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A STUDY OF DIGITAL WALLET IN ASIA

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Abstract: In today's environment, smart phones play a significant role in people's daily lives. Smart phones have become instruments where mobile users can make money transactions or payments using an application placed on the phone as a result of technological advancements. The study has been undertaken to determine the growth pattern of digital wallets in various Asian countries like China, India, Indonesia, Japan, Malaysia, Philippines and Singapore and also the trends of mobile wallet users in these countries. The present paper also studied the mobile wallet market share of the prominent mobile wallets in each country of Asia-Pacific region. Besides, the mobile wallet transaction volume and its penetration also studied under this paper.

INTRODUCTION

In India, digital payments have exploded in popularity over the last few years. Digital wallets and the Unified Payments Interface have contributed significantly to this growth (UPI). The growing use of digital wallets by customers is due to its speed and convenience of use, as well as enticing cash back offers. Digital wallets grew rapidly until 2017, whereas UPI transaction volumes have increased at an exponential rate since then. The factors that have contributed to UPI's remarkable success include regulatory push, interoperability, virtual payment address (VPA), direct and instant transfer to bank accounts, and so on. Recent digital payment trends in India indicate that the UPI platform is rapidly exceeding e-wallets in terms of transaction value and volume. Demonetization was a watershed moment for digital payments. It also accelerated the adoption of e-wallets as a preferred payment method. Simultaneously, smart phone-based speedier payment options such as UPI (which do

not require an additional store of value) have gained popularity. We will attempt to explore the causes behind the wallet industry's diminishing popularity and growth in comparison to newer payment instruments such as UPI in this newsletter, as well as estimate what the future holds for payment instruments. In today's environment, smart phones play a significant role in people's daily lives. Smart phones have become instruments where mobile users can make money transactions or payments using an application placed on the phone as a result of technological advancements. A virtual wallet that holds payment card information on a mobile device is known as a mobile wallet. Mobile wallets are a convenient way for users to make in-store payments, and they may be utilized at merchants who have signed up with the mobile wallet service provider. A mobile wallet is a digital wallet that allows you to carry cash with you. One can link a mobile device's credit card or debit card information to a mobile wallet application, or transfer money from a computer to a mobile wallet. To make purchases, instead of using a physical plastic card, one can use a smart phone. To load money into a digital wallet, an individual's account ids must be linked to it.

FEATURES OF MOBILE WALLET

Following are some of the key characteristics of mobile wallets:

1. **Make payment to and from the bank account**

Mobile wallets must be able to send money to and receive money from bank accounts in a smooth manner. The procedure of moving money from a wallet to a bank account should be made as simple and convenient as possible.

2. **Management of virtual cards**

Users should be able to save their debit and credit card information in the wallet application while maintaining high security. People should be able to add money to their wallets with a single click. Users would also have the option of removing or adding cards to their list.

3. **Payment through contactless technology**

Retail chains are increasingly using contactless technology like as QR codes and NFC. Given their rapid expansion, having a QR code and NFC technology integrated into your brand can be extremely rewarding.

4. **Fast self registration**

Mobile wallets were created to make people's lives easier and the transaction procedure more efficient. Offering a quick self-registration process is one approach to ensure this.

5. **Make bill payments**

You should request that your fintech software development firm offer bill payment using the wallet app. Users should be able to pay bills online, such as rent, electricity, gas, and mortgages in an easy way.

6. **Rewards and discounts**

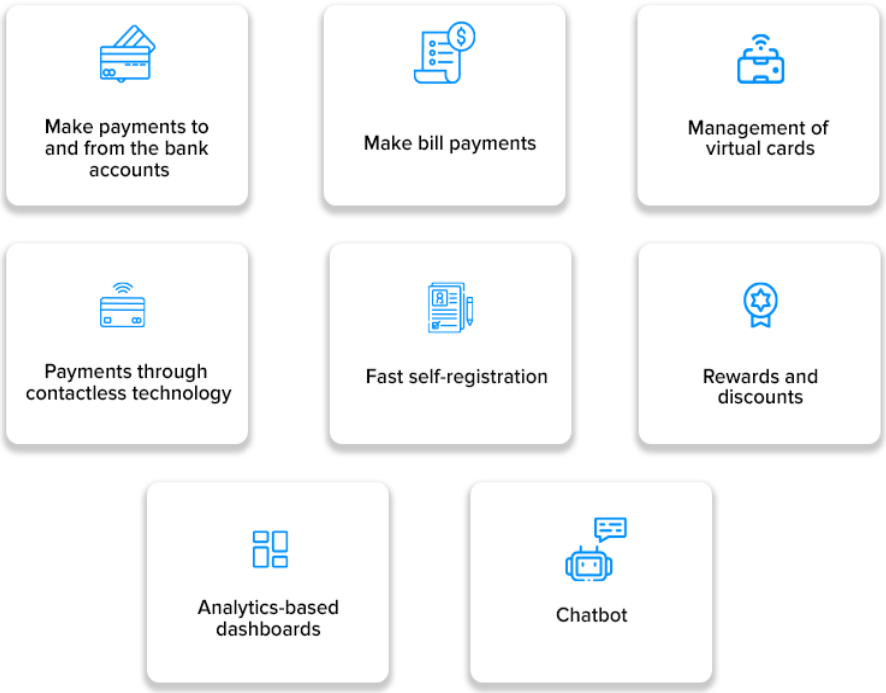
One-time users are converted into loyal users through rewards and incentives. You should reward and discount your users for using the wallet to make purchases or pay bills.

7. **Analytics – based dashboards**

In the wallet app, there should be a dashboard that shows your users where they spent their money, their upcoming invoices, and so on. You may even take it a step further and include a budgeting and cost monitoring element in the app.

8. **Chat bot**

Integrating the chat bot that inform users of their account balance or allows them to transfer funds from their bank account to their wallet or vice versa. It can be incredibly beneficial to wallet app users.



Types of Mobile Wallets

The following are the main types of mobile wallets:

1. **Open wallets**

A bank can use an open wallet directly or through a third party. Customers can utilize the monies in their mobile wallet to make payments for transactions or withdraw the funds transferred to their account in cash. PayPal, for example, is an open mobile wallet that allows users to pay for in-store and online purchases while still withdrawing cash.

2. **Closed wallets**

Users can only utilize the funds in closed wallets to make payments for transactions initiated with the relevant merchant. The money cannot be used to pay for purchases with other merchants or third-party service providers, nor can it be withdrawn in cash. Amazon Pay is an example of a closed wallet.

3. **Semi-closed wallets**

Semi-closed mobile wallets allow users to utilize their funds in the wallet to pay for transactions with numerous merchants as long as the merchant and the mobile wallet company have a contract in place. Users can also deposit money into their bank accounts. Semi-closed wallets, on the other hand, do not allow users to withdraw funds in cash.

Figure 2: Types of mobile wallets

REVIEW OF LITERATURE

Batra R. and Kalra N. (2016) identified the customers' preferences and usage pattern with regard to digital wallets, explored the reason for adoption of digital wallets and customer satisfaction. Primary data has been used in the study. The data was collected from 52 respondents from the regions of Jalandhar and Adampur. It was found that the main purpose behind the use of digital wallets was attributed to online shopping but safety of money transacted remained the major concern.

Rathore S. (2016) studied the factors influencing consumers in adoption of digital wallets and risk and challenges faced by consumers in use of digital wallet. Primary data has been used in the study. The questionnaire was sent to 150 smart phone users who use digital wallets as mode of online payment. It was found that moving the wallets to mobile devices has offered greater portability making it an alternate choice for payments. But dependency on internet connection was one of the major reasons for less adoption of digital wallets.

Shukla N. (2017) studied the business trends and guidelines of Reserve Bank of India for mobile wallets and perception of customers towards use of mobile wallets who were using debit cards for cash less economy. Both primary and secondary data was used. It was found that demonetization led to the growth of mobile wallets but it has faced a lot of challenges like-lack of awareness, stringent policies on restriction of cash out facility and poor internet connectivity in many areas of the country.

Chauhan M. and Shingari I. (2017) analysed the preferred mode of payment method among undergraduate students. Primary data has been used in the research. The survey was conducted among 100 undergraduate students. It found that youngsters were becoming more aware about digital wallets and were contributing towards making India a digital economy.

Pai A. (2018) studied the top five digital wallet service providers in India, the awareness and perception of users towards digital wallets and the perception of rural people towards advancement in technology. Both primary and secondary data has been used. It was found that the awareness among users about mobile wallets was high. Paytm and phonepe were the most preferred e-wallets in India. The users preferred the e-wallets for recharge purpose followed by online shopping, food and movie tickets.

Padiya J. and Bantwa A. (2018) ascertained the preferences for adoption of e-wallets in Ahemdabad city and studied the impact of demonetization on preference for online payment. The study was based on primary data collected from 327 smart phone users. This study indicated that main reasons for low preference of mobile wallets are privacy concerns, threat to security and unwillingness to change from the traditional mode of payment.

Sarika P. and Vasantha S. (2018) analysed the influence of trust on mobile wallets adoption and its effect on user satisfaction. Secondary data has been used in the study. It was collected from various publications, journals published and unpublished reports. It was found that trust had significant positive impact on actual usage of cash back and discounts. People are satisfied and were using digital wallets like Paytm or pay u money application.

Arora M. Gandhi M. et.al (2018) examined the problems customers faced while using digital wallets at operational populace and suggested measures for improving it. Both primary and secondary data has been used in the research. It was found that students were having fewer problems in using digital wallets as compared professionals, business people and government employees. As a result youth was more satisfied with the use of digital wallets and wallets should be made user friendly to make other operational populace satisfied.

