Online Payment Gateway's Sprouting, Impact and Dependency in E-Commerce Industry

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Abstract:

*O**nline global Market network encapsulated in a peanut and is operating independently through the payment gateways and payment processors under the government regulations (except in the case of crypto- currency) and these payment gateways are endorsed by most of the online businesses as well as acceptedbycountries expediting the business growth on the one hand and facilitating the end user with high speed of currency conversion and transfer services to the merchants on other hand. Online payment processor gateways are so widely accepted and used because of their quick, reliable and trusted services that most of the online businesses are incorporating their services into their business model rostrum.* [6]*From merchant's perspective, instant acceptance of payments online, analyzing out the correct integration with their business and successful implementation of the payment system is themost crucial, confusing and imperative step in the business models. Taking into account the cross border e-commerce, Payment gateways vary greatly in their sophistication, roles, capabilities and financial charges according to the currency and laws of a specified land.*[7]

Keywords: E-wallet, Payment gateway, Merchant Account, Pre-Paid Instruments.

I.   INTRODUCTION

A payment gateway facilitate merchants to process alternate payments online through credit card, debit /ATM card, Net-banking and even the usage of various crypto-currencies. Asretailers are contraband from sending customer's payment related information directly to these payment processors, it becomes the prime responsibility of the payment gateways to acts as the go-between and cinch that the customer's data is encrypted and securely placed over the transmission period. Where the role of a payment processor is to analyze and transmit transaction data keeping the tight eye over the security and reliably of the accurate data, Payment gateways run interference for authorizing and transfer of funds between the two parties involved in the transaction.[8]

II.   AU COURANT, PAYMENT GATEWAYS IN E-COMMERCE INDUSTRY

2.1 Hosted Payment Gateways

In such Class - I type payment gateway process, the hosted gateway takes a buyer off from merchant site's checkout webpage once the buyer clicks the pay now caption on the webpage, altogether redirecting the buyer to the payment service provider webpage. This is the place now where the buyer fills in the payment details and after the successful completion of the checkout process, the buyer is again redirected to the merchant's website. In this case refund and cancellation of Payment are also handled at Payment gateway's site.

Such systems are simple to implement in a business model as payment service provider is responsible for all the software setups and its up-gradation aspects. They are easily customizable from marketing point of view and are secure as the detailed customer information is processed by the payment service provider. [10]

2.2 Proor Self- Hosted Payment Gateways

In such type of system process, the customer data is checked-in on the merchants site itself and then the collected data is send to the payment gateway in a specified format after encryption to provide high end security from the hackers and data corruption point of view. In this case refund and cancellation of payments are initiated and handled at Payment gateway's site.

Such systems are complicated and more sophisticated as the security of customers payment details are the filled and transmitted by the merchant's site. From the customer's point of view they are time savers as they need not to leave the merchant's site for payment. [10]

2.3 API / Non Hosted Payment Gateways (Paymentat Merchant's Site)

Keeping in view the rapid growth in online profits merchant's at the moment appetite full control on end-to-end payment process without redirecting the end user from merchant's checkout page. In such system process merchant have his own Application Program Interface (API) that allows customers to enter their financial credentials such as credit or debit card information directly on the checkout page and process payments using their API's or using some HTTPS (hypertext transfer protocol securely) queries.

Once the details are entered in the API system creates a call (request) to the payment gateway and in response to the call payment gateway sends the notification (permission) and the system handles it according to the type of permission to proceed for the successful payment or the error (in case if any). Many payment gateway do facilitate the customers for Payment inquiry, refunds, cancellation or more frequently used these days as reversal of transaction in case of money back guarantee product and services.[10]

While on the one hand these system processes are most flexible and customers need not to leave the merchants site for final checkout of the payments. Merchant uses API in the business model for online payments and allow operations on various devices including mobile and tablets. Contrarily, such systems are having an overhead responsibility oneself because customers financial information processing is done through the merchants API and are more costlier as it requires security certifications such as secure socket layer (SSL) encryption technique and standard compliance such as Payment Card Industry Data Security Standard (PCI DSS).[1]

2.4 Local Bank Integrated

These payment gateway works directly with the user account through banks site and processing is done in straightforward manner and these are also considered as hosted payment gateways. Customers are generally, redirect to Payment Gateway's website (bank web-site in this case) where the payment and contact details are provided by the customers and after making payment user will be redirected back to your website with notification data. Such gateways didn't support recurring payment, refund and cancellation and merchants need to do them manually. [10]

These are really simple and most convenient systems where one time payments are the options.

