

“OVERVIEW OF DIFFERENT DIGITAL PAYMENT PLATFORMS WITH ITS GROWTH, BENEFIT AND LIMITATIONS”

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ABSTRACT: Few years back who thought that we would be able to pay at places with our mobiles? There has been no place today where we cannot pay with the help of digital wallet. Whether it is online shopping or malls or small shops to departmental stores all now use mobile payment method. And currently in the scene of Pandemic due to COVID-19 the growth no contact has given a rise to online or mobile payment.

CSS Concept: Ms-word for text and MS-Excel for pie charts.

KEYWORDS: Internet, Mobile Payment, Online, Shopping, Digital wallet

I. INTRODUCTION

As M-wallet is surging on an account of growing online payment transactions in INDIA, this study undertakes to give an insight about M-wallets payment gateway services. The study helps in understanding the company preference of the users with regard to M-wallets. It helps us to know the kind of services used by the users, which are provided by the M-wallet payment gateway services providers. The study also aims to find the factors influencing the perception of the consumers towards M-wallets.

Mobile payment (also referred to as mobile money, mobile money transfer, and mobile wallet) generally refer to payment services operated under financial regulation and performed from or via a mobile device. Instead of paying with cash, cheque (or check), or credit cards, a consumer can use a mobile phone to pay for a wide range of services and digital or hard goods. Although the concept of using non-coin-based currency systems has a long history, it is only recently that the technology to support such systems has become widely available.

Mobile payment is being adopted all over the world in different ways. The mobile payment market for goods and services, excluding contactless payments using near field communication (NFC) and money transfers, is expected to exceed. Investment on mobile money services is expected to grow by 22.2% during the next two years across the globe. It will result in revenue share of mobile money reaching up to 9% by 2018. Asia and Africa will observe significant growth for mobile money with technological innovation and focus on interoperability emerging as prominent trends by 2018. In developing countries mobile payment solutions have been deployed as a means of extending financial services to the community known as the "unbanked" or "underbanked," which is estimated to be as much as 50% of the world's adult population, according to Financial Access' 2009 Report "Half the World is Unbanked". These payment networks are often used for micropayments.

1.1 E-WALLET

1.1.1 What is the e-wallet app?

The E-Wallet app helps in making payment online or through mobile and keeps a record of all the transactions made through. We can check how much money you have received or paid, from whom and to whom, and on which date. The E-Wallet app also helps the user to pay the bills like electricity, phone, and such others through the app.

According to statistics, electronic payment services take second place in popularity.



fig. 1

This is the data of 2017, and since then the demand for e-payment services and digital card wallets has been growing, as the following statistics show.



fig. 2

As said, such demand is due to the rapid development of e-commerce. Confirmation is another info-graphic.

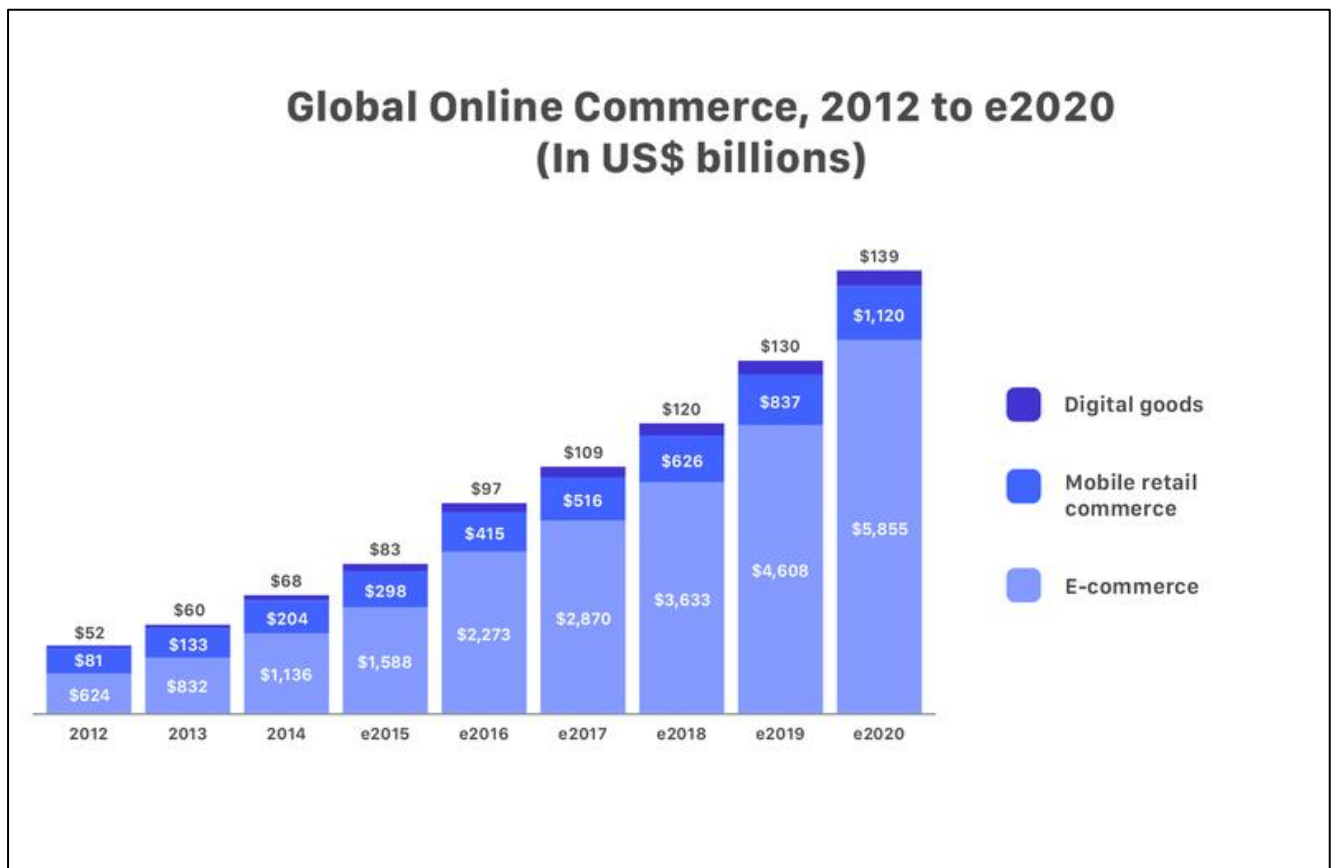


fig. 3

1.1.2 What’s an e-wallet?

Talking about a program which allows the user to store electronic money (and manipulate them). It’s a type of digital currency for online transactions via a desktop or smartphone.

But before taking advantage of his e-wallet, a user must select a digital payment system which is a type of pre-paid and password-protected account for storing the money for any future online transaction. It is to this account that the client should connect payment cards.

