E-commerce in the Age of New Millennium

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Introduction

Traditional businesses have been evolving through the human history depending on the prevailing market system (from barter to the paper currency). With the advent of the Internet the common words in the business world seem to be computers and networks. It has revolutionized the business world over by opening a new horizon at a global scale with promising opportunities. Hence the whole world is caught up in a new mode of business called E-commerce and E-commerce is the reality of business in the new millennium. E-commerce began with the telegraph and radio. It has continued with telex, fax, and e-mail, electronic data interchange and with similar means for over 50 years. The idea of e-commerce that comes to our mind today is this same concept but the concept's content has gone beyond that could be imagined even 10 years ago due to the novelties and the capabilities internet provided. The Internet is often compared with the telephone and the railroad because of its broad impact on society as a whole. The Internet began as the ARPANET during the cold war in 1969. It was developed by the U.S department of Defense's (DOD) in conjunction with a number of military contractors and universities to explore the possibility of a communication network that could survive a nuclear attack. The introduction of the Internet has changed the way people work and live in most industrial countries.

The first generation of electronic commerce showed itself in the form of web presence of brick and mortar companies and activities of "Gold Rush Industry", the companies created solely to trade on Internet. A good example for this is Amazone.com, which came up with a simple system based on wide variety of books, reliable and fast distribution channels. The important factor at that point was being one of the pioneers and having sufficient resources to build trust in the customer's eye. Although it was for a short period of time, virtual commerce became the playground of the fast moving entrepreneurs, who came up with a new idea and tried to create and exploit a market to increase their gains. Currently the situation is getting more and more complex. India's first enabled food company Amul has serve up a 3-course virtual meal of topical E-commerce and nostalgia. The Gujarat Co-operative Milk Marketing Federation (GCMMF) the marketing arm of National Dairy Development Board is the first foods-products marketing organization in the country to be E-commerce enabled. Not only can customers buy products on amul.com, the website also succeeds in proactively using the net to promote an Indian brand. Now amul.com is ready to move into B to C and B to B commerce in the lucrative US market, in partnership with US firm Kanan dairy products.

Concept of E- commerce:

E-commerce means doing business through electronic rather than traditional media. E-commerce is conducting business transactions facilitated by the Internet or other electronic networks. It is the exchange of information, goods, services or money through the use of computers with customer or with other businesses. Whether you are marketing or selling products or services to your customer, or communicating inventory data to your supplies, you are taking part in e-commerce. E-commerce encompasses all elements of commerce, including Business-to-Business (B to B), Business-to-Consumer (B to C), and Consumer-to-Consumer (C to C).

B to B commerce:

B-to-B is the exchange of products, services or information between businesses to business. B-to-B process is simply defined as any business process between any two companies that uses digital technology. Forrester and Gartner, major research firms on online commerce, estimates that B to B commerce is 10 to 15 times greater than B to C commerce. Gartner estimates that by 2005, more than 500,000 enterprises will participate in e-markets as buyers, sellers or both. Many major enterprises, including Chevron, Ford Motor company, GE and Merk have invested millions in Web procurement systems.

In India, B-to-B commerce is catching up with the rest of the world, albeit slowly. Transactions fees are the major revenue source for almost 90% of the portals contacted. Many Indian B to B portals in an attempt to replicate the entire range of transactions categories, after the following transaction mechanism; contract purchase; auction reverse auction; tender and reverse tender.

B to C commerce:

B to C commerce facilitates transactions of products and services between business enterprises and retail consumers. For the vender, anywhere virtual storefronts, facilitating wider reach and cost savings arising from reduction of intermediaries. B to C marketplaces is easier to create because of the following factors.

- Infrastructural requirements are less complex.

- As only one side of the transactions process demands complex technology related integration, the buyer only requires an online connectivity.

- Procurement and fulfillment issues are less complicated

In 2000, more than 106 million Americans went online with 80% looking for information, 73% researching a product or services before buying it, 68% looking for travel information and 65% looking for information on movies, books and leisure activities.

