

Competitive Strategies of City Card from the Perspective of Electronic Payment

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Abstract: With the characteristics of quickness and portability, the City Pass Card company has realized micro-payment and card swiping in the field of public transportation, providing convenience for people's daily life. In the era of digital economy, third-party payment platforms are constantly infiltrating the offline market, NFC mobile phone manufacturers integrate the platforms from the aspect of hardware and software, and traditional banks have also joined the layout of offline payment business, which has severely squeezed the market development space of urban pass card. In order to survive and develop in the fierce market competition, the City Card Co. needs to deal with the challenges by enriching and perfecting functions of the card, expanding payment scenarios, and establishing an information sharing platform.

1. Background of the Topic

With the continuous development of urban public transport, the City pass card came into being. It is an all-in-one card information management system planned and constructed for the purpose of improving traffic operation efficiency, facilitating the commuting of citizens and reducing the cost of public transport companies after cash payment. Citizens only need to swipe their cards for consumption in public transport occasions such as bus, subway, ferry, bicycle rental and parking lot[1]. However, at present, the country vigorously advocates "Internet +" and "Mass innovation", then the ICT digital economy is developing rapidly, the payment business of City pass card companies is facing the dilemma of being eroded and subverted at any time. Its threats mainly come from the innovation of municipal public services, the impact of the IC card in banking industry, the mergers and acquisitions of urban interconnection, the disruptive innovation of Internet companies such as BAT (Baidu, Alibaba, Tencent), and the challenges of unknown business technologies and models.

2. Literature Review

In recent years, the global mobile payment market has shown a trend of rapid growth, but there are great differences in the development level among countries. According to the "FinTech Report 2021 – Digital Payments" released by Statista, the world's largest digital payment market in 2020 is China, with a digital payment scale of US\$2,496.5 billion, accounting for 45.6%; The second is the United States, with a digital payment market size of US\$1,035.4 billion, accounting for 18.9%; the size of the European digital payment market in 2020 is 919.8 billion US\$, accounting for 16.80%. It can be said that the digital payment industry has gradually become an indispensable intermediate link in electronic transactions, which meets people's increasingly diverse payment and settlement needs. In the field of public transportation, the main payment methods are divided into traditional methods (including cash and IC card payment) and Internet mobile payment (including UnionPay QuickPass, Alipay and WeChat payment, etc.)[2]. The updated face brushing payment has also been piloted in some cities. With the continuous popularity of third-party payment, ordinary people have more choices. Borzekowsk et al.(2014) studied the substitution relationship between different payments. They believe that NFC payment will become one of the most used payment methods in

the future, because it is cheaper and more time-saving, which will seize some market share of other methods such as cash, check, and credit card[3]. Scholar Guo Xu (2013) stated that mobile payment is formed in an environment of multiple trust degrees, and the service providers need to give multiple trust foundations[4]; Wang Liqin (2019) believed that personal mobile payment business is developing rapidly, and payment is gradually changing from card-based is migrated to account-based, and mobile payment and QR code payment relying on mobile communication terminals form an obvious substitute for bank card payment[5].

3. Classification of City Pass Card

The city card is a project that is strongly supported by the state and local governments, and it has developed very rapidly now. The data shows that as of April 2021, more than 260 cities have established their own City pass card business systems, and they have been continuously improved in the process of practice. Of course, due to the differences in the construction and development of cities, the positioning and functional attributes of city cards are also different, and the fields and modes of operation involved have a variety of presentation forms[6]. Based on the investigation in various regions, this paper summarizes the "city-card" mode into the following three categories:

3.1. Single Purpose Bus Card Mode in the Early Stage

The so-called single-type public transportation card is a product designed to facilitate residents' daily traffic activities based on the requirements of relevant local government departments. The scope of use of the card is defined as the field of urban public transport, including bus, subway, expressway service, ferry, etc. At the same time, the government hopes to implement this model, so it gives support to all aspects. However, the limitation of the bus card mode lies in its singleness. For example, when expanding in other fields, it will be limited by the specified scope. Because the government's recognition of this card is limited to public transport and related fields, such as automobile Express repair, road parking, long-distance passenger station, etc., but events similar to other small consumption are not planned, and there is no intention to develop in the direction of diversification, and inclusiveness. The Xi'an bus card in the late 1990s belonged to such a model.

