Shift to E-Commerce : Consumer's Dilemma

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Abstract

"Consumer's shift from solely purchasing from the retail channel to partially making their purchase with the e-commerce channel". The quote reflects the scope for e-commerce. Surveys says that the sales through e-commerce are just 3 % of total sales. There is no doubt that e-commerce is in full boom. Experts believe that overall e-commerce will increase exponentially in the coming years and will provide numerous opportunities. Business to business transactions will represent the largest revenue. On-line retailing will also enjoy a drastic growth. E-Commerce provides an opportunity to small firms too by lowering cost, improvement in the distribution, reduction in selling cost, rapid market response. Being a potential market certain issues are to be focused. Integration of Internet sale with regular business operation is core issue needs to be supported by inventory management, delivery and payment tracking and order management. kiosk which is up in many villages of TamilNadu achieves close to break-even revenues of Rs 100 per day. But what do villagers need the net for seems the obvious question to ask. After all, how many email messages could they be sending, and surely e-choupal kind of success stories that use the net a lot are few and far between? Insurance as a remedy of risk involved in the use of e-commerce perspective should be given due importance. Legal issues related with company's social security number and product's trademark should be dealt seriously so to avoid fraud. Market access related to e-commerce, IPR, zero duty on electronic transmission, scope of GATS w.r.t electronic delivery of service are trade related issues while doing the business globally. The main issue where money is involved is of security and privacy. Threats are to be reduced by educating their customers to the methodologies for practicing the best technique for electronic security and by increasing network security standards. While focusing on this theme, the article also presents the discussion of the key building blocks impacting the opportunities and issues of e-commerce

1. INTRODUCTION

E-commerce is simply business, but in truly great proportions. E-commerce means unlimited growth and opportunities that cut across the boundaries of time and place. To the true potential of your organization's capabilities, e-commerce is the step you need to take. Peter Drucker believes ecommerce will be to the Information Revolution what the railroads were to the Industrial Revolution. To oversimplify, the Industrial Revolution was a time in which tools were produced that replaced people in the manufacture of goods. In the first thirty years, all was devoted to producing known products with machines. While there were drastic social changes with the massive shift from rural to urban living, there was little change in the products produced and purchased. There will be a return to a "Rural," rather than an "Urban," pattern of living, one independent of where you choose to live. In this

"reversal," there will be a return to individuals being valued. Once again, as was so prior to the Industrial Revolution, people will be both producer and consumer, making a significant contribution in both roles. E-commerce refers to all forms of transactions relating to commercial activities, including both organizations and individuals, which are based upon the processing and transmission of digitized data, including text, sound and visual images. E-commerce is the carrying out of business activities that lead to an exchange of value across telecommunication networks.

2. E-COMMERCE IN INDIA

With features like intranet application development, web page development our e-commerce solutions are effective, well designed and compatible. E-commerce development India is the most affordable way to make your presence felt in this sea of unlimited opportunities that the www is.
The growth of Internet subscriber is from 10 lakhs in 2000 to 38 lakhs in 2006. The growth of Internet user is from 35 lakhs in 2000 to 4.6 crores in 2006. 92% of Internet users are aware of e-commerce. 12% have made at least one purchase on Internet. E-commerce revenue in India is from Rs.10 crores in 2000 to Rs.421 crores in 2005. E-commerce penetration will be through personal computer, mobile phones and kiosks.

3. PROCESS OF E-COMMERCE

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There is a sequence of sets in satisfying the need for a good or service, collectively referred to as product. Assume that an organization has decided to explore the possibility of acquiring a product from outside of the organization rather than providing it internally. Four process must be supported as a part of the acquisition process. These are 1. Search for information. 2. Elaboration of alternatives. 3. Order fulfillment. 4. Use. The acquisition process can be considered as being made of the four SEFU steps.

4. RULES OF E-TRADING

Professor Richard Olive of the Owen Graduate school of Business has recently analyzed the history of a number of e-commerce ventures and from this research he formulates "Seven Laws of E-commerce":

1. 'It's a Dog's Life', which reflects the fact that e-markets are continually evolving. This means that having entered the world of e-commerce, the small firm is continually faced with the need to upgrade and enhance the organization's on-line operations to fulfils customer expectations for ever improving products and services.
2. 'It Shall Be Known', which describes the fact that on-line firms cannot keep new initiatives, strategies or prices hidden from competitors because they can access this information at the click of a button.
3. 'Everything Is Global', which communicates the important fact that once on-line the small firm, which is probably perceived itself as only operating in a domestic market, is now competing on a global basis for customers.
4. 'Space Replaces Place' which reflects the idea that unlike terrestrial firms where their physical location is often critical to success, in on-line operations the small firm is taking the business to the customer and, therefore, must ensure that the customer is provided with an effective, interactive experience.
5. 'It's the Scalability, Stupid', which is based upon the fact that the small firm must have the technical systems in place to cope with rapid or unexpected increase in the number of customers attracted to the operation's website.
6. 'Flexibility Means Everything', which means that once on-line, the small scale industry cannot stand still, but instead will continually be forced to reinvent themselves in the face of rapidly changing market conditions.
7. 'The Red Queen Rules', which similar to the character in Alice in Wonderland, describes the fact that customers expect every on-line supplier to be desperate to please their every need or immediately suffer the consequences of losing their business.

