

IMPACT OF MOBILE DEVICES ON E-COMMERCE

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ABSTRACT

E-Commerce has been evolving with a steady growth of personal computers and internet usage over the past few years. In contrast to the scenario in developed countries, penetration of mobile devices have been used heavily for accessing information on the net besides for communication in developing countries as China became the largest user base of mobiles as well as smart phone users on earth. Smart Phones with 3G access have an user base over one billion by end of 2012. Smart phone has become device for both enquiry and point of sales in many countries as the market share of these devices crossed 40% of mobiles in last 6 quarters led by Samsung and Apple. India rose to the fourth largest base of smart phone users by Q3, 2012. Internet and broad band will be driven with these mobile devices. Besides India has mobile user base over 900 million, second largest in the world. Online travel, e-retailing, music or book downloading, e-services in health care and education and e-government services of e-Commerce will be heavily targeted as accessibility and affordability entice the customers with higher value propositions. New technological device with Wi-Fi, so called tablet will lead a boom for e-Commerce in India as only few researchers envisioned. Mobile banking has begun to penetrate with push from RBI. Specific applications growth would enable online reach of products and services through rapidly developing mobile sector rather than traditional computer base. This paper will show the analysis of the factors that make mobile devices as a key for higher growth of e-Commerce in India in next few years.

KEYWORDS: E-Commerce, Mobiles, Smart Phone, Tablet, Mobile Banking

1. INTRODUCTION

E-Commerce began mostly with dial-up networks in late 1990s as internet began to penetrate along with computers during liberalization policies of Government of India since 1991. The steady growth of personal computers and internet usage over the past few years have created an environment where business to business, B2B or business to consumers, B2C models of e-Commerce steadily initiated online transaction process. The Indian PC market

grown from 9.89 million units in 2010 to 11.15 million units in 2011 and projected to reach 12.71 by 2012 according Cyber Media Research as shown in table-1. It can be seen from the table that there is a steady increase in all the types of computer during the last three years. Though there is an increasing trend in the computer growth, the Indian computer market is just 3 to 4 percent of the world market though population is over 1.22 billion. Hence, there is a greater potential for computer penetration in the Indian market.

Table 1. India Computer Growth from 2010 to 12, in millions ¹

Type of Computers	2010	2011	2012
Desktop	6.13	6.74	7.54
Lab top / Net books	3.76	4.41	5.17
Total Computers	9.89	11.15	12.71

A key factor for penetration of e-Commerce is internet usage and the growth of internet penetration, which has been modest in the last two years as shown in table-2. It can be said that this trend is due to the penetration of mobile phones in the market. In India, there are more than 600 million mobile phones penetrated in the market during the last three years and some of the users began to use the net as 2G and 3G facilities. All these advanced versions are available with easily in tier I and tier II cities in India. But the access of Internet is still slow in tier III and penetration rate in rural India is in single digit.

Table 2. Internet Usage in India from July 2011 vs. July 2012, in millions ²

Month	July 2011	November 2011	March 2012	July 2012	October 2012
No. of Internet Users	83	88.5	114	124.7	146.4

The Reserve Bank of India has been initiating several banking services, such as electronic clearing service, national electronic funds transfer, NEFT, Automatic Teller Machine, Card acceptance across any bank, Credit cards and Debit cards for banks to automate online transactions. Yet, cashless transactions remain no more than 30% of all transactions because of PC and Internet penetration. India has no more than 20% computer penetration, no more than 25% credit and debit card penetration and lowest penetration of ATM in the developed and developing countries. There is a point of sales machine that any place to transact financial transaction with consumer bank and it is slowly evolving at retail outlets and thus the penetration is still less 200 per million. But surprisingly mobile

communication has created a vibrant market as new devices such as smart phones and tablets began to penetrate to market along multinationals investing in huge amount in networking hardware and software for access of information so critical to e-Commerce activities.

2. Smart Phone penetration as a driver of e-Commerce in India

In contrast to the scenario in developed countries, penetration of mobile devices has been used heavily for accessing information on the net besides for communication in developing countries such as China, which became the largest user base of mobiles as well as smart phone users on the earth. The China has over one billion and India has over 900 million mobile users out of over 4 billion mobile users worldwide. Table-3 shows the mobile market during the last three years quarter-wise. It can be observed from the data that during the year 2011 the smart phones have taken the most growth and cross 150 million units. Apple iPhone4 and iPhone5 have been phenomenal success along with galaxy from Samsung. Smart Phones with 3G access have an user base over one billion by end of 2012. This new internet user group has been a great target by many multinationals companies. The London Olympics had been great successful in launching smart phones along with IPL 5 in India. Sporting events and special or festival days are great online transactions for any e-Commerce firm to be watched. Christmas sales have been watched with great care by marketing departments.

