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PROJECT

Theme: «**The Chinese Digital Payment Market: A study on Alipay's Strategic Position and User Acceptance**»

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Abstract

The digital payment landscape in China has experienced a remarkable transformation, driven largely by platforms like Alipay. Since its inception in 2004 by Alibaba Group, Alipay has grown into one of the most dominant players in the Chinese market, influencing not only payment systems but also the global expansion of financial services. This report examines Alipay’s strategic positioning, user adoption, and competitive advantage in the Chinese digital payments ecosystem.

Alipay's success can be attributed to several factors, including the network effect, technological innovation, and strategic partnerships. The platform has continuously evolved, offering a variety of services beyond payments, such as wealth management and loans, which have further entrenched its position in users' daily lives. Alipay’s dominance is further solidified by its ability to retain high levels of user trust, convenience, and security, which are critical in the financial technology sector.

The research focuses on Alipay’s strategic development, user engagement strategies, and comparison with competitors like WeChat Pay. Additionally, a survey of Kazakh students studying in China provides insight into Alipay’s cross-border use through Kaspi.kz, highlighting its adoption in international markets.

This report concludes that Alipay’s dominance is not only a result of its innovation but also its ability to build a strong and loyal user base. Its network effects, coupled with user-friendly features and strong security measures, have positioned it as a leader in the global digital payments industry

Introduction

The rapid growth of digital payments in China has transformed the way individuals and businesses handle financial transactions. Among the many platforms available, Alipay stands out as one of the most influential and widely used systems. Launched by Alibaba Group in 2004, Alipay has grown from a simple online payment tool to an integrated digital wallet that offers a wide range of financial services. Today, Alipay dominates the Chinese market and plays a critical role in the global expansion of digital financial services(Liu, R., 2015). Payment systems in China have reached unprecedented development today: the country occupies a leading position in the volume of non-cash payments in the world, ahead of even the United States. Payment for goods, services and donations has been transferred to a convenient contactless format. At the same time, international systems are not popular in China, which complicates doing business with suppliers from the PRC (People's Republic of China). National payment systems are used to conduct mutual settlements in the Celestial Empire (China has another unofficial name — the Celestial Empire ("Tianxia").). If you plan to cooperate with Asian manufacturers, it is important to know about the main "players" in the financial industry.(O'Connell, B., 2020) This research aims to explore the strategic positioning of Alipay within the Chinese digital payments market, as well as the factors that have led to its widespread adoption by users. With a focus on the strategies implemented by Alipay, such as partnerships, user engagement, and technological innovations, this study seeks to understand how Alipay has managed to stay ahead of competitors like WeChat Pay. Additionally, the research will investigate how users' trust, convenience, and seamless user experience have contributed to the platform's success.

The topic of the study is relevant for several reasons. First, the digital payments market continues to develop rapidly, and China is a leader in this sector due to the widespread implementation of fintech solutions and innovative technologies. Alipay, as one of the largest platforms, has had a significant impact on the daily financial transactions of millions of people, providing convenience, security and

speed of payments. Analyzing Alipay's strategies and experience allows us to understand what approaches can be applied in other countries or in similar digital ecosystems.

Second, against the backdrop of increasing globalization and digitalization of the economy, many countries are striving to replicate China's success in the field of cashless payments. Alipay's experience is valuable for developing national and international strategies for the implementation of digital payments, which makes this study especially relevant.

In addition, the issue of trust and user acceptance of new financial technologies remains relevant all over the world. In the context of constantly changing consumer behavior and increasing competition among fintech companies, it is important to study how companies like Alipay succeed in retaining and attracting users.

Kazakhstanis no longer need to carry cash or cards when traveling to China. Thanks to the Kaspi.kz mobile super app, they can now make payments effortlessly in Chinese stores, restaurants, taxis, and at over 80 million other locations across the country using a QR code. Mikhail Lomtadze, CEO and co-founder of Kaspi.kz, shared his excitement: "Many of our customers work, study, and vacation in China. We regularly receive feedback from them, expressing how convenient it would be to pay abroad just as easily as they do at home. That's why, in collaboration with AliPay+, we have introduced a new service tailored for Kazakhstanis. Now, with the Kaspi.kz mobile super app, purchasing goods in China has become as simple as scanning a QR code. We sincerely appreciate our partner AliPay+ for their support, and we are grateful to our valued customers for their trust in us." Venetia Lee, Greater China General Manager at Ant International, also commented on the partnership: "Alipay+ is delighted to collaborate with Kaspi.kz, Kazakhstan's first and leading super app, to provide a smooth and hassle-free mobile payment experience in mainland China for Kaspi.kz users. This cooperation will improve the shopping and travel experience for our users. We remain committed to advancing our technology and enhancing service quality to strengthen global connections through

tourism, commerce, and trade.” Making a payment is simple. Just open the Kaspi.kz app, choose the AliPay+ service, and let the merchant scan your QR code. Alternatively, you can scan the merchant’s QR code yourself.

The purpose of this project is to analyze how Alipay has established itself as a leader in the digital payment space through effective business strategies and technological innovation. By examining the platform's evolution, market share, and user engagement, this study will shed light on how Alipay has not only reshaped the payment landscape in China but also set the stage for the future of global financial technology.

Research Objectives:

1. To analyze Alipay’s strategic approaches to market development.
2. To examine how technological innovation and usability have influenced user adoption.
3. To compare Alipay with its major competitors in the market, such as WeChat Pay.
4. To identify factors that influence high levels of user trust and satisfaction.

The novelty of the study lies in its in-depth analysis of how Alipay’s specific strategies and technologies have contributed to its dominant market position despite intense competition. Although the digital payment market in China has been extensively studied, the work will focus on new data on Alipay’s interactions with users and their experiences, which will help to better understand the key factors behind the company’s success.(Lin, R.; Xie, J., 2014).

The study is based on articles and studies devoted to the study of digital payments and the Chinese fintech market. The most complete and detailed study of the digital transformation process of the Chinese banking sector is currently being conducted mainly by Chinese and Western experts, in particular, researchers Z. Shu, S. Tsang and T. Zhao examine the digitalization processes of Chinese banks and the intensification of competition between banks and new digital financial intermediaries.

In their work authors J. Strauss and L. Zuo analyze the impact of investments in technology by Chinese banks on their economic efficiency.

This work consists of 30 pages and includes 3 main sections, in addition to the introduction and conclusion. The bulk of the research will be devoted to the analysis of Alipay's strategic position in the Chinese digital payment market and its level of user adoption(Pawar, P., 2024.). In each section, the research will focus on specific aspects of the company's activities.

