

3G Mobile Wireless Communication: A Catalyst for Development of E-Commerce in India

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Abstract

E-commerce is modern business methodology that meets the needs of consumers by improving the quality of goods and services and speed of service delivery. In India, 3G Services are emerging which are helping to develop E-Commerce at large scale. In this paper, we have discussed the importance of 3G Mobile Wireless Communication in the development of E-Commerce in India.

Keywords

3G, Wireless Communication, E-Commerce

I. Introduction

Electronic Commerce or E-commerce is a process of buying and selling of products or services over electronic systems such as the Internet and other computer networks [1]. A key element of e-commerce is information processing [3]. According to the editor-in-chief of International Journal of Electronic Commerce, Vladimir Zwass, ‘Electronic commerce is sharing business information, maintaining business relationships and conducting business transactions by means of telecommunications networks’ [4].

II. E-commerce Industry Growth

E-commerce is growing worldwide. According to Internet and Mobile Association of India (IAMAI), as of 2010, the e-commerce market share is as follows:

- Online Travel – 80 per cent
- E-Tailing- 6.48 per cent
- Financial Services- 6.31 per cent
- Other Online Services- 5.09 per cent
- Digital Downloads- 2.12 per cent

Fig. 1 shows the Growth of E-Commerce over the years.

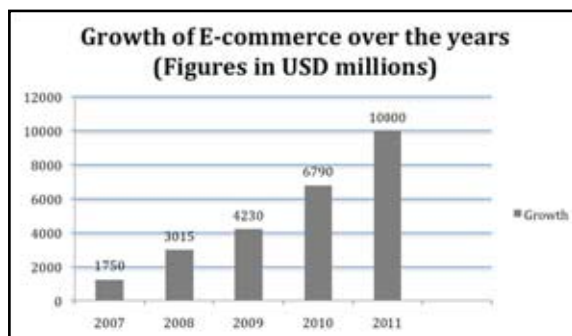


Fig. 1: Growth of E-Commerce Over the Years
Source: Internet and Mobile Association of India (IAMAI)

Some people having misunderstanding that e-commerce refers to online shopping. But it is only a small part of the picture but it also refers to online stock, bond transactions, buying and downloading software without ever going to a store. In addition, e-commerce includes business to business connections that make purchasing easier for big corporations [1].

III. What You See is What You Get (WYSIWIG)

What you see is what you get (WYSIWIG), is an important principle when it comes to the online world. To build customer confidence in your product/service, you can upload photos clicked from many angles, use videos, right accurate descriptions, etc. Again, UGC helps when it comes to customers who like to see the product before buying. It became easy for consumers to choose product/services from many choices [2].

IV. 3G Mobile Wireless Communication in India

3G refers to Third Generation of mobile phone standards and technology. By launching 3G Services, India is moving towards the advancement of mobile technology in the country [9]. The first pre-commercial 3G network – branded as FOMA – launched in May 2001, by NTT DoCoMo in Japan. Following the first pre-commercial launch, NTT DoCoMo again made history with the first commercial launch of 3G in Japan on October 1, 2001 [5]. Some of the 3G operators in India are as follows:

- Airtel 3G
- Vodafone 3G
- Reliance 3G
- Tata DoCoMo 3G
- Idea 3G
- Aircel 3G
- STEL 3G
- MTNL 3G Jadoo
- BSNL 3G

According to latest report by Price water house Coopers (PwC), the number of 3G subscriber is projected to cross 107 million by 2015, growing at a CAGR of 190% between 2011 and 2015 [6].

Table 1: 3G Service Providers in India [7]

3G strategies of key technology and chipset companies	Qualcomm Mediatek
3G strategies of key network infrastructure providers	Nokia Siemens Networks Ericsson Huawei ZTE Indian Telecom Equipment Manufacturers
3G strategies of key private carriers	Airtel Vodafone Idea Cellular Tata DoCoMo Aircel Reliance Communications
3G strategies of key mobile device OEMs	a) Nokia b) Samsung c) Micromax d) HTC e) RIM (Blackberry)

3G strategies of key VAS companies	Phoneytunes Mauj Hungama IMI Mobile Indiagames Tanla Solutions Indiatimes One97 Comviva Spice Digital Cellebrum) MapmyIndia Apalya OnMobile
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3G Subscriptions are rising in India which is shown by fig.2 along with 3G Penetration.