Table 3. Smart Phones vs. Other Mobiles, in millions ⁵

Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter	Year & Quarter
2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2	2011 Q3	2011 Q4	2012 Q1	2012 Q2	2012 Q3
262	262	267	288	266	266	273	270	219	217	266
56	63	82	100	102	107	116	155	144	147	179

Smart phone has become a device for both enquiry and point of sales in many countries as the market share of these device crossed 40% of all mobiles during the last 6 quarters, led by Samsung and Apple. India rose to the fourth largest base of smart phone users by Q3, 2012. Internet and broad band will be driven with these mobile devices as Indian mobile base is the second largest in the world. Besides, most firms of e-Commerce in India can also access over one billion smart phone users of the world. Exports of new products and service are going to take off as Indian Business begin to adopt to the phenomenal rise of information and communication technology for affordable and efficient access of product or service information with online bank payment system.

Indian smart phone market has seen a compound annual growth rate of over 50 percent during the last two years and it will continue according to many research firms as is shown in table-4. The key reasons for this are: higher education levels among youth of 15 to 25 years, and consumer market began to accept the cash-less transactions, since the mobiles become cheaper and an affordable for access of information.

Table 4. Top five markets for Smart Phones and their growth ^{8,9}

Country	2011	2012	Growth
China	89.9	190.1	26.2%
USA	104.7	127.7	11.6%
India	10.8	17.9	57.5%
Brazil	8.9	16.5	44.0%
United Kingdom	26.0	32.3	11.5%
Rest of World	251.1	332.9	18.1%

3. Mobile Internet penetration as a driver of e-Commerce in India

Mobile phones will be used heavily to access internet as 3G access penetrates most of the cities across India, even rural India has been target by Government of India. “Mesa Kendras” and Aadar Cards will drive the internet access points. Traditional e-Commerce sectors of online travel, e-retailing, music or book downloading, besides e-services in health care and education or e-government services, which are heavily targeted as accessibility and affordability bring higher value propositions. The number of mobile users have accessed internet are 87.1 million and projected a close 100% growth by March 2013 according to IMAI and IMRB. This growth would slow down but more 1.5 million additional mobiles users will access internet every month in the next three years as shown in table-4.

Table 5. Mobile Internet Users Growth in India, inmillions ⁶

March 2010	March 2011	March 2012	March 2013	March 2014	March 2015
17.6	35.7	47.1	92.9	130.6	164.8

India will have 130.6 million mobile Internet users by March 2014, according to the Internet and the Mobile Association of India, IMAI and IMRB, from 87.1 million mobile Internet users in 2012. Table-4 shows the growth of mobile internet users from 2011 to 2015 but these estimates are vary from one research group to another. Combined with internet access India has over 144 million by 2012 and with mobile internet users the total internet users would be hefty 300 million by 2015.

This internet user group has driving the 10 billion dollar e-Commerce market in India with online travel dominating. E-Tailing is poised to take off as multi-brand retail, which is set to establish after approval of the government bill for foreign investment in 2012

4. Mobile penetration as a driver of Online Travel sector of e-Commerce

The online travel segment has grown more than 70% share led airline companies, travel agencies along with Indian Railways Catering and Tourism Corporation, IRCTC, an arm of Indian Railways, Government of India.

Table 6. Top Online Travel Sites with access in India ²

Online Travel Site	July 2012
Indian Railways, IRCTC	19.2%
Make My Trip	11.6%
Yatra Online	8.3%
Jet Airways	4.6%
Trip Advisor Group	3.9%
IndiaRailinfo.com	3.2%
ClearTrip.Com	3.0%
Expedia Inc	2.9%
Travora Media	2.6%
MustseeIndia.com	2.3%
Redbus.in	2.0%

The IRCTC has achieved a record booking of 4.96 lakh e-tickets in a day on 24 July, 2012. ³ Further, there are 4.47 lakh e-tickets have been booked per day since the new timing of Tatkal tickets came into force on July 7, 2012 as against 3.60 lakh, which is a record earlier. This is more than 50% growth as mobile penetrated even the rural sector and website of the IRCTC, which has been used heavily. This has been attributed to a greater penetration of smart phones and Indian Railways have issued no printed version, if valid user identification along with mobile carried while travelling. The industry is worth around \$10 billion, though travel-ticket sales alone accounted for \$8.4 billion last year. ⁴

About 11.61 crores train tickets were booked through the IRCTC with a total sale of Rs 9,498.45 crores in 2011-12 compared to 9.69 crores tickets with a sale of Rs 8,007.16 crores during 2010-11. This was a tremendous growth from a paltry 1.99 lakh tickets with a sale of Rs 26.39 crores in 2002-03. ¹⁰ Thus, the IRCTC has been an integral part of e-Commerce growth in India and there is a plan to make it public.