2.5 Direct Payment Gateways

Many payment processors do not support the instant payment notification and such systems create a user profile and operate through the profile. In such systems currency is uploaded through the credit card or net banking to the user profile or e-wallet using the standing instructions on scheduled basis. These systems have to make regular inspect to the payment processorin order to check the validity of the payment cards and the amount specified in the standing instructions.

There is no redirection to any other site for the payment but these systems are more complicated as they support real time instant transactions without any delay.

2.6 Platform Based Payment Gateway Solutions

These types of payment gateways facilitate the customer with a platform to sell product and services directly from their server. Merchants generally create products or subscription portfolio under well established and properly defined platform and customers are redirected through check-out caption on the business web page to this platform.

Finally, users complete purchase transactions in their preferred language, and currency hence improving the buyer conversion and merchants need not to take care of fluctuations on the exchange rate part as these are handled by the payment processor. [10]

III. ROLE AND DEPENDENCY OF PAYMENT PROCESSOR IN E-COMMERCE INDUSTRY

Payment Processors are acting as full-fledged financial institutions in themselves and they have become an integrated part of the e-commerce industry. Starting from the merchants site to the product delivery payment gateways are participating very actively though the processors in the e-commerce business models. There are important roles, those are now played by these payment processors Inspite of so many already existing advance and well established core banking systems.

Core functions those are now a days solely performed by these payment gateways once the customer place an order to complete the transaction are as described:

- **Encryption:** Customer's financial information whether it may be the credit card details or net banking credentials are the crucial information that is to be safeguard from the unauthorized access and information must be is encrypted by these payment processers before processing the transaction.
- **Authorization Access Request:** The payment processor sends a request to validate the data in transaction such the credit or debit card or net-banking credential to the issuing bank or financial institution for authorization. Once the request is validated the bank sends the acknowledgment with approval or denial of the transaction.
- **Padding The Order:** Once the authorization is received by the payment processor it forwards the same to the merchant's site and payment gateway. The order is placed successfully and a replenishment request is processed by the merchant.
- **Ratification of The Transactions:** The steps performed till now are repeated and acknowledge an effort so as to clear the authorization through consummation of the transaction. However, the transaction is considered as clear only once the merchant has actually triggered shipping of the article. The associated bank modifies the "auth-hold" to a debit and allows a "settlement" with the vendor's associated financial institution i.e. the bank. At the end of the day finally, the payment processor is then relied upon for the settlement ofthe entire vendor's approved authorizations with the associated financial institution.

IV. SIGNIFICANCE AND OPERATION OF MERCHANTS ACCOUNT IN E-COMMERCE INDUSTRY

Before payments are made to the merchant all payments have to pass through a long process which comprising of lots of internal online requests, approvals and permissions. After passing through this drill, all approved payments are paid out to the merchant, through a particular account known as a merchant account. On successful sale funds are transfer to the merchants account and the prime purpose of this account is reconciliation. This account hold fund that were approved by the payments processor on successful sales of the product. This is the final stage before receiving the funds in normal business bank account of the merchant. This transfer process occurs as per the terms and policies agreed upon by the merchant and payment gateways. Generally, the average period (apart from uncontrolled delays) for which the payment is hold in merchant account is 2-7 days or the frequency scheduled or agreed upon may be weekly, bi-weekly or monthly.

A merchant account operates almost like a normal bank account. A merchant account accepts payment in many forms, including credit and debit cards and alternative payment method modes.

4.1 Types of Merchant Accounts used in Industry: Dedicated vs. Aggregate

Merchant account can be a dedicated or aggregate one depending upon the type of business requirements.

Dedicated merchant accounts are solely set up by payment gateway provider. Dedicated merchant account, have the ability to receive custom rates from payment processor(s) based on sales volume or the portfolio – lesser is the sale, lower will be the rate; the more is the sale, higher will be the rate. Dedicated merchant account control money and rate, and involves in-depth legal underwriting process in-order to acquire the same. [4]

In aggregate merchants account, on the other hand, accumulate or pool money for many other companies. Though they are easier and quicker to attain, but lack rate negotiation and provide limited control over the payouts.

Apart from this a full stack payment platform are also gaining popularity in the current market scenario as they provides both merchant account as well as payment gateway, and can be considered as all in one. Full stack payment platform makes payment processing and fund payout much simpler.

V. ACCEPTANCE OF PRE-PAID INSTRUMENTS IN WEB-SPHERE

The immense use of hi-tech devices and emerging technologies has gradually impacted and has changed the definition of online payment methods and ease of services acquired, witnessing the beginning of smarter payment era with the aggregation of payment gateways with smart devices.

