

Role of E-Commerce as an Instrument for Ensuring Future Sustainable Economic Growth in India

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Abstract—This paper focuses on the information and communication technologies (ICTs) in general and e-commerce in particular can bring very important benefits and opportunities for enterprises, and indeed for whole economies, in the developing world. One could argue, therefore, that there should be some correlation between Internet usage and development. E-commerce and the Internet, if correctly utilized for development, can be major instruments for ensuring future sustainable economic growth. Throughout the world, the profound impact of electronic commerce on the economies and societies of the globe will no doubt improve economic efficiency, competitiveness, and profitability and, therefore, result in the development of the information society. E-commerce and the new emerging digital technologies and services can be tools for development and help improve the livelihood of millions across the globe, by linking up remote regions and bringing together scientists, administrators, development professionals, managers, and people into projects and programs to promote economic and social development. The potential usage of e-commerce and the Internet is indescribable today.

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Keywords: Information and Communication Technologies (ICTs), E-Commerce, Sustainable Economic Growth, Instruments.

1. INTRODUCTION

India is at the cusp of an e-commerce revolution. Electronic commerce is presently an indispensable ingredient of India's trade facilitation policy. Since 1991, after economic reforms explicitly took place in India as a result of opening of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. Resultantly, last few years have witnessed a technological revolution accompanied by the wide spread use of the Internet, web technologies and their applications. Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular.

An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organisations. Included in these electronic transactions are orders made over the web, extranet or electronic data interchange. The type of transaction made is defined by the method of placing the order. Normally excluded are orders made by telephone calls, facsimile or manually typed e-mails.

2. OBJECTIVES

The objectives of this article are to:

- i. To examine the growth of e-commerce in both physical and financial terms.
- ii. To evaluate the benefits obtained from e-business.
- iii. To present the evolution of e-commerce business indicating the chronological order, category of e commerce business.
- iv. To explain thee-commerce involved in India.
- v. To explain the key characteristics of the firms engaged in e-commerce application.
- vi. To critically analyze the barriers and constraints involved in flourishing e-commerce businesses in India and finally to develop a framework for effective dissemination of e-commerce in India.

3. HYPOTHESIS

As a consequence of increased Internet penetration, some important questions are raised with some overwhelming challenges for scientists, policymakers and human society' and they are as follows.

- Can the Internet-led IT serve as one of the most important means to improve the environment?

- Do demands for the development of a future sustainable economy compete or coincide with the new reality of the e-commerce?
- Is e-commerce a truly clean, environmentally caring economy, which will simply lead to the substitution of information for physical resource flows along energy and transportation networks?

Does it alternatively, e-commerce encourage more movement by generating new demands for material and energy that will further deteriorate the fragile environment?

4. METHODOLOGY

This project is the most well-known in the Indian context. Much of the data used for the analysis below was obtained from secondary sources such as published papers, government reports, and newspaper articles.

5. CATEGORIES OF E-COMMERCE

E- Computer Engineering and Intelligent Systems * There are numerous types of commercial transactions that occur on line, from buying goods such as books or clothes to purchasing services such as airline tickets or making hotel or car rental reservations. These include: electronic communications in the area of Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer to Consumer (C2C), Business-to-Government (B2G) and mobile-commerce.

5.1 Business-to-Business (B2B)

B2B is e-commerce between businesses such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer. This is the exchange of products, services, or information between businesses rather than between businesses and consumers. Global B2B transactions comprise 90% of all e-commerce. According to research conducted by the US-based International Data Corporation (IDC), it is estimated that global B2B e-commerce, especially among wholesalers and distributors, amounted to US\$12.4 trillion at the end of 2012. If the expansion in e-commerce continues at this rapid pace in developed markets as is expected, then B2B and B2C e-commerce transactions will account for about 5% of all inter-company transactions and retail sales by 2017.

