Comparative Study of Online Shopping Experience With Specific Reference to Mobile Apps Based Shopping

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Abstract— Technological innovations have entirely transformed the business dynamics across all industry verticals today. These radical changes in the technology and usage of internet have considerably decreased the gap between the business and customers. In this current digital era, the increase in usage of personal digital devices continued with faster evolutions of laptops, palmtops, tablets and smart phones. E-commerce markets have emerged by leveraging the technology and increased internet usage. B2B and B2C markets have foreseen the opportunities in the online retail markets which helped them not only in getting a wide presence in the market but also in generating more products and increased customer base. In today's world, information, communication and evolving latest technology are moving to mobile devices. Different generations of technology in the wireless communications have also improved the speed, efficiency and flexibility in the mobile internet transactions and this is to an extent, many people possess a smart phone in their pockets that are bundled with so many applications. Almost all the players in the e-commerce space have introduced their own mobile application in a move to increase their revenue in this fast moving business world. In addition to this, few companies have started concentrating more on their m-commerce business as a trend and they claiming that they get more traffic and orders from mobile applications. This paper looks at the trend in Mobile commerce market in India, which is expected to grow significantly to benefit the e-retailers industry.

Index Terms— e-Commerce, Mobile Commerce, m-Commerce services, choice of channel, flexibility and comfort for transactions, Online shopping, transaction-oriented services,Mobile apps.

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1 INTRODUCTION

With the advent of the smart phones and mobile technology, the mobile applications (apps) are becoming most sought after way to public than the websites. Mobile commerce is a kind of branch to e-commerce that involves the transaction over the internet via a mobile device (Gunasekaran, 2005).

According to (Liran Einav, 2014), the people adapting to m-commerce are those who already experience the internet transactions on the desktops. Location based services can be obtained by the user on the go with the help of a Smartphone. For example, use of maps for location tracking and booking a cab through mobile app at a required place etc. (Kushal Singhal, 2015) explains how location based reminders in android applications can help users in getting alerts on their mobile devices based on their location.

These phenomenal features in the mobile phones and convenience of buyers in using them on the go is making the e-commerce players to focus more on the mobile market place. In a surprising move to many people, the famous online apparel retailer Myntra had shut its website and became a mobile app only market place. It is now evident that Flip kart,

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India's largest e-commerce company has decided to go Myntra way in the coming future. Many evolving startups are only focusing on mobile apps to start their business model.

2 LITERATURE REVIEW

In the present day scenario, the modes of purchase of an item can be broadly classified as internet shopping and traditional brick and mortar store shopping. Online shopping had grown swiftly over the past 5 years. Demographics in the consumer also play a major role in the increase in online shopping (Zhou, 2007). People of younger age are inclined towards online shopping and there is difference in buying pattern of male and female consumers online (Zhou, 2007). For example, males are more interested in electronic products and females are interested in apparels. In addition to this, male are purchasing more in the online shopping and females turn towards the traditional shopping (Rahaman, 2014). (Chahal, 2015) Interpreted that people in the age group of 20-25 are very keen towards online shopping.(AmitSaha, 2015)Pointed out that increased revenue and profitability is also one of the driving factors that is pushing the retailers to go online. Consumer's intention is not only to purchase the product but also to gain knowledge and search variants available in those categories (Riaz, 2015). Recently e-commerce merchants have realized the growing market in the mobile based shopping which gave an optimized and unique mobile shopping experience for the customers (Chen, 2013). Retailer apps are a representation of a virtual store dedicated to that retail merchant (Chahal P. , 2015).

3 OBJECTIVES

The research is carried out to understand the following.
1. Overview of methods of online shopping and traditional shopping
2. The level of flexibility and comfort for transactions on the m-commerce platform
3. Analyse the current trends in the area of mobile application based online shopping (m-commerce) and perception of customers in using these applications.
4. Recommend /suggest choice of channel.

