

Does Mobile Payment Make You Spend More?

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Abstract:

In this research, we analyse the incurrence of a popular Chinese mobile payment method (i.e.: Alipay) and its relationship to the aggregated consumer spending in one of the largest convenient store chains that primarily sells every day necessities in the city of Shanghai (i.e.: the second largest city in mainland China) and Taipei (i.e.: the largest city in Taiwan). Controlled for inflation, our data shows that the surge of collective consumer spending on everyday necessities highly correlates with the debut of mobile payment availability. A survey was subsequently conducted. Results show that the convenience of mobile payment reduces the sensitivity to the pay of payment, which leads to an increase of purchase on the everyday necessities. Implications and directions of future research are discussed.

Keywords: Mobile payment, consumer spending, payment method.

Track: Retailing

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1. Introduction

With the wide adoption of smartphone and the mobile payment technologies, smartphone users are becoming more and more used to pay off the merchandise using their phones versus using physical credit cards or checks or cash.

Mobile payment, referring to payment services performed from or via a mobile device (<https://www.statista.com/topics/982/mobile-payments/>), has widely spread throughout the globe, particularly in countries that are early adopters of mobile payment. In fast developing countries such as China, the payment method of mobile payment has deeply penetrated people's daily life. In Chinese cities such as Beijing, Shanghai, Guangzhou, Shenzhen, and others, the usage of mobile payment to complete a business transaction has almost become a standard in a retailing environment. According to the Mobile Payments section of the 2018 China Convenience Store Development Report, more than 50 percentage of the businesses being surveyed reported that in the year of 2017, more than 30% of their business revenue was collected via mobile payment (China Chain Store Franchise Association 2018).

While the ability to pay via smartphone offers convenience to consumers who always have to carry their smartphone to places for the phone's other functional purposes, does the availability of mobile payment also make people spend more? With secondary data and data collected via individual surveys, our research attempts to answer this question.

2. Payment Methods and Pain of Payment

Past research on payment methods and spending behaviour shows that consumers experience different levels of transaction pain depending on which payment method they use (Raghubir and Srivastava 2008; Soman 2003). It was argued that when paying with a more prototypical payment methods such as cash and check, individuals are more likely to feel the transaction pain compared to if the payment method is more implicit. With less feeling of pain paying for purchases, individuals can more likely purchase more, thus spend more in retail settings (Hirschman 1979).

Compared to the more traditional methods of payment such as cash, credit card, and check, mobile devices have a more “disguised” identity being a way that enable people to spend money. Since mobile devices are used for a variety of purposes such as communication, information search, and information storage, we argue that mobile devices’ multiple roles and functions are able to dilute its image as a way to “spend money”. As a result, we argue that consumers will be less likely to feel as much pain when they pay with mobile device versus otherwise. Following the logic of past research that examines the psychological mechanism of why less pain in payment is able to motivate more spending, we argue that mobile payment will gain even more ability to motivate spending compared to the more traditional payment methods.

With this ongoing logic, will consumers be more or less likely to spend if they uses mobile payment verses credit card payment? In today’s spending environment where mobile payment is becoming more mainstream in retail, do consumer spend more or less compared to the conventional ways of payment?

3. Study 1: The Presence of Mobile Payment and Consumer Collective Spending

To understand how mobile payment affects consumer spending, we choose to focus on the spending on everyday necessities as the target purchase type. We argue that individual’s need for everyday necessities are comparatively stable compared to spending in categories such as clothing, housing, transportation, and luxury goods. According to the Baidu Index (see Figure 1) and the Google Index (see Figure 2) of Alipay, mobile payment had its debut in taking over the payment methods share in Shanghai and Taipei from year 2013.

For the popularity of mobile payment in Shanghai, we adopted the Baidu index and searched for the keyword Alipay for the search popularity, as shown in Figure 1. In Figure 1, the left column represents the average of the search heat over the years, and we can assume that when the search heat begins to greatly exceed the average, it is popular for mobile payments. The popularity of Alipay in mainland China was largely achieved by the end of 2013.