In near future, e-commerce is going to play a major role in multimedia, entertainment and fashion industry. The foreign branded companies are eager to take full advantage of the growing Indian market and are trying to create market for their products over the net. Gucci Co. an Italian iconic fashion and leather goods label is eager to make its hold in India with Business to business transactions. Some of the key B2B exchanges in India are tradeindia.com, matexnet.com, Alibaba.com, AuctionIndia.com, Indiamart.com, TeaAuction.com, MetalJunction.com, Chemdex

(www.chemdex.com), Fast parts (www.fastparts.com), and Free Markets (www.freemarkets.com)etc.

5.2 Business-to-Consumer (B2C)

Although B2C e-commerce receives a lot of attention, B2B transactions far exceed B2C transactions. According to the IDC, global B2C transactions are estimated to reach US\$1.2 trillion at the end of 2012, ten times less than B2B transactions. B2C e-commerce entails businesses selling to the general public typically through catalogues that make use of shopping cart software. Although B2C e-commerce only accounts for only a small share of e-commerce as a whole, it continues to grow. B2C e-commerce is highest in Norway, Denmark, Sweden, the United Kingdom and the US and covers mainly computer-related products, clothing and digitized products. Despite the low value of its transactions, B2C e-commerce has received the most attention, partly because issues such as consumer trust and data protection have received considerable concern from policy makers

5.3 Consumer-to-Consumer (C2C)

C2C sites don't form a very high portion of web-based commerce. Most visible examples are the auction sites. Basically, if someone has something to sell, then he gets it listed at an auction sites and others can bid for it. Consumer-to-Consumer exchanges involve transactions between and among consumers. These exchanges may or may not include third-party involvement as in the case of the auction-exchange eBay.

Other activities include: classified ads (e.g., www.numberoneclassifieds.com), games (www.heat.net), jobs (www.monster.com), Web-based communication (www.icq.com), and personal services (e.g., Yahoo! Personals, webpersonals.com).

5.4 Consumer-to-Business (C2B)

Consumers can band together to form and present themselves as a buyer group to businesses in a consumer-to-business relationship. These groups may be economically motivated as with the demand aggregator, Mercata.com, or socially oriented as with cause-related advocacy at voxcap.com.

5.5 Business-to-Government (B2G)

Business-to-government or B2G commerce is generally defined as e-commerce between companies and the public sector. it refers to the use of the internet for public procurement, licensing procedures, and other government-related operations. in b2g e-commerce, the public sector generally assumes the pilot role in establishing e-commerce in an effort to make its procurement system more efficient. the size of the b2g e-commerce market as a component of total e-commerce is still rather insignificant as government e-procurement systems still remain comparatively undeveloped.

6. WORLDWIDE WEB THROUGH M-COMMERCE

The most popular ICT in developing countries and one which is progressing very rapidly in Africa and Asia, in particular India, is the mobile phone. Mobile phones are increasingly playing a larger role in the expansion of e-commerce in developing countries, especially amongst users without terminal connections. Mobile phones are making it possible for rural farmers to engage in mobile money services, allowing them to open saving accounts, earn interest on their deposits and access a variety of credit and insurance products.

Mobile e-commerce is exactly the same as e-commerce except that the access mechanism is via a wireless phone or terminal. In recent years many developing countries have seen a surge in mobile commerce. Internet penetration across Africa, for example, remains low and computers are often too expensive to purchase. However, there are currently 695 million mobile phone subscribers in Africa. This has given Africans a simple and pervasive means of sharing information and conducting business, even in spite of the fact that online business transactions can be logistically complicated to execute.

This fast growth of mobile e-commerce stems from the cost advantage of mobile infrastructure over fixed-line installation. Mobile network consumers can simply buy a prepaid card and a handset at an affordable price (usually subsidized by the operator) and start using their mobile phone as soon as the first base stations are in place. In recent years, a few innovative African companies have found ways to harness the potential of mobile commerce and information sharing, changing the way in which Africans communicate. This development has taken place in spite of the fact that online business transactions can still be logistically complicated to execute.