The online e-wallet has basically two components:

- The software component ensures security and strong data encryption.
- The information component is a database containing personal user data (name, card details, payment options, and so on).

1.1.3 Crypto-currency mobile wallet apps

A crypto-currency is a form of electronic money which has been incredibly popular lately (especially bitcoins, they have won the greatest glory). And since any crypto-currency is virtual (you can't touch it with your hands!), you also need electronic wallets. Otherwise, you won't be able to manage such funds.

In fact, bitcoin is being stored in the blockchain network, not in the crypto-currency wallet itself. The wallet only contains private and public keys and makes it possible to work with them.

Crypto-currency wallets are divided into several types:

- **Desktop wallets**, they're accessible only from the computer on which they are installed. They provide sufficient data security, although when hacking a computer (or if it's been infected with a virus) there is a chance of losing all means.
- **Hardware wallets** which are similar to previous ones but using a hardware data storage device (USB or something of the sort).

- **Online digital wallets.** Their work is based on cloud storage technology. As you understand, there are some drawbacks in the cloud-focused approach (like a greater risk to have information stolen), although there are also benefits: let's say, the accessibility (namely, the possibility to use these wallets anywhere, from any device).
- **Mobile digital wallets,** they work as an application on the mobile device. The advantages are undeniable; you're even allowed to use such wallets in retail outlets.
- **Paper wallets,** they provide the highest level of security but are not always convenient to use. There is e-wallet apps focused only on a particular type of currency, but there are also those which allow making any type of mobile payments. You have to take it into account when choosing a digital payment system we've talked about earlier.

1.1.4 Types of e-wallets by delivery technology

There are different ways to classify online payment services, In the meantime, let's talk about classification by delivery technology.

- **NFC technology**

NFC means Near Field Communication. The essence of technology lies in the simple data exchange between closely located devices: between a credit card/smartphone and reading terminal and so on.

Talking about the contactless payment, it allows us to pay using a smartphone - instead of payment cards. Striking instances are Samsung Pay, Android Pay, and Apple Pay. Near Field Communication is also good at transferring funds (by touching a smartphone to a smartphone).

Pros:

- Intuitive design.
- Easy connection to the ecosystem of e-payment services.
- High level of security.

Cons:

- Terminals (or other similar devices) must be equipped with an NFC component.
- **Optical/QR code**

Here implying at cloud-based technology which uses QR code generated by client's gadget or merchant's sales outlet.

Thanks to the QR-coding system, customers' able to make purchases and payments through a mobile gadget almost everywhere, online and offline: in Internet shops, cafes, and restaurants, in taxis and retail outlets. Among the examples worth mentioning are WeChat Wallet, Starbucks mobile payment, and Walmart Pay.

Pros:

- There are a great many barcode readers in the store units.
- Entering mobile payments via a card reader is a really simple process requiring no extra effort.

Cons:

- Security isn't high enough.
- Lack of a global payment ecosystem.
- **Digital Delivery Technology**

Such digital wallets are focused on payment for goods and services on the Internet. In the outlets of the real (non-virtual) world, these applications can be used in rare cases and only under certain conditions.

Best digital wallets of this type include Alipay, PayPal, Pay with Amazon.

Pros:

- Easy to install and use.

Cons:

- It's harder to pay in real stores.
- **SMS-based payment**

In this case, the account is managed using SMS commands (to confirm payment). The method is good for P2P marketplaces, C2B real-world transactions, etc. Examples are Mobile Money, Orange Money, Tigo.

Pros:

- The possibility not to leave the seller's site (application) while making payment;
- You can do without Internet access in real-world conditions (say, at some gas stations you can inform the operator about the phone number and payment confirmation code, and such information would be enough to pay).

Cons:

- Fairly limited platform type, not flexible enough.

1.1.5 E-WALLET MARKET

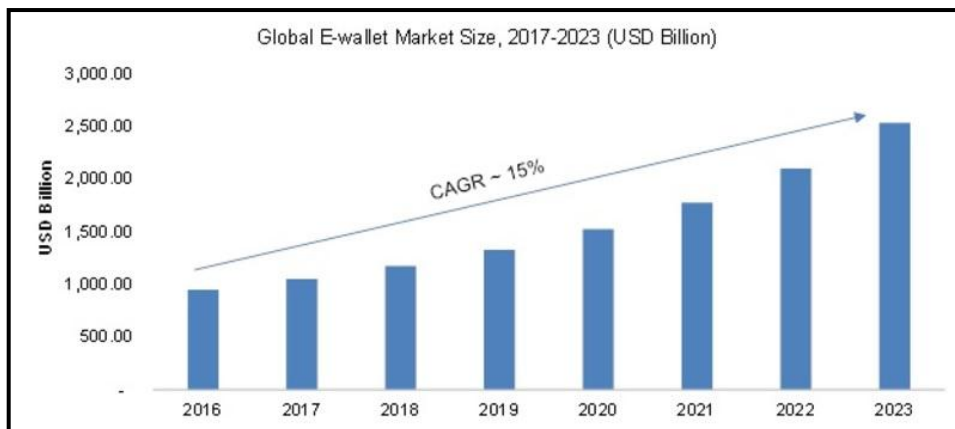


fig. 4

The global E-wallet market is expected to grow at CAGR of 15% and estimated to reach market size of approximately USD 2,100 billion by the end of forecast period 2017-2023

1.2 GROWTH OF DIGITAL WALLET

The FinTech industry has been witnessing continual innovations to not just prepare the industry for modern day users but also to bring all the traditional services that once called for a bank visit to now happen at the ease of mobile. The time when users had to pay a visit to their bank to transfer money, check their account balance, or even update their passbook to view recent transactions are long gone. With the inception of mobile banking domain, every little task that once happened within the four walls of a bank now happens between the four edges of a mobile screen — a hallmark of the FinTech Era. This FinTech Era has brought 24/7 access of financial services to consumers. This was earlier limited to just the banking hours. There are a number of services that have branched out in the finance industry with the advent of technology. Mobile banking and digital wallets are at the top of the list.

Although not directly related to banking apps, digital wallet apps like Apple Pay, Samsung Pay, and Google Pay are being downloaded and used to a much greater extent than their mobile banking counterparts.

This growth is visible from the growing user base of the wallet apps and how they use them. And the growth of digital wallets is a global trend. All mobile users making a transaction using their devices have the same story to share. In the United States alone, 57 percent of users (which amounts to 60 million people) have used a mobile wallet at least once.

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In this article, we will be looking at digital wallets and the role they play in the FinTech industry. Along with that, we will be looking at how they impact the mobile banking app economy. We will also look into the reasons why even after a series of innovations, mobile banking scores low in terms of how disruptive it is.