Figure 1: Baidu Index of Mobile payment app 'Alipay'.

Correspondingly, as a comparison setting, we also investigated the impact of Taiwan's mobile payments on turnover. For the popularity of mobile payment in Taiwan, we used the google index, the same search keyword "Alipay" for the search heat, as shown in Figure 2. The popularity of Alipay in Taiwan was roughly achieved in 2014, later than in mainland China.

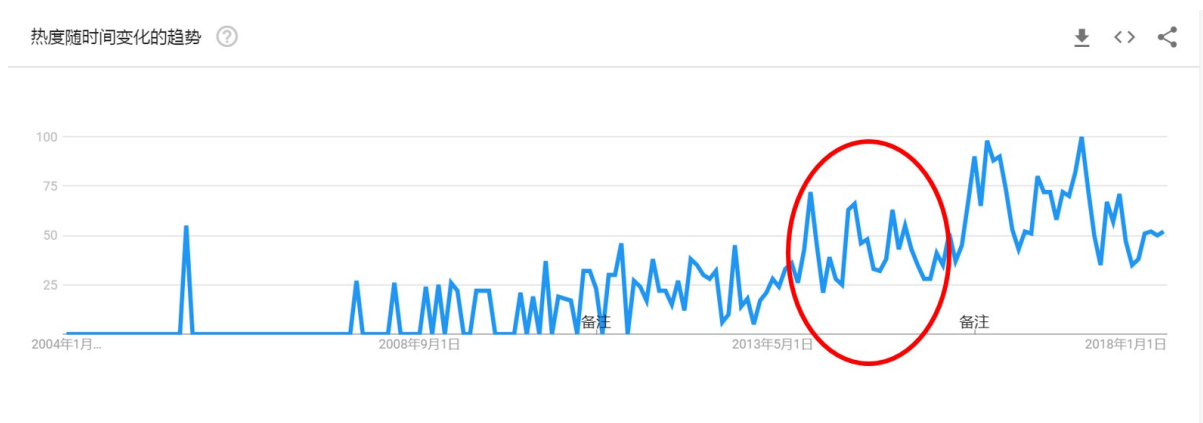


Figure 2: Google Index of Mobile payment app 'Alipay'.

Analysis of operating income of Family Mart in Shanghai

In this study, we obtained retail sales data from one of the largest chain convenient stores that sells everyday necessities in big cities. In particular, we selected Fumanjia (Family Mart) chain convenience store due to its prevalent presence in the cities of Shanghai and Taipei.

For the Shanghai Fumanjia (Family Mart) convenience store, we obtained data from the CCFA, China Chain Store Franchise Association's annual official website about the sales of chain convenience stores. After processing these data, we obtained the average store sales (Figure 3) and sales growth of the Shanghai Fumanjia (Family Mart) convenience store in 2011-2017 (Figure 4). Among them, after the increase in sales over the years (Figure 3 blue line chart) to eliminate the impact of market factors (ie. inflation), the orange line chart of Figure 3 is obtained. As can be seen from the two figures, from 2012 to 2013, the company's sales have a significant increase, which is in line with the time when mobile payment apps such as Alipay are popular in mainland China.