3.2. Expanded Traffic Card Mode in the Second Stage

This mode expands the function of "bus Card", making it not only play a role in the public transportation services, but also become a new payment method. On the basis of ensuring transportation needs, the card can also meet other small-amount consumption needs of consumers in their daily lives. Why the traffic card is expanding towards small-amount consumption: First, the limit of the card has a certain upper limit, which is generally set at RMB ¥1000.00. In view of this, people can only use the card for small-amount consumption; secondly, With the improvement of people's living, the demand for small-amount consumption has also increased sharply. It can be seen that although the amount of a single consumption is relatively small, its frequency is quite high. After analyzing the usage of the whole country, it is found that Guangzhou is the most representative. Yangchengtong card, which was opened in 2001, can be used in all kinds of local public transportation. In addition, local departments have extended its functions. Now the Yangchengtong card has been equipped in the city, such as shopping in major supermarket chains, registering in hospitals, spending in food courts, and helping to recharge mobile phones and many other scenarios.

3.3. Citizen "All in One Card" Mode in the Third Stage

This citizen card mode is also a convenient comprehensive service mode led by the local government and promoted to the whole city. The launch of this model is mainly to meet the payment needs of people in public services. It covers a wide range of fields, including not only urban transportation, but also medical and health care, public utilities and other fields. There are two main reasons for the government to launch this new model: first, it is listed as a kind of project to benefit the people, so that people can save more time in dealing with social affairs; Second, in

response to the national goal of urban digitalization. The main functions of the card include: enjoying public services, generating electronic identification, recording and querying information, handling common social affairs, and making mobile payments. The application of this model is mainly concentrated in the south, among which Hangzhou and Nanjing city are the most representative. Take the Jinling Card launched in Nanjing as an example. Residents who hold the card can use it in many different areas. At present, the card in transportation covers various scenarios such as subway, bus and ferry, and its application in daily life includes taking taxis, shopping in supermarkets, parking outside, and ticket purchase in scenic spots. After launching the Citizen Card, the company began to build a corresponding service platform, which can not only provide more public services, but also become an information center to help the government collect various data to aid decision making. In the future, the company will become a professional institution for the government to provide services to the public, but compared with other institutions, it is unique in that it adopts an enterprise operation.

4. Competitor Analysis of the Third-Party Payment Business of City Card

In recent years, the mobile payment business of Internet companies has developed. Companies like WeChat and Alipay have quickly seized the market share with their strong capital, flow, technology and other advantages. In addition, they have further carried out in-depth cooperation with mobile phone manufacturers to integrate online and offline businesses, effectively increased the layout of mobile terminal online and offline payment scenarios, and deeply expanded users' dependence. For the bank payment business, due to the influence of Internet giants, the market is extremely crowded out, and then passively upgrade and integrate the industry to cope with the erosion and suppression. In this competition environment, the pressure on the city pass card company as a regional mobile payment is huge, which also hinders the development of the offline market.

4.1. Strong Entry of Internet Enterprises such as Wechat and Alipay

IResearch, a domestic market research firm, recently announced the market share of payment platforms and tools of various brands in the third-party payment market in the third quarter of 2019. Among them, the highest is still Alipay of Alibaba, which accounts for 54.5% of the market share, while TenPay (wechat payment) of Tencent has a market share of 39.5%. The total market share of Alipay and TenPay is as high as 94%, which means that the combined market share of third-party payment institutions other than Alipay and TenPay is only 6%. These non-banking payment institutions include Jingdong Pay (online banking online) under JD.com, One Wallet under Ping An, Union Mobile Pay, Wanda Kuaiqian and other brands. It should be noted that the payments provided by major domestic commercial banks are not included. At present, most cities in China use Alipay and TenPay (wechat payment) for public transport payment. The emergence of these payment methods directly affects the overall operation of the physical card. For example, the Alipay platform of Alibaba launched scanning the QR code to pay for the bus taking. When the balance in the bank card account bound by the customer is insufficient, they can also use the Huabei lending platform of its subsidiary company to pay, which greatly facilitates the customer's travel. The dissemination of these new payment have great competitive pressure on the issuance and use of physical city pass cards.

4.2. Integration of Card Payment Business by NFC Mobile Phone Manufacturers

In this information era, people rely more and more on mobile phones. Whether it is for people's study and work needs, or entertainment, consumption and shopping, they are inseparable from mobile phones. In order to grasp the consumer psychology of users, mobile phone manufacturers have continuously cooperated with other ICT hardware and software companies to iteratively upgrade their products to further develop customer needs. NFC is a short-range wireless communication technology, which can be rooted in smart phones through the mutual combination of a chip, an antenna and a set of software, so that smart phones with NFC chips can make mobile

payment. The city Card companies have cooperated with mobile phone operators to launch the air card issuance business. In other words, citizens can replace a SIM card with city Card function in the business hall as long as they use a smart phone compatible with NFC. The smart phone itself has become a city pass card, which realizes a series of functions such as recharge, consumption, riding and bus taking. This also makes it unnecessary for citizens to carry an additional physical card when traveling, and the market share of offline city cards is further compressed.