Tiwari P. and Garg V. et.al (2019) identified the consumer attitude towards adoption of digital wallets in NCR region. Both primary and secondary data has been used in the study. It was found that male respondents were more interested to learn about digital wallets and they used digital wallets more than female respondents. Paytm was the most widely used digital wallet as compared to others.

Mathiraj S.P. Geeta S. et.al (2019) studied the customer perception, satisfaction level, problems and factors influencing the demographic factors on adoption of digital wallets. Both primary and secondary data has been used. It was found that users were satisfied with e-wallet services but the major problem was network and lack of data security.

Gupta P. and Hakhu R. (2020) developed a model of age group and customers' perception towards cashless transactions in population of Haryana. Primary data has been used in the research. The data was collected from four districts of Haryana- Gurugram, Kurukshetra, Sonipat and Kaithal. It was found that debit and credit cards were most preferred modes of cashless payment followed by internet banking and mobile wallets. Security and privacy concerns have made digital wallets less attractive.

Abraham M. (2020) analysed the e-wallet services, factors encouraging the users and the level of satisfaction of youth on e-wallets. Both primary and secondary data has been used in the study. It was found that the users were primarily aware about various offers provided by e-wallets and the major factors for satisfaction were convenience and safety. Internet connectivity and payment restrictions were the common problems faced by the users.

Ajmera H. and Bhatt (2020) studied the various demographic aspects of the adoption pattern of e-wallets by consumers and established the intensity of relationships among various factors of consumer adoption of e-wallets. Primary data has been used in the study. The data was collected from 420 respondents of Ahmedabad city of

Gujarat. It was found that e-wallet companies should ensure quality parameters like safety, security, authorization etc.

George A. Sonawane C. et.al (2021) examined the popularity of mobile wallets in India during COVID-19 pandemic. Both primary and secondary data has been used in the study. It was found that UPI payment method has increased i.e. transaction volume and values have scaled up due to COVID-19. The use of cash has seen significant decline during pandemic.

Jeyakumari J. and Muthuselvi N. (2021) studied the customer awareness towards Google pay application in Madurai city. Both primary and secondary data have been used. It was found that the app was used not only for the sales purpose but it was also used by home makers and government employees to pay utility bills such as petrol bunk, hotel bill, bank to bank transfer , phone bill, electricity bill and ticket booking. The users felt it convenient and easy to use.

Nandlal N. et.al (2021) studied the sustainability of digital transactions and found the difference between UPI and Paytm. Primary data has been used to collect the responses from 200 customers across Delhi-NCR. It was found that majority of customers are using various digital payment platforms. It was concluded that majority of females were using UPI whereas the majority of males opted for Paytm. Paytm provided better services as compared to UPI.

RESEARCH METHODOLOGY

Descriptive statistics methodology has been used for this research to find out the growth pattern of digital wallets in different countries of Asia. The secondary method is used to collect the data from the MOBILE WALLETS REPORT 2021 by Boku. Longitudinal data is presented through bar graph and pie charts. Quantitative data collection is undertaken for the year 2020-21 and the forecasted figures of 2025 are given.

Research methodology includes Research Framework, Research design, Period of study, Collection of data, sources of Data collection and Analysis of data.

3.1 RESEARCH FRAMEWORK

The current study is being carried out to analyze and examine the trends of digital / mobile wallets in Asia Pacific countries.

3.2 RESEARCH DESIGN

The countries listed below were taken for the current study:

Sr. NO.	Countries
1.	China
2	India
3.	Indonesia
4.	Japan
5.	Malaysia
6.	Pakistan
7.	Philippines
8.	Singapore
9.	South Korea
10	Taiwan
.11.	Thailand
12.	Vietnam

3.3 PERIOD OF STUDY

The current study spans for five years from 2020 to 2025. The data has been collected from the Mobile Wallet Survey report 2021 – Boku.

3.4 COLLECTION OF DATA

Depending on the subject of research, data can be collected using either quantitative technique or qualitative technique. Regardless of the approach used, the data collected should be correct to the greatest extent.

3.5 SOURCES OF DATA

The study needs secondary data in order to compute empirical results. Data was gathered from Mobile wallet Survey report 2021 – by BOKU. For the research the study takes into account 12 countries of Asia Pacific.

3.6 METHODOLY ADOPTED

In the above study, the methodology of descriptive statistics was adopted to analyse the data.

3.7 OBJECTIVES OF THE STUDY

The other sub objectives are given below:

I. To study the growth pattern of digital wallets in following countries of Asia-Pacific:
China, India, Indonesia, Japan, Malaysia, Philippines, Singapore.

II. To analyse the mobile wallet market share of the prominent mobile wallets in each country of Asia-Pacific region.

III. To analyse mobile wallet transaction volume and value and mobile wallet penetration of the Asia Pacific countries.

IV. To analyse the trend of mobile wallet users for each country by 2025.

3.8 LIMITATIONS OF THE STUDY

- This study has taken only 12 countries of Asia Pacific to measure the trend of mobile wallets by 2025.
- The data is collected from the private database; the authenticity of data is not sure. The accuracy is also not known.
- There may be typing errors in the data.
- The data predicted for the year 2025 may not be exact as it is only the predicted data.

Fastest Growing Mobile Wallets

In 2020, there were 55 stored value mobile wallets that processed over $1 billion in annual transactions. By 2025, we project that 69 stored value mobile wallets will process more than $1 billion in transactions. Over the next five years, we project the following growth rates for transactions processed by mobile wallet (in millions of $):

Sr.No	Mobile Wallets	Country	2020	2025F	CAGR
1.	SadaPay	Pakistan	$65.6	$6,066.1	147.3%
2.	MercadoPago	Brazil	$4,073.7	$43,156.6	60.3%
3.	PicPay	Brazil	$9,877.2	$59,123.6	43.0%
4.	GrabPay	Singapore	$480.8	$2838.8	42.6%
5.	Favepay	Singapore	$320.5	$1,892.5	42.6%
6.	DBS Paah!	Singapore	$3964.3	$1,514.0	42.6%
7.	YooMoney	Russia	$3267.3	$22,662.3	41.7%
8.	QIWI	Russia	$435.6	$18,677.7	41.7%
9.	PayPal	Russia	$5,086.7	$2490.4	41.7%
10.	WebMoney	Russia	$1,240.7	$29,078.1	41.7%
11.	Boost	Malaysia	$2,114.9	$6,773.8	40.4%
12.	GrabPay	Malaysia	$2,002.1	$10,391.6	37.5%
13.	Touch N Go	Malaysia	$1,136.5	$9687.3	37.1%
14.	GrabPay	Philippines	$6,364.6	$5,400.1	36.6%

15.	PayMaya	Philippines	$7,546.9	$26,644.6	33.2%
16.	MercadPago	Mexico	$4,025.0	$31,307.0	32.9%
17.	RappiPay	Mexico	$2,264.1	$16,697.1	32.9%
18.	PayPal	Mexico	$7,501.1	$9,392.1	32.9%
19.	G-Cash	Philippines	$418.5	$30,557.1	32.4%
20.	Klip	United Arab Emirates	$418.5	$1595.2	30.7%
21.	Paypal	Brazil	$1,279.6	$4,869.0	30.6%
22.	OVO	Indonesia	$10,753.6	$40,907.7	30.6%
23.	Shopeepay	Indonesia	$4,399.2	$16,735.0	30.6%
24.	LinkAja	Indonesia	$3,910.4	$14.875.5	30.6%
25.	Gojek	Indonesia	$3,714.9	$14,131.8	30.6%
26.	DANA	Indonesia	$3,421.6	$13,016.1	30.6%
27.	Truemoney Wallet	Thailand	$5,591.1	$19,298.3	28.1%
28.	LINE Pay	Thailand	$2625.1	$9,060.8	28.1%
29.	GrabPay	Thailand	$430.1	$1,484.5	28.1%
30.	AirPay	Thailand	$602.1	$2,078.3	28.1%
31.	mPay	Thailand	$516.1	$1,781.4	28.1%
32.	Momo	Vietnam	$7503.1	$25,765.0	28.0%
33.	ViettelPay	Vietnam	$3,564.0	$12,238.4	28.0%
34.	AirPay	Vietnam	$1,500.6	$5,1530	28.0%
35.	ZaloPay	Vietnam	$750.3	$2,276.5	28.0%
36.	STC Pay	Saudi Arabia	$6492.2	$20,026.4	25.3%
37.	JazzCash	Pakistan	$11,812.0	$23759.7	15.0%
38.	Easypaisa	Pakistan	$11438.7	$23,008.9	15.0%
39.	PhonePe	India	$57,093.5	$112,175.2	14.5%
40.	PayTM	India	$43,918.1	$83,797.9	13.8%
41.	Google Pay (Tez)	India	$29,944.2	$57,135.0	13.8%
42.	Amazon Pay	India	$20,362.0	$38,851.8	13.8%
43.	LINE Pay	Japan	$72,064.2	$1,28,707.1	12.3%
44.	Rakuten Pay	Japan	$48,692.0	$86,964.3	12.3%
45.	AuPay(KDDI)	Japan	$29,215.2	$52,178.6	12.3%
46.	PayPay	Japan	$19,476.8	$34,785.7	12.3%
47.	MerPay	Japan	$13,633.8	$24,350.0	12.3%
48.	Mobikwik	Japan	$10,24.6	$18,277.3	12.3%