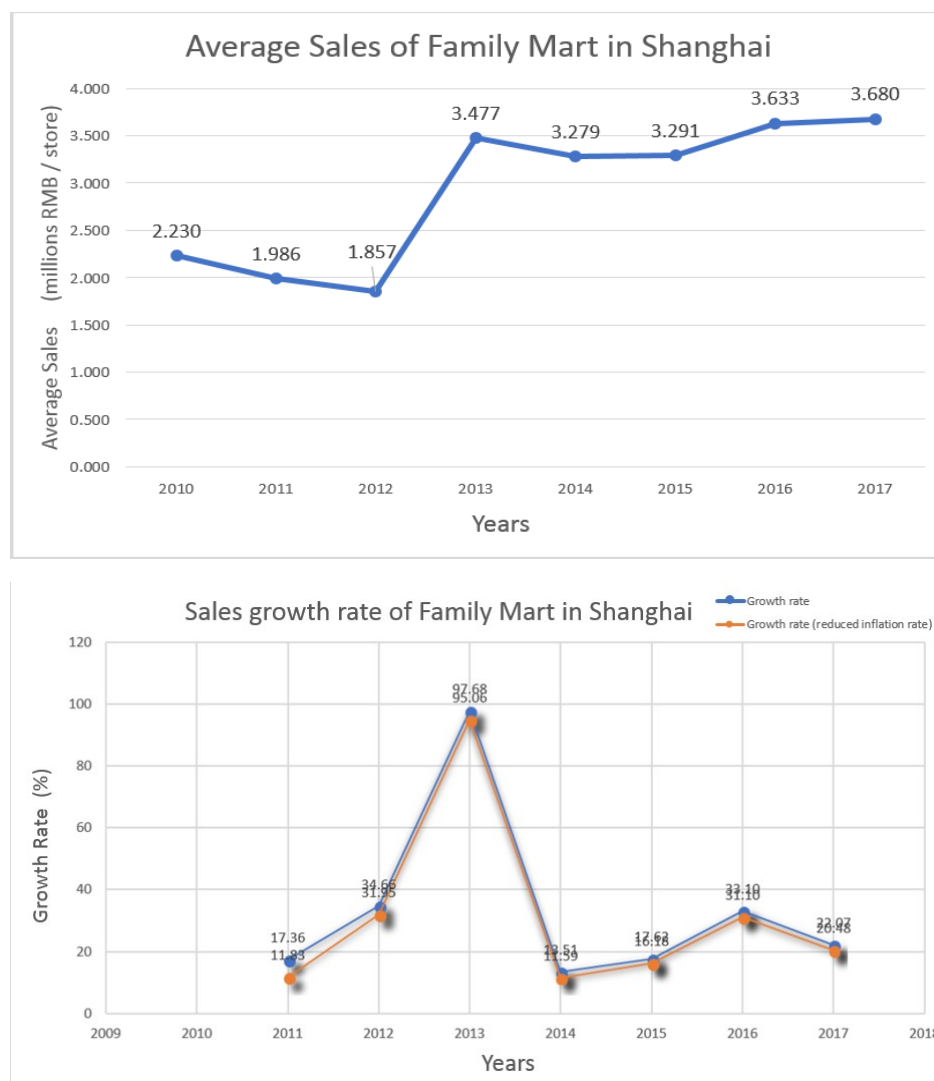


Figure 3: Average Sales per store of Family Mart in Shanghai.

Figure 4: Sales growth of Family Mart in Shanghai.

4.2 Analysis of operating income of Family Mart in Taiwan

For Taiwan Fumanjia (Family Mart) Co., Ltd., we have obtained data from the published annual reports of listed companies. After the data was processed, we also obtained the store revenue (Figure 5) and the increase in operating income (Figure 6) of the Taiwan Fumanjia (Family Mart) convenience store in 2000- 2017. Among them, Figure 6 is consistent with Figure 4, which also shows the revenue growth rate chart and the impact of the market inflation rate. As can be seen from the two figures, since 2014, its operating income has also increased compared with the previous year, which coincides with the time when mobile payment apps such as Alipay are popular in Taiwan.