4 CHANNELS OF SHOPPING

In the present day scenario, the modes of purchase of an item can be broadly classified as internet shopping and traditional brick and mortar store shopping. With the advent of the information and communication technologies, customers were able to experience a new channel of shopping called with different names like internet shopping, online shopping, network shopping, e-shopping, web based shopping etc (Hsiao, 2009). This method of shopping online had freed the end consumer to visit a brick and mortar store. Further advancement of the technology had led to mobile based shopping where customer can make the online purchases from a mobile application (Safeena, 2011).
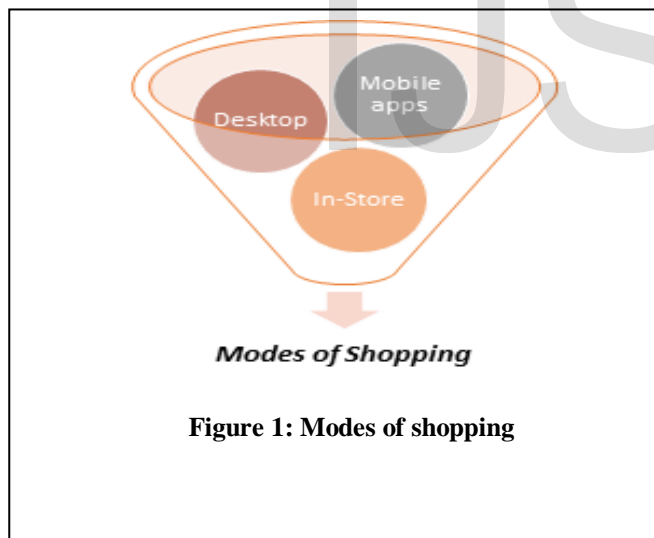

Figure 1: Modes of shopping

5 FLEXIBILITY OF MOBILE APPLICATIONS FOR ONLINE SHOPPING:

5.1 All time access:

The main flexibility that comes in the online mode of shopping is that the services are available to the end user 24x7 except delivery. (Patil, 2014) Stated that a customer is capable of buying almost anything in the world without touching it or enquiring a sales man, if he has an internet connection and a green bank account.

5.2 Easy payment:

Customer can use any mode of payment while doing an online transaction (Deshmukh, 2013). Several methods like credit cards, debit cards, net banking, smart cards etc were enabled by all e-commerce sites (AjeetSingh, 2012). Cash on delivery had enabled several e-commerce players to increase their transactions as customer can pay at his doorstep upon the delivery of the ordered product. (Pathak, 2014) Pointed out that cash on delivery is a revolutionary option provided to the end user who is feared of purchasing anything online. In addition to this, e-wallets were also introduced by almost all shopping sites (Parmar, 2015).

5.3 End-User Convenience and Preference:

The entire business model of the retailers had changed today due to the evolution of internet shopping. As per the Bloomberg business week research report, the retailers are facing new challenges due to the changing consumer preferences and they should try to use the growing technology to connect with their customers (BloombergBusinessWeek, 2013). Communication between customers and business partners has become reliable, faster and better (Dhanothia, 2015). They should also change their business according to the customer preferences by giving them the shopping experience they want. Customers can have the advantage of shopping anytime they need in case of internet based shopping unlike the traditional stores. Mobile phone had revolutionized the usage of data and the convenience to access it. For example, If a user wants to access an ecommerce website and buy some item, he needs to login to the site and search for that category. The same may not be applicable in case of a mobile app which is so handy for him to search and no login is required every time when he access it and payment from his account is also automated. This convenience in the mobile application paved the way for the online retailers to go app only. It is also becoming easy for the merchant to reach to the end user directly on the mobile platform through the alerts and push notifications about their offers on various products (Okazaki, 2005). With the evolution of next generation technologies over the time, consumers find easy in accessing the mobile applications. (Katarzyna, 2011) States that, based on a survey they conducted, more number of users are voting for 4G than 3G in terms of quality of experience (QOE) in the usage of apps.

5.4 Changing behaviour of Buyer:

The preferences of buyers on the online retail space are changing rapidly over the period of time. There is a significant difference in the behavior of users when compared on e-commerce and m-commerce platforms (Liran Einav, 2014). More number of people are adapting to mobile apps and smart phones which is resulting in more number of sales through app rather than website. The experience for user is far better in case of using an app where instant access to the shopping site is available on the go. Mobile applications (GPS) also provide real time tracking of the logistics and delivery time (same day delivery) of the purchased item. Flip kart, India's largest online retailer said that 75% of its total traffic is already coming from its mobile app, while it was 6% in 2014

(Hazarika, 2015). Furthermore, buyers are also sharing their views about their experience of mobile app with their contacts through the messaging apps like whats app, hike, and chat on etc.