C to C commerce:

C to C means that online visitors increasingly create product information, not just consume it. They join Internet interest groups to share information, so that "Word Of Web" is joining "Word Of Mouth" as an important buying influence. American online boasts some 14000-chat rooms covering such topics as healthy eating, caring for
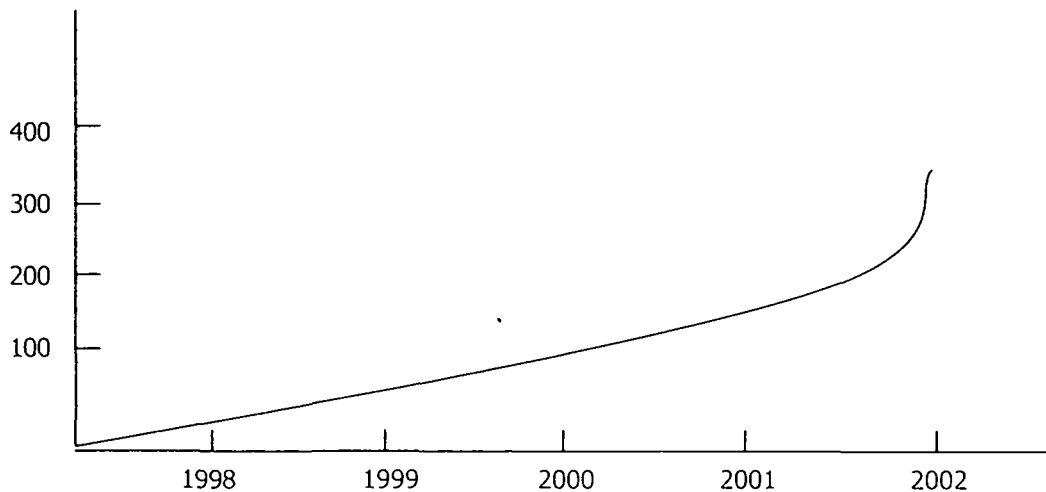
Source: SAM Advanced Management
Table 1.Estimated Quarterly U.S. Retail Sales[1]: Total and E-commerce
(Data in millions of dollars, not adjusted for seasonal, holiday, and trading-day differences.)

your Bonsai tree and exchanging views about the latest soap opera happening. AOL recently introduced "Buddy Lists", which alert members when friends are online, allowing them to exchange instant messages. The most prominent C2C channel is e-mail, which functions as a digital post office.

RELEVANCE/APPLICATION OF E-COMMERCE IN A GLOBAL ECONOMY:

The steady rise in global e-commerce is benefiting the environment according to a new report, " the Internet economy and global warming" a scenario of the impact of e-commerce and energy and the environment." The report, from US based center for energy and climate to solutions, concludes that the Internet may revolutionize the relationship between economic growth and the environment. Traditionally, an increase in economic growth has led to increased pressure on environmental quality, but the report concludes that the Internet is not a major energy user and therefore the rise in e-commerce has meant a decline in overall energy consumption globally. E-commerce, describes the commercial activities over this worldwide network or "web". As indicated in figure, according to Forrester Research Group, in 1998 U.S Internet Commerce accounted for $ 8 billion goods and services; by 2002, Internet commerce was $ 327 billion.

RELEVANCE/APPLICATION OF E-COMMERCE IN AN INDIAN ECONOMY

Initially Internet came to India in 1985 with Educational and Research Network (ERNET) project of the Department of Electronics, Government of India. It was a initially made available to IITs but extended to other research and educational organizations. In August 1995, Videsh Sanchar Nigam Ltd. (VSNL), a Public Sector Undertaking, started offering Internet service to individuals.

As on today the Internet services providers in India are:
- VSNL-Market Leader with 70%
- MTNL-Second Government controlled agency
- Satyam Info—Private
- Bharti BT-Private
- Dishnet Dial

In recent days, e-commerce has gained a vital positioning in the economic scenario of India. Most of the companies, which were till recently shying away from global competition, have started gearing up to copeun with globalization and liberalization policies. It is quite obvious in the Indian situation that e-commerce has been accelerating new dimension of exchange of products by opening enormous opportunities to the corporate sector. It offers new places of marketing, new medium of communication, new forms of information and new means of distribution. The reason for the wide popularity of e-commerce in India is mainly attributed to the Internet connections available at present even in the remote areas.