The importance of existing small firms considering the evolution of an e-commerce strategy has been stressed by Eckman (1996). He proposes that all organizations should pose the questions: Does the Internet change the target or scope of the market? Does the Internet help satisfy customer needs? Will customers use the Internet over the long term?

One way of examining to these questions the small scale industries is to determine which of the following benefits can be offered to customers from involvement in e-commerce:

1. Convenience in terms of being able to provide access 24 hours a day, 365 days a year. Furthermore in the case of consumer goods, the customer can benefit from avoidance of driving to a store, searching for products or queuing at the check-out.
2. Information in terms of the Internet user being able to acquire detailed information about products, pricing and availability without leaving the home or the office.
3. Less hassle because one can avoid having negotiated and debate with sales staff when buying a product.
4. Multimedia by means of which through exploitation of the latest technology customer can gain a better understanding of their needs through, for example, examining 3-D displays when selecting the best fabric design for a piece of furniture.
5. New products and services in areas such as on-line financial services in areas such as online financial services and the ability to mix together audio, music and visual materials to customize the entertainment goods being purchased.

5. OPPORTUNITIES OF THE E-COMMERCE TO SMALL SCALE INDUSTRIES:

1. Lower costs through actions such as replacing a retail outlet with an on-line shopping facility or saving on the paper by converting a sales catalogues into an electronic form.
2. Improved distribution because once information based products such as magazine or software made on-line the company can achieve global distribution without having to invest in obtaining placements in traditional outlets.
3. Reduced personal selling costs because the role of the sales person as a provider to one-to-one information can be replaced with an interactive website.
4. Relationship building because via a website, the firm can acquire data on customer's purchase behavior that can be used to develop higher levels of customer service.
5. Customized promotion because unlike traditional media such as television or print advertising, the firm can develop communications materials on the website designed to meet the needs of small, specific groups of customers.
6. Rapid market response because having recognized the need to respond to changing market situations (such as reaction to a process change by competitors) at virtually the click of

a button the company can rapidly distribute new information to customers via the Internet.

7. New market opportunities because e-commerce permits firms to offer their products or services to any market in the world.

After reviewing the benefits offered by e-commerce, most small firms soon perceive that the proposition comprises a set of technological tools, the use of which will evolve and change as organization gains experience of cyberspace marketing. This is true for both small firms, which move into on-line trading, or business, which initially started life as a cyber, based trading operation. Optimistic about the potential of online avenues for business growth, 65 percent of America's small business says they expect e-commerce will open up new markets and opportunities for their business. And 50% of those surveyed believe that selling online will

result in increased sales for their business. Specific to e-commerce, 53% of U.S. based small and medium sized businesses believe that all their products and services are suitable for sale over the Internet. Indicating action in this area, 40% of those businesses surveyed plan to add an e-commerce solution in the next 12 months. Sage Software, and Peachtree Software among the key findings from the Small Business E-Commerce Survey commission these results. Clearly small businesses are recognizing the importance and benefit of Internet and e-commerce capabilities," said Paul Stobart, chief operating officer, The Sage Group. Further indicating a strong openness to conducting business on the web, 64% of small businesses reported that the day-to-day language of e-commerce no longer puts them off. Only 41% of U.S. small businesses say they are still worried about concerns. 42% of small businesses still believe e-commerce has no relevance to their particular business. Another 45% say they don't have the time to devote to getting their business into e-commerce, in contrast to German small businesses of which only 13% share the same attitude.

6. MOBILE BANKING IN ASIA

The mobiles phones is increasingly being recognized by banks in Asia as a cost effective channel to deliver banking and trading services. In Asia's technology more advanced countries like Korea, Singapore, Hong Kong and Japan mobile phone transactions are carried out everyday through out Asia, opening huge direct marketing opportunities for banks. Moreover, it can be expected that e-commerce, both B2B and B2C, will grow exponentially as mobile banking takes over in Asian nations. Mobile banking is a fusion of mobile technology and financial services, which has emerged after the advent of Portable Internet and smart chip embedded handsets. Mobile banking services will inevitably expand into the untapped Asian markets, including China, where currently almost 30 million

people own cell phones, but where mobile banking has yet to gain broad consumer acceptance.