6. INVESTIGATION OF CURRENT TRENDS IN MOBILE APP BASED SHOPPING

6.1 Technological Progression:

Smart phones are swiftly replacing the desktops and lap-tops as best choice for end user to access any information. Mobile phone which is the most ubiquitous device in every hand is becoming more convenient way to carry out the things than traditional desktops and laptops. It had witnessed an exponential growth in the number of users having internet access in the country year after year. They were able to use the data and connectivity effectively due to 3G and 4G technologies which offer a better experience. 4G technology is paving a new route for many industries. (Butchi Babu Muvva, 2012) States the impact of 4G technology in the Indian markets that there will be demand for more products and new markets will emerge in the area of mobile. As per the report of IAMAI, there will be more than 400 million users in India with internet access by December 2015 which had increased by 49% over previous year (IndianExpress, 2015). The growth rate can be expected more in the coming future due to increase in awareness in people on using the smart phones.

6.2 Increase in Competition:

With the rapid growth of technology, big data analytics is acting as the game changer for large e-commerce companies where in they are able to track the behavior of customer when he visits their website and search about a particular item he intend to purchase. Going to app only market place will enable the e-commerce company to avoid the search engines like Google by the customers and retain all the information and data within the mobile application. They should be able to collect and analyze the proper data to retain the customers. Number of users using the internet is increasing year after

year along with new companies that are laying their foundations in the e-commerce space.

6.3 Limitations of mobile app

There exist several other factors that affect the e-commerce companies seriously if they move to mobile. Mobile is the game changer in the future which is not to say that it will be the only sole medium. Below is the analysis of some of the weaknesses that exist in mobile shopping.

6.3.1 Connectivity issues

Indian e-commerce and m-commerce transactions are growing year after year but still there are a lot of complaints on the internet connectivity from the customers, especially in the rural areas. A major chunk of transactions over the online market have been failing due to the lack of proper connectivity. As per the report from Ericsson, 60% of the mobile internet users face network and connectivity related problems in India (Staff, 2015). In addition to this, hardly 20% of the Indian population is on internet (WEB25, 2015). When the user is travelling, the data connectivity will not be proper and signal fading may takes place which may affect his transaction badly. This happens due to signals coming from different directions to the mobile (Dr.A.K.Jain, 2012). In these cases, battery of the mobile will drain very fast because more power is consumed by the device to fetch and receive the dispersed signal. It also affects the data rate and Quality of Service (QOS).

6.3.2 Crowding of Applications for storage in Mobile

Smart phones can't handle the applications beyond their inbuilt memory. There is a chance from the customer side to delete the app once he makes the purchase in order to free the memory of phone. In these circumstances, customer retention will become a major burden for the company. Push notifications, everyday alerts to customers through mobile applications drain the battery of the phone as the application will be running backdoor on the smart phone. In addition to this, online merchants are continuously pushing notifications and bombarding mail boxes of customers with emails to download the application.

Figure 2: India's Internet users in 2015 | Source IWS, 2010, BMI, ITU, McKinsey
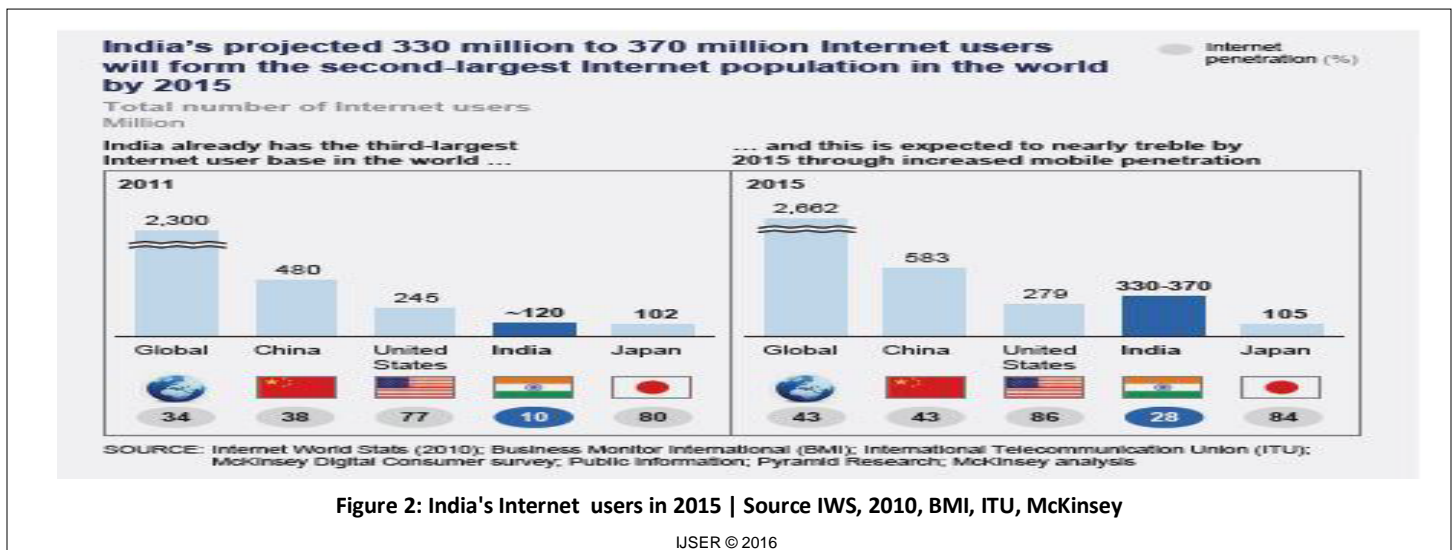
Consider any user, who tries to open a website of an online market on the smart phone. Despite opening the site on the mobile browser, it redirects and recommends the user to download the mobile app. This may not hold well with all the customers. It had been observed that new smart phones purchased by customers were being delivered with applications bundled along with the phone. This is again disturbing the customers by always sending alerts, updates and messages which is leading to deletion of app by the user due to irritation, lack of storage space or nuisance value and time wasted