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You might be wondering what the reason behind this widespread growth is. The reason is just this — the ability to have one platform that makes transactions a lot faster since it doesn't require the lengthy process of adding a beneficiary every time you have to make payment to somebody. Because of the quick transaction facility that digital wallets allow both from individual to individual and between individuals and businesses, the technology has been able to become the most used element of the FinTech Industry. It is time to delve a little further into the technologies that drive this universally accepted concept. With more than 900 million mobile subscribers, driven by an unprecedented growth in the internet subscribers, the market for mobile enabled payments in INDIA has grown more than 15 times to reach its current size of US\$ 1.4 billion by the end of FY'15 from US\$ 90 million at the end of FY'12.

According to a recent report by “Growth Praxis”, although mobile payments have been available in INDIA since 2010, only a small fraction of users made payments through mobile devices. Companies such as m-check and beam money who were early innovators in the space have already closed down. Earlier mobile transactions involved typing of complicated SMS messages for making payments. Furthermore the whole process of payment was dependent on the telecom network. However, with increased smart phone penetration, app, wallet based payment solutions, the problem of complexity in payment through SMS and dependency on network has been reduced. In INDIA mobile payments are predominantly used for utility bill payments which currently hold a share of 34% of mobile payments value, while prepaid top-ups and domestic remittance hold 38% and 26% respectively and 2% of m-shopping.

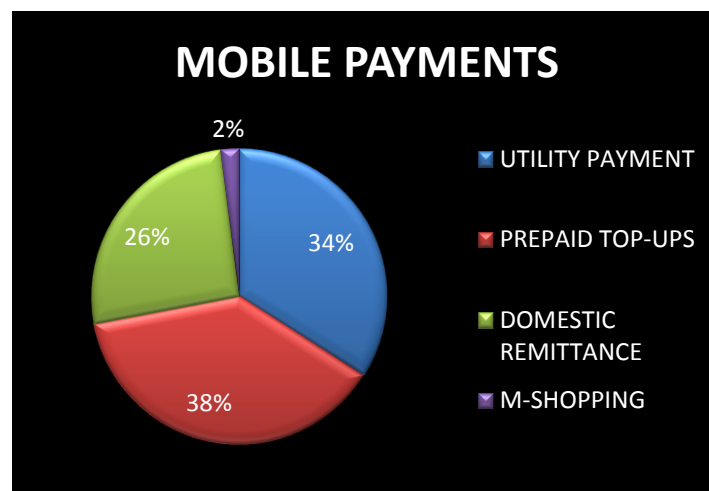


fig.5

According to “India mobile wallet market research & opportunities, 2020”, the mobile wallet market in India is forecast to reach US\$ 6.6 billion by 2020. The mobile wallet market in India is projected to exhibit exponential growth, on account of rising Smartphone penetration rate, growing mobile internet user base, and increasing government support. Many mobile wallet companies have increasingly formed collaborations with service providers and financial institutions to offer a robust and seamless mobile wallet platform to the users. In addition, mobile wallet companies operating in India are also offering attractive deals and incentives to attract new users. In 2014, Tier-I cities such as Delhi, Mumbai, Bangalore, Pune etc registered the highest number of wallet users in the country, while Tier-II cities such as Jaipur, Lucknow, Chandigarh, Indore, Patna etc are emerging cities in terms of mobile wallet usage. Banking accounted for the largest end user sector in country's mobile wallet market in 2014, followed by retail, telecom and transportation sector. Few of the leading companies operating in India mobile wallet market include Paytm, Mobikwik, and Itzcash. According to the report by research and consultancy firm of RNCOS, the current size of the mobile wallet (M-wallet) market in

India stands about RS 350 Crore in 2014 and is estimated to touch RS 1,210 Crore by 2019. of this cash transactions accounted for 38%, while recharge and bill payments of 30% and utilities (include online travel, movie, hotel and other bookings) and others (include m-shopping of clothes, electronics and other items) of 12% and 20% respectively. According to RBI data, transaction of M-wallet has surged three fold to Rs 8,180 crore in 2014-2015. The number of transactions rose from 106 million to 255 million in 2014- 2015 over the previous year.

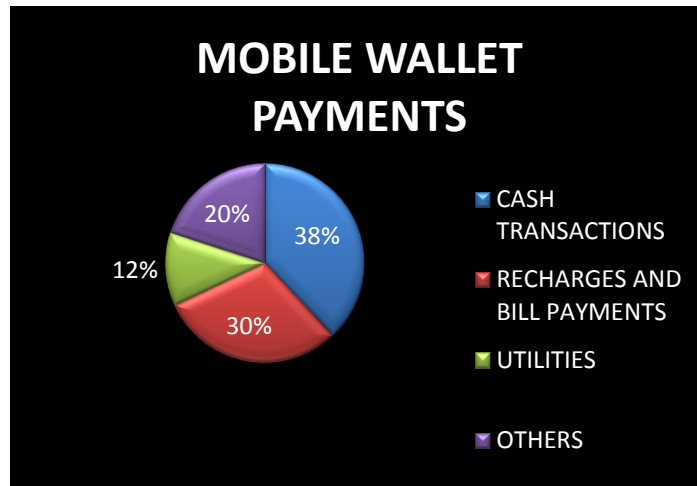


fig. 6

1.3 COMPANY’S PROFILE

1. PAYTM:

Paytm is an Indian e-commerce shopping website headquartered in Noida, India, launched in 2010. It is owned by One97 Communications. The firm started by offering mobile recharging, adding bill payment and e-commerce in INDIA, with products similar to businesses such as Flipkart, Amazon, Snapdeal. In 2015, it added booking bus travel. Paytm was founded and incubated by One97 communications in 2010 as a prepaid mobile recharge website. Paytm is an acronym for "Pay through Mobile" with Android, windows and ios apps. In 2014, the company launched Paytm Wallet, now India's largest mobile payment service platform with over 100 million wallets & 10 million app downloads. Paytm users can also pay for the fuel at Indian Oil Petrol pump through paytm wallet. **FUNDING:** In March 2015, Indian industrialist Rattan Tata made personal investment in the firm. The same month, the company received a \$575 million investment from Chinese e-commerce Company Alibaba group, after Ant Financial service group, an Alibaba Group affiliate, took 25% stake in One97 as part of a strategic agreement. Paytm borrowed 300cr from ICICI Bank in March 2016 as working capital. **PARTNERS:** Paytm works with the all mobile operators in all states in India for prepaid mobile, DTH, and Datacard recharges and postpaid mobile, landline, and Datacard bill payments. It has partnered with multiple national banks for credit card, debit card, and netbanking payments. Paytm also works with various billers for utility bill payments. It is the mediator between the third party and the customer. 100 million users 80,000+ merchants 75 million transactions per month.

