

Payment Gateways with Special Reference to Paytm

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Abstract

From a recent research it has been found that, India has 450 million internet users as of July 2017, viz, 40% of the population. Despite being the second-largest user base in world, only behind China, the penetration of e-commerce is low compared to markets like USA or France, but is growing at an exceptional rate, adding around 6 million new entrants every month. Largest e-commerce companies in India were Flipkart, Snapdeal, Amazon India, and Paytm.

A payment gateway is a merchant service provided by an e-commerce application service provider that authorizes credit card or direct payments processing for e-businesses, online retailers, bricks and clicks, or traditional brick and mortar. The payment gateway may be provided by a bank to its customers, but can be provided by a specialized financial service provider as a separate service, such as a payment service provider. A payment gateway facilitates a payment transaction by the transfer of information between a payment portal (such as a website or mobile phone) and the front end processor or acquiring bank.

This study is based on a secondary data research, which helps in understanding the functioning of Payment gateway, its benefits and limitations with special reference to Paytm.

Keywords: Payment Gateway, E-commerce, Paytm

Introduction

A payment gateway is a line of communication between your store and an integrated billing processor that automatically processes electronic payments. For a payment gateway to work, you need to set up an account with an integrated billing processor.

When an order is created, a payment gateway sends the customer's billing information securely to the billing processor. The initial authorized transaction will be completed by the billing processor and the transaction information will be synchronized with Auctiva Commerce. With the payment gateway in place, you can easily do additional post-order processing functions (i.e., Capture, Void, Refund, etc.) depending on the features provided by the billing processor.

The company Paytm stands for "Pay through Mobile". It is founded by Vijay Shekhar Sharma in 2010 under the company name One97 communication. Initially it was focused on mobile and DTH recharging. It is headquartered in Noida and in 2014 it entered e-commerce market, providing products and facilities similar to Flipkart and Amazon. In 2015 it entered into bus booking and recently the famous company Alibaba has bought 25% stake in One97 communication.^[1]

Objectives

- To understand the functioning of payment gateway.
- To analyze the benefits and limitations of payment gateway.
- To understand the functioning of the company "Paytm".

Methodology

This study is based on a secondary data research, where references were collected from various journals, articles published on internet and various books.

Research methodology is a logical and systematic plan prepared for directing a research study. This study is descriptive in nature, where the researcher has observed and described the behavior of the subject without influencing it in anyway.

Limitations

- The nature of this study is only conceptual as necessary time required was not available for an empirical study.
- Due to time constraint the researcher has only focused on one organization i.e. Paytm.

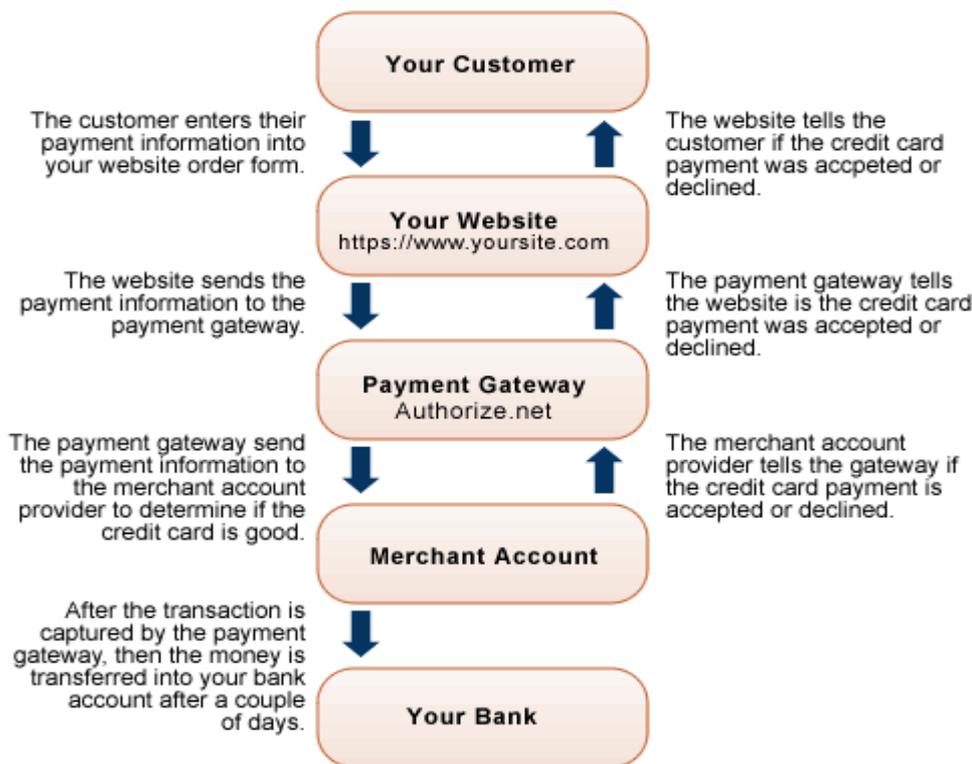
[1] <http://dsim.in/blog/2015/05/08/case-study-paytm-journey-from-mobile-recharge-to-e-commerce-market/>