6.3.3   Security concerns

A customer of an e-commerce company has to login with his credentials to make transactions over the website. In the app only model, user has to do a onetime login and app will store the details of the user so that no need to login every time. According to the mobile application security study by HP, it is found that 97% of the applications access at least one private information source of the applicant (H.P, 2013). Another report by Arxan revealed that 127 billion applications were downloaded for free in the year 2014 and 80% of android apps, 75% of ios apps have been hacked (ARXAN, 2014). If the phone is stolen or lost, there can be a potential damage in terms of purchases and transactions. The debit card and net banking credentials are saved by the apps once the user made the transactions. User need not enter his card details for the further transactions he wish to make through the app. A huge number of applications per single phone and user eventually end up with making simple and easy common passwords which in turn acts as a welcome board for the hackers to steal the information. Identification integrity and message integrity are also key security concerns related to mobile commerce (Wadhaval, April 2013). Mobile phone users generally access the Wi-Fi network while they are roaming in public places like airports, shopping malls etc. (OrasiSoftware, 2013) a whitepaper, tells that any user accessing the public Wi-Fi networks are prone to security risk because the information of the user can be directly pulled from the unsecured Wi-Fi signals.

6.3.4   Decreasing retention rate for app users

Companies are pushing the customers to download install and use a new app. The competition is getting intense. With 1.6 Million apps in Google play and 1.5 million apps in Apple App Store (Statistica July, 2015.) it's difficult to get your application even noticed.

Normally about 55% of users use four or less apps per day (Nielsen, 2014) while 25% of users use an app just once (Localytics, June 2015), 51% of app publishers earn less than $500 a month from their mobile app (Developer Economics, July 2015) and 65% of mobile users download zero apps each month (ComScore, August 2014).

This shows that companies only those with greater brand visibility a larger customer base and willingness to spend

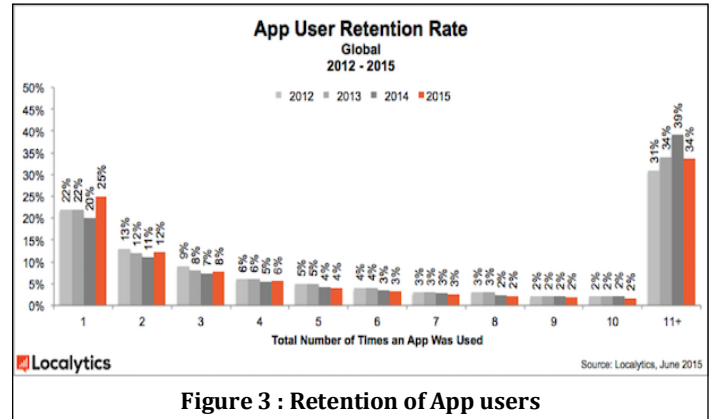more on developing and promoting great apps would be able

Figure 3 : Retention of App users

to engage the customers and will be highly rewarding.

