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GOOGLE WALLET: MONEY IN A PHONE

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ABSTRACT

Google Wallet is a smart phone application used to initiate, authorize and confirm financial transactions using mobile payment popularly known as m-payment method. Google Wallet is available as a free of cost downloadable application from Google Playstore for Android based smartphones. According to Investopedia, "m-payment is money rendered for a product or service through a portable electronic device such as cell phone, smart phone or PDA. Mobile payment technology can also be used to send money to family or friends [1]". According to statista.com, $235.4 billion USD was the amount transacted in the year 2013 as m-payments and it is projected to reach $325.2 billion USD by the end of 2014 [2].

KEYWORDS: Google Wallet, Smartphones, Google Playstore

INTRODUCTION

Google Wallet

Google wallet released in the year 2011 by the internet company Google Inc., uses near field communication (NFC) technology, which is a "short-range, standards-based wireless connectivity technology. It allows consumers to perform safe contactless transactions, access digital content and connect electronic devices -- with the simplicity of a single touch" as described by the NFC-forum [3]". The NFC inbuilt smartphones using Google Wallet could make money transactions from your credit/debit card information saved in the app. One could also save digital coupons, gift cards, loyalty/reward cards which would automatically be used when the corresponding transaction is being made. Further, Google has made tie-ups with retailers so that when a purchase is made through Google Wallet, one can avail all possible sales promotions for a purchase automatically [4]. This virtual wallet can also be used to make all online purchases within the Google Playstore and on online mobile websites.

How it works?

Three possible modes of transaction are available in Google Wallet.

- POS terminal purchase can be made by unlocking the phone screen and tapping the NFC installed smartphone on a contact-less reader or terminal called "pay pass". The consumer would be prompted to enter the pin for verification on their smartphone and later tap again on pay pass to complete the transaction.
- Online purchase on any mobile web stores could be done if the web store allows "pay with Goggle" option. Google wallet is merged with Gmail to transfer money as a mail attachment.
- Money could be transferred from one NFC enabled smartphone to another by just tapping them against each other with the help of Google Wallet.

Credit and Debit card numbers are stored in the Google Wallet app. When a transaction is made, Google wallet encrypts credit/debit card numbers and can enable transactions only when NFC or internet is enabled in the smartphone.

Single-tap pay pass device, a contact-less card reader is used to get the encrypted card details from the secure element of the NFC chipset accessible from Google Wallet to make a POS payment. All coupons, gift cards and offers if applicable, could be redeemed automatically during the payment.

Security Concerns

M-payments since its inception have faced a lot of criticism regarding its usage and security concerns. Customer adoption, technological risks, merchant responses, security breach were a few risks highlighted by Kauffman, Liu and Ma in adaption of m-payments [5]. Google Wallet has undergone security breaches such as relay attack demonstrated by Roland et al [6] and denial of service attack discussed by Roland et al [7]. These were a few security threats discovered in previous versions of the application which was eradicated in the current version by adding possible workarounds such as pin-verification option, transaction limits, time-out of POS terminals and disabling internal mode communication for payment application [6].The on-going conversation about security with Google Wallet is that it stores the card numbers and transaction details in the server rather than the device to enable HCE (Host Card Emulation) which encrypts the card detail during a transaction for secure payment [8].

How does it Alter the Business?

The m-payment market is a fast emerging one with a goal to replace the traditional leather wallets and money bills. Carrying credit/debit card information on a smartphone is much convenient and handy than carrying a bulk wallet with credit cards, loyalty cards, coupons and money. With the enormous increase in the usage of smartphones (*163.9 million in 2014 source: statista.com [9]]*) and availability of high speed internet, making a mobile payment during a checkout either in a retail store or online has become a hassle free option. By collaborating with retail stores and making all sales promotions available when paid through Google wallet, makes it much more attractive option. When more consumers try to adapt to this payment method, the credit/debit card industry might get a huge blow. But just like how credit and debit cards took long years to be adapted by the customers, so will m-payment options such as Google wallet might take.

Would it Sustain?

It is too soon to judge, but there are few factors to analyze this. The retail merchants have to adapt to the NFC enabled POS terminal for transactions which is a time and money consuming factor. The introduction of NFC enabled payment options has pushed the credit card companies to put in use of the chip card emulator which is the small gold chip present on the left side of a credit card. With the card emulator, the credit cards issue an encrypted PIN during a transaction rather than sharing the account details. This technology is being pushed to existence after the NFC based payouts has shown a potential threat to the credit card companies [10].