Table 7. IRCTC Growth of Users and Revenue ¹¹

Year	Tickets Sold (in Lakh)	Ticket sale (in Crores)
2005-06	25	317
2006-07	68	678
2007-08	189	1,700
2008-09	440	3,883
2009-10	719	6,011
2010-11	969	8,007
2011-12	1,161	9,498

5. Private Equity and Venture Capital as a driver of e-Commerce

The e-commerce sector has seen 27 private equity, investments worth of \$103.6 million in the first two quarters of 2012 while received 18 deals worth \$177.83 million investments in 2011 with a total of \$392 million dollars for the whole year.

Flipkart, India's largest online store by revenue has so far raised \$31 million since it was founded in 2007 and employs more than 5,000 people. The founder was an ex-executive of the world largest e-Commerce firm, Amazon.com. With average daily sales of \$500,000, the company aims to hit \$1 billion by 2014-15. Last December 2011 an e-Bay executive used a seed fund of \$5 million to launch Pepperfry.com, which sells lifestyle products. In February 2012, Amazon debuted in India through Jungle.com, a product-comparison website which aggregates information from different e-commerce sites. Snapdeal got venture-capital, up to \$52 million dollars. Myntra, a popular seller of fashion products, got investments of \$40 million dollars since its launch in 2007.

Flipkart Online Services Pvt. Ltd, which runs flipkart.com, got close to 50% of the total investment in 2011, according to VCCEdge. \$150 million dollar investment of Flipkart was the single-largest in 2011-12 in the e-Commerce sector funded by Accel India Venture Fund and Tiger Global Management Ltd and it is shown in table- 8.

Table 8. FDI flow into e-Commerce firms in 2011-12, in millions ^{12, 13}

e-Commerce Firm	Month & Year	Investment Size million dollars	Investors
Snapdeal.com	Jan., 2011	11	Nexus Venture Partners
Myntra Designs	Mar 2011	14	Indo-US Venture Partners, Tiger Global, Accel India, IDG Ventures
Exclusively.in	May 2011	16	Tiger Global, Accel India

Flipkart	June 2011	20	Tiger Global
TV18 Home Shopping Network	Jul 2011	22	SAIF Partners, Network18 and GS Shopping
Snapdeal.com	Jul 2011	40	Bessemer
Naaptol	Oct. 2011	25	NEA
Fashionandyou.com	Nov.,2011	40	Norwest Venture Partners, Intel Capital
Dealsandyou	Nov.,2011	17	Mayfield, Norwest Venture Partners, Intel Capital, Nokia Growth Partners
Flipkart	Jan 2012	150	Tiger Global, Accel India
Myntra	Feb. 2012	21	Tiger Global, IDG Ventures
Firstcry.com	Feb. 2012	14	IDG Ventures, Tiger Global
Quikr	May 2012	32	Warburg Pincus, eBay, Matrix Partners, Norwest Venture Partners

Competition is fierce in e-Commerce, in February 2012 Flipkart bought Lets buy, a rival firm, for \$20 million dollars. In April, 2012, Snap deal acquired Esportsbuy.com, an online retailer of sports and fitness equipment. There has growth in e-commerce because it accounts only 0.12% of all retail sales in India, compared with over 4% in China and America.

6. Tablets as a driver of e-Commerce

New technological device with Wi-Fi, so called tablet will lead a boom for e-Commerce in India as only few researchers envisioned along with mobile banking push from the RBI. Specific applications growth would enable online reach of products and services through rapidly developing mobile sector rather than traditional computer base. Apple iPad was launched in April 2010 with sales gone over million on first day. Apple sold over 50 million units in 2011 with a price tag of \$399 dollars and on pace of 60 million units in 2012. In fact, Apple became the largest market valued firm in world with a value over 400 billion because of two mobile devices iPhone and iPad. The Samsung has a great success with the tablet called “Tab 2” and almost all computer firms are launching tablets including Microsoft, a software firm. Tablet market will surpass PC market in 2014 and the growth can be seen table-9

Table 9. Growth of Tablets, in Millions¹⁴

	2010	2011	2012
Tablets	19.4	68.4	125-150

On the whole, the Tablets market in India recorded sales of 1.1 million units in 3Q of July-Sept. 2012 from 0.55 million in 2Q and will close at 3 million units in 2012, according to Cyber Media Research. It also predicts that Tablet sales could easily exceed 6 million units in

2013, and it may be even more because the price range of tablets are below Rs. 10,000, Rs. 10,000-20,000 and above Rs. 20,000.¹⁵

7. Advantages and Barriers for Mobile Devices in e-Commerce

Mobiles have created a new trend so called mobile commerce, where the financial transactions are made using mobile devices. This has already began to penetrated in the US, Europe, Japan, Australia and even Africa. In India, basic banking transactions and mobile payments are available on smart phones and tablets. Half of the Indian households is still unbanked and most of them have mobile phones. This opportunity ought to provide mobile commerce services. Mobile Commerce includes “Bill Payments” such as utility bills of water, electricity and gas. People can pay bills from anywhere and anytime via their mobile phones and save their lots of time. Recently, xpWallet announced a launch of mWallet a Bill Pay offering, enabling users to receive and view bills instantly through the Internet, USSD and SMS.