7. MOBILE WEB

7.1 Use of smartphone features

The number of smartphones is growing along with the mobile apps. The smartphones users also use it as a primary device for browsing demanding for mobile friendly websites that make the best use of device features like location ,click to call or use of QR code, NFC .Apps are designed for specific OS but the web based applications can work regardless of the device, operating system or browser. These web based applications are not required to be downloaded or upgraded.
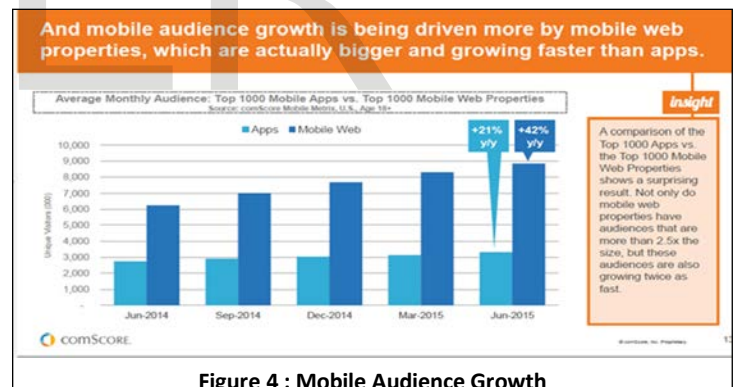

Figure 4 : Mobile Audience Growth

7.2 Mobile Audience Growth

Mobile web experiencing is improving hence instead of mobile apps the tendency is more towards mobile web. ComScore report points out that 88% of the time is spent on favourite's top 5 apps and 95% in top ten of the user's favourite apps indicating only most popular apps are thriving. Moreover Additionally 71% percent of time is spent in just five app categories: social media (29%); radio (15%); games (11%), multimedia (6%); messaging (6%) and music (4%).

This indicates that mobile-friendly web should be taken seriously by even most successful app publishers.

7.3 Platform independent

Mobile apps are developed for specific operating systems such

as android or apple IOS and restricted to certain hardware platforms. Therefore customer engagement through a native app only impacts a fraction of your customer base.
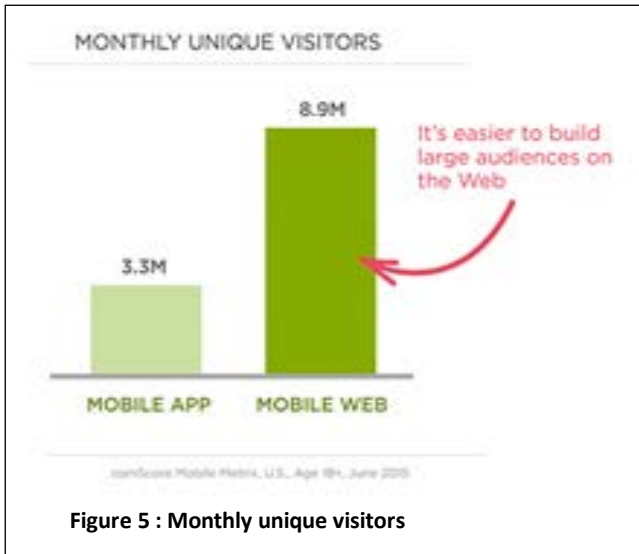

Figure 5 : Monthly unique visitors

Mobile web apps on the other hand can run on any device with a browser without installation. Mobile web is still superior when it comes to reach and build new audience. Native apps are not effective in improving the customer base.

7.4 Organic traffic

Most of the businesses gain new business via web search. Mobile search has already overtaken web search and google is prioritizing on including mobile friendly sites in search engines.

originate from shares on social media, messaging apps, directories, digital media and sites/apps that review travel providers, restaurants etc. Native apps are invisible to the search engines
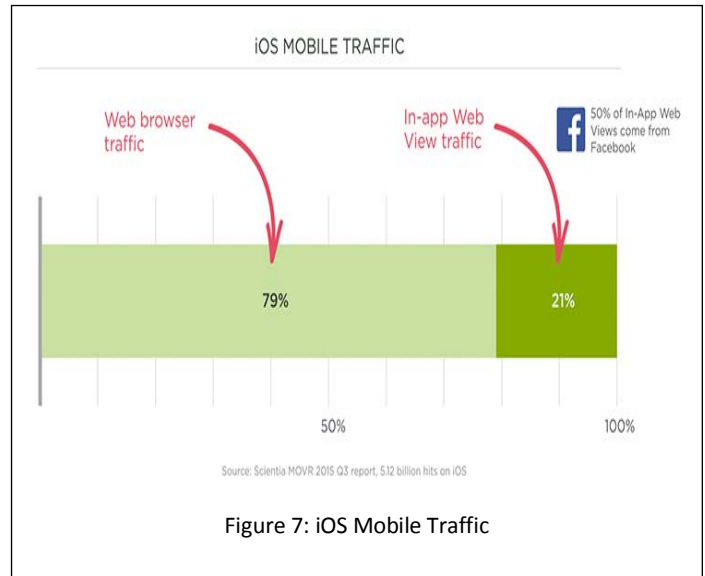

Figure 7: iOS Mobile Traffic

7.4.2. Traffic from in app browsers

Many of the apps have embedded browser and large amount of time is spent on Web properties within embedded Web browsers inside the World's most popular native mobile apps.