2. MOBIKWIK:

Mobikwik is a mobile wallet and online payment system headquartered in Gurgaon, India, launched in 2009 by BipinPreet Singh and UpasanaTaku. It was tied up with various online merchants such as e-Bay, BookMyShow, Dominos, Shopclues and Snapdeal to provide to provide accessibility of their wallet as a payment option e-commerce sites. Mobikwik enables prepaid mobile, DTH and data card recharges, post-paid mobile bills payment and utility bill payment for electricity, gas and landline connections. It also offers these services via SMS, phone and apps that are available for Android, iOS and Windows platform. In terms of sales (transaction value), it did Rs 40 crore in FY13 and Rs 200 crore in FY14 and generate Rs 1,200 crore in FY15. **FUNDING:** Mobikwik raised \$5 million funding from a US-based firm in 2013 and is expected to get another \$30 million in the upcoming year. 25 million users 50,000+ merchants 60 million transactions per month.

3. FREECHARGE:

Free charge is an e-commerce website headquartered in Mumbai, Maharashtra. Freecharge was started in August 2010 by Kunal shah and SandeepTandon. It provides online facility to recharge any prepaid mobile

phone, postpaid mobile, DTH and Datacards in India. Freecharge has collaborated with some of the best and most popular and food companies like Peter England, McD, KFC to give discount coupons when the users recharge with them. On 8 April 2015, Snapdeal acquired Freecharge for about US\$400 to 450 million, which is considered being the biggest takeover in Indian e-commerce sector. **FUNDING:** Freecharge started its online service after getting seed funding from Tandon Group and Sequoia Capital in 2010, the company secured a funding of INR 200 Million from Sequoia Capital in 2011. In 2011, Freecharge was named one of the most promising technology startups from India by Pluggd.in. On 1 September 2014 Freecharge received \$33 million from Sequoia Capital, Sofina and Ru-Net. On 6 February, Freecharge further raised \$80 million from Hong-Kong based fund Tybourne Capital Management and SF-based fund Valiant Capital Management and existing investors. 20 million users 1,00,000+ merchants 30 million transactions per month.

4. BHIM :

Bharat Interface for Money (BHIM) is a mobile app developed by National Payments Corporation of India (NPCI), based on the Unified Payment Interface (UPI). It was launched by Prime Minister Narendra Modi, at DigiDhanmela at Talkatora Stadium in New Delhi on 30 December 2016. It was named after B. R. Ambedkar and is intended to facilitate e-payments directly through banks as part of the 2016 Indian banknote demonetisation and drive towards cashless transactions. The app supports all Indian banks which use that platform, which is built over the Immediate Payment Service infrastructure and allows the user to instantly transfer money between bank accounts of any two parties. It can be used on all mobile devices.

At present, there is no charge for transactions from ₹1 to ₹1 lakh. Minimum transaction amount should not be less than ₹1, also maximum number of transaction count of 20 in a day. Some bank might however levy a nominal charge as UPI or IMPS transfer fee.

BHIM allow users to send or receive money to or from UPI payment addresses, or to non-UPI based accounts (by scanning a QR code with account number and IFSC code or MMID (Mobile Money Identifier) Code).

Unlike mobile wallets (PayTM, MobiKwik, mPesa, Airtel Money etc) which hold money, the BHIM app is only a mechanism which transfers money between different bank accounts. Transactions on BHIM are nearly instantaneous and can be done 24/7 including weekends and bank holidays.

BHIM also allows users to check the current balance in their bank accounts and to choose which account to use for conducting transactions, although only one can be active at any time.

Users can create their own QR code for a fixed amount of money, which is helpful in merchant-seller-buyer transactions. Users can also have more than one payment address.

If the 12-digit Aadhaar number is listed as a payment ID, the BHIM app will not require any biometric authentication or prior registration with the bank or Unified Payment Interface (UPI).

Version 1.3 allows users to use mobile numbers from their contact book to send money and also save payment addresses for future use without needing to type the address again. User can also check the transaction history, which only shows transactions through BHIM.

Currently the fund transfer limit has been set to a maximum of ₹10,000 per transaction and a maximum of ₹20,000 in a 24-hour period. Indian banks have proposed transaction charges on UPI transactions, but there is no information on whether transactions through BHIM will also be charged.

5. PAYPAL:

PayPal Holdings, Inc. is an American company operating a worldwide online payments system that supports online money transfers and serves as an electronic alternative to traditional paper methods like checks and money orders. The company operates as a payment processor for online vendors, auction sites, and many other commercial users, for which it charges a fee in exchange for benefits such as one-click transactions and password memory. PayPal's payment system, also called PayPal, is considered a type of payment rail.

Established in 1998 as Confinity, PayPal had its initial public offering in 2002, and became a wholly owned subsidiary of eBay later that year.

In 2014, eBay announced plans to spin off PayPal into an independent company by mid-2015 and this was completed on July 18, 2015.

As of 2018, PayPal operates in 202 markets and has 254 million active, registered accounts. PayPal allows customers to send, receive, and hold funds in 25 currencies worldwide.

PayPal's services allow people to make financial transactions online by granting the ability to transfer funds electronically between individuals and businesses. Through PayPal, users can send or receive payments for online auctions on websites like eBay, purchase or sell goods and services, or donate money or receive donations. It is not necessary to have a PayPal account to use the company's services. PayPal account users can set currency conversion option in account settings, instructions.

From 2009 to 2016, PayPal operated Student Accounts, allowing parents to set up a student account, transfer money into it, and obtain a debit card for student use. The program provided tools to teach how to spend money wisely and take responsibility for actions. PayPal discontinued Student Accounts in August 2016.

In November 2009, PayPal opened its platform, allowing other services to get access to its code and to use its infrastructure in order to enable peer-to-peer online transactions.

In 2007, PayPal acquired the online credit product Bill Me Later, Inc., which has since been rebranded as PayPal Credit, and provided services for Comenity Capital Bank, the lender of PayPal Credit accounts. Founded in 2000, Bill Me Later is headquartered in Timonium, Maryland, with additional offices in Hunt Valley, Maryland; Chandler, Arizona; and San Francisco, California. PayPal Credit offers shoppers access to an instant online revolving line of credit at thousands of vendors that accept PayPal, subject to credit approval. PayPal Credit allows consumers to shop online in much the same way as they would with a traditional credit card. The rebranding of Bill Me Later as PayPal Credit also means that consumers can use PayPal Credit to fund transactions virtually anywhere PayPal is accepted. In 2015 PayPal agreed that PayPal Credit would pay a \$25 million fine to settle a complaint filed in Federal Court by the Consumer Financial Protection Bureau.