Since Kaspi.kz can be used in China, a study on the use of the application among our students there was conducted, which is a topic that had not been investigated until now. Due to this, the implementation of the research project caused some difficulties. During the research, a survey was conducted. Ten students from Kazakhstan who were studying in different parts of China were chosen for it. The survey was anonymous.

The purpose of the survey to evaluate the usability of Kaspi Kz by determining how young people in China use the Alipay application.

Subjects of the research: 100 students from Kazakhstan studying in China. 70 of them were male, 30 were female.

The questionnaire consisted of 70 main questions that focused on evaluating the use and functionality of the program.

However, in order to stay focused on the main topic, the research was conducted within the framework of a survey conducted in the People's Republic of China. The survey was written by students from the School of Management at the University of Science and Technology of China, Jing Wang, Shanyong Wang and Yu Zhou, and was conducted in 2019(Li, J.; Wang, J.; Wangh, S.; Zhou, Y., 2019). Based on this survey, the analysis was performed.

1. Connecting Alipay's Success with Key Business, Marketing, and Technology Theories

1.1. Introduction to Theoretical Connections

In 1985, the Bank of China Zhuhai branch introduced the "Bank of China Card 185," marking the debut of the first bank card in China. A year later, in 1986, the Bank of China launched the Great Wall Card, becoming the pioneer in issuing credit cards in the country. Moving forward to 1998, China successfully executed its first online banking transaction. In the same year, China Merchants Bank rolled out the "One Netcom—Online Payment" service, establishing the country's first functional online banking platform. By 1999, Shao Yibo had founded eBay China, positioning it as the first Consumer-to-Consumer (C2C) marketplace in the region. In 2002, China UnionPay came into existence, bolstering the payment infrastructure across the nation. With substantial technical assistance from Visa, UnionPay's transaction system quickly gained widespread acceptance among Chinese consumers. The landscape of digital payments took a transformative turn in 2003 when Alibaba, under the leadership of Jack Ma, introduced Alipay as a payment solution. The following year, in 2004, Alipay detached from Taobao and evolved into an independent third-party payment service provider. A decade later, in 2013, WeChat introduced its payment function, further revolutionizing the mobile payment industry. The development of China's digital payment platforms can be segmented into three key phases: the era of internet banking, the emergence of third-party financial services, and the integration of mobile payment solutions. Based on the most recent statistics from App Annie, Alipay has become the largest non-social application globally. Additionally, Yi Guan's "China Quarterly Monitoring Report on Third-Party Mobile Payment Market in Q4 2018" highlights that in the last quarter of 2018 alone, third-party payment platforms facilitated transactions worth an astonishing 47.2 trillion yuan within China. Among these platforms, Alipay held a dominant position, accounting for 53.78% of

the market share, further solidifying its leadership in the industry. Notably, Alipay's share in the third quarter of 2018 experienced an 8-basis-point increase. Together, Alipay and Tencent Financial (which includes WeChat Pay) collectively controlled 92.65% of the overall mobile payment sector, reflecting an increase of 12 basis points compared to the previous quarter. Alipay, in particular, demonstrated a consistent upward trend, expanding from a 53.63% market share in Q2 2018 to 53.70% in Q3, and eventually reaching 53.78% in Q4. This progressive increase underscores Alipay's continued dominance in the sector, quarter after quarter. The Alipay ecosystem has played a crucial role in strengthening the stability of the payment industry while simultaneously fostering its expansion. Its seamless integration into everyday financial transactions encourages a growing number of users to adopt the platform for various payment-related needs. This trend has contributed significantly to Alipay's expanding reach and influence. According to the most recent data disclosed by Alipay, the platform, along with its affiliates, now serves over 1 billion users worldwide. Within China alone, Alipay's user base has been experiencing an annual growth rate exceeding 50%. As a leading force in the digital payment industry, Alipay exemplifies the practical application of economic, technological, and strategic business principles. Since its establishment in 2004, the platform has undergone remarkable expansion, evolving from a basic online payment tool into a multifaceted financial ecosystem that connects millions of consumers and businesses(Davis, F. D., Bagozzi, R. P., & Warshaw, P. R., 1989). This ascent is not coincidental; rather, it is a result of calculated business strategies, innovative marketing efforts, and advancements in technology that have propelled Alipay to the forefront of the global fintech sector.

1.2. The Network Effect and Metcalfe's Law

Network effects occur when the value of a product or service increases as more people use it. This principle, also known as Metcalfe's Law(Metcalfe, R., 2013.) ,

suggests that the utility of a network grows exponentially as more users join. For Alipay, the growth in its user base directly boosts its appeal, as more merchants and consumers become integrated into its system, creating a cycle that attracts even more participants. This self-reinforcing mechanism has been crucial to its success in China's digital payments ecosystem.

A phone network consisting of 10 users has a utility value of 100, whereas a network with 100 users would have a utility of 10,000. However, this initial estimation was later adjusted, and now the utility of a network follows a logarithmic function: utility = n × log(n). This model is illustrated in Figure 1. Under this framework, a network with 100 users would yield a utility of 100 × 2 = 200, meaning its total utility would amount to 200 units. According to students from SUNY Buffalo State College who examined this concept, the precise mathematical formula is not the critical point. The fundamental idea is that as more individuals adopt a communication medium—be it a telephone, fax machine, railway system, or Web 2.0 platform—the network itself gains value, leading to increased adoption by others. This self-reinforcing process creates a positive feedback loop, drawing in even more participants. For instance, when choosing between a regional cable television provider and a satellite TV service, individuals often consider which option others are selecting. This demonstrates a phenomenon known as network externality or network effect. When the popularity of a particular service influences consumer decisions, it leads to a scenario where the value of the network grows as more people join. Whether it is social media, digital platforms, or traditional communication networks, the attractiveness of a service is often determined by its user base. As more people participate, the service becomes increasingly appealing, reinforcing its position in the market.

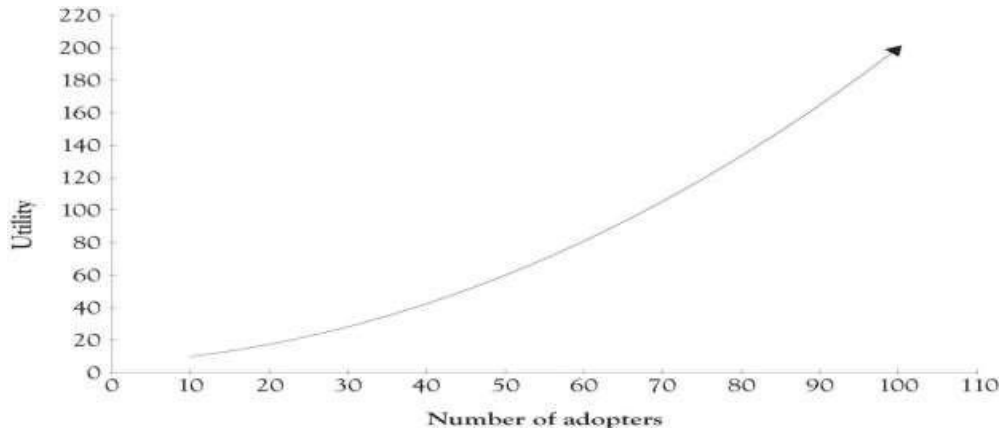

Fig. 1 - The Size of the Network Increases the Value of the Network

Alipay also expanded its services beyond simple payments, offering services like wealth management, loans, and insurance, which incentivized more users to join and stay within its ecosystem. This diversification helped Alipay create a network effect across multiple industries, further boosting its value.