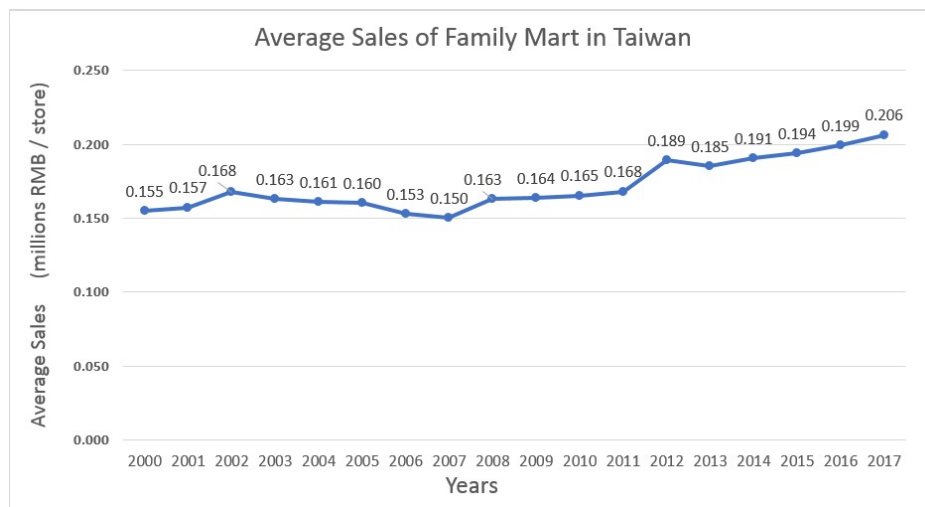


Figure 5: Average Sales per store of Family Mart in Taiwan.



Figure 6: Sales growth rate of Family Mart in Taiwan.

Based on the above analysis of the convenience stores in Shanghai and Taiwan, we believe that it is entirely possible to confirm that mobile payment methods can stimulate consumer spending behavior. It is mainly reflected in the increase in sales,

especially the daily consumption of chain convenience stores.

5. The impact of mobile payments on consumer spending

For the change of consumer psychology brought about by the popularization of mobile payment methods, we conducted a series of survey statistics and analysis by issuing a questionnaire on the investment survey of mobile payment in the Family Mart to the Shanghai area. A total of 320 questionnaires were collected in the survey, of which 268 were valid questionnaires. Among the respondents, males accounted for about 47% , 151; females accounted for about 53%, 169; and the age level is mainly between 18 and 27 years old, accounting for 73% of the total, belonging to Shanghai The main age level of the city's population. The content of the questionnaire is mainly divided into two parts, the basic consumption situation and the consumer psychology part.

5.1 Basic consumption situation

First, the respondents had to visit the Family Mart about 5.3 times a week on average, and the average cost per visit to the Family Mart was about 19 yuan, and the average weekly cost was as high as 68 yuan. Among them, 63% of respondents considered themselves to be frequent visitors to the convenience store of the Family Mart. The above data reflects the proportion of the convenience store in the daily life of the Family Mart in Shanghai, and its sales are representative. Moreover, up to 90% of the respondents in the Family Mart are mainly paying for mobile payment, while for mobile payment, the use of all forms of consumption is extremely low.

Secondly, among all the respondents' consumption content, food (including 42% of fast food, 12% of beverages and 31% of snacks) accounted for 85% of the total, while daily necessities and other categories consumed less. Among them, the respondents believe that the most rational consumption of different types of products is shown in Figure 7. From Figure 7, it can be roughly seen that the main cost in fast food products is concentrated at 11-20 yuan, while the other types are mostly lower than 10 yuan; thus consumers can be considered to be in a chain convenience. The

types of consumer products purchased in the store are fast food.

