的士放題, etc.

⁴Taxis that offer a 20% discounted price as a strategy to attract potential passengers for large mileage ride.

- 3) Large number of competitors: Though Hong Kong taxi market is potential enough for taxi apps development, 20 existing taxi apps are comparatively large number of competitors.
- 4) Comprehensive public transportation system: Public transports such as railways and buses in Hong Kong are comparatively comprehensive to other cities.

V. CONCLUSION

Base on the analysis, the taxi app market in Hong Kong has promising potential. Yet, the taxi market is still in the transition from a traditional one to an app-dominated one. With the increasing awareness and unique benefits of taxi app, it is very likely to replace the radio channel in years. Due to the relatively small scale of Hong Kong market, there will be only several taxi apps can survive.

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