49.	Mi-Pay	China	$4,454.1	$7,403.0	10.7%
50.	Vodafone Cash	Egypt	$4,270.2	$7,080.3	10.6%
51.	CareemPay	Egypt	$908.5	$1,506.5	10.6%
52.	Etisalat Cash	Egypt	$906.2	$1,502.5	10.6%
53.	myFawry	Egypt	$13,174.0	$21,843.6	10.6%
54.	Orange Cash	Egypt	$1,894.7	$3,141.6	10.6%
55.	LINE Pay	Taiwan	$10,639.1	$17,532.5	10.5%
56.	JKopay	Taiwan	$4,3722	$7,205.2	10.5%
57.	Paga	Nigeria	$23,191.2	$37,408.0	10.0%
58.	OPay	Nigeria	$9,838.7	$15,870.1	10.0%
59.	M T N MoMoPay	Nigeria	$7,027.6	$11,335.8	10.0%
60.	KongaPay	Nigeria	$2,811.1	$4,534.3	10.0%
61.	PalmPay	Nigeria	$1,405.5	$2,267.2	10.0%
62.	Kakao Pay	South Korea	$29,564.6	$47,246.3	9.8%
63.	Naver Pay	South Korea	$24,347.3	$38,908.7	9.8%
64.	Toss	South Korea	$9,565.0	$15,285.6	9.8%
65.	PAYCO	South Korea	$6,614.9	$10,571.0	9.8%
66.	E Wallet by Etisalat	United Arab Emirates	$795.2	$1,148.5	7.6%
67.	Beam	United Arab Emirates	$711.5	$1,027.6	7.6%
68.	Alipay	China	$1,713,782.2	$2,345,642.8	6.5%
69.	WeChat Pay	China	$1,570,967.0	$2,150,172.6	6.5%

Table 3: Country wise fastest growing mobile wallets

ASIA PACIFIC

Asia Pacific is undeniably one of the most promising regions for mobile wallet growth, with China and India boasting some of the world's most active mobile wallet marketplaces. Emerging markets in this region, on the other hand, may offer the most significant chances for wallet expansion.

Over the projection period, the Asia-Pacific mobile cloud market is expected to grow at a 30% CAGR (2022 - 2027). Consumer data consumption patterns have changed dramatically as a result of the COVID-19 epidemic. Because a big portion of the population works from home, the demand for internet-based content consumption has skyrocketed, both at the corporate and user levels. The widespread use of the internet and the digitization of business processes has resulted in a significant increase in mobile traffic among businesses in the region. Internet

penetration in Asia, for example, went from 55.1 percent in 2020 to 64.1 percent in 2021, according to Intern World Stats.

PARTICULARS	AMOUNT or %	
	2020	2025F
MOBILE WALLET USERS	1.8B	2.6B
MOBILE WALLET TRANSACTION VOLUME	377B	636B
POPULATION USING MOBILE WALLET	42.1%	58.6%
MOBILE WALLET TRANSACTION VALUE	$4.1T	$7T

Table 4: Asia pacific's mobile wallet statistics

MOBILE WALLET USERS BY REGION (M)

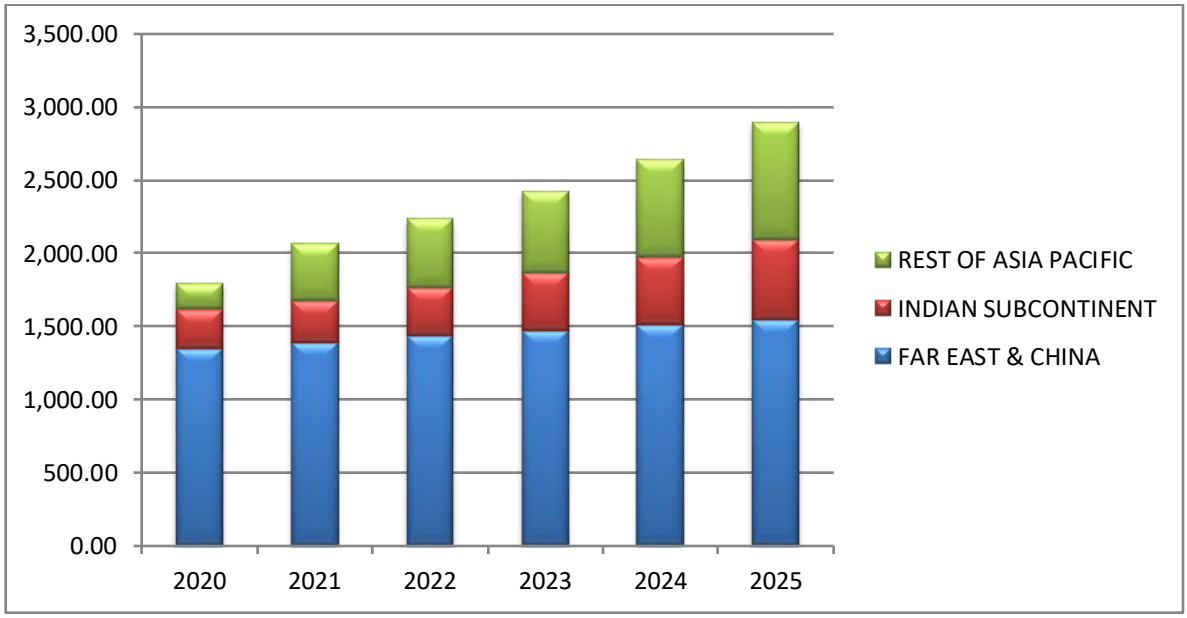


Figure 6: mobile wallet users region wise

ASIA PACIFIC COUNTRIES

The ASIA PACIFIC consists of the following 12 countries; which have been discussed in detail with respect to developments related to mobile wallets in their specific region.

I. CHINA

Without a question, China has the most developed mobile payments market in the world. With 1 billion and 1.2 billion users, respectively, WeChat Pay and AliPay create a mobile wallet duopoly. Because of the lack of fragmentation and the concentration of users inside these two wallets, they are now widely accepted, even by overseas businesses. While user growth in China is expected to slow over the next five years, transaction volume and value are expected to increase.

PARTICULARS	AMOUNT or %	
	2020	2025F.
GDP PER CAPITA	$10.2K	$13.6K
MOBILE WALLET USERS	1.18B	1.32B
MOBILE WALLET TRANSACTION VOLUME	343B	511B
WALLET SPEND TO GDP PER CAPITA	29.6%	31.3%
MOBILE WALLET PENETRATION	83.6%	91.1%
MOBILE WALLET TRANSACTION VALUE	$3.5T	$5.5T

Table 5: China's mobile wallet statistics

MOBILE WALLET MARKET SHARE

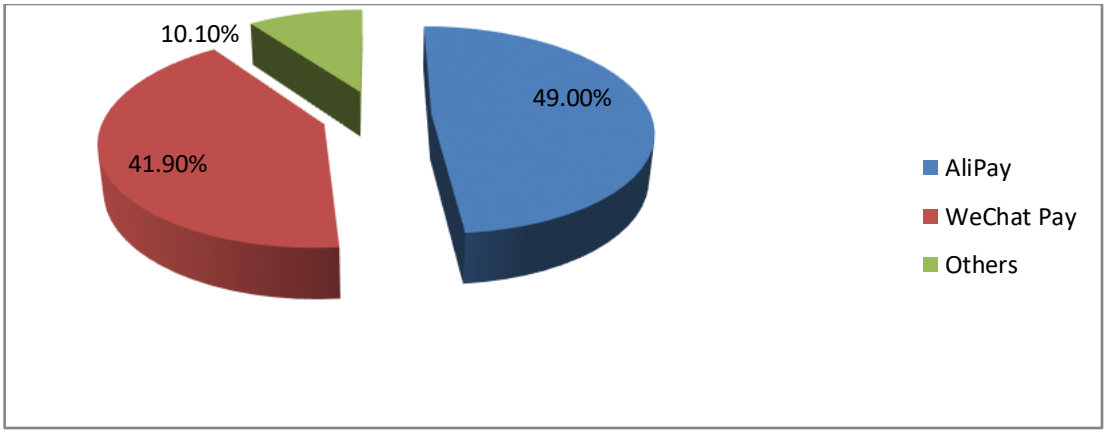


Figure 7: China's mobile wallet market share

CHINA – COMPETITIVE LANDSCAPE

China is clearly a duopoly. In which two mobile wallets Alipay and WeChat Pay are the dominnat mobile wallets with 1.2 billion and 1 billion users respectively out of population of 1.4 billion. These numbers suggest that the most of the Chinese population uses Alipay and WeChat Pay as mobile wallets.