On Independence Day of 1995, there were about 2000 Internet connections and 10,000 users in India. This has been increased to 60 lakhs of Internet connections and 16 million of net users in the beginning of 2003. Till recently, there were only a few websites for Indian business houses and this has enormously increased at present. There is at least one major site announcement per day and the nature and appearance of sites also have changed drastically. E-Commerce revenues in India rose dramatically over the last three years. During 2003, 2004, e-commerce is expected to generate 30 million dollars with an approximate user base of 1 million. In India, the major share of e-commerce revenue is being generated from B to C market than B to B. It is estimated that there would be considerable increase both in B-to-B and B to C transactions with the infrastructure development.

At present, India is not amongst the top 15 Internet using nations. This is primarily on account of the low PC penetration in India. According to NASSCOM survey, there were about 7 million PCs in India as on August 31,2001, against a population of 1 billion.

Amongst the Asian nations, the growth of e-commerce in India between 1997 and 2003 is expected to be the highest with CAGR (Compound Annual Growth Rate) of 246%. As per ICRA report released in September 2001, e-commerce activities are expected to witness the highest growth rates in the period between 2000-2001 and 2002-2003 following the emergence of broadband and improvements in the connectivity infrastructure. It is estimated that currently there are around 50,000 dot coms which

are of Indian origin or are India-oriented (established outside India with India centric content). However, the volume of e-commerce, in India, is far below the levels achieved in USA, which was about 1 percent of the total GDP in 1999. Further, the expected volume of e-commerce in India in 2001 (US$ 255.3 million) was also below the levels expected to be achieved, which in comparison to Australia (US$ 3 billion), China (US$ 586 million), South Korea (US$ 876 million) and Hong Kong (US$685 million) is quite less.

An *Arthur Andersen* study expects 3,000 digital marketplaces to be operational by 2005.The global market for IT enabled services is estimated to grow to $ 142bn over the next eight years (by 2008), and according to the NASSCOM-McKinsey report, India could corner $ 17 billion, 12% of this market by means of meeting the outsourcing requirements. The B-to-B segment is expected to account for 90% of the total e-commerce in India. Amongst these segments, financial services and computing & electronics are expected to have purely domestic components whereas others will have both domestic and export components (Interview; McKinsey Analysis). This may be a realistic projection, considering exports estimated at $ 2.65 billion in 1998-99 (out of total turnover of $ 3.9bn) and $ 3.9 billion in 1999-2000 (total $ 5.7 billion). Export revenues are reflected in private transfer receipts under BOP (RBI). IT and software exports can, however, be a part of the whole story of India's international business. The larger issue needs to be tackled which is scaling up aggregate exports using information technology, particularly for e-commerce. India's (total) exports are broad-based, which are reported to be making remarkable headway in e-commerce, requiring their trade partners including India to switch to e-commerce at the earliest. A study by Securities and Exchange Board of India ("SEBI") estimates that Internet trade in shares and securities accounts for only 0.36 percent of the total trade, while in value terms the share of Internet trading is merely 0.19 percent. The main impediments to the growth of Internet trade have been identified as apprehension regarding the robustness of the hardware systems and software applications, lack of online banking and low speed of Internet access. According to the Reserve Bank of India ("RBI"), in the banking sector in India the Internet is being used, at present, only for accessing information about accounts and transfer of funds between two accounts of the same account

holder or across accounts maintained within the same bank. Electronic ordering and processing with a fully integrated online payment system is likely to be in place within the next few years.