Fig. 2: 3G Subscriptions v/s 3G Penetrations [8]

V. 3G Services: Catalyst for Development of E-Commerce

As with the emergence of Mobile wireless communication, it becomes very easy to develop E-Commerce. Buying and selling of products over electronic systems such as the Internet are poised to grow manifold once 3G and mobile broadband services begin in India, a top official of leading e-commerce site eBay said. "E-commerce is taking off slowly here but I think the Indian market can experience significant growth over the next few years as 3G services are launched and mobile broadband gets more ubiquitous," eBay's President and CEO John Donahoe said [10, 11]. With popularity of the Internet and 3G, E-Commerce is more and more widespread. In the meantime, demands of consumer are increasingly improving [12]. When moving from location to location and from device to device, seamless transfer will be necessary for E-Commerce to buy and sell product or services. Global positioning systems (GPS) will also play a large part in wireless e-commerce. Wireless technology will provide the ability to communicate and interact over the Internet anytime from anywhere, but will always be limited in terms of screen size, interactivity, and communication speed relative to physically connected devices [13].

Table 2: Category Wise Sample Services [14]

Category	Service Bandwidth (uplink/downlink) [in kbps]	Sample Services
Voice Services	28.8/28.8	Voice, IVR, Voice Mail
Messaging Services	28.8/28.8	SMS, E-Mail
Switched Data Services	43.2/43.2	Low Speed internet/intranet access, fax
Medium Multimedia	20/768	Interactive Games, Lottery, betting, simple e-commerce
High Multimedia (MM)	20/1000	M-Commerce, M-Portals, LAN access, Audio/Video on demand
High Interactive MM	256/256	Video telephony, video conference

Table 3 shows the Online Retail Sales by Category, 2004-2010 showing Home products, computer hardware/software, and apparel are the top-selling online items.

Table 3: Online Retail Sales by Category, 2004-2010 [15]

Category	Annual Sales (In Billions) in 2004	Annual Sales (In Billions) in 2010	Compound Annual Growth Rate (CAGR)
Home Products	\$15.4	43.30	19
Computer hardware/software	\$12.0	17.4	6
Apparel	\$11.7	28.4	16
Consumer electronics	\$7.5	13.7	11
Tickets	\$4.3	9.7	15
Flower/cards/gifts	\$3.8	10.1	18
Music/Video goods	\$3.7	8.4	15
Books	\$3.7	6.4	10
Toys/ Video Games	\$3.4	6.3	11
Sporting goods/equipment	\$3.2	8.4	17
Jewelry/luxury goods	\$2.8	7.0	16
Health/beauty	\$2.4	5.0	13
Other	\$5.3	9.4	10
Total	\$79.2	173.5	14

Source: eMarketer, Inc., 2005b

Table 4 shows the Top 25 Online Retailers Ranked by Online Sales.

Table 4: Top 25 Online Retailers Ranked by Online Sales [15]

Online Retailer	Online Sales (2004)
Amazon.com	\$6.921 million
Dell.com	\$3.257 million
OfficeDepot.com	\$3.100 million
Staples.com	\$3.00 million
HPShopping.com	\$2.691 million
Sears.com	\$1.740 million
SonyStyle.com	\$1.597 million
CDW.com	\$1.525 million
Newegg.com	\$1.000 million
BestBuy.com	\$958 million
JCPenney.com	\$812 million
Walmart.com	\$782 million
Target.com	\$756 million
Quixtar.com	\$748 million
QVC.com	\$739 million
CircuitCity.com	\$577 million
Apple.com	\$547 million
Netflix.com	\$506 million
Overstock.com	\$495 million
Williams-sonoma.com	\$477 million
Avon.com	\$456 million
Gap.com	\$439 million
BN.com	\$419 million
Gateway.com	\$418 million
Redcatsusa.com	\$401 million

Source: Based on data from Internet Retailer, 2005; Company Reports on Form 10-K filed with the Securities and Exchange Commission.

VI. Conclusion

E-Commerce is a revolution as it is changing the way of business. Now, with rapid growth of mobile wireless communication technologies like 3G Mobile Wireless Communication, E-Commerce is growing like curve of Hockey Stick. So, we can say that 3G Mobile Wireless Communication plays vital role in the development of E-Commerce in India.

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