USERS (M) BY MOBILE WALLET

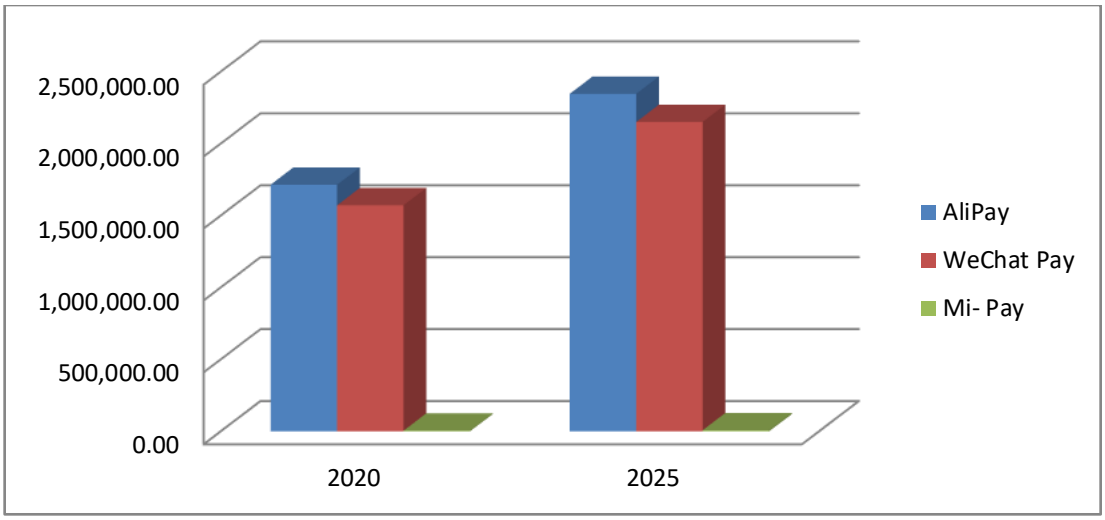


Figure 8: Chinas' mobile wallet users

TAKEAWAYS

- China is the largest market for the digital wallets in the world today. However, payment acceptance through mobile wallets is high and the market is continuously maturing.
- Mobile payment volume will increase by 7.9% over the next five years.
- By 2025, the mobile wallet users will increase by 11.86% in CHINA.
- As per the projections, AliPay will have the largest market share of Chinese market by the end of 2025.

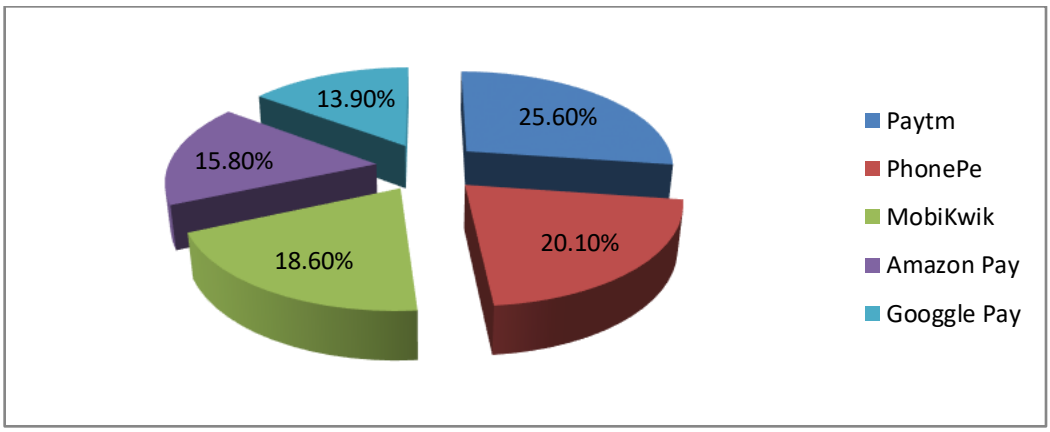
II. INDIA

India is one of the world's more established mobile payment markets. Mobile payments have taken root, with over 200 million wallet users in 2020 and predicted to expand to over 434 million by 2025. Paytm's quick adoption was sparked by India's demonetization legislation in 2016, with the wallet hitting 10 million users for the first time in 2017. The effort to make Indian economy cashless initiated the use of various digital or mobile wallets. At the time of demonetisation, India's cash to GDP ratio was around 12%. After demonetization, the ratio came down to around 9% of the GDP.

PARTICULARS	AMOUNT or %	
	2020	2025F.
GDP PER CAPITA	$2K	$2.6K
MOBILE WALLET USERS	217M	434M
MOBILE WALLET TRANSACTIOB VOLUME	25B	71B
WALLET SPEND TO GDP PER CAPITA	40.7%	40.5%
MOBILE WALLET PENETRATION	15.7%	29.6%
MOBILE WALLET TRANSACTION VALUE	$172B	$417B

Table 6: India's mobile wallet statistics

MOBILE WALLET MARKET SHARE



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gure 9: India's mobile wallet market share

INDIA – COMPETITIVE LANDSCAPE

Mobile wallets are a highly competitive industry in India, with five mobile wallets accounting for more than 10% of the market. The Unified Payments Interface (UPI), a new fast payment mechanism supported by all major banks and virtually entirely used by mobile apps, is brand new to the market. UPI has quickly risen to the top of India's mobile payment methods, with over 2.7 billion transactions in March 2021. The usage of UPI promotes a level playing field, promoting the expansion of India's wallets. UPI can be utilised as a financing source for Paytm, PhonePe, and Mobikwik, while both GooglePay (previously known as Tez) and AmazonPay enable wallet payments directly through UPI.

USERS (M) BY MOBILE WALLET

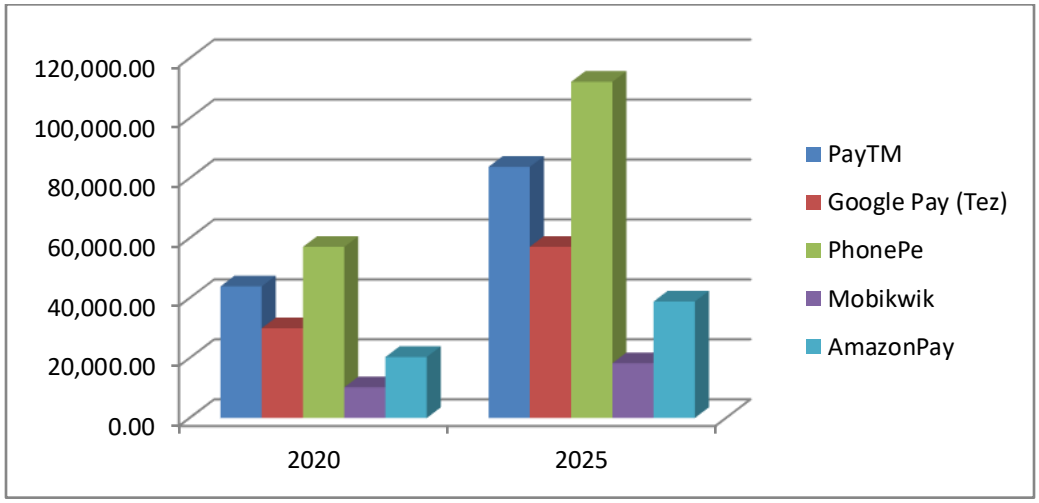

Figure 10: India's mobile wallet users

TAKEAWAYS

- With 217 million wallet users now and expected to quadruple by 2025, India is one of the most promising markets for mobile payments now and in the future.
- Support for numerous wallets is crucial, with an average of 3.5 wallets per individual reported by survey respondents.
- Acceptance of mobile wallets represents a big incremental opportunity for merchants, as many people use them. For the first time, users are using mobile wallets to obtain access to digital payments, making eCommerce a viable option.

INDIA – CONSUMER ATTITUDES DEEP DRIVE

As per the survey of Mobile wallets report 2021, consumers utilise an average of 3.5 wallets per responder, according to our consumer survey, which included 1,139 respondents. This is the highest of any of our five deep dive countries. In India, this means that integrating all wallet choices is critical for merchant success. When asked how long they had been using mobile wallets, 76 percent of respondents said they had been using them for more than two years, demonstrating how well established the mobile wallets sector is in this country. The graph below shows that mobile wallet innovation has displaced debit cards the most, while cash is a close second, and bank transfer is third. This is obvious evidence that people are migrating away from traditional cash-based payment systems.

PAYMENT METHODS USED PRIOR TO MOBILE WALLETS

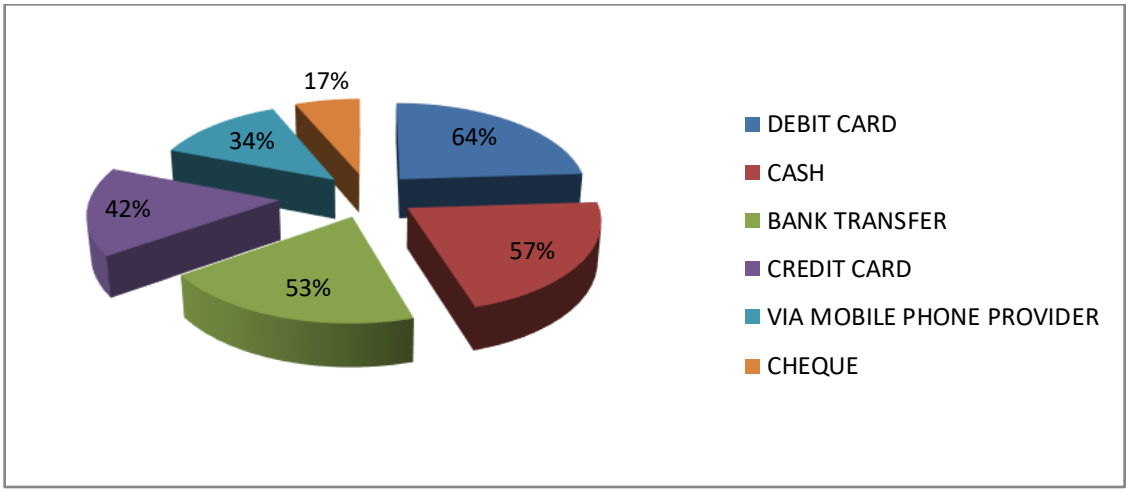

Figure 11: Payment methods used prior mobile wallets

Understanding the factors becomes critical in a market with relatively high adoption and growth rates for mobile wallets. The need for a digital payment mechanism is most usually driven by a desire to transact online, where cash payments are either unavailable or prohibitively expensive and unpleasant. The high response rate for a demand for a digital payment option should be seen by retailers as a hint that mobile wallet users in India are indicating a high level of interest in online shopping.