E-COMMERCE IN INDIA TO TOUCH RS 252 BILLION BY 2005

E-commerce activity in India is expected to increase from Rs 4.5 billion in the financial year 2000 to Rs 252 billion in 2005, according to a report published by CII. The B-to-B e-commerce turnover will increase from Rs 4 billion in the financial year 2000 to Rs 232.8 billion in financial year 2005. The total worth of B to C e-commerce activities in India is expected to increase from Rs 0.5 billion in the financial year 2000 to Rs 18.82 billion in 2005, it added. According to the study, the growth in the B-to-B segment will be primarily because of the expected increase in Internet based networking companies and an increase in Internet based vendor selection and management activities. The real emerging opportunity in Indian e-business, as pointed out by the E-commerce guide, is in providing software solutions and services. The Indian Internet security solutions and applications market is likely to grow more than 11 times from $6 million market in financial year 2000 to a $68 million market in 2005. To ensure cyber security, Government of India is contemplating to put in place a 'National Infrastructure Protection Center' (NIPC) to keep the vital infrastructure installations including rail and airport reservations, banking and services sectors, electricity and telephones from cyber crime and attacks. At present, there are very few Indian companies actively participating in the network security solutions market with only a handful providing end-to-end security solutions. In the medium term, the market is expected to witness a surge in the number of players providing security solutions and applications.

In the long term, the market is expected to witness consolidation and those who specialize in industries like banking or manufacturing will survive. The tie-ups with international organizations would provide the infrastructure for Indian companies to operate globally. The future trends as highlighted in the E-commerce are that the Indian E-commerce market will witness increase in the product portfolio of players that means, companies are likely to become integrated players. Another major trend expected in

medium to long term would be emergence of Broadband, which will increase the usage of Internet for various communications needs. Mergers and acquisitions is also likely to be a significant trend in the short to medium term, which would affect almost all the business categories such as infrastructure providers; website software and service providers and content providers.

PROBLEMS OF E-COMMERCE IN INDIA:

There is a flurry of activities in the name of e-commerce in India these days - conferences, workshops, seminars & symposia and a whole range of street corner teaching shops claiming to make anyone an e-commerce expert overnight. Even associations like CII, FICCI, NASSCOM are putting a lot of bets on e-commerce. Of course every company claims to be addressing e-commerce market segment and every IT professional claims to be an e-commerce professional. Lot of numbers get thrown, particularly those generated by Price Waterhouse Coopers and NASSCOM / McKinsey that talk of billions of dollars of e-commerce market in India. Along with this optimism, there is also a lot of skepticism about the growth of e-commerce in India. Often the crash of stock markets, particularly the tech stocks in the first quarter of the year 2000 are quoted as an indicator that all is not well in e-commerce. The recent difficulties of Microsoft, Amazon and other companies as well as the "slowing down" of VC funding add fuel to this fire of skepticism. In spite of this skepticism we feel quite optimistic that e-commerce will fly in India. Coming to specifics let us address the following most important reasons often cited for the possible failure of e-commerce in India.

● Lack of Internet Infrastructure:

It is true that Internet access is still very expensive and the access device is primarily a PC, which most Indians cannot afford. The PC penetration of about 1.5 per thousand and phone penetration is in the range of 10 per thousand do not augur well for e-commerce to take off. But we should also note that India has some unusual ways of doing business too. While PC stands for Personal Computer elsewhere, in India it represents a Public computer. While phone lines are personal and phone calls are private elsewhere in the world, the same is not true of India. E-mails and user ID's are no different - they are widely

shared by family members, friends, student groups etc. Most of the studies on Internet usage go by the ID's given by ISP's such as VSNL, Satyam and Mantra Online; they miss the point that there are hundreds of Internet kiosks in India and hundred thousands of Free e-mail accounts! While by no means we underestimate the need to scale Internet penetration into the heart of India, one need not be overly pessimistic either. The ISP Policy of November 1998 is truly a historic policy. What took VSNL three years (Aug 95 to Nov 98) to grow user population to 100,000 Satyam & Mantra each could do the same number in roughly in one year. The other silver lining is the phenomenal growth of Cable TV during 1994-99 to a staggering 40 million - which is three times that of phone lines (Dot took 100 years to grow this many users). With other non-PC devices including cable modem, cell phones, Palm Tops becoming browsing devices and the World Tel in Tamil Nadu (led by Sam Pitroda) and Reliance in Karnataka starting tens of thousands of Internet Kiosks all over the country, the perceived poor Internet Infrastructure may not be able to stop the e-commerce revolution.