Smart devices today are not remained limited to their primary goal of personal communication only but are playing a vital role and sourced as an integral part of online transactions through the conventional payment modes and methods ranging from credit card, e-wallet to crypto-currencies.[2]

5.1 Pre-Paid Instruments:

Pre-paid instruments store value define by the owner upto certain extend or limit through debit / credit card or net-banking that can be exchanged or paid by the holder of the instrument for buying product or services from the merchants.

5.2 Types of Pre-Paid Card Used

Depending upon the scope of their services pre-paid instruments are categorized in three categories:[1][3]

- **Closed Instruments:** In close instrument vender and issuer is the same organization and bank with their own payment gateways.
- **Semi-Closed:** Semi-closed instruments involves third party for completion of its operations. Generally, issuer takes the currency from customer and it uses that money to pay to various merchants associated with it. Paytm is the best suited example in Indian e-commerce market.
- **Open-Ended:** In the current market scenario, open instruments (such as credit cards) are intrinsic part of the banks and are exclusively allowed with a withdrawal operation.

VI. LEGAL GOVERNING LAWS, CHALLENGES AND FUTURE

6.1 Legality

The law primarily governing pre-paid instruments in India is payment and settlement Act -2007, where in the Sec-18 of the Act empowers reserve bank of India to release and implement regulations ad endorse guideline as may be required from time-to-time. In this context, RBI has laid down guidelines for the issuance and operation of pre-paid instruments and master circular consolidating all regulations published on 1st July 2014. [1][5]

As open ended pre-paid instruments are allowed only for banks, the circular defines different kinds of payment instruments that one may create and no banking NBFC's and E-Commerce companies incorporate in the jurisdiction of India are eligible to apply for license to hold and operate these instruments.

Earlier, only major financial institution like banks and giant non-banking financial companies (NBF'C) were permitted to use prepaid instruments for online transactions; however, RBI (Reserve Bank of India) have already issued a circular in the recent past permitting almost 197 companies to hold and operate online pre-paid instruments.[3]

6.2 Challenges

Every new emerging concept have to encounter and over the difficulties in the beginning and is so as with payment gateways. There are challenges hook-up with this apprehension too which can be broadly classified as:

- **Social Challenges:** These are the challenges involved with awareness and acceptance of the concept apart from the competitions in the market.
- **TechnologicalChallenges:** Complex encryption algorithms and encryption methods are convoluted in the concept keeping them updated and two factor authentication security and compliances to the security checks & standards are also the major liability on oneself.[5]
- **LegalChallenges:** Either there is a guidelines or a limited version of framed structure to handle deputes that can be resolved with the existing law in the area and lots has to be done under this head in participation with the cyber laws as well.

6.3 Future:

Au courant, digital payments through smart devices and using online payment gateways are possible round the clock. Online payment market in India is evident of growing online transactions, rising trend towards mobile banking, and ease of usage of these services. [6] During 2014-2016, e-wallets and gateway market remains the hottest selling cake providing money transfer, mobile recharge and bill payments, utility applications and as more of the public and private organization are implementing automated systems quickly, it will remain at this growth for the next many years.

Even in the area of transportation, this emerging sector in terms of uses e-wallet services in India. Radio taxi companies such as Uber are entering into partnerships with mobile wallet companies such as Paytm to allow customers make payments through mobile wallet applications even on petrol pumps. [6]

According to "India Mobile Wallet Market Forecast & Opportunities, 2020", by 2020the e-wallet and payment gateway market in India is forecast to reach US$ 6.6 billion[7].Banking sector is reckoned for the largest users of these online services during 2014-2016, followed by retail, telecom and transportation sectors. [9]

VII. CONCLUSION

Indubitably, Payments industry is shoving the growth of E commerce, online grocery, food ordering during past years. The rising boom of online payments in India has evolved many new entrants in the industry who are majorly e-wallet(s) and payment gateway service providers. The magnitude of this growth is considerably accepted as a digital revolution proliferating online industry, millions of transacting consumers and heaps of venture capital investments.

Sprouting consciousness regarding the benefits of e-wallets, sky-rocking smart device industry and mobile internet penetration graphs and above them snowballing security measures are expected to drive the growth of not only Indiane-wallet(s) and payment gateways but will definitely going to flourish the ease of payments at a global level and e-wallet and payment gateway market in India will wallet uncompromisingly reach to US$ 6.6 billion by 2020.[7]

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