Cash back incentives, both from wallet providers and shops, are also worth noting. These types of promotions have definitely been successful in drawing new customers to mobile wallets, but they have also likely contributed to the industry's fragmentation and competition which exist in the business.

DRIVES FOR MOBILE WALLET ADOPTION

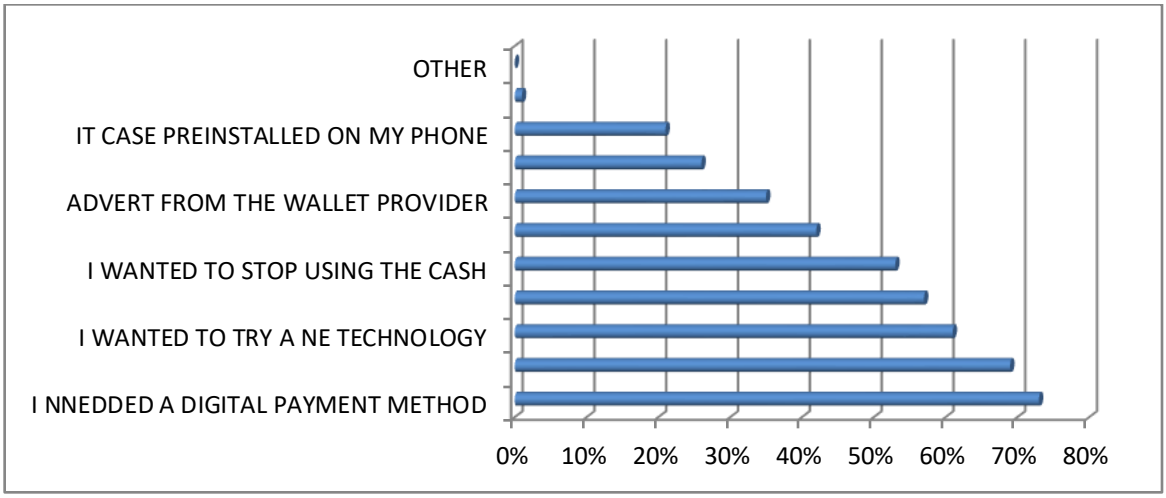

Figure 12: Drives for mobile wallet adoption

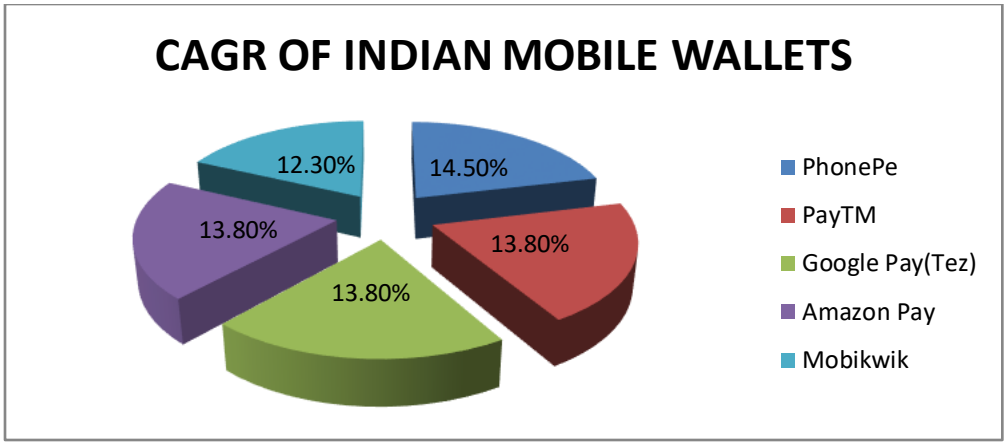

Figure 13: CAGR of Indian mobile wallets

III. INDONESIA

Indonesia is one of the most promising markets for merchants who accept mobile payments. Mobile wallet penetration is expected to triple over the next five years, with transactions nearly threefold, according to the third fastest growing countries we analysed. Mobile wallet use is rapidly bringing tens of millions of new consumers to digital commerce in Indonesia, a country with extremely low credit card penetration.

PARTICULARS	**AMOUNT OR %**	
	2020	**2025F.**
GDP PER CAPITA	$3.8K	$4K
MOBILE WALLET USERS	63.6M	202M
MOBILE WALLET TRANSACTION VOLUME	1.7B	16B
WALLET SPEND TO GDP PER CAPITA	11.5%	13.2%
MOBILE WALLET PENETRATION	25.6%	76.5%
MOBILE WALLET TRANSACTION VALUE	$28B	$107B

Table 7: Indonesia's mobile wallet statistics

MOBILE WALLET MARKET SHARE

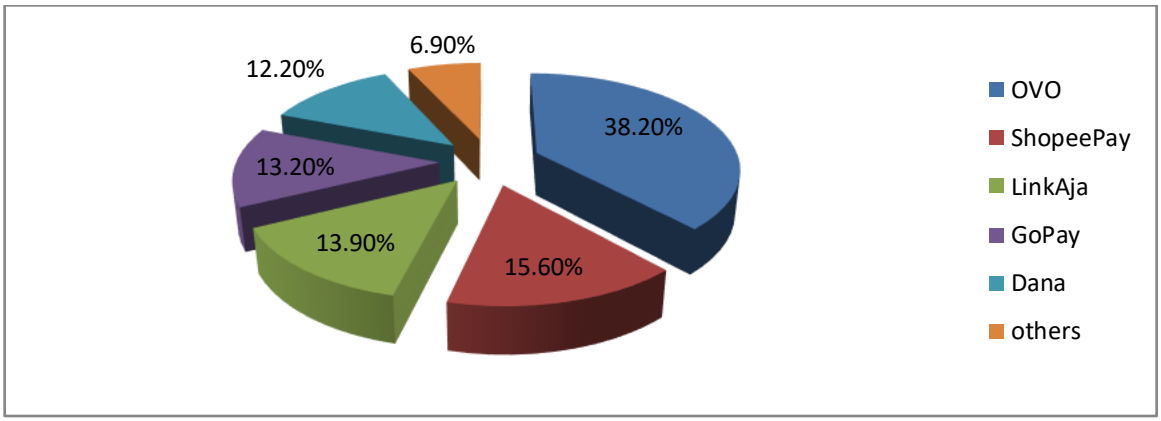

Figure 14: market share of Indonesia's mobile wallets

INDONESIA – COMPETITIVE LANDSCAPE

With five mobile wallets vying for market dominance in Indonesia, the mobile payments sector is characterised by fierce rivalry. Due of the fast rising market opportunity, competition is particularly strong, with injections of foreign venture capital backing expensive promotional campaigns. Due to its substantial refunds and other promotions, ShoppeePay, a relatively recent entrant to the market, has become the second most popularly used wallet in Indonesia. Consumers in Indonesia use an average of 3.16 mobile wallets in order to get the most out of each one.

USERS (M) BY MOBILE WALLET

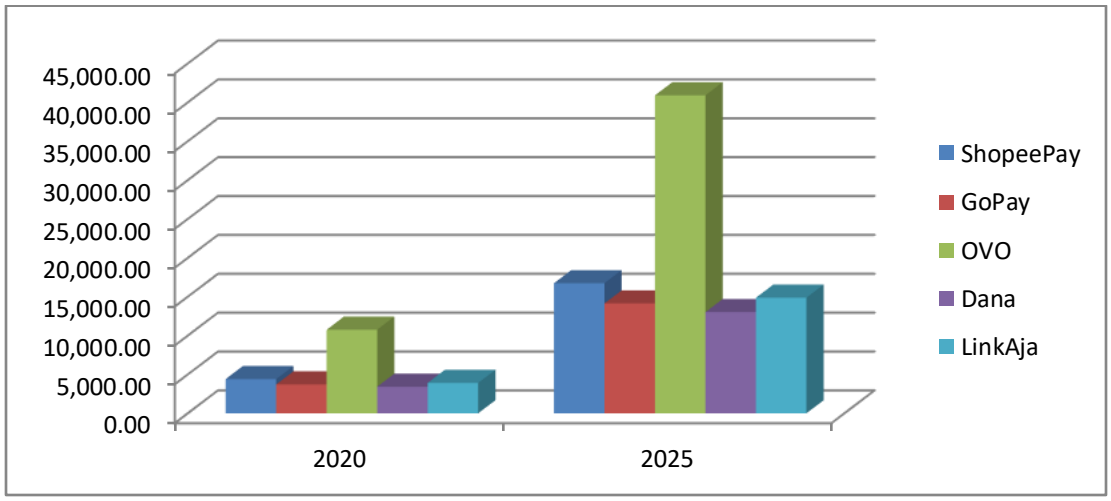

Figure 15: Indonesia's mobile wallet users

TAKEAWAYS

- Indonesia is one of the world's fastest-growing mobile payments markets, with mobile wallet users expected to more than triple by 2025 (from 63.6 million to 202 million).
- The most significant barrier to mobile payment acceptance in Indonesia is market fragmentation, with five notable mobile wallets and 3.16 mobile wallets per consumer.
- With a youthful, mobile-only population, mobile wallets are heavily used for online purchases (81 percent of survey respondents).
- OVO will have the largest share of mobile wallets by 2025 as per the projections of mobile wallet report 2021.