Funds transfer is another advantage of mobile-Commerce allowed by the RBI. Transfer money can be done even in a retail shops or at newer ATM as it is a technological evolution going baffle many. With the rise in shopping malls and retail stores, mobile-Commerce will become extremely valuable for customers at check-out counters. The online shopping becomes much easier and lucrative for both the customers and merchants through various discounts and loyalty coupons. Mobile-Commerce with drive entertainment with sporting event tickets or movie tickets via a mobile-phone along with scheduling travel plans too.

There are some obstacles such as security of financial transactions and speed of user interfaces and banks or merchants must to provide safety and security from intrusions and hacking. There are inherent charges of inventory, shipping or delivery charges and cash on delivery fee. Most of the mobile-Commerce bear risks. The biggest risk with mobile-Commerce is return. If the inventory levels are not cleared in 50 to 60 days with items having bigger prices the firms may not be able to sustain or attract investors. Most of the firms will not be profitable in four to five years as initial fixed and operating costs are high in e-Commerce sector as shown by Amazon.com and many Indian firms are aware of that.

8. Internet Coverage:

Payment systems will focus on software application development on both mobiles, especially smart phones and tablets. Besides these two, there is a growing computer base of over billion with a good penetration of e-Commerce by using B2B, B2C and G2C. Internet economy would grow at a better rate with e-Tailing about to take-off with legislation of FDI bill from the Government of India in the year 2012. Music and Video download would take off as 3G penetrates in the next two years if the infrastructure investments in information and

communication technology would be at a greater rate. The Internet related services contributed closed to 30 billion dollars which is 1.6 per cent of the Gross Domestic Product and this will grow to 100 billion dollars in 2015, and thus contributing to 3.3% in GDP according to the McKinsey & Company.¹⁶

Table 10. Internet Connectivity, according Boston Consulting Group¹⁷

Broad Band Connectivity	2005	2015
Fixed Connections	167	573
Mobile Connections	Negligible	2134

9. Conclusion

Effective e-Commerce would be possible only with greater penetration and bigger investment in broadband sector with better training mechanisms of online usage. Mega bits to Giga bits data have to move from tier II and tier III cities and only through billion mobile or hand-held devices, it could be possible especially the really boost of e-Commerce, which should come from semi-urban and rural areas of India.

References:

1. 27 April, 2012, <http://cmrindia.com/india-pc-market-performance-in-2011-projections-for-2012/> accessed December, 2012
2. State of e-Commerce in India, A Research report by ComScore for ASSOCHAM, September 2012.
3. IRTCE Sales Rise, Ashraf Jamal, The Times of India, 24 July, 2012
4. E-commerce in India: Sell now, pay later, The Economist, April 25th 2012, www.economist.com/blogs/schumpeter/2012/04/e-commerce-india
5. "Analyzing the world's 11 biggest handset makers in Q2 2012", Fierce Wireless :Europe <http://www.fiercewireless.com/europe/special-reports/analyzing-worlds-11-biggest-handset-makers-q2-2012#ixzz2G5AX4rag>
6. IAMAI + IMRB Research Report: Mobile Internet in India, Best Media Info Bureau | Delhi | January 3, 2013.
7. State of e-Commerce in India by Com.Score and ASSOCHAM, September 2012
8. Smart Phone Report, e-Marketer, May 2012, Accessed 4-12-2012
9. <http://www.idc.com/getdoc.jsp?containerId=prUS23668012#>. Accessed 4-12-,2012
10. About Rs 9,500 crores worth online train tickets booked in 2011-12, The Economic Times 24th November 2012.
11. Your pain, railways gain: E-ticket cancellations fetch 750 crores, The Economic Times 24th May, 2012
12. "FDI Escapades", Business World, 1-10-2012, page 36-42.
13. VCCEdge, ©2012 Com.Score, Inc.
14. Mobile Reports IDC, August - December 2012.
15. <http://www.business-standard.com/india/news/tablet-shipment-in-india-to-close-at-3-mn-in-2012/201532/on>.
16. Internet Economy, The Business Line, 20th December 2012.
17. "It Keeps Growing... And Growing, Harvard Business Review, October 2012, pages 28-29.