The PayPal app is available online or at the iTunes App Store and Google Play. One year after acquiring Braintree, PayPal introduced its "One Touch" service, which allows users to pay with a one-touch option on participating merchants websites or apps.

On November 28, 2011, PayPal reported Black Friday brought record mobile engagement including a 538% increase in global mobile payment volume when compared with Black Friday 2010.

In 2012, the company launched "PayPal Here", a small business mobile payment system that includes a combination of a free mobile app and a small card-reader that plugs into a smart phone.

PayPal launched an updated app for iOS and Android in 2013 that expanded its mobile app capabilities by allowing users to search for local shops and restaurants that accept PayPal payments, order ahead at participating venues, and access their PayPal Credit accounts (formerly known as Bill Me Later).

6. Google Pay:

Google Pay (stylized as **G Pay**; formerly **Pay with Google** and **Android Pay**) is a digital wallet platform and online payment system developed by Google to power in-app and tap-to-pay purchases on mobile devices, enabling users to make payments with Android phones, tablets or watches.

As of January 8, 2018, the old Android Pay and Google Wallet have unified into a single pay system called Google Pay. Android Pay was rebranded and renamed as Google Pay. It also took over the branding of Google Chrome's autofill feature. Google Pay adopts the features of both Android Pay and Google Wallet through its in-store, peer-to-peer, and online payments services.

The rebranded service provided a new API that allows merchants to add the payment service to websites, apps, Stripe, Braintree, and Google Assistant. The service allows users to use the payment cards they have on file with Google Play

The Google Pay app also added support for boarding passes and event tickets in May 2018.

On January 8, 2018, Google announced that Google Wallet would be merged into Android Pay, with the service as a whole rebranded as Google Pay. This merger extends the platform into web-based payments integrated into other Google and third-party services. The rebranding began to roll out as an update to the Android Pay app on February 20, 2018; the app was given an updated design, and now displays a personalized list of nearby stores which support Google Pay.

On December 21, 2018, Google Payment, obtained an e-money license in Lithuania - the license will enable Google to process payments, issue e-money, and handle electronic money wallets in the EU.

1.3.1 WHY TO USE THESE DIGITAL PAYMENT PLATFORMS?

1. Paytm: Payments made through PayTMs digital wallets in India are accepted almost everywhere across the nation. As a customer PayTM offers you various services through its digital wallets system. You can also use their e-wallet to make payments to numerous online merchants. One of the best things about this digital wallet is that it allows you to do much more than carry out your e-commerce transactions. Similarly, through their digital wallets in India, you can transfer money, travel, shop, and carry out many more transactions through PayTM. With payments via PayTM being accepted almost everywhere; it's hard not to simply switch to it completely. PayTM has recently partnered with selective educational institutes across India to make it easier for the users to make cashless payments of fees as well.

2. Mobikwik: Their e-wallet payment system enables you to recharge, pay bills, book travel tickets, and make third-party purchases through MobiKwiks digital wallet. Similarly, the digital wallet app allows you to buy

digital gold, insurance, get a personal loan on MobiKwik, and you can also invest in mutual funds through one of the best digital wallets in India.

You can carry out transactions by adding money to your digital wallet through your debit card, credit card, net banking. Their service is not just limited until there, you can also opt for doorstep cash collection and use it to pay bills and shop through their digital wallets in India.

3. Freecharge:With an equivalent amount of coupons given for every recharge you make, it's a great option to save while paying your bills online. Along with that their "Chat-n-Pay" service helps users chat and pay their friends and merchants instantly. Freecharge offers exclusive deals and coupons to the customers who use Freecharges' digital wallet.

The Freecharge digital wallet in India can be used to make both online as well as offline payments. Similarly, you can also use Freecharge to make payments at merchants like Hypercity, McDonald's, Cinepolis, Shoppers Stop, HomeStop, Crosswords, and more.

4. Bhim:This digital wallet in India supports all the banks across the nation. Along with that BHIM lets you send and receive money using Virtual Payment Address (VPA) wherein you can transact without disclosing your bank details. Consequently, it also allows merchants to transact with customers by using [fingerprint scanner](#) which is obtained through the Aadhaar database.

BHIM enables QR code scan-and-pay option. Likewise, you can generate your own unique UPI PIN and QR code through the app. Also, you don't need to worry about security issues as your login expires after 90 seconds of inactivity to minimize inappropriate and fraudulent use of your data. Additionally, BHIM also provides you a transaction history to make sure that you keep a check on your transactions through the app.

5. PayPal:PayPal is the faster, more secure way to pay online. It lets you pay for your favourite things at millions of online stores in the U.S. and across 203 global markets—all without the hassle of converting currency. So it's just as easy to know how much you're spending as it is to spend it. It's **free** to sign up for a PayPal account and to download the PayPal app to receive and send money to other PayPal users.

In addition to one-time purchases, PayPal is also the faster, simpler way to make recurring payments to all your monthly bills and subscriptions.

Secure: whether you are paying bills, sending money or making a purchase, PayPal works hard to keep your financial information secure.

Fast: no need to enter all your financial information every time you shop. Speed through checkout with PayPal.

Easy: not only is signing up for PayPal free, but you can also make purchases and send money to family and friends in the U.S. using your PayPal balance or bank account, at no extra cost.

6. Google Pay:Send and receive money instantly in your bank account using Google Pay UPI. You can easily send money to your friends; recharge your phone, pay bills and much more through Google Pay. Google Pay is directly connected to your bank account and your registered phone number. This helps you save time that you would rather spend on reloading wallets and doing additional KYC which is generally required for other digital wallets in India.

You can easily use Google Pay and send or receive money directly from your bank account.

1.4 HOW DO DIGITAL WALLETS WORK?

Unlike traditional pocket wallets, mobile and online e-wallets don't store currency (or rather, don't store physically). All that really exists is transaction records.

The electronic payment services usually work using the application installed on the user's smartphone. Further, the scheme of work depends on the delivery technology we've considered earlier and the type of mobile wallet apps. The types of digital wallets are:

- **The closed type.** Imagine a company selling goods or providing services which decided to make an online wallet app for its customers. And these customers will be able to use such a wallet only in its stores (or salons, whatever!). Say, Walmart Pay, is designed exclusively for the Walmart network.
- **The half-closed type.** With the half-closed type, the situation is better. Users can take advantage of these e-wallet apps when served in certain sales outlets - those which have signed an agreement with the provider for the payment instruments provision. However, the e-wallet coverage area is still rather limited. Example- Paytm ,Paypal and GooglePay.

- **The open type.** It's quite simple: these IOS and Android digital wallets are freely used to pay for goods and services (including financial ones), withdraw and transfer funds, etc. Example- Samsung Pay.