The above data shows that about 20% of iOS mobile Web traffic over the past two years originated from embedded browsers. 50% of it from the embedded Web views in Face-
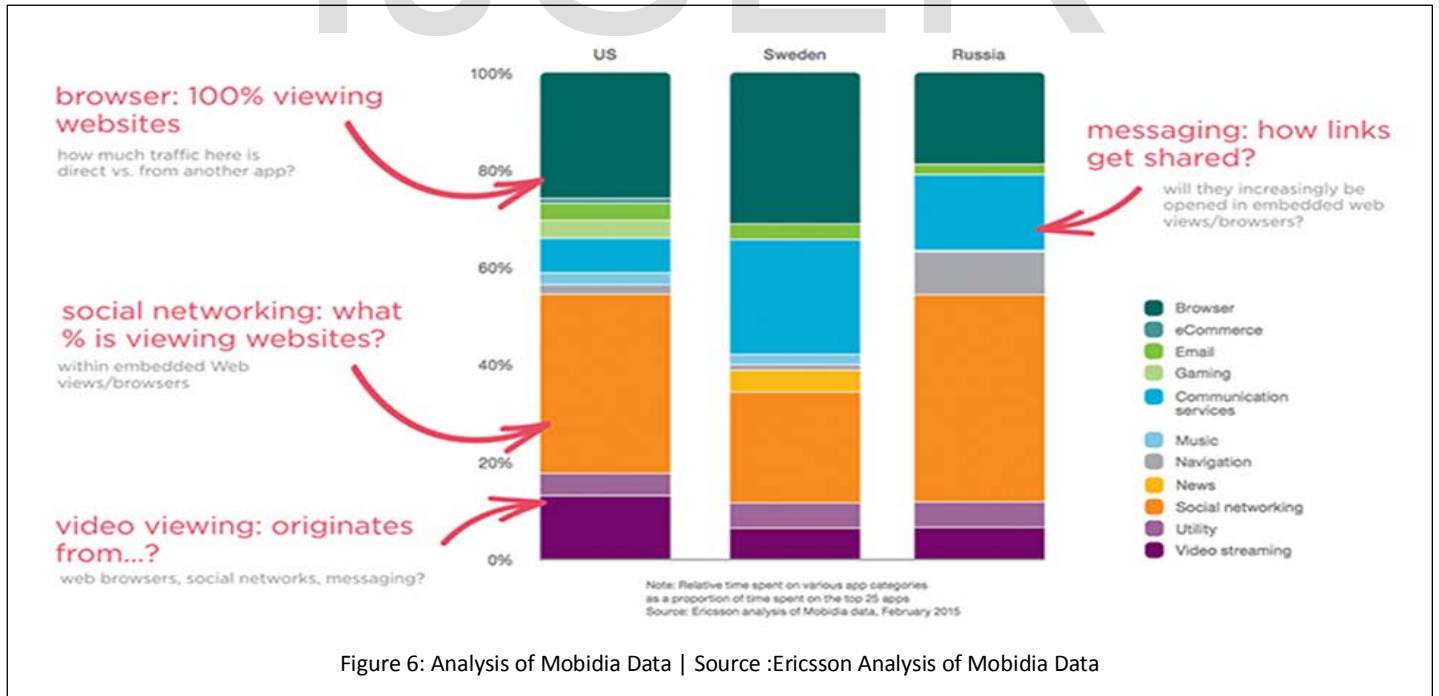

Figure 6: Analysis of Mobidia Data | Source :Ericsson Analysis of Mobidia Data

7.4.1 Traffic from referring sites

Mobile web has potential to attract traffic originating from different source and even mobile apps.Organic traffic may

book's native mobile app.

8. MYNTRA CASE LET

There is a predominant growth in the Indian e-commerce economy over the past decade. The performance of an e-commerce company is measured in terms of the revenue generated and the customer base that particular company is handling. Many companies are performing well in the online space globally before the likes of Flip kart, snap deal and other e-retailers started in India. The growth of Indian e-commerce happened very quickly than it took in US and other developed nations. Myntra is an online apparel retailer founded in 2007. It initially focused on selling gift items. In 2010, they started focusing on selling the apparels. Flip kart, the largest e-commerce company in India founded in 2007 had moved to a market place in 2013 which allowed various merchants to sell their products on the platform. In order to face the competition from international companies that are making their base in India and also to increase its revenue share in the market, flip kart had acquired Myntra for Rs 2000 Crore in one of the biggest acquisition in the online industry. Though both companies operate with their old names after merger, this deal helped flip kart to increase its market in the online fashion retailing.