● Security problems associated with Net transactions:

It is indeed a serious problem and cannot be taken lightly, but one should not forget that security is more a "mindset" problem than a real problem. The younger generation once again, does not seem to have such serious problems with credit cards, ATM cards or buying on the Net. Otherwise one cannot explain the brisk sales over Rediff site or Fabmart site within a year of their operation. It may be recalled that even in the United States where an average American citizen owns more than three credit cards, one third of the transactions (by numbers & not by value) even as late as 1998 was in cash - once again emphasizing the "mindset problem" rather than risks associated with new forms of money. As long as people find "value" (it may be convenience, speed or lower transaction cost) they will switch to Net based transactions - particularly those who do not have "mindset" problem. With significant population of Indians being young, that e-commerce will take off in spite of security problems.

● Absence of cyber-laws:

Lack of a legal framework under which Net

transactions take place is a real impediment. However it is not going to stall e-commerce. Many countries including developed nations are also still grappling with cyber laws. Luckily, enough groundwork has taken place in India. The Cyber Law Bill is ready and passed by the Parliament in record time. The current version may not be perfect but we can perfect it as we go along over the years. One should also keep in mind that e-commerce is not limited to "payment systems" alone! Much of Amazon.com transactions take place over routine payment systems & credit cards too! One should take a larger view of electronic support to all aspects of commerce. One should not forget that the normal practice of "provisioning" - a small percentage for "bad deals" that has been the practice in credit card companies for many years with Insurance backing - is a positive approach to initiating e-commerce. Only in cases of cheating one is forced to take recourse to legal remedies and look at cyber laws. Routine delivery of information, low value transactions with tight control, acknowledgement, putting a ceiling on transactions etc can be readily initiated to jump start with e-commerce without waiting for full legal protection. The younger generation hopefully will take such a pragmatic view.

Widespread illiteracy:

This is a special and very serious problem for India. It is a shame that we continue to suffer from large-scale illiteracy. Invariably many of the illiterates also suffer from poverty. These two problems can create violent scenes for the country and deserve to be tackled with war footing, but they may not slow down e-commerce in India. Very often illiteracy in India is often confused with English illiteracy; most computing & communication devices were inaccessible to non-English literate population of India. Luckily most Indians have a "nodding" acquaintance with English that is good enough to access Internet devices. Thanks to GUI, Indian script support from Microsoft, IBM, Oracle, Apple and even Cell phone vendors and Palmtop vendors (all using Unicode), interfaces using English alone may become the thing of the past. Secondly, Internet itself can be used to impart literacy using very innovative means - there are many unusual examples from Sri Lanka, African countries & South American countries.

- **Varied forms of plastic money:**

Another major barrier is the apathy of consumers in India towards plastic money available in varied forms like credit cards, debit cards and other similar smart cards. Though there are a large number of cardholders, the proportion of active card users is less than 20 percent. This is likely to make plastic money an in appropriate device to provide support to e-commerce over the net especially among the common rural masses. Inadequate facilities for electronic payment make the situation worst.

- **Payment and delivery systems are poor**

Payment and delivery systems are the vital ingredients that determine the ultimate success of e-commerce. Delivery system in India is mainly handled by courier network. Delayed delivery is one of the major issues confronted by the parties involved in e-commerce. Inadequate bandwidth that limits growth of web and e-commerce is a major issue that requires proper management. Other barriers include inadequate volume, non-availability of skills, high rate of technological obsolescence and increase in infrastructural costs.

CONCLUSION

The growing importance of e-commerce in the ear of globalization and liberalization along with the membership of WTO (World Trade Organization) has brought about significant changes in the business deals in Indian economy. Although still in the embryonic stage e-commerce is big potential worldwide for Business-to-Business and Business-to-Consumer sectors and this is true in India too. By encouraging e-commerce we will gain, besides lower price and better quality of information without cost and responsibility of maintaining it. E-commerce has opened new vistas to the entrepreneurs in India and the real success depends upon the efforts and attitude of business units as well as consumers to make use of opportunities by availing the protection and security measures provided in the Information Technology Act. Let us hope that the electronic means of trading activities would pave the way to revolutionize the marketing system ensuring maximum benefits to the entrepreneurs and consumers in the coming days.

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