IV. JAPAN

Japan is one of the most mature markets in our research, and mobile payments have been in various forms there for many years. Despite high credit card penetration, mobile wallets are gradually displaceing cash in Japan, propelling the country toward digital payment supremacy. This market is very fragmented, as there are numerous mobile payment methods available, including eCommerce marketplaces, messaging apps, and cell operators.

PARTICULARS	**AMOUNT or %**	
	2020	**2025F.**
GDP PER CAPITA	$38.4K	$40.1K
MOBILE WALLET USERS	89.1M	123.4M
MOBILE WALLET TRANSACTION VOLUME	7.2B	14.6B
WALLET SPEND TO GDP PER CAPITA	5.9%	7.1%
MOBILE WALLET PENETRATION	70.6%	98.6%
MOBILE WALLET TRANSACTION VALUE	$189B	$337B

TABLE 8: Japan's mobile wallet statistics

MOBILE WALLET USERS MARKET SHARE

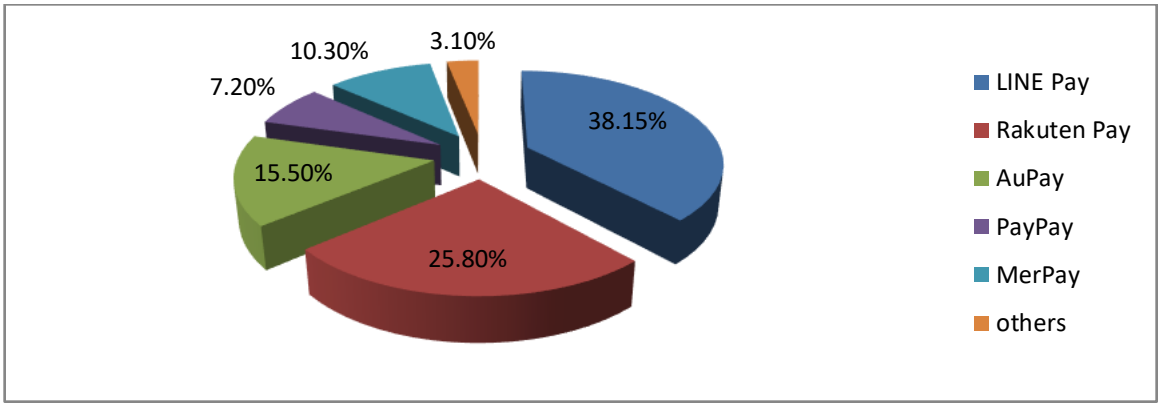

Figure16: Market share of Japan's mobile wallets

JAPAN – COMPETITIVE LANDSCAPE

The mobile payments landscape in Japan is somewhat established, yet it is fast growing. LINE, a popular mobile messaging service, commands over 40% of the market. For years, mobile operators have offered popular payment methods, and KDDI's mobile wallet, AuPay, is currently the market's third most popular wallet. Rakuten (Rakuten Pay) and Mercari (MerPay), two eCommerce platforms, with a combined market share of more than 30%. This market has a good level of rivalry, and which ecosystem(s) has the best stickiness will likely define the next five years. (telco vs. messaging vs. eCommerce)

USERS (M) BY MOBILE WALLETS

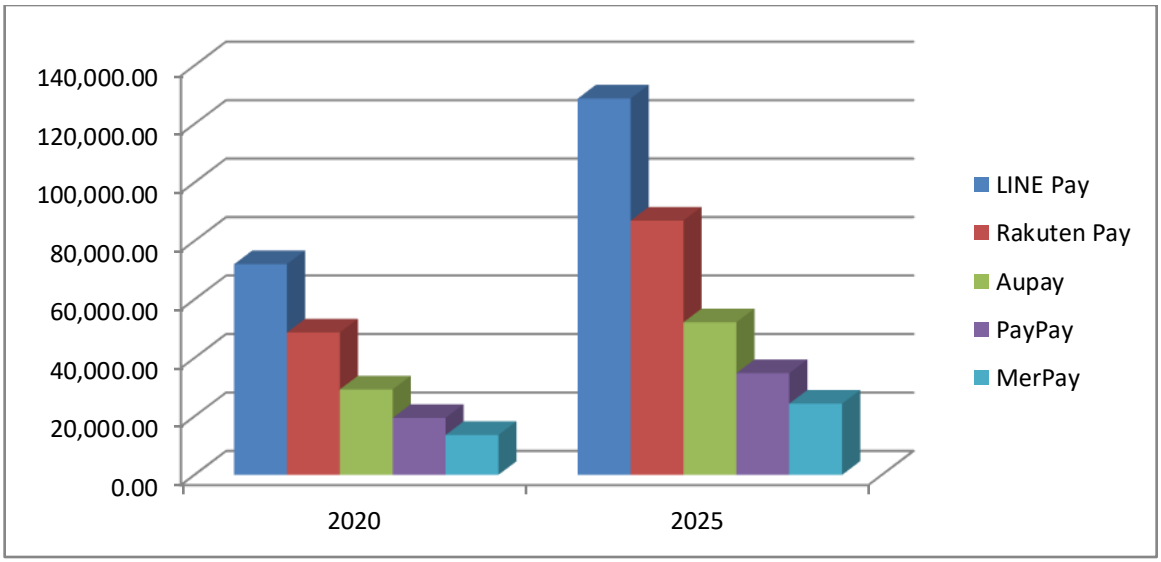

Figure 17: Japan's mobile wallet users

TAKEAWAYS

- Japan is one of the highly developed markets in which stored value mobile wallets are highly popular. Desire to move towards cashless economy or non – card payment system are major contributing factors for adoption of mobile wallets.
- There is wide scope in the market of mobile wallets as transactions are expected to be double by 2025 i.e. from 7.2 billion to 14.6 billion transactions/year.
- The mobile wallet users will increase from 89.1 million to 123.4 million making it grow by almost 39%.

V. MALAYSIA

Malaysia is one of Southeast Asia's most advanced developing markets, with a GDP per capita roughly quadruple that of Indonesia and the Philippines. Malaysia lags behind other Southeast Asian countries in terms of mobile payment acceptance, as mobile wallets have been slower to launch and establish foothold in the market. Malaysia, on the other hand, is likely to experience hypergrowth over the next five years, with mobile wallet users and penetration expected to triple, and transactions expected to increase by more than tenfold.

PARTICULARS	AMOUNT or %	
	2020	2025F
GDP PER CAPITA	$11.2K	$12K
MOBILE WALLET USERS	10.3M	32.6M
MOBILE WALLET TRANSACTION VOLUME	338M	3.7B
WALLET SPEND TO GDP PER CAPITA	5.3%	7.9%
MOBILE WALLET PENETRATION	31.7%	93.9%
MOBILE WALLET TRANSACTION VALUE	$5.5B	$28.2B

Table 9: Malaysia's mobile wallet statistics

MOBILE WALLET MARKET SHARE

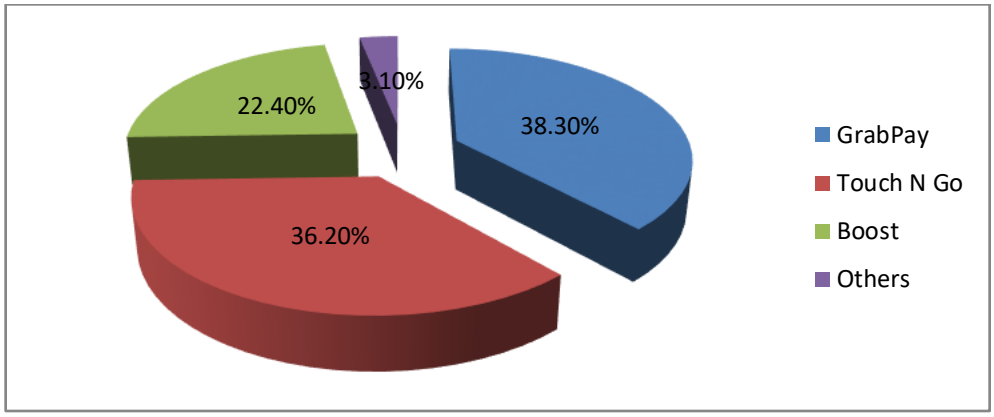

Figure 18: Market share of Malaysia's mobile wallets

MALAYSIA – COMPETITIVE LANDSCAPE

Three mobile wallets will compete in Malaysia for the 20 million or more users who are expected to use mobile payments in the next five years. GrabPay has a significant advantage over its competitors due to its longer market presence, Super App features, and higher merchant usage. Touch 'N Go, which was originally designed to pay for road tolls, has been gaining attraction on GrabPay, thanks to Ant Financial's investment. Boost, Malaysia's "pure-play" wallet, has risen swiftly and will continue to provide a threat in the coming years.