Mobile web adoption is growing at a faster rate today than the internet did in the 1990s and early 2000s. Emerging markets like India, China, Turkey and Brazil have seen an exponential growth in mobile web use with figures that have surpassed mature markets. Mobile 3G subscriptions in the US grew by 26% in 2011 whereas Brazil, Turkey, China and India saw growth of 79%, 104%, 172% and 1,050% respectively.

7. AGRICULTURE AND M-COMMERCE

The potential benefits of using mobile phones to connect these diverse stakeholders along the agricultural value chain are numerous. For rural populations, many of which are geographically dispersed and isolated from commercial activity, the information and communication capabilities offered by the mobile phone are invaluable. Of the 6 billion phones in use today, some 70% are accessible to the world's poor and whose main source of income and employment comes from the agricultural sector. Mobile phones and other mobile devices have begun to change the way stakeholders in the agricultural sector make decisions regarding inputs, production, marketing, processing and distribution, all

decisions that can potentially lead to greater efficiencies, reduced transaction costs and increased incomes.

Farmers in developing countries are increasingly utilizing mobile technology to increase their commercial potential. According to a World Bank study released in 2012, the benefits for farmers who use mobile phones includes access to agricultural information concerning stock piles and prices, data visibility for value chain efficiency and being able to tap into new and existing markets. When farmers have access to information about prices and stocks, it helps them to reduce the risk of under-selling and of either over or under-supplying their crops in a given market. The World Bank study shows that access to price information by farmers has helped to increase farming income by 24%. Sellers realized even greater gains of up to 57% with overall price reductions for consumers of around 4%. Information transmitted by mobile phone also includes access to early warning systems to mitigate the risk of losses due to extreme weather conditions or to the spread of disease.

8. COMPANIES INVOLVED IN E-COMMERCE IN INDIA

E-commerce companies in India presents the most tangible and finest e-commerce solutions, provide high end e-commerce solution taking utmost care of the privacy and security of the e-commerce website.

E-Commerce service includes shopping carts, data base programmers, graphic design services, graphics, e-business, Flash designs etc. Some E-Commerce in India is as follows:

- (i) ASA Systel Communications Pvt. Ltd. It is a foremost E-commerce company in India which provides innovative and superb quality web services. It has its offices in Chennai, Lucknow and will shortly set up offices in Delhi, Mumbai, Kathmandu, and Bhopal.
- (ii).Candid Info. This New Delhi -based e-commerce company is a renowned Offshore Outsource Web designing development e-commerce company which offers off shore web development ,designing, SEO solutions for large corporations and SME's. The company specializes in Web Hosting, E-commerce solutions, portfolio, SEO, Blog etc.
- (iii). Chenab Information Technologies Private Limited. It is the first software company across the globe to get the certification of ISO 9001:2000.
- (iv).Euro-link Systems Limited. This leading E-commerce company provides consulting and e-business solutions,
- (v). Hash Pro Technologies. It is a leader in the provider of integrated talent management software organization in India. It renders services like the E-commerce Hosting, Marketing, Human Resources.
- (vi).Compare Info Base. The company is a significant name in developing and selling E business. It specializes in

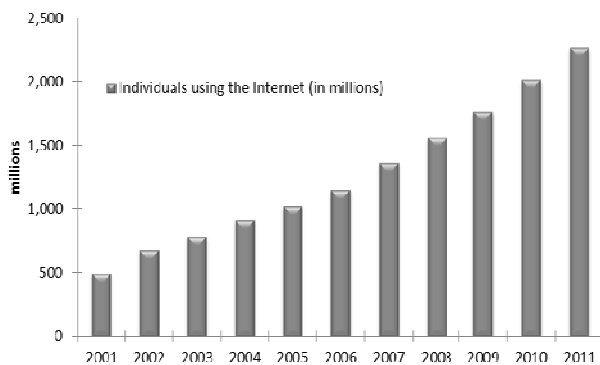
Content development services, Website development services, PHP Programming & Development etc. It has its office in Mumbai, Kolkata, Delhi.