1.5 NATIONAL & INTERNATIONAL SCENARIO

1.5.1 NATIONAL SCENARIO

E-wallets importance: The recent fearless decision of the Indian government to demonetize all the old currency notes of 500 and 1000rs has been a burning factor through the country.

People are presently hovering over banks and waiting for their chance to take their daily limit of the amount, and it has been an endless battle for ordinary citizens.

This surprise call which was received from the Indian Prime Minister NarendraModiJi has taken on almost all the currency away from people and they simply ran out of cash. As the government slowly issues the new notes by it can take minimum six months of time to get back on track.

Due to these crises, almost 70% of the people’s spending capacity has been reduced and almost it is very hard to pay their basic needs like medicines, grocery items and Vegetables. Now the new Indian scenario has made Indians think about the digital payment system.

And Indians were curious to know about the E-wallets to make their underlying transactions, but although it isn’t that easy for all the Indian to turn around the digital side, mostly all educated people are looking towards the E-wallets as the future of payments.

Mostly the recent scenarios have been helping digital E-wallets like Paytm and **MobiKwiK** to make their impact in the Indian market more than they usually do.

Making payments through these E-wallets is surely the best way to get rid of this present crisis and the platforms like paytm and mobikwik are some of the best platforms for it.

A secure E-wallet can manage all your finances with one click, and you can even make it more secure than your banks. It gives all types of facilities to settle all your amounts online as well as an offline transaction with ease, and you can even pay your bills, taxi rides, bus drives and recharges through online services.

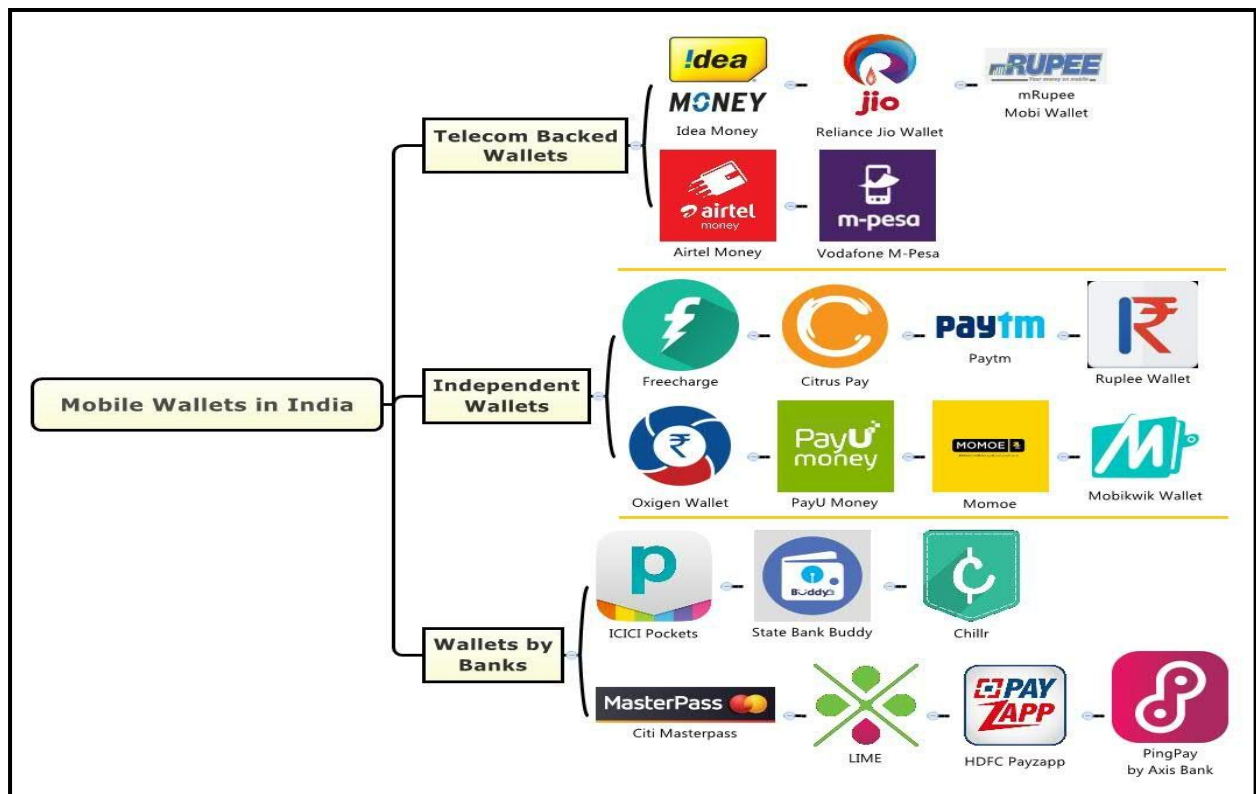


fig. 7

1.5.2 INTERNATIONAL SCENARIO

The world mobile wallet market is influenced by numerous factors including realization of the significance of payment-enabled mobile phones, connected and real-time marketing, value-added services and other benefits and convenience, security concerns, and compatibility & cost. These factors collectively create opportunities for the market growth, whereas some of them hamper the market growth. However, each factor would have its definite impact on the market during the forecast period.

World Mobile Wallet Market Top Impacting Factor

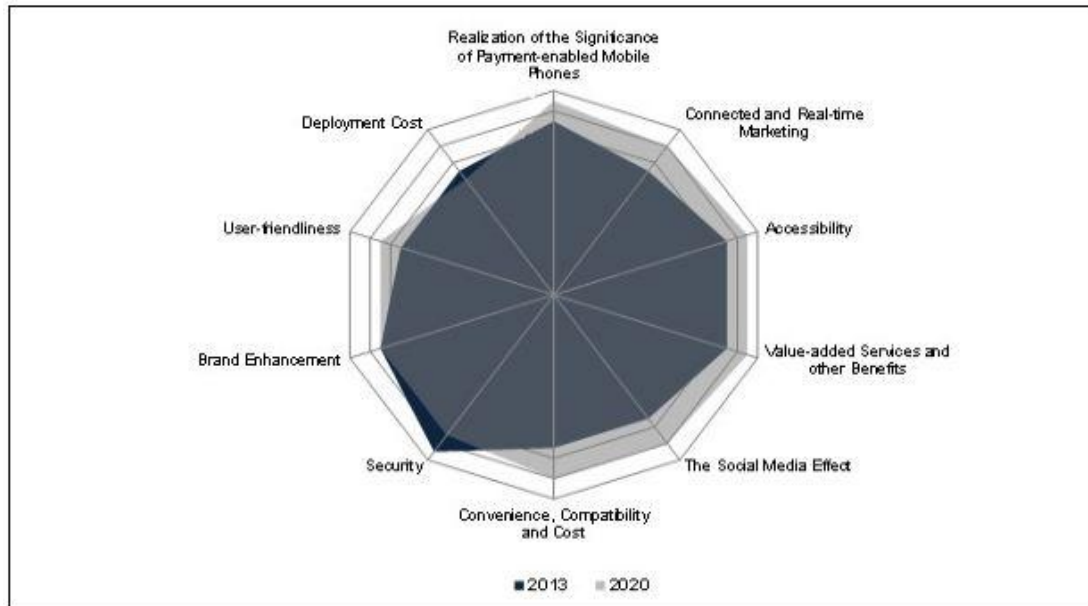


fig. 8

Realization of the Significance of Payment-Enabled Mobile Phones

Around 1.3 billion active debit and credit accounts exist in the world today, while there are nearly 5.3 billion active mobile phone accounts.