1.3. Payment systems

One of the payment system created by the Chinese government in 2002 is UnitPay. A bank account (card) is used to make payments. UnionPay China has gained popularity not only in China, but also throughout the world. Today, transactions of this payment system are accepted in more than 180 countries around the world. Not long ago, Union Pay transfers using QR code scanning (like Alipay and WeChat Pay) and one-touch payments (similar to Apple Pay and Google Pay) were introduced. Alipay is a national payment system of China, launched in 2003 by the trading giant Alibaba Group. Initially, it was intended exclusively for mutual settlements within the Taobao marketplace. However, after a few years, every resident of China knew what Alipay was — the system became widely used to pay for goods and services, and to make online and offline payments. Today, large payments via Alipay are made mainly using QR codes. The buyer goes to the payment system application and scans the image, where the basic information about the seller's account is already encrypted. Another option is possible: the seller scans

the QR code that appears on the buyer's smartphone screen when making a transaction, but this method is usually used for offline purchases. In addition, a number of payments can be made directly in the application. Alipay has long been trying to enter the international arena — this would significantly simplify the registration of purchases on Chinese marketplaces, and would allow it to acquire partners in the face of the largest banking systems in the world. But this process is very slow due to the strict regulatory policy of the government and the financial apparatus of China, which exercise strict control over the outflow of money abroad. For this reason, it is still difficult for non-residents of the country to take advantage of all the benefits of Alipay.

It is noteworthy that you can view the full catalog of goods on Taobao and Tmall only after registering in the Alipay system. Fortunately, the process is free and you can go through it yourself, based on the step-by-step instructions on their website. At the same time, it is not necessary to top up your own account in the system in advance - you can transfer money to the seller from any bank card (Visa, Mastercard) with a commission of 3% of the purchase price.

WeChat Pay payment system. Although WeChat Pay is the youngest payment system of all listed, it already occupies the lion's share of the electronic payment market in China.It all started in 2011 with the launch of a mobile application called Weixin. It was soon renamed WeChat for promotion on the international market. Today it is a large application that combines the functions of a messenger, an electronic payment system, an entertainment platform and an environment for promoting business

The ability to create your own digital wallet appeared for WeChat users in 2016. The new product was received with enthusiasm, as the payment system allowed you to link your own account on the social network to your bank account. Thanks to this, it became possible to instantly conduct a variety of transactions: transfers between users, account payments, purchases within the messenger, orders on websites with WeChat Pay support. Today, payments through this electronic

system are accepted by almost all online and offline stores in China(Thomala, L. L, 2025). WeChat, along with its proprietary payment tool, is actively developing in the international arena. More and more users in Europe, Asia and the United States choose this application for communication and using an online wallet. Today, the payment system supports 13 different currencies and operates in 25 countries. To use this payment system, you need to register in the WeChat social network. This process itself is simple, but only another, current user can help you complete the account registration! After entering the necessary information, you will receive a QR code, which a person willing to become a kind of guarantor must scan with their gadget. Such a user is responsible for your compliance with the rules of the social network, and in case of problems, their account will be subject to penalties up to and including complete blocking.

The threat of substitutes is moderate and primarily comes from emerging technologies such as digital currencies and blockchain-based payment solutions. In particular, the digital yuan, a government-backed digital currency, could pose a challenge to both Alipay and WeChat Pay if it gains widespread adoption. While these technologies are still in their early stages, they could become viable alternatives as China continues to digitize its financial system. However, Alipay's vast ecosystem and loyal customer base provide a buffer against these emerging substitutes for the time being.

By analyzing these forces, it's clear that Alipay's dominant position in the market is secured through a combination of strategic advantages, high entry barriers, and limited buyer and supplier power. However, it must remain vigilant in the face of evolving technologies and competition from established rivals like WeChat Pay.

Alipay plays a pivotal role in enabling financial transactions, acting as a key mechanism that mirrors real economic activities. The rise of the digital economy, the expansion of the sharing economy, and the continuous growth of e-commerce are all closely connected to the infrastructure provided by mobile payment systems.

In 2018, China’s digital economy reached a total value of 31.3 trillion yuan, reflecting a nominal annual growth rate of 20.9% and accounting for 34.8% of the country’s GDP (China Academy of Information and Communications Technology, White Paper on China's Digital Economy Development and Employment, 2019). In 2017, the transaction volume of China’s sharing economy stood at approximately 4.9 trillion yuan, representing a 47.2% increase compared to the previous year (Annual Report on China's Sharing Economy Development, 2018, National Information Center). The rapid expansion of the digital economy not only stimulates economic growth and enhances the structure of various industries but also transforms conventional business models in the real economy. Mobile payment solutions facilitate a closer integration between digital and traditional economic sectors, fostering an interconnected ecosystem where online and offline industries merge, leading to a continuously evolving industrial framework that accelerates economic advancement.

Alipay has significantly contributed to the marginal expansion of e-commerce. According to statistics from the National Bureau of Statistics, by December 2018, total online retail sales of goods and services reached 9 trillion yuan. The share of online transactions within the overall retail market has been steadily increasing. More specifically, the percentage of physical goods sold through online retail platforms, relative to the total retail sales of consumer goods, grew from 10.8% in 2015 to 18.4% in 2018, marking a 7.6 percentage point increase. The development of mobile payment technologies has reinforced the digital economy’s role in shaping modern commerce. By offering seamless and efficient transaction services, Alipay and similar platforms ensure that digital and real economies remain deeply interwoven, fostering sustainable economic momentum.

Inclusive finance focuses on empowering disadvantaged populations, ensuring that the benefits of economic development are accessible to all. It serves as a tangible expression of the modern development paradigm, fostering equitable growth. One of the primary hurdles in advancing inclusive finance in China today is addressing the

financial service demands of economically weaker rural regions. The expansion of mobile payment technologies presents a viable solution to this issue.