- (vii). Sanver E-solutions. This company is based in Mumbai. They believe that Information Technology is a way to the business objectives. It renders other services like the CRM & SFA, Sugar CRM Hosting, Implementation etc.
- (viii). Planet Asia. This E-commerce company in India uses track record and deep experience in externalized applications to Produce high quality B2SPEC (Business to Partner, Supplier, Customer) solutions to global enterprises.
- (ix). Candid Web Technology. This fast growing e-commerce Company in India is a provider of Complete Web Solutions for the design and development of dynamic web sites .
- (x). Module Soft. It is a website designing company that is based in India but serve clients all over the World. Also it provides various E-Commerce solutions.
- (xi). Trisoft Design. Trisoft Systems is a software services company that offers solutions exclusively on the Microsoft Platform to customers worldwide.

9. THE GROWTH OF E-COMMERCE

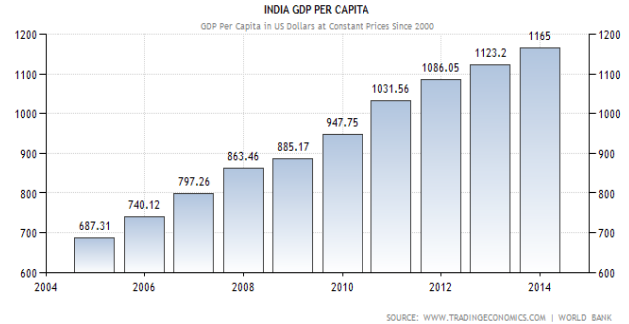
There is no question that e-commerce has grown rapidly since the first users started to browse the worldwide web in search of goods and services. Today, sales realized over the internet represent a significant proportion of overall commercial sales. In 1991, the internet had less than three million users around the world and its application to e-commerce was non-existent. Almost a decade later, by 1999, an estimated 300 million users accessed the internet and approximately one quarter of them made purchases online from electronic commerce sites, worth approximately US\$110 billion. This year global, business-to-consumer e-commerce sales are set to pass the US\$1.25 trillion mark.

Chart 1.1 Global numbers of individuals using the internet, * 2001-2011



Source: ITU

In a recent survey, 80% of US and European firms ranked India as their number one outsourcing destination. The GDP of India has grown by about 7.2 percent CAGR over the last 10 years even when the global economy witnessed one of the worst recessions in 2008. This has led to rising disposable incomes and a growing proportion of middle class households.



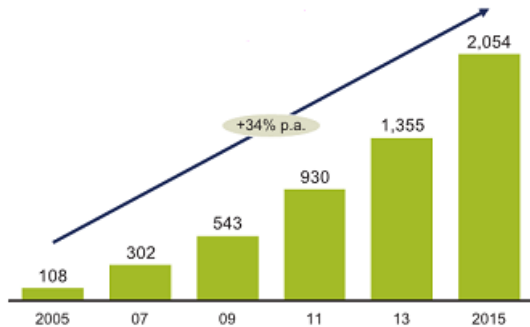
SOURCE: WWW.TRADINGECONOMICS.COM | WORLD BANK

The GDP growth coupled with few other significant reasons provide an exciting ground for online businesses to flourish. Firstly, the Internet and Mobile penetration in India has grown phenomenally over the past 5 years. At present, 243 million Indians (19.19 % of total population) have an access to Internet and this figure is estimated to increase to 330 million by 2015 and India will be second only to China. Further, a whopping 924 million Indians are mobile phone users and the usage of smartphones is gradually increasing. This coupled with other factors like Cash on Delivery model by E-commerce companies, among others, have led exciting revenue growth for online businesses. Current scenario. The success of any online business ultimately depends upon the number of users with Internet access. Internet penetration, though has increased phenomenally over the past 5 years, it still stands at 19.2 % (USA–81%, China–42.3%, developing nation average–24%). Only 55% of internet users access Internet at least once a day. Further, only about 10% of population has engaged in online transactions. The below given chart shows relative comparison of online population and online shoppers for BRIC nations.