There is a large possibility of payment-enabled mobile phones, outnumbering conventional card-based payment accounts in the near future. This is what merchants and payment account issuers have now started realizing.

Connected and Real-Time Marketing

Mobile wallet offers an entirely new dimension to retail sales to improve their business presence. While mobile devices provide consumers with an easy way to make payments, they act as a new channel for merchants and financial institutions to connect with their customers. Information can be easily sent and received via mobile devices; they also run specialty applications, and are location-aware. The mobile connection facilitates merchants and financial institutions to communicate information such as promotional offers with their customers in such a way that the information is targeted, useful, and more relevant to their interests. Businesses can also come up with new branded applications that are freely downloadable. As unique shopping preferences and needs of a person are tracked, this aspect can make customer communications highly personalized. Such a connected and real-time marketing offers a new opportunity and competitive challenge to marketers.

The potential global market for mobile transactions is large and rapidly expanding. Gartner projects the global mobile transaction volume to average 42 percent annual growth through 2016, leading to a market worth \$617 billion and 448 million user. Furthermore, Gartner estimates that 1.2 billion smartphones and tablets will be bought worldwide in 2013. According to Statista, there are over 5 billion active mobile devices while only 1.3 billion active credit or debit accounts worldwide offering payment providers potentially a large new market. Some industry leaders predict that Mobile Wallets will be as disruptive to credit/debit card processing as ATMs were to the financial services industry.

1.6 BENEFITS & CHALLENGES OF DIGITAL WALLET

1.6.1 BENEFITS

- **Lower Costs:** Employing the use of digital wallets removes the need for intermediaries, in a variety of forms. Purchases in-store may no longer require a cashier because the purchasing process becomes as simple as a tap or scan of a mobile device. Applications like Square can replace expensive POS (point of sale) systems that will reduce transaction costs for the business.
- **Competitive Advantage:** Digital wallet applications provide a more convenient transaction processing method for customers, giving businesses that employ this technology a competitive edge in the market. It redefines the user experience of paying and incorporates a novelty aspect to each purchase.
- **Modern:** Traditional cash-only businesses, such as craft fairs and flea markets, can now accept debit and credit cards. This opens up an entirely new aspect to payment methods in large markets, introducing many business opportunities and greater potential revenue.
- **Convenience:** Users are able to get through a purchase in mere seconds with a simple tap or scan of their mobile device. The experience of purchasing items becomes quicker and easier - leading to a greater sense of satisfaction. Furthermore, with faster transactions, checkout lines within stores become much shorter.
- **Time Saving:** Many times when you go for online shopping or for mobile recharge, you even wouldn't have time to enter your credit card details. So, for that time you would miss digital wallet. If you keep some amount in your digital wallet, it will be easier to make payments online without having to enter the card details. It's really time saving.
- **Security:** If you're thinking that your money is insecure in digital wallets, then you're wrong because all the wallets offers the password security service to lock your wallet very well. And most of the wallets provide the extra security to keep your money secure from unauthorized access.
- **Track the Expenditure:** Every amount spent on your mobile wallet or each of your transaction can easily be tracked through your account. How many dollars you add to your wallet from your bank account, how many dollars you spend everyday, and everything you can track through your digital wallet account.
- **Attractive Discounts:** Sometimes you can get lots of attractive discounts for buying products online. If you're using digital wallet of any online wallet provider, you may find some discounts but for this you will have to make payments only with your digital wallet.
- **It can be used at most retailers and online stores:** Electronic wallets have become widely accepted within the past few years. Most locations that accept cards as a payment option will allow you to pay with your electronic wallet. Although there are still some locations that are using older processing technologies, which does limit some product or service access, the number of retailers who provide payment access in this manner continues to increase each year.



fig. 9

1.6.2 CHALLENGES

- **Investment:** The initial monetary investment for building a functional digital wallet application is quite large. It requires the initial development of the software as well as the continual maintenance, updates and fixes associated with it. Upon acquiring software, the business would also need to install the corresponding hardware in their stores, which leads to a further increase in costs.
- **Support Technology:** There are few supporting technologies to choose from at the moment, with NFC terminals and phone readers being the most prevalent. In the case of digital wallets, they can only function with a corresponding hardware device for each application. NFC terminals and specialize scanners are the only devices created at the moment that will support the processing of digital wallet payments; thus, it is very limited because the technology is still new.
- **System Outages:** Information for digital wallets are stored on the cloud of business servers; therefore, the risk of a system malfunction or shut down is always present. As a result, businesses will not be able to process payments or they will become increasingly slow due to high traffic in the servers.
- **Security:** Companies must ensure that their customers' information is encrypted and well protected. One of the biggest concerns of adopting a digital wallet application is "will my information be safe"? This is the hurdle that companies must face and as a result, must develop security systems that are as safe and full proof as possible to avoid potential security issues.
- **International Restriction:** You know every country has different services and so the different digital wallets so you can't use your country's digital wallet to make payment while you're in other country.
- **Limited Merchants:** However, the number of mobile wallets supporting merchants are increasing day to day but now they are not that more. There are some platforms that supports digital wallets are Paytm, Mobikwik, freecharge, Payumoney and more.
- **Dependent on the Devices:** As you know the digital wallets can only be used online and via your devices like smartphone or tablet, so the use of digital wallets are highly dependent of your device. If anyhow you're unable to reach your smartphone as due to battery problem of any other reason, digital wallets are of no use. This is the main reason why digital wallets can't beat credit and debit cards.
- **It could encourage reckless spending:** When money is electronically-based instead of a physical item, some people struggle with their spending habits. The money doesn't feel real, so proper budgeting doesn't take place. If you are already struggling to maintain a budget with a traditional wallet, then an electronic wallet might make that issue even worse.