Functioning of Payment Gateway

The step by step functioning:

1. The customer clicks on the “order” button and places the order on website, or perhaps enters their card details.
2. If the order is via a website, the customer's web browser will encrypt the information to be sent between the browser and the merchant's server. In other case, this may be done by using Secure Socket Layer (SSL) encryption. The payment gateway may allow transaction data to be sent directly from the customer's browser to the gateway, bypassing the merchant's systems. This reduces the merchant's PCI DSS compliance obligations, without redirecting the customer away from the website.
3. Once it is over, the merchant then forwards the transaction details to their payment gateway. There is another security encrypted layer connection to the payment server hosted by the payment gateway.
4. Later, the payment gateway forwards the transaction information to the payment processor used by the merchant's bank.
5. The payment processor forwards the transaction information to the card association. It then routes the transaction to the correct card issuing bank.
6. The card issuing bank receives the authorization request and credit or debit checks and then sends a response back to the processor with a response code.
7. In addition to communicating about the authorization request, the response code is used to define the reason why the transaction failed. During the same, the credit card issuer holds an authorization associated with that merchant and consumer for the approved amount.
8. The processor forwards the authorization response to the payment gateway
9. The payment gateway receives the response, and forwards it on to the website, where it is interpreted as a relevant response then goes back to the merchant and cardholder. This process is known as the **Authorization or "Auth"**. The entire process typically takes 2–3 seconds.
10. The merchant then fulfills the order and the above process can be repeated but this time to "Clear" the authorization by consummating the transaction. Typically, the "Clear" is initiated only after the merchant has fulfilled the transaction (e.g.: shipped the order). This result in the issuing bank 'clearing' the 'Auth' (i.e.: moves Auth-hold to a debit) and prepares them to settle with the merchant acquiring bank.
11. The merchant submits all their approved authorizations, in a "batch", to their acquiring bank for settlement via its processor.
12. The acquiring bank makes the batch settlement request of the credit card issuer.
13. The credit card issuer makes a settlement payment to the acquiring bank.
14. The acquiring bank subsequently deposits the total of the approved funds into the merchant's nominated account. The entire process from authorization to settlement to funding typically takes 3 days.^[2]

Figure 1.1 Payment Gateway Model and its Functioning



Source: <https://www.aslaninteractive.com>

[2] https://en.wikipedia.org/wiki/Payment_gateway

Benefits of Payment Gateway

The trend toward merchant account providers teaming up with payment gateway services and offering complete merchant account and payment processing packages has grown because of the many benefits for merchants, including but not limited to:

- **Secure transactions-** Payment gateways utilize industry-standard encryption and effectively protect sensitive data, protecting both merchant and consumers from fraud. Expanded customer base. Payment gateways enable shoppers from around the world to have access to your store and can expand your customer base exponentially.
- **Bundled with shopping cart-** Payment gateways often bundle shopping cart software with their programs. The software allows your customer to select products with the click of a mouse, add them to his or her shopping cart, and complete the purchase at checkout. The shopping cart calculates the cost of the items, sales tax, and shipping charges without you or an employee having to be present to conduct the sale.
- **Faster transaction processing-** A payment gateway is much faster than manual processing, and customers can make a purchase without the inconvenience of long waits or lines.
- **Added convenience-** Having a payment gateway means your store is open 24/7, and your customers can shop at any hour of the day or night from the comfort of their own homes.