Figure 8: Users and Industry Estimates | Source: Industry estimates
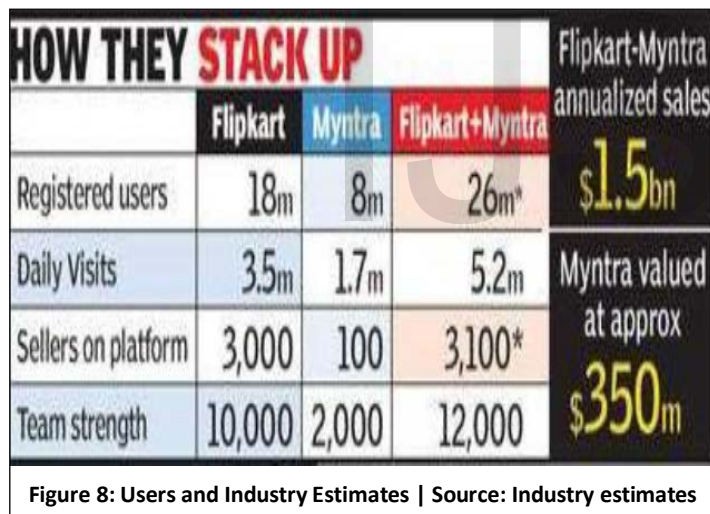
In a surprising move, Myntra moved to a mobile only market place by shutting down its website in May, 2015 as it observed that more than 70% of its revenue and 90% of the traffic is getting from mobile app. In addition to this, chief product officer of Myntra Shamik Sharma told that the app only market place move by the company is not to stop users searching on Google for a product search but to provide unique features and capabilities on the app (Krishnamurthy, 2015). Accidentally, 10% of drop in sales had been recorded by the company in the same month soon it became the new app based marketplace. The company also lost potential loyal customers who are active on the website. Dedicated customers of the company would always have its mobile app installed in their phones

and they will purchase regularly. A person who wants to purchase once or twice will find it difficult to install the application even if he/she didn't require. Hence Myntra backed off from its app only strategy and started rolling out its mobile website (Digbijay, 2015).

9. DESKTOP BASED ONLINE SHOPPING (E- COMMERCE)

The desktop/laptop based online transactions made were generally referred to as e-commerce activities. (Chanana, 2012) pointed out that the present day e-commerce is increasing the B2C market which is enabling new players to enter into the online space. Forrester Research Online Retail Forecast, 2011 To 2016 (Asia Pacific) predicted that the Indian online retail revenue will be $8.8 billion by 2016 (Wigder, 2012). The following figure from forester report shows the market forecast for four countries

There are many positive factors that will help the merchants to grow their business by entering into the online market place. It will give him visibility about the product to a large number of customers across different places. (Dr.VikramJain, 2014) Explains in detail about the B2B e-commerce like tie up between the logistics provider, content management software provider, insurance company and e-commerce company. Financial transactions like bonds, securities and other financial assets may also involve between those companies.

Country	Sales in $ Billion	
	2012	2016
India	1.6	8.8
Australia	23.2	35.4
Japan	63.9	97.6
China	169.4	356.1

Source: Forrester

Figure 9: Country wise desktop based online shopping

(Awais, 2012) Gives in detail analysis of the strengths and weaknesses that a merchant possess in the e-commerce business. Some of the strengths are as follows.

9.1 Customer engagement

The e-retailer can be directly in contact with the customer through e-mail and other means such as social networking sites. He can directly target the advertisements about his new launches and offers to the customers. Effective customer engagement helps the online retailer to build his brand in the market (Wirtz, 2013). Customers are also assured about the delivery of the product at their door step and they can return

it if they found the piece damaged or unsealed. Companies are also putting lot of efforts in delivering the product faster like one day delivery, same day delivery within the city to keep the users engaged to their respective websites. (Bask, 2012) Pointed out the importance of logistic companies in the e-commerce markets. He also mentioned that more number of logistics companies is also tying up with the e-commerce companies to ensure cost-efficient delivery even to remote locations.