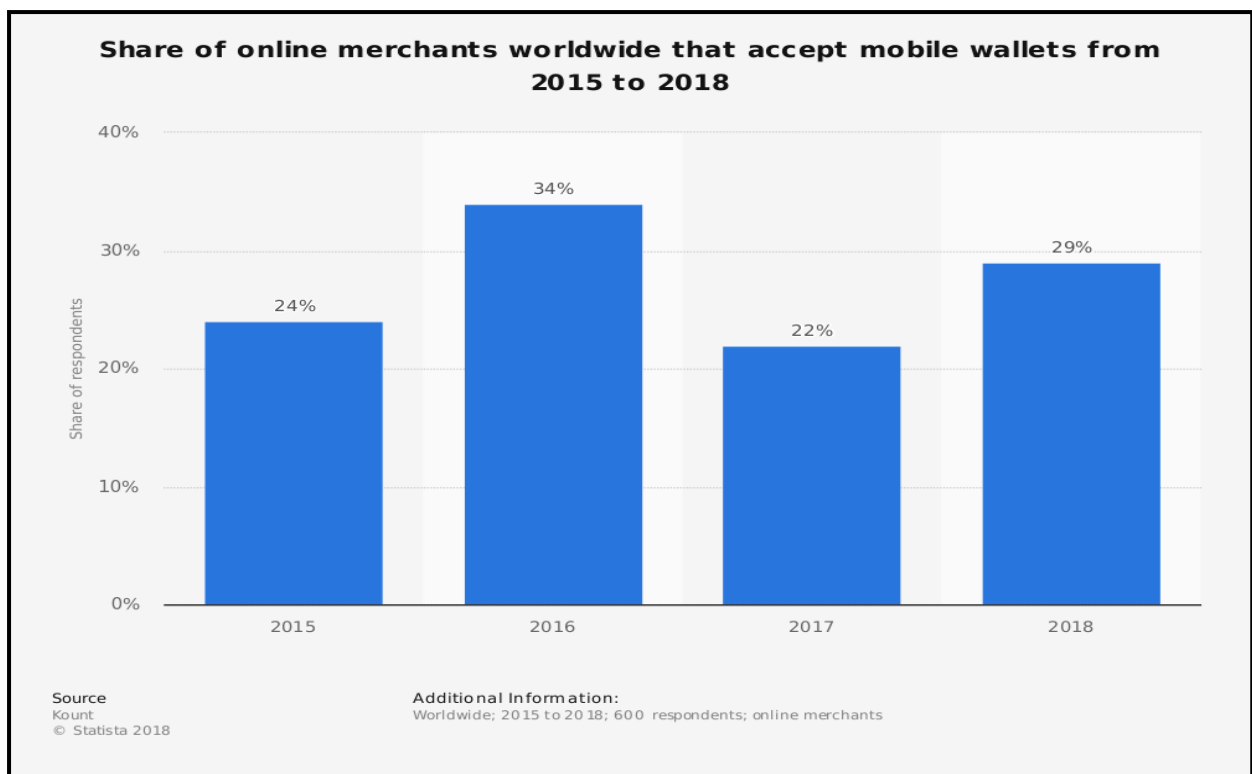


fig. 10

II. CONCLUSION

In view of the technology the world cannot be divided according to the development status of developed and developing countries. Just on the contrary, modernization of the economy through transfer and adaptation even of the most developed technology help ultimately expediting the economic progress and removing the development gap between developed and under developed countries. Thus online payment or e-wallet is an important tool for the financial growth of any developing economy.

When a user is making an online payment via M-wallets, the respondents are affected by various assorted factors. The main influencing factors is been identified as time, convenience, security, loyalty/reward points and discount deals etc. Making payment through M- wallets can be a great benefit to the users in terms of convenience, saving time and money. One of the prime obstacles is security issues, due to which the users gets anxious about his or her confidential information which may get disclosed. Therefore the M-wallet providers need to understand and meet or even exceed towards the users trust expectations. This includes not only addressing security and privacy concerns but also safeguarding the backup mechanism if the phone is lost or stolen. M-wallets are growing in INDIA as the consumers are relying upon the digital life style to make things convenient and faster and the consumers are embracing M-wallet with open arms.

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APPENDICES:

A.1: General:

The information of the paper is fully taken from the internet through Wikipedia sites.

The information was written after reading a research paper:

https://www.researchgate.net/publication/321317477_A_STUDY_OF_PREFERENCE_TOWARDS_THE_MOBILE_WALLETS_AMONG_THE_UNIVERSITY_STUDENTS_IN_LUCKNOW_CITY

A.1.1 Graphs:

Fig 1: Under section 1.1.1 What is the e-wallet app: the bar charts shows preferred payment methods of online shoppers worldwide and was taken from the source- <https://agilie.com/en/blog/digital-wallets-types-ideas-and-future-of-such-products>

Fig 2: Under section 1.1.1 What is the e-wallet app: the bar charts shows share of online users who paid for online payment using mobile wallet and was taken from the source- <https://agilie.com/en/blog/digital-wallets-types-ideas-and-future-of-such-products>

Fig 3: Under section 1.1.1 What is the e-wallet app: the bar charts shows global online commerce and was taken from the source- <https://agilie.com/en/blog/digital-wallets-types-ideas-and-future-of-such-products>

Fig 4: Under section 1.1. 5 E-Wallet Market: the bar chart shows Global E-wallet market is expected to grow at CAGR of 15% and estimated to reach market size of approximately USD 2,100 billion by the end of forecast period 2017-2023 taken from the source <https://www.marketresearchfuture.com/reports/e-wallet-market-4633>

Fig 5: Under section 1.2 Growth of Digital Payments: According to a recent report by “Growth Praxis”, the pie chart shows for what purpose is mobile wallet used and is made in MS-Excel with the data given in the text above it.

Fig 6: Under section 1.2 Growth of Digital Payments: According to “India mobile wallet market research & opportunities, 2020”, the pie chart shows for what purpose is mobile wallet used and is made in MS-Excel with the data given in the text above it.

Fig 7: Under section 1.5.1 National Scenario: the picture shows different types of mobile wallet in India taken from the source <https://medium.com/@sumitvasudeva9/product-adoption-life-cycle-of-mobile-wallets-in-india-72b65c15141a>

Fig 8: Under section 1.5.2 International Scenario: Web Chart of realization of the significance of payment enabled mobile phones Source- World Mobile Wallet Market Top Impacting Factor shows the international scenario of digital payment

Fig 9: Under section 1.6.1 Benefits: The picture shows usage of mobile payments taken from <https://investdunia.com/digital-wallet-benefits-use/>

Fig 10: Under section 1.6.2 Challenges: The bar chart shows share of online merchants worldwide that accepts mobile wallet and was taken from Source Kount Statistics 2018, Worldwide 2015- 2018; 600 respondents, online merchants.

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