USERS (M) BY MOBILE WALLET

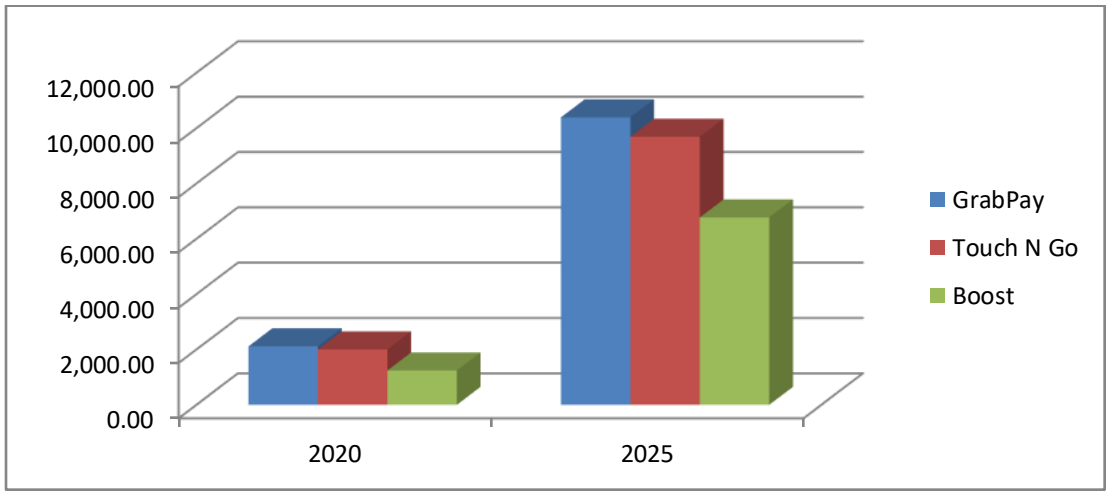

Figure 19: Mobile wallet users of Malaysia

TAKEAWAYS

- Malaysia is a rapidly expanding mobile payment market that will bridge the gap with its Southeast Asian neighbours during the next five years i.e. till 2025.
- GrabPay is seen as having an advantage in the market as the only Super App, offering an ecosystem of services and benefiting from greater acceptance than competitors, with both GrabPay and Touch 'N Go close to 40% market share; Boost is growing and competitive at roughly 22% market share.
- The mobile wallet users will increase from 10.3 million to 32.6 million making people technology dependent.

VI. PHILIPINES

Another Southeast Asian market witnessing strong economic and mobile payment growth is the Philippines. The duopoly of GCash and PayMaya, both created out of traditional mobile money and owned by cell operators Globe and Smart, dominates the mobile payments sector. After a lot of stops and starts in the Philippine market, Grab, the regional super app, is aiming to shatter the duopoly. Over the next five years, the Philippines is expected to see a nearly ninefold increase in mobile payments transactions, with user adoption expected to quadruple.

PARTICULARS	AMOUNT or %	
	2020	2025F.
GDP PER CAPITA	$3.2K	$3.8K
MOBILE WALLET USERS	24.6M	75.5M
MOBILE WALLET TRANSACTION VOLUME	972M	8.99B
WALLET SPEND TO GDP PER CAPITA	21.6%	24.1%
MOBILE WALLET PENETRATION	22.4%	63.4%
MOBILE WALLET TRANSACTION VALUE	$15B	$63.4B

Table 11: Philippines's mobile wallet statistics

MOBILE WALLET MARKET SHARE

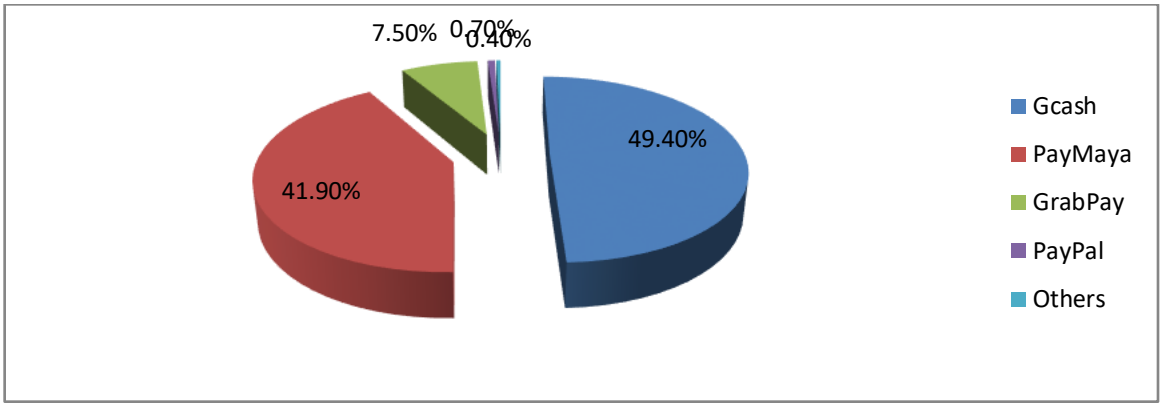

Figure 22: Market share of Philippines's mobile wallets

PHILIPPINES – COMPETITIVE LANDSCAPE

In the Philippines, the mobile wallet duopoly of GCash and PayMaya reflects the mobile operator duopoly of Globe and Smart, the two telecoms that produced those wallets. Because of its Super App capabilities, large foreign venture financing, and expanding smartphone penetration, GrabPay is the most likely player to threaten the ecosystem (due to reach 85 percent by 2025). Despite the fact that GrabPay is expanding faster than GCash and PayMaya, we do not expect it to overtake either in the next five years.

USERS (M) BY MOBILE WALLET

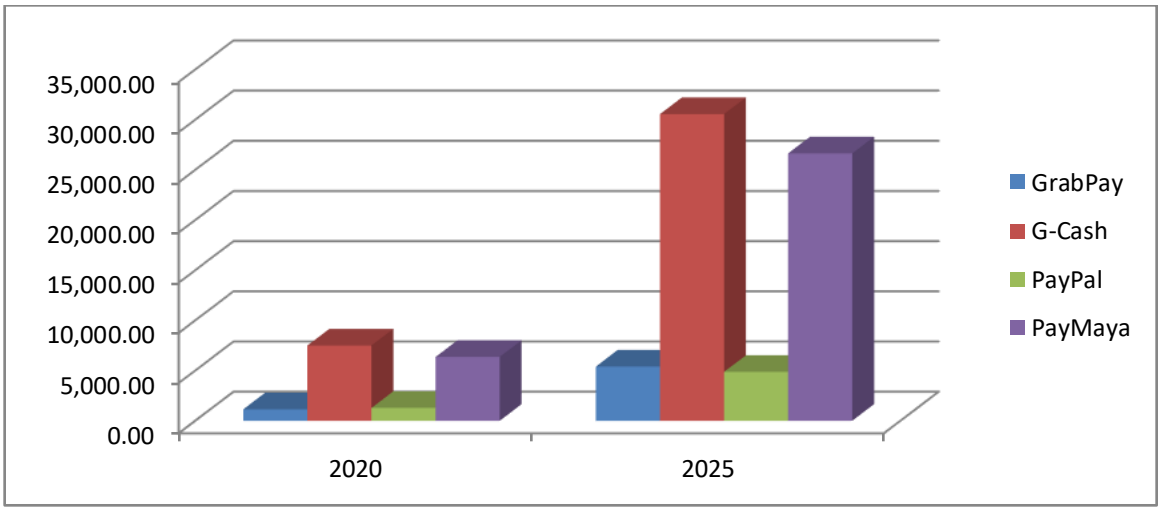

Figure 24: Mobile wallet users of Philippines

TAKEAWAYS

- In terms of predicted economic and mobile payment growth, the Philippines is similar to many other Southeast Asian countries.
- GCash and PayMaya, however, dominate the market with over 90% market share combined. GrabPay is expected to expand at a faster rate, owing to its more extensive offers.
- With an estimated 50 million additional mobile wallet users in the next five years, mobile wallet companies are set to encounter tough competition for new consumers.

VII.SINGAPORE

With a population of under 5.7 million people, the island nation has disproportionate spending power and eCommerce usage. Singapore, Southeast Asia's technological hub, is expected to have a mobile wallet penetration rate of about 95 percent by 2025. As Singapore moves closer to becoming a fully digital economy, mobile wallet transactions are expected to surge 11-fold. Despite its tiny population, the mobile payments ecosystem in Singapore is growing, with a variety of services including Grab, a regional super app, a telco wallet (Singtel Dash), a bank-based wallet (DBS payLah!) and the digitization of the national transit card, EZ-Link.

PARTICULARS	AMOUNT or %	
	2020	2025F.
GDP PER CAPITA	$64.7K	$73.6K
MOBILE WALLET USERS	1.8M	5.8M
MOBILE WALLET TRANSACTION VOLUME	101M	1.1B
WALLET SPEND TO GDP PER CAPITA	1.3%	2.1%
MOBILE WALLET PENETRATION	30.4%	94.7%
MOBILE WALLET TRANSACTION VALUE	$1.4B	$8B

Table 12: Singapore's mobile wallet statistics

MOBILE WALLET MARKET SHARE

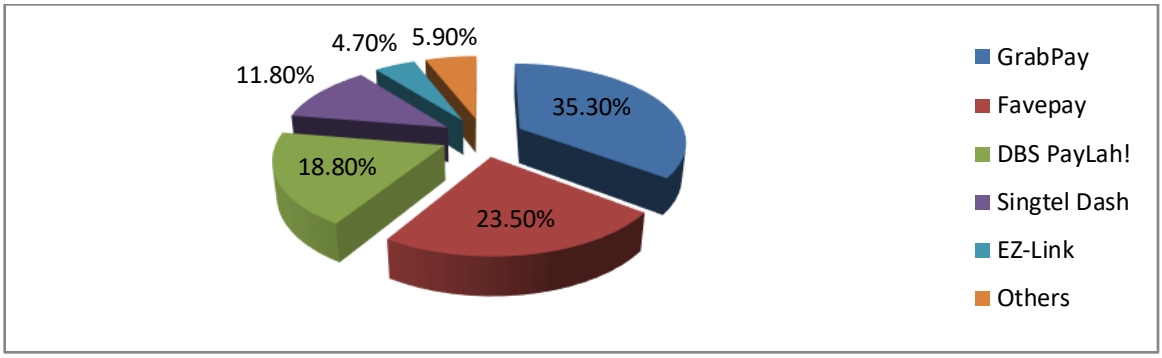

Figure 25: Market share of Singapore's mobile wallets

SINGAPORE – COMPETITIVE LANDCAPE

Singapore's mobile payments ecosystem is highly competitive, especially for a country with a population of only 5.7 million people. GrabPay, a regional mega app based in Singapore, with a 35 percent market share and offers a variety of financial services. Favepay has been gaining on GrabPay, thanks to its rewards program and ability to seamlessly incorporate existing card payments. DBS PayLah!, Singtel Dash, and EZ-Link all benefit from their status as Singapore's state-owned bank, telco, and public transportation networks.