Except the early adopters, rest of the world on the other hand show resistance to switch to m-payments i.e. only 40 % of m-payments are made through NFC enabled Google wallet which is much less compared to the market share of its competitor and pioneer in m-payment PayPal having 79% (*source: statista.com [11]*).But with the increase in the number of android smartphone users and introduction of Apple pay by Apple Inc. which also uses a NFC based payment option, the numbers are projected to switch to this technology. Even though Apple pay has a biometric authentication comparing to PIN verification in Google Wallet, the Apple Pay is restricted within Iphone6 and Iphone6 plus phones where Google Wallet is available throughout all android phones. It also comes with the storage of coupons option which is missing with its competitors.

CONCLUSIONS

Google Wallet is battling against both its m-payment competitors such as Apple Pay, Isis, PayPal and the traditional money transaction methods. The NFC enabled payment method with the automatic coupons redemption should convert much more m-payment users in near future to keep this app in existence. “Buy with Google” option has increased 20% conversion rate in mobile payment checkouts in 2014 for retailers according to Borison [12]. Thus Google Wallet would show a slow but steady increase in usage in near future, thanks to the increase in high speed internet and number of android users. Newer android models with NFC chips embedded within them and one click payment “buy with Google” option in mobile sites comes as an added bonus to Google Wallet. However, Google wallet turning into a market leader of m-payment methods or m-payment methods replacing credit/debit cards is not likely to happen in near future.

Google wallet requires a NFC enabled smartphone or simply a smartphone for online transactions enabled with internet connectivity and a consumer who is willing to make m-payments. Along with this, Google wallet should look as a much more attractive and safer option to make money transactions compared to other transaction methods. All these factors comparing with the current scenario makes Google Wallet look like yet another money transaction option which would penetrate the market share in near future but in a slow and steady pace.

REFERENCES

1. Mobile payment, Investopedia, http://www.investopedia.com/terms/m/mobile-payment.asp
2. Worldwide mobile payment transaction volume 2010-2017, statista.com,

   http://www.statista.com/statistics/226530/mobile-payment-transaction-volume-forecast/, 2014.
3. NFC conference 2012, NFC forum, http://www.nfc-research.at/?id=229, September 2012.
4. Google wallet official site, Shop-in-store, https://www.google.com/wallet/shop-in-stores/ December 2014.
5. Kauffman, Liu and MA, Technology Investment Decision-Making under Uncertainty: The Case of Mobile Payment Systems, 46th Hawaii International Conference on System Sciences, 2013,

   http://0-ieeexplore.ieee.org.wizard.umd.umich.edu/stamp/stamp.jsp?tp=&arnumber=6480348&tag=1.
6. Roland, Langer and Scharinger, Applying Relay Attacks to Google Wallet, part of the project “4EMOBILITY” within the EU programme “Regionale Wettbewerbsfahigkeit O ¨ O 2007– ¨2013,

   http://0-ieeexplore.ieee.org.wizard.umd.umich.edu/stamp/stamp.jsp?tp=&arnumber=6482441, 2013.
7. Roland, Langer and Scharinger, Fourth International Workshop with Focus on Near Field Communication, Practical Attack Scenarios on Secure Element-enabled Mobile Devices,

   http://0-ieeexplore.ieee.org.wizard.umd.umich.edu/stamp/stamp.jsp?tp=&arnumber=6176329&tag=1,2012.
8. Olson, “Privacy: Why Apple Pay will be Better than Google Wallet”, September 18, 2014,

   http://researchcenter.paloaltonetworks.com/2014/09/privacy-apple-pay-will-better-google-wallet/
9. Number of smartphone users in the U.S. from 2010 to 2018 (in millions), statista.com,

   http://www.statista.com/statistics/201182/forecast-of-smartphone-users-in-the-us/, 2014.

10. Michael H, “How Apple Pay and Google Wallet are both on the cusp of success”, http://www.phonearena.com/news/How-Apple-Pay-and-Google-Wallet-are-both-on-the-cusp-of-success_id60801#, 22 September, 2014.
11. “Most popular digital wallets according to users in the United States as of June 2014”, statista.com, http://www.statista.com/statistics/284101/digital-wallet-usage-in-the-united-states/, 2014.
12. Rebecca Borison, “Google Wallet makes gains against PayPal in mcommerce checkout”, http://www.mobilecommercedaily.com/rue-la-la-newegg-fancy-see-increased-conversions-with-google-wallet-instant-buy, 13 December 2013.