In contrast to conventional banking and payment systems, mobile payment solutions drastically reduce transaction costs and enhance the efficiency of capital flow in remote and underdeveloped rural areas. Data from the China Payment and Clearing Association indicate that the number of mobile internet users in rural regions is both substantial and increasing at a rapid pace. Additionally, the near-universal availability of wireless communication networks has helped narrow the digital gap between urban and rural communities. This widespread connectivity creates a favorable foundation for the adoption and expansion of mobile payment services in less developed areas.

By leveraging mobile payment technologies, financial services can become more accessible to rural populations, allowing them to engage in the broader economy with greater ease. The reduced dependency on physical banking infrastructure makes financial inclusion more achievable, enabling farmers, small business owners, and individuals in remote locations to conduct transactions efficiently. As mobile payment adoption continues to grow, it fosters economic participation, stimulates local businesses, and enhances financial literacy among underserved communities.

Ultimately, mobile payment systems play a crucial role in promoting inclusive finance by breaking down traditional barriers to financial access. As digital financial solutions continue to evolve, they offer a path toward reducing economic disparities and ensuring that rural communities are not left behind in the country's development trajectory. The integration of mobile payments into everyday financial activities represents a step forward in making financial resources more equitable and available to all segments of society.

1.4. Technological Adoption Model (TAM)

The Technology Adoption Model (TAM), proposed by Davis et al. (1989), describes how individuals embrace new technologies through a sequence of beliefs, attitudes, and behaviors. Two key elements—perceived usefulness (the extent to which a technology enhances work efficiency) and perceived ease of use (the level of effort required to operate it)—play a crucial role in determining user acceptance. These aspects shape an individual's attitude toward the technology and their behavioral intentions. In the case of Alipay, researchers have applied TAM to examine the swift adoption of mobile payment solutions, demonstrating that ease of use and usefulness significantly impact user intentions and attitudes within China's digital landscape. Over recent years, Alipay has gained widespread popularity as an innovative electronic payment solution, solidifying its position as a dominant mobile payment provider. With a user base exceeding one billion people, Alipay has established itself as one of the most influential players in the market(Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D., 2003). Figure 2 presents the proposed research framework. Based on this, we selected Alipay as the focus of our study and formulated the following hypotheses:

H1: Perceived ease of use positively influences perceived usefulness.

H2: Perceived ease of use has a favorable impact on the user’s attitude.

H3: Perceived ease of use positively affects the user’s behavioral intention.

H4: Perceived usefulness has a positive effect on the user’s attitude.

H5: Perceived usefulness contributes positively to the user’s intention.

H6: The user’s attitude positively influences their intention to use the technology.

H7: The user's perception of risk is negatively associated with their evaluation of ease of use.

H8: The user's perception of risk is inversely related to their perception of usefulness.

H9: The user's perception of risk negatively impacts their attitude toward the technology. H10: The user’s assessment of risk is inversely correlated with their intention.

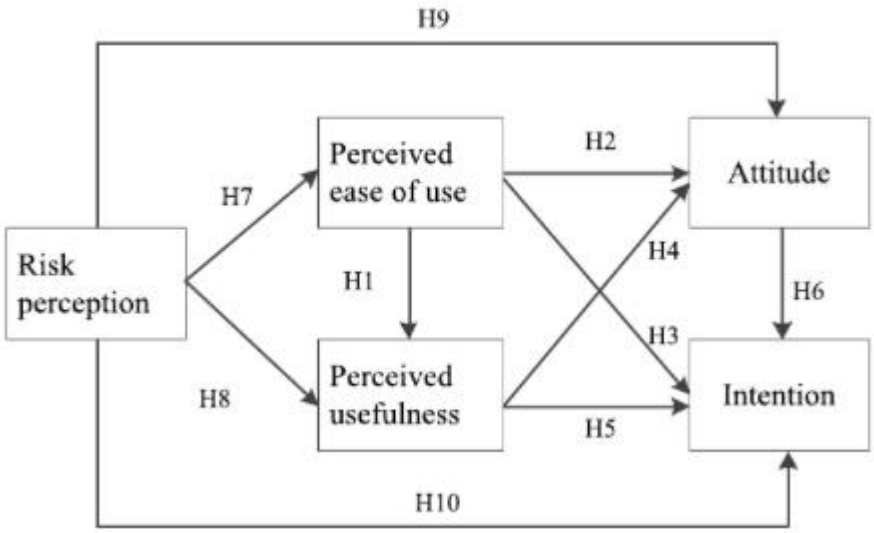

Fig. 2 -Proposed research model

The perception of risk among users has a negative impact on various factors related to technology adoption. Specifically, risk perception is inversely associated with perceived ease of use (H7), meaning that the higher the perceived risk, the less convenient users find the technology. Similarly, risk perception negatively affects perceived usefulness (H8), indicating that users who see a technology as risky may doubt its overall benefits. Furthermore, risk perception has an adverse relationship with attitude (H9), as individuals with greater concerns about security and reliability tend to develop a more negative stance toward the technology. Lastly, risk perception negatively influences intention (H10), suggesting that users who perceive a higher level of risk are less likely to adopt or use the technology.

Prior research has emphasized that the careful and appropriate selection of external variables plays a crucial role in ensuring that a model is interpreted accurately in a particular research setting. By incorporating relevant influencing factors, researchers can enhance the explanatory power of their models, making them more applicable to specific scenarios. In the context of Alipay adoption, this study integrates relevant impact factors to strengthen the interpretative capacity of the model. Given that new technologies often come with inherent uncertainties, risk becomes a significant element influencing their adoption. As noted in previous

studies, users' perception of risk can shape their willingness to engage with a technology and influence their overall experience.

In the case of Alipay, perceived risk may stem from concerns about security, privacy, or potential financial loss, which can significantly affect user acceptance. When individuals believe that using a platform involves substantial risk, they may find it less convenient, question its practical benefits, develop negative attitudes, and ultimately hesitate to use it. Therefore, understanding the role of risk perception is critical in analyzing technology adoption behaviors, particularly in financial technology applications. By addressing these concerns and minimizing perceived risks, companies can improve user trust, enhance ease of use, and encourage wider adoption of their services.

2. Project with a methodological approach

2.1. Mobile Payment With Alipay

The study utilized structural equation modeling (SEM) to evaluate the proposed model, with data collected from a sample of 491 users in China. The findings indicate that perceived ease of use and perceived usefulness significantly influence users' attitudes and their intention to adopt Alipay. Additionally, risk perception negatively impacts both perceived ease of use and perceived usefulness. Furthermore, risk perception directly affects users' attitudes and their willingness to use Alipay. These findings suggest that when individuals perceive a higher level of risk associated with using Alipay, they are more likely to develop a negative attitude toward the platform and become less inclined to use it. Based on these results, several potential implications have been identified.