Limitation of Payment Gateway

- The demonetization drive has been the greatest impetus for the FinTech startups and enterprises providing digital payment solutions. In effect, we see e-wallets like Paytm, Freecharge, and Mobikwik being present at every other retail stores. However, standing in this dream run towards cashless economy, immune to money laundering and tax evasion, there are major security threats. Around the same time when the demonetization was announced, there was also news of several celebrities' twitter account being hacked. While the social media hack was forgotten amidst the frenzy around Indian economy being crippled a month back due to shortage of cash, one shouldn't be surprised when the

hackers make digital platforms their next haunt. The same has been reflected in the recent security incident where the security of over 3.2 billion debit cards was sacrificed.

- Given the fact that now more people are going to transact online, many of them will be new, for whom it would perhaps be the first time to shop or accept money online via a payment gateway or an e-wallet. Hackers on the prowl can simply utilize any of the means of psychological manipulation to get hold of people's money. We already have spam mails and phishing attacks to take care of, more so now because the digital revolution is going to reach to an entirely new segment of users hailing from tier 2, 3 and 4 cities.
- Awareness among the population to work on such payment gateways is still very less. People of India specially the rural population are not digitally literate.

Solution to the Limitations

- It is about time payment gateways and digital payment solution providers focus on innovation to battle cyber security threats and ensure the sanctity of a user's intimate information. These platforms are, in fact, well aware of security breaches and hence, are constantly engaged in the perpetual pursuit of a stronger and robust platform, well-equipped to avoid security breaches.
- The steps towards ensuring a strong digital architecture include these platforms encrypting, tokenizing and authenticated transactions to ensure bulletproof security. Authentication has already been a mandate by the Reserve Bank of India, and hence, we have the majority of platforms weeding out identity counterfeiting via SMS, part of the 2-way authentication process.
- And that is merely the tip of the iceberg. Most of digital payment solutions providers adhere to Payment Card Industry Data Security Standard (PCI DSS) in order to ensure standardized security. Certain payment gateways have built their proprietary risk management and anti-fraud solutions. They prefer not to outsource these solutions to the third party vendors. Hence, such payment gateways can provide these anti-fraud solutions to small online merchants that were till now, only provided to large merchants. This helps small merchants to grow their revenues without having high incidence of fraudulent transactions from buyers.
- The road to better cyber security requires close partnership between payment gateways, banks and regulators to foresee and evade cyber security breaches. This will leverage innovation in the private domain, while safeguarding public interest. Another framework may follow suit, with the economy revamping existing systems and processes to make them stand at par with the global standards to gain more acceptances of Rupay cards, Aadhar-led payments and initiatives such as BHIM app. Besides, the regulatory framework should encourage innovation and disruption by the FinTech and PSP enterprises. The government should encourage banks to incentivize such payment gateway companies that have their own proprietary risk management and anti-fraud solutions integrated with their core payments platform.
- With the Digital India campaign, Government has already initiated the much required campaign for spreading digital literacy. However, in the view of current scenarios, namely demonetization and the increased emphasis on digital currency, we need to take concrete steps to mitigate risks due to cyber security, especially when dealing with people's hard earned money. We need more systematic approach towards not only having a robust and secure infrastructure, but also educating users on the perils that may accompany digital transactions. Since we are already running out of time, even a small step taken by the entire population of India would prove to a giant leap towards a much more secured digital infrastructure, better immune to cyber threats.

Organisation Profile: Paytm

Paytm was launched in 2010 by One97 communications as a prepaid mobile and DTH recharge company. Gradually, it made its way into the e-commerce market in the year 2014 and further added bus ticketing to its kitty in 2015. Paytm now offers multiple products ranging from primary mobile recharges to buying apparels or electronics enabling customers to get everything at one place. Thus, over a period of time, it has become both a payment platform as well as the marketplace.