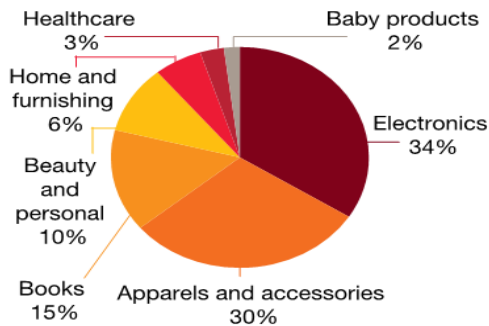


Though, India has second highest Internet population, the number of online shoppers is the lowest of all Brazil, Russia, India and China (BRIC) countries. In spite of this the revenues of e-tailing industry have grown exponentially over the last 5

years. From a meagre 1.08 billion in 2005, the industry has grown to a whopping 13 billion in 2013 Online ticketing from websites like makemytrip.com contributes the most to e-tailing revenues. Considering only the e-commerce revenues, Electronics category is the biggest revenue earner.



(E-commerce category-wise revenue breakup)*****



Source: Internet and Mobile Association of India research

The reasons for this growth over last five years are manifold. But the important reasons are –

10. REASONS FOR SUCCESS

- a. **Cash-on-Delivery**–Sachin Bansal, founder of Flipkart, realized that the biggest hurdle for Indian consumer to do online purchases was security issues. A psychological barrier with regards to online payments and delivery of products existed in Indian consumer’s mind. What if the seller never ships my product? This barrier was overcome by COD model–Customer pays on delivery of product. It is one of the biggest reasons for success of E-commerce in India
- b. **Attractive discounts** - The cost savings due to removal of intermediaries are passed on to customers in the form of attractive discounts.
- c. **Flexible return policy** - Most online retailers offer a 30-day return policy.
- d. **Excellent service quality**–Online players like Flipkart and Myntra redefined service and customer excellence with models like same-day delivery, next-day delivery etc.

e. **Investment by PE firms**–E-commerce players have witnessed rising investments by private equity firms like Accel Partners, Tiger Global, DST Global etc. who are keen to tap on the potential of Indian E-commerce industry.

11. CHALLENGES FACED BY THE INDUSTRY

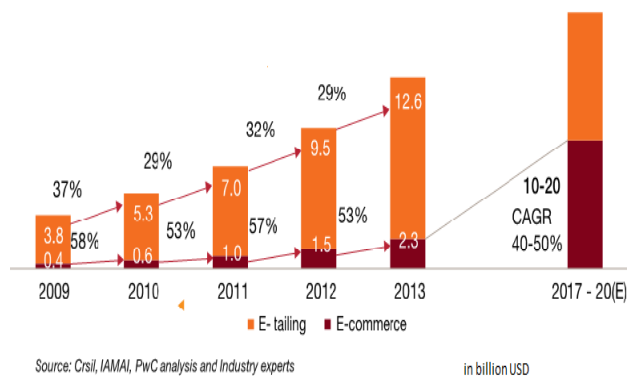
E-commerce in India faces some unique challenges not faced by E-commerce companies in developed economies.