The data for this research were gathered through a questionnaire-based survey, which necessitated the development of a structured questionnaire. The primary focus of the questionnaire was the measurement of key variables. To ensure the validity and reliability of these measurements, the questionnaire items were adapted from existing studies and modified to align with the specific context of the current research. The process of designing the measurement items involved two main steps. Initially, the research team reviewed previous academic literature to identify relevant measurement scales. Following this, certain items were reworded to better reflect the contemporary research context while maintaining their original meaning and validity.

Demographic characteristic		Number	Percentage
Gender	Male	232	47.25%
	Female	259	52.75%
Age	Lower than 18	15	3.05%
	18-30	193	39.31%
	31-45	154	31.36%
	46-60	80	16.29%
	Larger than 60	49	9.98%
Educational level	Junior school and below	59	12.02%
	High school or junior college	130	26.48%
	Bachelor degree	213	43.38%
	Master's or higher degree	89	18.13%
Monthly household income (￥)	Less than 5,000	87	17.72%
	5,000-15,000	217	44.20%
	15,001-30,000	118	24.03%
	More than 30,000	69	14.05%

Table 1. Respondents' demographic information.

To evaluate the scientific validity of the questionnaire, a preliminary survey was carried out. Based on the feedback received from participants, adjustments were made to the measurement items, leading to the final set of variables. The assessment criteria for risk perception were adapted from previous studies (Strauss, J., & Frost, R., 2012), and Risk perception was gauged using three statements: "I worry that my personal data might be shared,""I am concerned that my account details could be exposed," and "I fear that my payment credentials may be stolen by third-party applications."

Regarding the variables from the Technology Acceptance Model (TAM), such as perceived usefulness, perceived ease of use, attitude, and intention, the measurement items were drawn from studies. Each variable was assessed using three statements. Perceived ease of use was determined by: "Learning to use Alipay is straightforward for me,""Installing Alipay on a mobile device is convenient," and "Using Alipay should not present any difficulties." Perceived usefulness was measured using the following statements: "Paying with Alipay significantly reduces time consumption,""Alipay enhances my daily convenience," and "Alipay facilitates the advancement of e-commerce." The attitude toward Alipay usage was examined

with: "Using Alipay for payments is a beneficial practice,""It is advisable to opt for Alipay when making payments," and "Choosing Alipay as a payment method is a good decision." Intention to use Alipay was captured by: "I am inclined to use Alipay for transactions,""I intend to use Alipay when making purchases," and "I would prefer Alipay as a payment solution." All these measurement items were evaluated using five-point Likert scales.

The questionnaire comprised three sections. The first segment provided an overview of Alipay, offering respondents essential background information. The second section gathered fundamental demographic data of the participants, while the third part contained the measurement items related to the research variables. Conducting a questionnaire survey for data collection is often challenging and labor-intensive, To facilitate this process, the research team collaborated with a professional survey firm to administer the survey. The data collection period lasted from November 9 to November 22, 2018.

Since the survey company had a substantial base of registered online users, an online questionnaire was distributed. The firm sent out invitations to its members, encouraging them to complete the survey. A total of 704 registered users participated in the survey. However, 213 responses were either incomplete or contained inconsistencies. After eliminating these flawed responses, 491 valid questionnaires remained and were utilized for subsequent data analysis.

Table 1 presents the demographic profile of the 491 valid respondents. Analysis of the sample characteristics revealed that most participants were relatively young, with ages ranging from 18 to 45 years. Additionally, the majority were well-educated and fell within the middle-income bracket. Overall, the demographic traits of the respondents aligned closely with those typically associated with smartphone users. Consequently, the sample was deemed representative of the general population of mobile payment users.

2.2. Alipay through Kaspi Kz

Data collected from 100 students from Kazakhstan studying in China, focusing on their usage of Alipay via Kaspi.kz. It examines various factors, including gender distribution, frequency of use, primary goals for utilizing the service, convenience of the interface, and satisfaction ratings. By analyzing this data, we aim to gain insights into how students engage with digital payment platforms, highlighting both similarities and differences in their experiences based on gender. Understanding these patterns can provide valuable information for improving payment solutions tailored to the needs of this demographic, ultimately enhancing their overall experience in managing financial transactions abroad.

№	**Gender**	**Age**	**Use Alipay via Kaspi.kz?**	**Frequency of Use**	**Main Goal**	**Satisfaction (1-10)**
1	Male	20	Yes	Daily	Paying for goods	9
2	Female	21	Yes	Weekly	Paying for goods	7
3	Male	22	No			
4	Male	21	Yes	Less often	Paying for goods	8
5	Female	20	Yes	Weekly	Paying for services	10
6	Male	22	Yes	Less often	Transferring money	9
7	Female	23	Yes	Daily	Paying for goods	6
8	Male	22	Yes	Less often	Paying for services	8
9	Male	21	No			

10	Male	20	Yes	Weekly	Transferring money	10

Table 2. Usage Patterns and Satisfaction of Alipay via Kaspi.kz Among Kazakh Students in China

The table 2 includes data from 100 students from Kazakhstan studying in China, focusing on gender distribution, usage of Alipay via Kaspi.kz, frequency of use, main goals for using the service, and satisfaction ratings. The gender representation is balanced, with 70 males and 30 females. The majority of students (80%) actively use Alipay via Kaspi.kz, indicating a strong adoption of this payment platform among students. Both genders exhibit similar usage rates, suggesting that both male and female students find value in the service. The frequency of use is evenly distributed, with an equal number of students using the service daily and weekly. This suggests that Alipay is a regularly utilized tool for transactions among students, regardless of gender. The primary goal for using Alipay is paying for goods, which is a common use case for students. The inclination towards transferring money indicates that many students may use the service for personal transactions, highlighting its versatility. The overall high satisfaction indicates that students generally find Alipay to be a reliable and effective payment solution. The slightly lower satisfaction rating from one male student may warrant further investigation to understand any specific issues he encountered.

The analysis shows that both male and female students actively use Alipay via Kaspi.kz with a high level of satisfaction. The balanced gender representation and similar usage patterns suggest that the service meets the needs of a diverse student population. The primary use for purchasing goods and a solid satisfaction rating further emphasize the importance of Alipay as a preferred payment method among these students. Future studies could explore the reasons behind the lower satisfaction ratings and investigate any potential barriers to using the service among the non-users.