USERS (M) BY MOBILE WALLETS

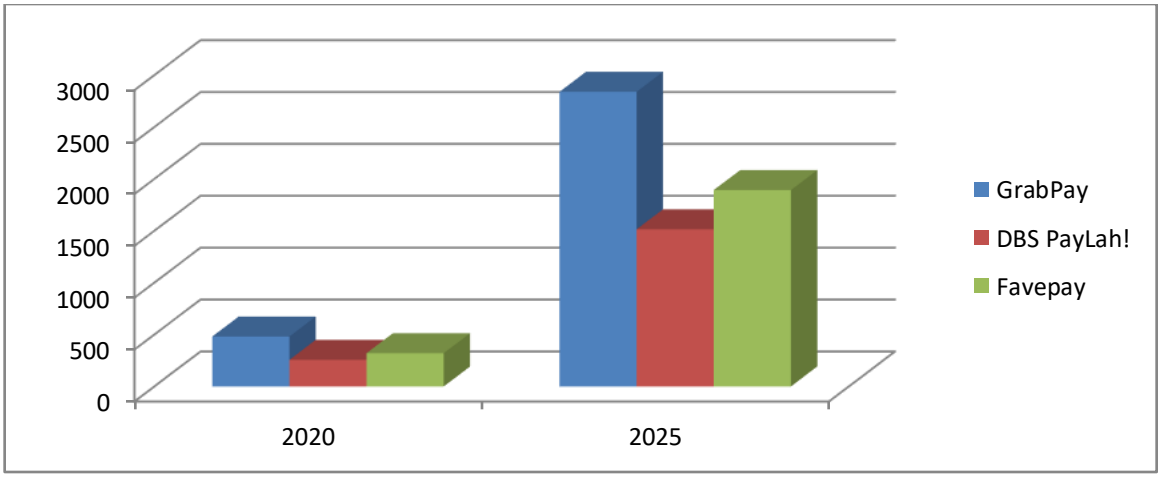

Figure 26: Mobile wallet users of Singapore

TAKEAWAYS

- Despite its small population, Singapore is one of the wealthiest and technologically advanced countries in the world, and thus has a highly competitive mobile payments ecosystem.

- Although GrabPay is the most popular mobile wallet in Singapore, many customers choose to use both since GrabPay offers excellent app functionality while Favepay offers a better rewards program.
- By 2025, approximately 95 percent of Singapore's population is expected to use mobile wallets, indicating that the country is rapidly moving toward a cashless future.

FINDINGS

The objective of the study was to analyse the trend of digital wallets in Asia Pacific countries. The analysis shows the growth trend of different countries on adoption of digital wallets. The analysis shows how the mobile wallet users will increase by 2025. The people are becoming more technology driven. Besides technology, Covid-19 pandemic and India's drive towards cashless economy is also attracting people towards the use of digital wallets. But unbanked population in some parts of Asia is still a major hindrance in the growth of digital wallet industry.

The countries like China, Pakistan and Philippines are duopoly economies with two mobile wallet companies holding the major stake in the market. Up until now, China has set the industry standard for wallet usage. The popular wallets in China are Alipay and WeChat Pay, both of which have considerable growth rate till date. Japan has a lengthy history with wallets despite being a less well-known market than China. To demonstrate how far ahead of the curve it has been, iMode (a division of NTT Docomo) introduced the first mobile wallet in the world in Japan in 1999. Since then, these wallets have spread to other markets and new brands have entered the fray, creating a highly dynamic market environment. Mobile wallet adoption in India reached a tipping point following the debut of the UPI in August 2016 and the country's efforts to implement demonetization later that year. Since then, mobile wallet payments have been widely accepted. This is the main illustration of how a system launch might encourage a quick shift to digital. Many economies, including Indonesia, Philippines, Vietnam, and Thailand, are positioned to experience fast growth in the use of mobile wallets. These markets are ideal for the rapid expansion of mobile wallets because they do not have large levels of card usage. The flood of finance from global digital firms is boosting growth in emerging nations even more. The mobile payments ecosystem in Asia is progressing thanks to investments from China, Japan, and even Silicon Valley. With the introduction of national QR code schemes in Asian economies like Singapore and Indonesia, we predict that this trend will gain momentum over time. A QR code payment option utilizing a payment label or smartphone is far easier and less expensive. In 2020, Bank Indonesia adopted the QRIS (Quick Response Code Indonesia Standard), which mandates the usage of a particular sort of QR code for payments from all wallet providers. In Asia Pacific the mobile wallet users will increase from 1.8 billion to 2.6 billion making it to increase by 44.4% by the end of 2025.

There were 55 mobile wallets with stored value in 2020, and they handled over $1 billion annual transactions. We forecast that more than $1 billion transactions will be processed by 69 stored value mobile wallets by 2025 in the world.

Over 2.8 billion mobile wallets were in use at the end of 2020, and we anticipate this figure to increase by almost 74 percent over the next five years to reach 4.8 billion till the end of 2025.

It was also found that

- In China, AliPay has major market share with 49.0%.
- In India, PayTM has major market share. It constitutes 25.6% share in Indian mobile wallets market.
- OVO has largest market share (38.2%) in Indonesia
- In Japan, LINE Pay makes up the largest market share (38.1%)
- In Malaysian market of mobile wallets GrabPay has majority of the share (38.3%)
- In Pakistan Jazzcash has major market share (37.9%)
- Gcash has majority of market share in Philippines (49.4%)
- In Singapore the majority of market is captured by GrabPay (35.3%)

CONCLUSION

Today, Asia pacific is one of the most growing industries of mobile or digital wallets and will continue to grow by 2025. Online payment methods using e-wallets are increasingly gaining popularity. E wallets are being embraced by consumers at an astonishingly fast rate, partly because they're convenient and simple to use. Tech-savvy consumers are looking for solutions that can deliver the smooth, Omni-channel shopping experiences they desire. There is little doubt that E-wallets will become more widely used in the future. The graph for mobile wallets in India shows an exponential rise, regardless of whether the measure is the availability of mobile payment choices or something as basic as merchant and consumer acceptance. Although mobile wallets are still in their infancy, they are widely accepted, and their rate of expansion is astounding. In an interview, PayTM's vice president of products Nitin Mishra stated, "We've experienced exponential growth in wallets and have just passed the 100 million wallet threshold. On the Paytm platform, we see between 70 and 75 million transactions, with mobile wallets accounting for one third of those.

Simply put, there has been a significant change in how we utilize our mobile devices. Although there have been some hiccups along the way, a large number of people all around the country are growing more at ease with using their cell phones to make payments. Once a certain level of familiarity sets in, using a phone to conduct business is natural and will soon become second nature.

The progressive transition from cash to digital has been caused by a number of variables. However, the tremendous development of mobile and internet capabilities has been crucial in the transition to digital. Siddharth Arora, CEO of ePaisa, claims that India has more than 500 million mobile phone users and 90 percent of these phones can handle financial transactions, compared to the 240 million bank accounts in the nation.

The RBI has moved quickly to facilitate the usage of e-money after years of trying to convince consumers to switch from paper to plastic money. Although the majority of banks already offer their own mobile wallets, like ICICI Bank's Pockets, SBI's SBI Buddy, and YES BANK's YES PAY and others. However, the most recent advancement has been the addition of capability for money transfers between online wallets.

India's massive population presents the biggest obstacle for e-wallets and electronic money. Despite the fact that we have the efforts in place, it might be challenging to drive numbers.

Digital payment interfaces must provide incentives to both consumers and merchants to encourage adoption in order to overcome these obstacles. Why they should choose digital over cash is the crucial question for both sides. Mobile payments must be quick, simple, and secure for the user to utilize. The merchant, on the other hand, requires it to save time, reduce expenses, be inexpensive, and provide a new source of income.

Although many digital payment systems are attempting to diversify into other industries, recharges, bill payments, and taxi reservations continue to be popular forms of electronic payments. For instance, PayTM has made an effort to integrate its interface with brands, retailers, small retail businesses, coffee shops, hotels, and much more. They even went so far as to enter the education market by enabling users to pay for coaching lessons using their mobile wallets.

The RBI will need to fully support the endeavors of mobile wallet providers, and government programs like infrastructure, data plans, reliable networks, improved communications, and so on will be crucial to the sustained development of digital payments in India. Additionally, there is a critical need for e-payment knowledge because it will help more individuals join the e-payment movement.

Overall, if we can get things moving in the correct direction, mobile wallets will soon take the place of cash.

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