9.2 Cost effectiveness

The products were offered at a discount price in the online markets to lure customers. Furthermore, customers who are more prices sensitive are quickly attracted to the product and they are comparing other product prices too. To an extent, it is a win-win situation for both seller and buyer in the e-commerce space. Merchant selling the product is getting exposure to a wide market and items are sold quickly, where as consumer is getting the advantage of cost on the final price and the ordered goods are being delivered at the doorsteps. As per (JagvinderKaur, 2014), several companies are shifting to e-commerce for advertising their products online at a less cost. New businesses of coupon websites have emerged due to the e-commerce boom (VarunJain, 2015). The online coupons business segment has grown simultaneously with the e-commerce business and they are pushing the business of the e-retailers by issuing the discount coupons to the customers.
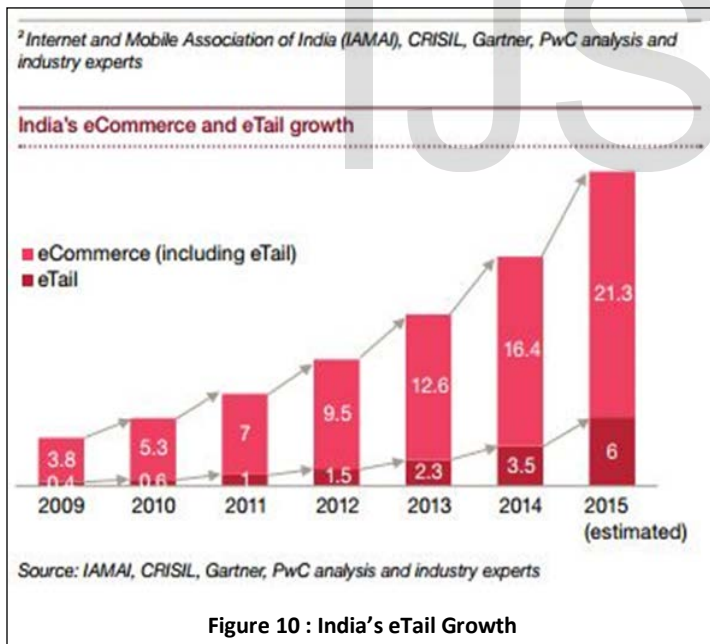

Figure 10 : India's eTail Growth

10. TRADITIONAL IN-STORE SHOPPING

The main disadvantage of the online shopping is that consumers can't touch and feel the product they want to purchase which is the benefit when it comes to traditional brick and mortar stores where customers will get the look and feel experience of the item. (LathaReddy, 2014) Points out that some of the customers are still holding the traditional shopping because of lack of trust, lack of physical touch, security issues etc

with respect to online shopping. According to a survey on various samples conducted by (Levin, 2005), there is a significant difference in the opinion between online and offline shopping experience. Hence the e-commerce companies are laying their brick offline to provide the look and feel experience of the product to the customers. In this case, customers will have the trust on the product as well as the company. They can view the product in store and can book the same online at their convenience. India's largest e-retailer flip kart has opened 20 offline stores which will help the customers to collect their parcel from the store at their convenient time (VikasSN, 2015). To an extent, Myntra is also planning to open offline stores soon to build its apparel brand roadster (Shrivastava, 2014). It is quite evident from the above scenario that the biggest e-commerce companies are coming up with experience stores of their own which will not only help them in building the brand but also in providing a touch and feel experience to the customers.

11. DISCUSSION AND RECOMMENDATIONS

Latest trends show some of the players moving to app only market place just by considering the current and future growth in the number of smartphone users and the time spent by users on apps. In reality very few players having strong brand presence heavy investment in developing and promoting strong apps have been able to benefit from the apps.

Mobile app have their inherent limitations hence cannot be a complete replacement for the websites rather it can complement the website to improve customer experience. Desktop provides better graphical capabilities with more enhanced user experience while shopping online (Tarasewich, 2002). A large base of customers is still out of reach of mobile apps. Traditional e-commerce platforms still hold a good amount of customers and companies will lose the value segment if they move to mobile only marketplace.

 According to (Ghosh, 2015), one of the country's online apparel retailers Jabong stated that customers should have the choice of shopping according to their convenience either on mobile app or website .

Companies need to concentrate on developing mobile friendly websites which make the best use of resources available on smartphone like screen size, location ,QR code or near field communications.

Companies cannot do away with either apps or web based app both are going to stay. Companies need to formulate appropriate strategy having a balanced mix of app and mobile web. The considerations would be existing customer base, ability and willingness to invest , current brand presence and technology enablers. Startups may experiment by investing in low cost apps to get a market feel whereas the others should concentrate on making their app rich and increase the reach by exploiting the capabilities of mobile Web

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