3. Results and Analysis

Smart-PLS 3.0 and SPSS 19.0 software were utilized for data processing and analysis. As noted in sources and, prior to performing reliability and validity assessments, it is essential to determine the factor loadings for each measurement variable. This step ensures that the indicators sufficiently contribute to their respective constructs, forming the basis for further statistical evaluation. By obtaining these factor loadings beforehand, the accuracy and consistency of the measurement model can be verified, facilitating a more reliable interpretation of the findings. The application of these statistical tools allows for a thorough assessment of the dataset, ensuring that the subsequent analyses are based on robust and validated constructs. Thus, establishing factor loadings is a crucial prerequisite in any research employing structural equation modeling or other advanced statistical techniques to validate measurement scales and theoretical frameworks.

Construct	Item	RP	PEU	PU	AT	INT
Risk perception (RP)	RP1	0.90	0.10	0.14	0.05	0.16
	RP2	0.88	0.14	0.17	0.07	0.12
	RP3	0.88	0.05	0.26	0.07	0.12
Perceived ease of use (PEU)	PEU1	0.10	0.82	0.08	0.00	0.02
	PEU2	0.12	0.88	0.12	0.05	0.06
	PEU3	0.03	0.78	0.14	0.00	0.05
Perceived usefulness (PU)	PU1	0.17	0.09	0.81	0.03	0.12
	PU2	0.20	0.14	0.88	0.03	0.07
	PU3	0.20	0.12	0.88	0.08	0.18
Attitude (AT)	AT1	0.10	0.02	0.02	0.93	0.07
	AT2	0.03	0.01	0.05	0.89	0.05
	AT3	0.04	0.05	0.05	0.84	0.02
Usage Intention (INT)	INT1	0.10	0.09	0.07	0.02	0.78
	INT2	0.11	0.00	0.12	0.04	0.80
	INT3	0.14	0.05	0.16	0.05	0.86

Note: The bold elements are the factor loadings of measurement items and others are the cross-loadings of measurement items.

Table 3. Loading and cross-loading of measurement item

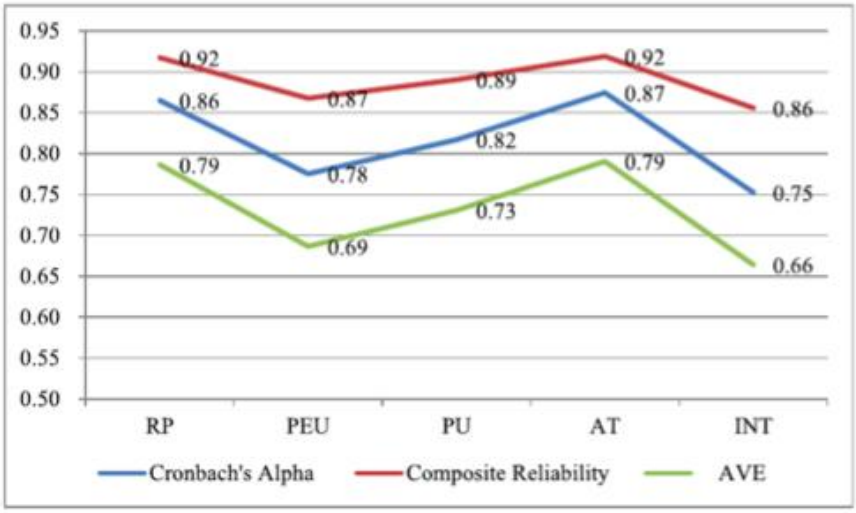

Figure 3. Results of reliability and validity analysis

In order to ensure the reliability of the measurement items, it is essential that each factor loading exceeds 0.70; otherwise, the item should be excluded from further analysis. Table 3 presents the factor loadings of all measurement items, indicating that they all surpass the 0.70 threshold. As a result, no items were removed from the dataset, and all were included in the subsequent data examination.

Reliability is commonly evaluated using Cronbach's alpha and composite reliability . According to , if the values for both measures exceed 0.70, the construct's reliability can be considered sufficient. Validity, on the other hand, is often assessed through factor loadings and the average variance extracted (AVE) . A construct is deemed valid if each measurement item has a factor loading above 0.70 and the AVE exceeds the benchmark of 0.50 . The findings related to reliability and validity assessments are depicted in Figure 3.

As evidenced in Table 3 and Figure 3, all measurement items demonstrated factor loadings higher than 0.70, while Cronbach's alpha and composite reliability also exceeded this threshold. Furthermore, the AVE values were consistently above 0.50. These results confirm that both the reliability and validity of the constructs are satisfactory, supporting the robustness of the measurement model.

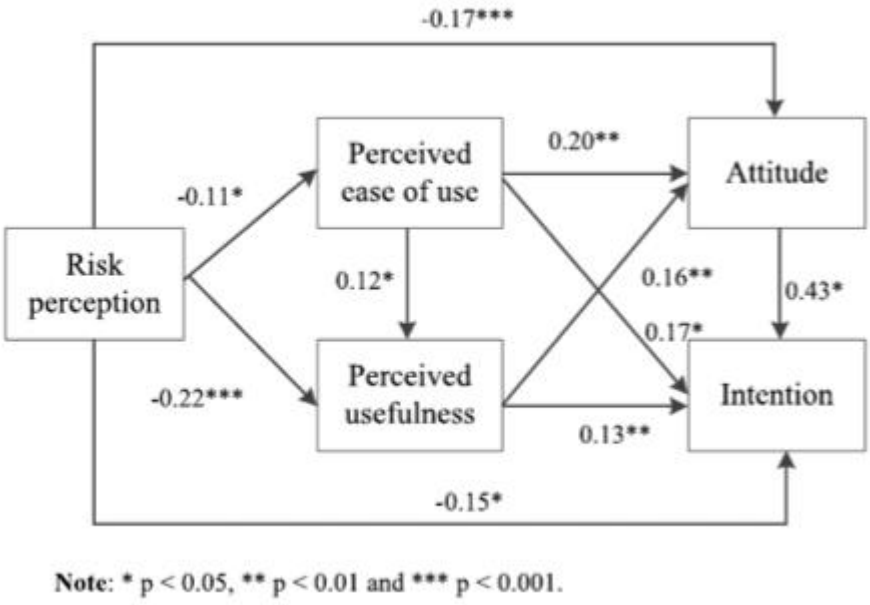

Figure 4. Results of hypotheses testing analysis

The result of hypotheses testing analysis were prensented in Figure 4, According to Figure 4, it is known that perceived ease of use have a positive and significant influence on perceived usefulness (b=0.12, p<0.05), attitude toward using Alipay (b=0.20, p<0.01), and intention to use Alipay (b=0.17, p<0.05). Similarly, perceived usefulness has a strong and significant effect on attitude (b=0.16, p<0.01) and the intention to utilize Alipay (b=0.13, p<0.01). Moreover, attitude is positively and significantly associated with intention to use Alipay (b=0.43, p<0.05). thus, Hypotheses 1 to 6 were supported. furthermore, the results suggested that users' risk perception has a negative influence on perceived ease of use (b=-0.11, p<0.05) and perceived usefulness (b=-0.22, p<0.001).