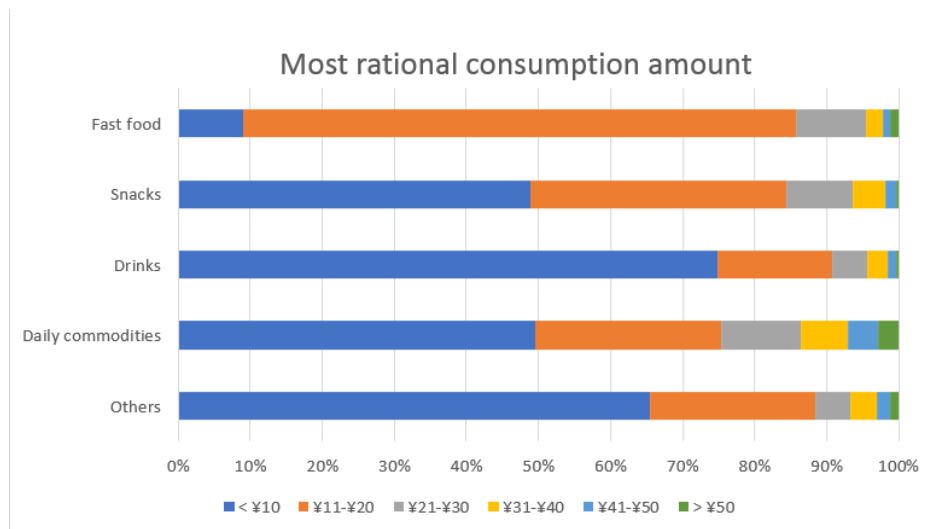


Figure 7: The most rational consumption of different types of products

In addition, 50% of respondents reported that they had expectations for consumption at the convenience store, and only 30% thought they would spend more than they expected when they consumed the Family Mart. After they saw the consumer bill, only 26.8% of them thought that their actual consumption exceeded actual needs. However, in fact, by collecting respondents' mobile payment bills for the Family Mart in June 2018 (Alipay and WeChat e-consumption bills), it was found that about 63% of all respondents were in a single Family Mart consumption. Both have exceeded their consumption expectations, and the average ratio exceeded the expected amount reached 33.5%. For the frequency of consumption, about 78.6% of the people spend more than the necessary weekly consumption in the Family Mart than they think are the weekly rational consumption, and the average is 94% higher than the rational value. This data shows that when people use mobile payment, they will unconsciously spend more than expected and impulse consumption.

5.2 Consumer psychology

In the survey of subjective feelings when using mobile payment, 87% of respondents admitted that mobile payment made them feel that payment was very convenient. As for the feeling of spending money brought by mobile payment, only 30% of the respondents think that spending money is not strong, and most of the others said they have clearly realized that they are paying for the bill. Therefore, even if mobile consumption is already very convenient, it still cannot completely eliminate the perception that people are spending money.

48% of respondents said that there was no strong paying pain in the process of using mobile payment in the convenience store of the Family Mart; on the other hand, 59% of the respondents said that in the process of using mobile payment in the convenience store of the Family Mart, There is no consumption thrift caused by strong spending. Although people still realize that they are paying for consumption, due to the convenience brought by mobile payment, the small amount and high frequency of daily shopping in chain convenience stores make consumers feel emotionally in daily consumption. The lack of consumption pleasure is greater than the loss of pain.

For the rest, those who still have a strong sense of consumption, mainly think that the pain of consumption is "the money will be distressed", and a few said that the time still required for payment is also a factor. Most people think that the thrill of consumption is mainly due to the fact that spending money can buy what they want and spend money to be happy.

5. Conclusion

In summary, mobile payment has a great impact on people's consumption behavior and consumer psychology. The increase in the turnover of chain convenience stores is roughly consistent with the popularity of mobile payment software, and can be verified in the analysis of the survey of mobile payment experience in the convenience store in Shanghai. The convenience brought by mobile payment has indeed greatly increased the amount of people's single purchase and the frequency of shopping. Among them, compared with the single consumption amount, people are more likely to realize the increase in their own consumption frequency in the convenience store. Secondly, the mobile payment method will reduce the consumer perception when paying, which is reflected in the loss of pain and the pleasure of consumption. We believe that the reason behind this emotion is the convenience of mobile payment and the reduction in the amount of micro-payments in daily life and the increase in frequency.

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