EXAMINING DETERMINING FACTORS BEHIND THE MAINLAND CHINA'S DUOPOLY MOBILE PAYMENT MARKET: ALIPAY AND WECHAT PAY

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Abstract - This paper examines why mainland China's e-payment market is dominated by only two platforms, Alipay and WeChat Pay, where the country's population is large and its digital economy has been rapidly expanding. With a platform ecosystem and network effects framework, this paper argues that the two services became dominant not simply because they were technologically efficient payment tools. It is because they were embedded in broader digital environments that reinforced user adoption. Alipay grew out of Alibaba's e-commerce and financial ecosystem whereas WeChat Pay developed within Tencent's social messaging network (WeChat). In this regard, each platform had distinct pathways to development and retention. This paper also shows that consumer behavior is shaped by context, habit, and convenience. Users select payment methods according to transaction type and the digital setting in which a payment occurs. The analysis suggests that ecosystem integration, network effects, and everyday user routines explain why mainland China's mobile payment market converged on duopoly.

Keywords - E-payment Adoption, Platform Ecosystem, Network Effects Alipay, WeChat Pay.

I. INTRODUCTION

China's mobile payment market is often highly competitive. Yet, it is essentially dominated by only two major platforms: Alipay and WeChat Pay (Parasol, 2022). This paper argues that their dominance is best explained through a platform ecosystem (Hein et al., 2020)and network effects(DiMaggio & Garip, 2012)framework. This shows how digital payment services become rooted when they are embedded in a broader commercial and social environment. Rather than functioning as isolated payment tools, Alipay and WeChat Pay became central to everyday life because they were integrated into large digital ecosystems. That in turnreinforces habitual use and repeated transactions (Bailey et al., 2017; Nath et al., 2013; Wu & Kuo, 2008).

II. LITERATURE REVIEW

Research on mobile payment adoption generally finds that users are more likely to adopt a payment platform when it is convenient, trustworthy, and easy to incorporate into daily routines(Nath et al., 2013). Adoption is commonly explained through behavioral factors such as perceived usefulness, perceived ease of use, and habit(Bailey et al., 2017; Hsu & Lu, 2004). These findings are important for the present study because they suggest that the success of a payment system is not determined only by technical features. It is also explained by how well it fits into everyday consumer behavior(Hsu & Lu, 2004).

A group of literature emphasizes the role of network effects in platform markets(Belleflamme & Peitz, 2018; Dou & Wu, 2021). In payment systems, the value of the platform increases as more users and merchants adopt it(DiMaggio & Garip, 2012). This creates a self-reinforcing cycle. Consumers prefer the platform that more merchants accept and merchants prefer the platform that more consumers already use, e.g. Uber Eats. Gradually, this dynamic can produce market concentration that make it difficult for smaller competitors to survive(Wei et al., 2023).

Another family of research focuses on platform ecosystems(Hein et al., 2020). Alipay and WeChat Pay are not simply payment tools. They are embedded in larger digital environments. Alipay is closely tied to e-commerce and financial services whereas WeChat Pay is integrated into social messaging and everyday communication. Since users already spend time in these ecosystems, payment functions become more convenient and likely to be used repeatedly.This inclusion of features strengthens platform loyalty (Clauss et al., 2019)and makes switching more costly(Burnham et al., 2003).
Studies of consumer behavior in China further show that payment choice is context dependent (Fram et al., 2004; Zhou et al., 2021). Users often select Alipay or WeChat Pay based on the transaction type, social setting, and personal habit. For example, Alipay may be preferred by shopping or financial management whereas WeChat Pay may be preferred for peer-to-peer transfers or informal payments. This suggests that the two platforms are not complete substitutes in everyday use even though both dominate the market. Instead, they serve different behavioral and situational needs(Duncan, 1998; Hagger et al., 2006).
The literature indicates that the dominance of Alipay and WeChat Pay is best explained through the interaction of ecosystem integration, network effects, and consumer behavior. However, fewer studies

explicitly connect these three factors in single researchon why mainland China has converged on only two dominant e-payment platforms. China consists of very large population of around 1.4 billion (Worldometer, 2026)and digital market around US$7.5 trillion (Asia, 2026). This paper addresses that gap by examining how platform ecosystems have shaped user behavior and lead to market concentration.

III. THEORETICAL FRAMEWORK

This paper adopts a platform ecosystem and network effects framework to explain why Alipay and WeChat Pay became the two dominant e-payment methods in mainland China. It is posited that payment platforms do not grow in isolation. Their value increases when they are embedded in wider digital environment that already consists of users, merchants, and repeated activity. Alipay is closely tied to commerce and financial services whereas WeChat Pay is embedded in social communication and messaging. Thus, each platform benefits from a different type of ecosystem support.