4.3. Competition among UnionPay, Bank IC card and Cloud Flash Payment

At this stage, banks and UnionPay are also constantly upgrading their businesses. Each bank has integrated online and offline financial services such as IC card payment and transfer, and gradually integrated offline IC card services into online Apps. Banks are actively exploring the binding of online bank IC cards to third-party mobile payment platform accounts by adjusting the merchants' service fees during the transfer period. Like China Merchants Bank and Shanghai Pudong Development Bank, they can directly offset a certain service fee based on user points by taking advantage of customer consumption frequency and the diversification of consumption scenarios. As for the transfer service between bank accounts, in order to reduce the loss of business volume, in December 2017, China UnionPay, together with commercial banks, payment agencies and other industries, jointly developed a non cash collection and payment mobile transaction tool, which was later called "Cloud Flash Payment". This App brings together the mobile payment functions and privileges of various institutions, and also solves the problem of transfer fees. In addition, the app has the function of viewing nearby discounts, and users can check the discounted effectiveness of nearby stores online. This App has maximized the full coverage of the main online and offline payment scenarios for residents' clothing, food, housing, and transportation. And it is widely used in public service industries such as railways, civil aviation, convenience stores, supermarkets, vegetable markets, universities, urban water, electricity and coal. Merchant and customers are all continued to increase. This brings unprecedented challenges to the expansion of urban card payment scenarios.

5. Optimize the Third-Party Payment Competition Strategy of City Card

5.1. Deeply Cultivate Public Transport and Extended Fields

The application in the field of public transportation is the core business and foundation of the city card corporation, so it must continue to consolidate the leading position in electronic payment. In addition, the true "urban transportation card" should fully cover applications including buses, subways, ferries, taxis, light rails, expressways, electric vehicle charging piles, and parking lots. At present, some urban public transportation areas have only achieved the popularization of buses and subways, and other public transportation areas have not been fully covered. The city pass card extends from a single public transportation field to multi-field, and expands service functions to multi-faceted. That means, the services and functions of card should not only meet people's travel requirements, such as public transportation, intercity rail transit, parking charges, gas payment and other transportation services, but also meet people's living requirements, including convenience store, general supermarket shopping, vegetable market, delicatessen, fast food restaurant and other daily life scenes.

5.2. Expand the Public Service Function of Citizen Card

"Urban transportation card" is transformed into a "citizen card", that means, the citizen card should be based on the real name system, take the mobile Internet as the main service method, integrate public service resources in multiple fields through the combination of physical card and mobile Internet, and provide citizens with new service products for identifying personal identity, handling personal related social affairs, enjoying public services, online and offline convenient payment, etc. Citizen cards should adhere to the "Internet +" thinking, integrate multi-field service resources, build a mobile Internet application system, change the application mode of citizen cards

dominated by physical cards, and create a combination of virtual and physical citizen card products[7].Virtual city pass card refers to a virtual electronic card that relies on a third-party payment platform such as wechat and Alipay or an independent app. In other words, the card relies on an intelligent payment device and is highly consistent with the physical card in function.The city card enterprise should build an online and offline integrated citizen card application service system that links government services, public services, business services, financial services, and personal identification, etc. The integration and innovation of industry applications should support the construction of a social public credit system and promote the development of new smart cities.

5.3. Building an Information Sharing Platform Based on Big Data

The city card firm needs to adhere to the principles of openness and sharing, conduct in-depth cooperation with banking financial institutions, municipal units, Internet payment companies, and big data companies through a market-oriented cooperation mechanism, and actively build an information sharing platform based on big data.It is gratifying to see that under the influence of the epidemic situation of covid-19, many cities have begun to integrate public travel payment, itinerary information, and health data to establish an integrated information cooperation platform. By stimulating user flows, The company should actively participates in the construction of smart cities, expands the information sharing platform, and exchanges and shares data (such as financial services, entrepreneurial resources, marketing services, payment services, etc.) with other partners. The participants of the platform are both contributors and users of information, and ultimately satisfy the needs and interests of all parties. The company needs to aim at improving the user payment experience, continue to maintain the network ecological resources with the innovative, open and cooperative Internet thinking, and realize the interconnection of payment services, users, channels and merchants. At the same time, the corporation should also make full use of big data, blockchain and other technologies to provide users with more personalized, rich and convenient services. On the other hand, it can provide useful management data for government regulators to provide better convenience measures.

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