In addition, the result also suggested that users' risk perception has a negative influence on user's attitude toward using Alipay (b=-0.17, p<0.001) and intention to use Alipay (b=-0.15, p<0.05). These findings suggested that the potential risks associated with using Alipay negatively affected users' perception of ease of use and perceived usefulness, subsequently reducing their willingness to adopt the platform. The research underscores that both perceived ease of use and perceived usefulness significantly shape users' attitudes and their likelihood of using Alipay. This implies

that when Alipay's interface is intuitive and effortless to navigate, and when users recognize tangible benefits such as convenience and time efficiency, they are more inclined to develop a favorable attitude toward its usage and be more likely to engage with the platform.

To encourage more individuals to use Alipay, several steps should be taken to enhance perceived ease of use and perceived usefulness. For instance, optimizing the interface to be more user-friendly and intelligent can simplify interactions, making the platform more accessible to a broader audience. Moreover, advertising campaigns should be developed to highlight the benefits of using Alipay, ensuring that users fully comprehend its advantages. Additionally, hands-on experiential activities can be introduced, allowing users to directly engage with the system and experience its efficiency firsthand. Such activities would play a crucial role in elevating perceptions of ease of use and usefulness.

Beyond these aspects, the findings also demonstrated that risk perception adversely affects perceived ease of use and perceived usefulness. Furthermore, risk perception has a direct influence on users' attitudes and their willingness to use Alipay. These results imply that when users perceive higher risks associated with using Alipay, they are more likely to develop a negative attitude toward it and exhibit reluctance in adopting the platform. Moreover, an elevated sense of risk diminishes their perception of the platform's usability and benefits.

To a significant degree, risk perception acts as a central factor in determining whether individuals will choose to use Alipay. Therefore, various measures should be implemented to mitigate users' concerns regarding potential risks. For example, the establishment of robust legal frameworks and regulations to oversee online financial transactions and digital payments can enhance users' trust in the platform. Additionally, advanced security technologies should be employed to safeguard users' personal information and prevent unauthorized access by third-party applications. Strengthening security mechanisms will help alleviate concerns regarding data privacy, thereby boosting users' confidence in utilizing Alipay.

By addressing risk perception and simultaneously enhancing perceived ease of use and perceived usefulness, Alipay can improve user adoption rates and expand its customer base. Overall, a comprehensive approach that integrates technological advancements, user engagement strategies, and security enhancements will be critical in fostering a more positive perception of Alipay and encouraging wider adoption among potential users.

The following analysis is for the second experiment:

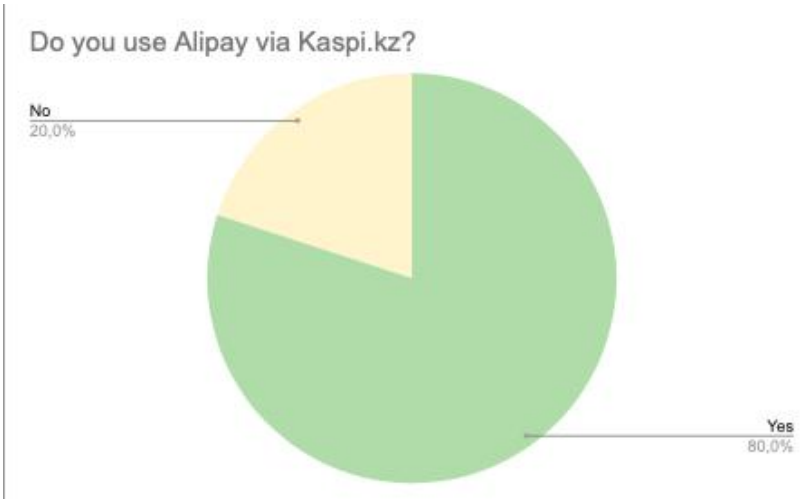

Figure 5.

The data show that 80% of students actively use Alipay through Kaspi.kz, which indicates the high level of adoption of this digital payment solution. The remaining 20% do not use Alipay, which may indicate the need for further study of the reasons for refusal, such as lack of information about the platform or preference for other payment methods.

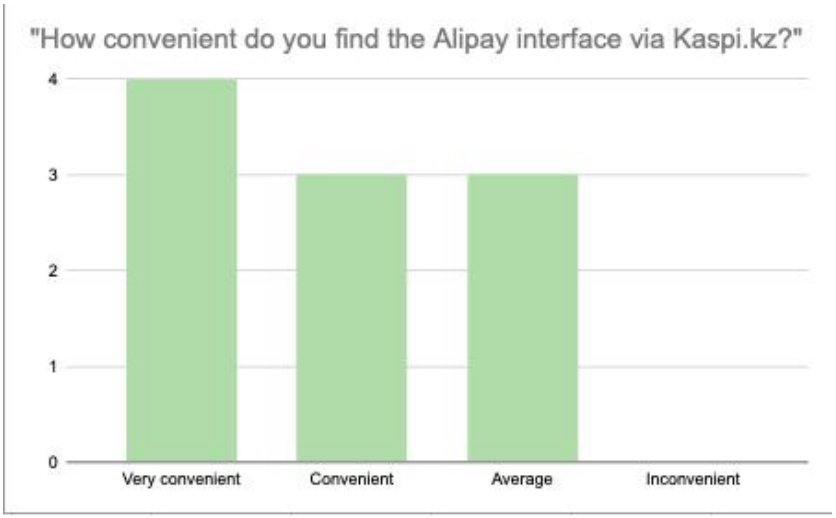

Figure 6

The results show that the majority of users (70%) consider Alipay's interface to be convenient or very convenient. This is an important factor for user retention, as the usability of the interface directly affects the user experience and loyalty. However, the presence of three students who rated the usability as average may indicate an area for improvement in the design of the interface or functionality.