Within the proposed framework, ecosystem integration is first key factor to consider. A platform becomes more useful when it connects payment functions to services that people already rely on, such as online shopping, social interaction, bill payment, and peer-to-peer transfers. This creates an advantage because users are not only paying. They are operating inside an existing digital routine(Keister & Lewandowski, 2017; Schnauber-Stockmann & Mangold, 2020). Gradually, this routine makes the platform even more convenient and difficult for competitors to replace it(Salehi et al., 2012).

Anotherkey factor is network effects. As more consumers use Alipay or WeChat Pay, more merchants are encouraged to accept them. And, as more merchants accept them, the platforms become even more valuable to consumers. This positive feedback loop within network effects helps explain why the market has consolidated around two dominant players rather than fragmenting among many smaller ones. In other words, adoption reinforces acceptance and acceptance reinforces adoption(Martín-García et al., 2019). This framework also connects directly to consumer behavior. Users do not choose payment apps randomly. They select them based on habit, convenience, and the digital environment which the transaction occurs. Alipay is often more closely associated with shopping and financial transactions whereas WeChat Pay is often used in social or everyday contexts. The current research framework therefore helps explain not only why these two platforms dominate but also how they remain relevant in daily life.

IV. DISCUSSION

4.1. Parent Ecosystem

Alipay and WeChat Pay emerged from two different digital ecosystems. That difference is essential to understanding their digital payment dominance in mainland China. Alipay developed within Alibaba's e-commerce environment where users were already engaged in online shopping and financial transactions(Schmuck & Benke, 2020). WeChat Pay, by contrast, grew inside Tencent's social messaging platform (WeChat)(Tang, 2019). It gave immediate access to large and highly active user base. Because of these different origins, each platform entered everyday life through a different pathway.

Alipay's early growth was closely linked to the trust issue in Taobao and the need for reliable third-party payment system(Kwak et al., 2019). Its role expanded as Alibaba's platforms became central to online retailing and digital finance. WeChat Pay's rise was tied to the popularity of WeChat as communication tool(Montag et al., 2018). It meant that payment functions were introduced into WeChat people already used regularly. This made paying friends, splitting bills, and making small purchases convenient.

Gradually, both platforms moved beyond simple payment processing and became part of larger digital routines. They are not just payment tools but gateways into broader service ecosystems that include shopping, transfers, utilities, and other daily functions. This background helps explain why the Chinese market consolidated around two dominant platforms.Each one was reinforced by powerful parent ecosystem that increased user dependence and reduced the motivation of switching.

4.2. Ecosystem Effects

The concept of ecosystem effects helps explain why Alipay and WeChat Pay became so deeply embedded in everyday life. A payment platform becomes more valuable when it is connected to other services that users already depend on. It is because each additional function increases the usefulness of platform(Benlian et al., 2015). Alipay benefits from its strong connection to commerce and finance whereas WeChat Pay benefits from its integration with social communication. In both cases, the payment service is not isolated. It is part of much larger digital environment.

These ecosystem effects create a reinforcing cycle(Rong et al., 2013). As more users adopt a platform, more merchants and service providers are motivated to support it. In turn, it increases the platform's usefulness for consumers. This dynamic helps explain why the market did not fragment into many competing payment systems. Instead, it

concentrated around two platforms that were already embedded in the most important digital habits of Chinese consumers. The more integrated the ecosystem, the harder it becomes for alternative payment methods to compete.

4.3. Consumer Behavior

Consumer behavior is another perspective of the explanation because platform dominance depends on how people use payment services in daily lives(Jih, 2009). Users do not simply choose between Alipay and WeChat Pay because of technical quality. They choose based on context, routine, and convenience. For example, Alipay is often associated with shopping, structured payments, and financial management. WeChat Pay is often used for peer-to-peer transfers and socially embedded transactions.

The above behavior is shaped by habit(Lin et al., 2017). Once a consumer becomes accustomed to using one platform in particular setting, that choice tends to be regular. A person who shops frequently on Alibaba-related platforms, e.g. Taobao, may naturally rely on Alipay. Someone who spends much of the day in WeChat may prefer WeChat Pay because it is already integrated into communication. In this vein, consumer behavior is not separated from the ecosystem. Instead, it is produced by it. The platforms succeed because they fit smoothly into the routines and expectations of users(Schnauber-Stockmann & Mangold, 2020).

V. CONCLUSION

The dominance of Alipay and WeChat Pay in mainland China cannot be explained simply by technical innovation. Their success is better understood through platform ecosystem and network effects model. This shows how digital services become dominant when they are embedded in everyday commerce and communication. Alipay and WeChat Pay did not merely process payments. They became part of the digital environments which Chinese consumers live, shop, and interact. That is why, despite China's vast populationand large digital market, the e-payment landscape remains concentrated around two dominant platforms.

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