This strategy not only enables Paytm to serve multiple needs of the customers, giving them a holistic experience by saving their time and efforts but is also expected to be helpful in cross-selling and up-selling and thus increasing the overall profitability of the organization. It has even obtained the license from Reserve Bank of India to run a Payments Bank. As a result, Paytm is amongst the top 7 e-commerce companies in India to have billion-dollar valuation and transformed the business model of Paytm from a recharge web site to a payment cum e-commerce marketplace. It has 100 million Paytm Wallet users that carry out over 75 million transactions every month. China's Alibaba Group with its

affiliate Ant Financial invested \$680 million in Paytm in September 2015 to raise their stake to 40%, taking its valuation at somewhere around \$4 billion. On account of higher valuation, Paytm had resources to stitch Rs.203 Crores worth of deal with Board of Control for Cricket, in India for 84 matches. Considering the quantum of following that cricket has in India, this association with BCCI for primary sponsorship rights is sure to get a lot of visibility to Paytm brand and likely to project it as a national brand with significantly high brand recall amongst all sections of society.^[3]

How does paytm works?

Merchants can sign up for Paytm without a bank account. They can receive money into their Paytm wallets without a bank account. They can even spend their wallet balance by shopping at other merchants that accept Paytm payments. It's only when they want to cash out their money from their Paytm account that they need a bank account.

As a result, Paytm was / is able to sign up hundreds of thousands of merchants that don't have bank accounts. These merchants could sign up for Paytm as soon as they had a compelling need to accept cashless payments i.e. immediately after the demonetization announcement, start accepting payments and visit banks later to open their accounts after their Paytm account balances started growing.

[3] <http://www.iosrjournals.org/iosr-jbm/papers/Conf.15010/Volume%201/14.%2087-92.pdf>

Paytm & ITS Competitors

Contrast this with competing e-wallets, which insist that merchants link their bank accounts to their apps right at the time of installing them. As a result, financially-excluded merchants couldn't sign up for them when they had a compelling need. Paytm's rivals lost this market to Paytm. When PayPal launched in the late 1990s, it incited existing users to send money to non-users. When users sent money to their friends and family members, PayPal sent them an email saying "Collect money by signing up for PayPal". This give non-users a far more compelling reason to join PayPal than any direct advertising or PR efforts could have and generated a massive amount of viral distribution for PayPal.

Paytm has copied this approach and has probably reaped the rich rewards like PayPal.

Surprisingly, Paytm's competitors haven't followed this approach. They insist that payments can be made only to people that have already signed up to their e-wallets. They probably think sending money to a non-user would be tantamount to putting the cart before the horse. Paytm and PayPal get it. Their competitors don't. Instead, they put their prospective users at the mercy of their respective banks to gain signups.

To take UPI as an example, to receive payments, we need to have a Virtual Payment Address (VPA) from your bank. Assuming that we are thoroughly sold on UPI and decide to create your VPN, you'll need to contend with your bank's systems to actually generate one. This adds a big moving part, which doesn't always work. Just today SMS from bank saying they can't issue new MMIDs - an integral part of IMPS, the payment rails on which UPI works - for the next five days. There's no guarantee that you'd still be interested in UPI five days later.

Conclusion

In simple terms, payment gateway is a service that authorizes the credit card or other forms of electronic payments like online banking, debit cards, cash cards etc. to make transactions with the merchants. Such a facility is not only important for huge and well established businesses —but also these are useful for home based online entrepreneurs. Payment gateway acts as a middleman between the bank and the merchant's website or mobile application. When a user wishes to make a payment, the merchant's website sends the encrypted credit card information to the payment gateway. Then the payment gateway confirms the validity of these details with the bank and the required amount of money gets transferred from user's account to the merchant's account. The use of payment gateways were prevailing before as well but with the recent demonetization effect India, the awareness about many online payment gateways has got highlighted, which definitely has become as a blessing in disguise to all the users of it. The study has focused on one such online platform of payment gateway i.e. Paytm.

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