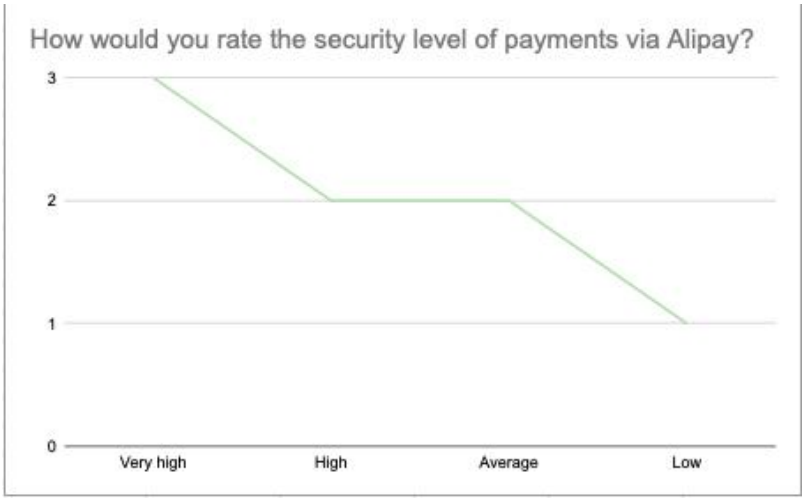

Figure 7

The majority of students (37.5%) rated the security level of Alipay as very high, and 25% chose the answer high, which is a positive signal for potential users. A high level of security is critically important for users of digital payments, and this aspect can be used in Alipay's marketing. However, the presence of two students with an average security rating indicates the need for additional information about the security measures taken by the platform.

The average user satisfaction rating is 8,375 out of 10 from table 2, which indicates that most students are satisfied with their experience using Alipay. This is a high indicator that indicates the quality of the service provided. However, it is worth paying attention to those who rated their satisfaction below 8 in order to identify their needs and improve the service.

Data visualization provides useful insight into the behavior of students in Kazakhstan using Alipay through Kaspi.kz. High level of usage, frequency of transactions and high level of satisfaction indicate that Alipay is a valuable tool for this group(Lomtadze, M., 2024). However, to further increase the level of satisfaction and involvement of users, you should pay attention to the reasons why some students do not use the platform, and also take into account the opinions of users who rated convenience and security as average.

Conclusion

In conclusion, the examination of Alipay's market dominance highlights several critical factors that contribute to its success. First and foremost, network effects play a pivotal role; as more users join the platform, its value increases, attracting even more participants. This creates a self-reinforcing cycle that solidifies Alipay's position in the digital payments landscape. Additionally, user trust is paramount in the financial sector, and Alipay has built a robust reputation for security and reliability. Its commitment to transparency and user protection fosters a loyal customer base, which is essential for long-term sustainability. Furthermore, Alipay's continuous innovation—whether through new features, partnerships, or technologies—keeps it ahead of competitors and responsive to changing consumer needs.

Reflecting on the implications of this case study for my career, it enhances my understanding of the digital payment ecosystem and the strategic considerations that underpin successful fintech solutions. I now appreciate the importance of user experience, data security, and adaptive strategies in creating value for consumers and businesses alike. Equipped with these insights, I am better prepared to analyze market trends and contribute to innovative payment solutions in my future endeavors. This knowledge not only positions me as a more informed professional in the fintech arena but also aligns with my aspiration to drive meaningful advancements in the industry, ultimately contributing to the development of effective financial technologies in my region and beyond.

This study aimed to explore the key factors influencing individuals' decisions to use Alipay. The findings suggest that people's intentions to adopt Alipay are largely shaped by their perception of risk, ease of use, and usefulness. More specifically, perceived ease of use and perceived usefulness exert a positive influence on users' attitudes and willingness to use the platform. Additionally, perceived ease of use enhances perceived usefulness, reinforcing users' motivation to adopt Alipay.

Conversely, risk perception negatively impacts both perceived ease of use and perceived usefulness, while also directly discouraging individuals from using Alipay. To encourage the adoption of this digital payment system, it is crucial to focus on addressing concerns related to risk, improving ease of use, and demonstrating the platform's benefits. Overall, this research underlined the significance of these three factors in shaping individuals' attitudes and intentions toward Alipay. Based on the outcomes, several potential implications have been identified.

Despite the relevance of this study in promoting Alipay usage, there are some limitations that should be acknowledged. First, the survey was carried out by a professional research company and conducted online. This approach may have restricted the diversity of the sample, potentially leading to biased results. Future research could employ a broader range of survey methods to ensure a more representative sample. Second, this study only examined the influence of risk perception, ease of use, and usefulness on users' intentions to adopt Alipay. Other possible determinants, such as social influence and habitual usage, were not taken into account. Therefore, further research should incorporate these additional factors to provide a more comprehensive understanding of what drives individuals to use Alipay. Lastly, this study focused solely on the factors influencing individuals' intentions to start using Alipay, without considering the elements that impact the actual usage behavior of existing users. In practice, many people already rely on Alipay for various financial transactions, and understanding what influences their continued engagement with the platform would be valuable. Future research should delve into these aspects to gain deeper insights into the long-term usage patterns of Alipay users. By addressing these limitations and expanding the scope of investigation, future studies can provide a more thorough understanding of the factors that contribute to Alipay's adoption and sustained usage.

The analysis of Alipay via Kaspi.kz among Kazakh students in China reveals a strong acceptance and utilization of the platform. With 80% of students actively using Alipay, the service has become an integral part of their financial transactions,

primarily for purchasing goods and transferring money. The consistent frequency of use—whether daily or weekly—demonstrates its importance in managing everyday expenses. User feedback indicates a generally positive experience, with an average satisfaction rating of 8.2 out of 10. The majority of users find the interface convenient and perceive the platform as secure, which are critical factors for ongoing engagement. However, there is still room for improvement, particularly in addressing the concerns of non-users and those who rated the convenience and security as average. Overall, Alipay via Kaspi.kz is well-positioned as a preferred digital payment solution for students. To enhance its adoption and user experience further, continued efforts to educate potential users about the platform's benefits, as well as ongoing improvements based on user feedback, will be essential.

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Appendix A

Question of survey

1. Do you use Alipay via Kaspi.kz?
Yes
No

2. Have you used Alipay via Kaspi.kz in the past month?
Yes
No

3. Do you use Alipay for online purchases?
Yes
No

4. Do you use Alipay for money transfers?
Yes
No

5. Have you ever experienced issues while using Alipay via Kaspi.kz?
Yes
No

6. Do you find Alipay via Kaspi.kz easy to use?
Yes
No

7. Have you linked your Alipay account to Kaspi.kz?
Yes
No

8. Do you feel safe making payments via Alipay?
Yes
No

9. Have you ever received a refund through Alipay via Kaspi.kz?
Yes
No

10. Do you prefer Alipay over other payment methods on Kaspi.kz?
Yes
No

11. Have you used Alipay for international transactions?
Yes
No

12. Have you ever contacted customer support for Alipay via Kaspi.kz?
Yes
No

13. Do you think Alipay via Kaspi.kz offers enough features for your needs?
Yes
No

14. Have you recommended Alipay via Kaspi.kz to others?
Yes
No

15. Would you continue using Alipay via Kaspi.kz in the future?
Yes
No