- a. **No-Shows**–Since, in COD model a customer pays only after received the good, he/she may not turn up when the product is delivered. Even worse, people order products and get them delivered at someone else’s address. This incurs a huge logistics overhead and leads to poor inventory management. This is particularly the case with respect to goods like electronic items like televisions, washing machines etc.
- b. **Low Brand Loyalty**–Indian customers tend to seek discounts and cite attractive discounts as the top reason for shopping online. In such scenario, a customer may purchase from any website which offers the best deal (highest discount). Even after providing excellent service quality, this challenge is faced by all major e-tailors.
- c. **Supplier reliability**–Since, all major e-commerce companies have started adopting marketplace model, whereby third party suppliers register themselves with the e-commerce firms, quality remains a big concern. For example, recently a customer who ordered a smartphone from a popular ecommerce company was shipped a soap bar by the supplier.
- e. **Profitability**–The main goal of e-commerce companies at present is to acquire a solid customer base. Profitability is not a primary concern since these companies are funded heavily by outside investors. Building a sustainable business will require the e-commerce companies to focus on profitability in long run.
- f. **Low barriers to entry**–Since, the marketplace model of e-tailing requires very low seed funding, more and more companies are venturing in the space thereby deepening competition.

12. FUTURE OUTLOOK FOR THE INDUSTRY

The Indian online industry is estimated to be a \$90 billion industry by 2019. Presently, biggest share in online revenues come from online ticketing. Online ticketing eliminates the need for standing in queues and also touches and feel of the product is not required. The apparel segment is expected to grow significantly over the next few years.

E-commerce players will rejoice since profit margins in apparel segment are higher as compared to other categories. As a result, the share of e-commerce in the overall e-tailing revenues will grow even faster at a CAGR of 40-50% and reach about \$15 billion USD by 2019.



The reasons that will drive growth from \$13 billion in 2013 to \$90 billion in 2020 are-

- Rising disposable incomes and increasing customer awareness;
- Increasing number of Smartphone users and Internet users;
- Window shopping will grow;
- The share of apparel category in the overall online revenues will grow exponentially.

13. ONLINE BUSINESS IN INDIA VS. DEVELOPED ECONOMIES

While e-commerce in developed countries like USA has reached a saturation phase, it is still in its infancy stage in India. Internet penetration is very low and number of online shoppers is lowest among BRIC nations. The key pointers that differentiate the e-commerce industry in India from that in say a developed economy like USA are-

- High untapped potential in India
- **Infrastructural problems**—The IT and logistics infrastructure in India is still not up to the par. For example, recently Flipkart ran a ‘Big Billion Day’ on lines of ‘Black Friday Sale’ in US and ran heavy discounts. The website saw heavy traffic which the servers were not equipped to handle. As a result, the site crashed repeatedly leading to frustration of customers. This led to very negative publicity on social media platforms. Secondly, the existing logistics capabilities only cover urban and semi-urban areas. Huge potential of rural and semi-rural markets can’t be tapped because of limitations on distribution reach.
- **Cash-on-Delivery model**—As discussed above, COD is a model started in India taking into account the low credit/debit card penetration and resistance of Indian customers to pay online. But COD has problems like high incidence of returns which lead to additional overheads for e-commerce companies. In developed economies,

almost 100% of payments are done online because of high card penetration.

- **Breakeven point**—E-commerce companies in developed economies and BRIC nations are profitable in home nations. Foreexample, Alibaba.com of China is one of the most profitable e-commerce ventures in the world. Most of the e-commerce companies are incurring losses in order to acquire market share.
- **Problem of no-shows**—This is yet another problem unique to India because of the COD model of e-commerce industry. Customers order online and never turn up to collect their products. Few customers even get products ordered at wrong address. This is very costly affair, especially in case of heavy electronic items.

14. CONCLUSION

E-commerce in India is still in its nascent stage and presents a huge opportunity for e-tailers because of rising disposable incomes, increasing internet and mobile penetration along with growing consumer awareness about benefits of e-commerce. But to tap this opportunity successfully a number of challenges pertaining to logistics, payments, and infrastructure and government regulations needs to be tackled. E-commerce in India will be successful in true sense only when people in semi-rural and rural areas will be able to derive its benefits. To do this, initiatives by government and e-commerce companies alike should be made to make supply chain robust and payments hassle-free.

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