7. FUTURE OF MOBILE SERVICES IN ASIA

The widespread presence of web-surfing cell phones is a must to implement full-scale mobile banking and only few Asian countries meets the prerequisites at present. Singapore has evolved into a powerhouse of wireless financing. The city-state, where almost 80% of its 4.2 million people own cell phones, currently destroys a mobile payment system based on the European standard of the global system for mobile communication (GSM). In Japan, another mobile powerhouse of Asia, WAP based mobile banking is seen everywhere but as far as chip based offering are concerned the nation has yet to land full blown services.

8. CHANGES MADE BY IT AND E-COMMERCE IN RURAL INDIA

Farmers in a remote village in Honavar, 600 km away from Ban galore, are using ATM machines to open a bank account. Believe us - it's true. An ATM machine loaded on a van winds its way through the dusty roads of over five villages offering 22000-odd farmers perhaps their first experience with a bank - they can open an account, request for a loan and be able to deposit as well as withdraw cash at will in the near future. The ATM machine is linked wirelessly through Reliance Infocomm's network to the backend server of the participating bank, which includes Syndicate Bank and State Bank of India. The software on the ATM is simple - in regional languages and very easy to decipher. Says S S Satchidananda, professor in Indian Institute of Information Technology who piloted the project with funds from a consortium lead by Microsoft: "What we wanted to demonstrate is a cost saving solution for banks that are seeking to expand their rural reach but have no other choice but to set up a branch which is expensive and unviable". For the last few years state governments, NGOs and some pioneering companies have tried to crack the technology barrier - by developing pilot projects to showcase the marvels of IT in a rural setting. The phenomenon is better known as "Bridging the Digital Divide". The success of ITC's 6000 odd e-choupals covering over 35000 villages has made many believe that this model can be made viable. Big boys are jumping onto the bandwagon - ranging from top IT companies, NGOs, technology providers and the government.

9. NEED TO SCALE UP

The name of the game is clear: how to scale up and still be viable. Microsoft, for instance, has set up an ambitious target. It

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hopes to set up over 50000 broadband connected kiosks across villages covering over 50 per cent of the rural population in the next three years under the "Saksham" scheme. The company is funding NGOs as well as local companies with an undisclosed budget to make the project a reality. Says Ranjivjit Singh, group director, consumer business: "In the last three months, we have rolled out over 300 kiosks and our studies have helped us build a self-sustaining model to enable the kiosk owner make money." Not to be left behind, Intel recently joined the club announcing a new program "Jagruti" whereby it will offer PC makers an innovative platform developed exclusively for the rural market. Points out Bill M Sui, vice president, Intel: "The requirement for rural India is not cheap PCs, but PCs which work in that setting." Intel has developed a rugged chassis to withstand dusty and extreme temperatures. It has also integrated a UPS as well as an AC\DC converter in the machine so that it can work on a car battery for six to eight hours, to tackle the lack of electricity in many villages. Moreover, it has also tied up with Microsoft in an "affordability alliance" which will look at partnerships to provide solutions for rural India.

Yes, the ministry of Information Technology has set up an ambitious target to set up one lakh "common services centers" across villages where e-governance services will be available by August 2007. It has tied up with ILFS to manage the rollout with support from NGOs, ISPs and others. The government has also earmarked Rs 100 crores (Rs 1 billion) to fund this Mission 2007. Local Indian companies who have pioneered the rural move, but have had problems of scaling up, are now embarking on an expansion spree. Jai Kisan - an NGO set up to introduce rural IT technology in Uttaranchal - is hoping to put up over 3000 Kisan Soochna Kendras (a digital hub) across the state. But tobacco giant ITC is concentrating on creating a physical infrastructure to support the 6,000 e-choupals - which are run by entrepreneurship-driven sanchalaks (organisers). It is now creating a second tier of entrepreneurs by appointing up-sanchalaks (deputy organisers) in over 14000 villages (it has already appointed 15000) who would directly interact with the e-choupal owners. Also it is planning to set up over 50-choupal sagars, which will have hypermarkets, fuel stations, restaurants and even an educational service centre. Says ITC's S Sivakumar, chief executive, international business division: "Till date, the sanchalaks were looking after six villages. We will soon have a digital infrastructure here in these villages too once more low cost communication solutions are available". Chennai-based n-Logue Communications - part of the Telnet group, which was floated by professors in IIT Chennai, wants to replicate the PCO model to increase per capita incomes in rural India. It has already rolled out over 2500 kiosks across the country using C-ordect technology (wireless and local loop) to provide broadband connectivity to the villages. Says Ashok Jhunjhunwala, who leads the Telnet group: "Our aim is to replicate the PCO model in rural India so that we can double the rural per capita GDP through IT. We want to set up a kiosk within 500 metres of everyone's home".

10. THE MODEL

Ensuring a connected kiosk model as a viable unit is not an easy task. That is why despite all the noise, there are not more than 13000 connected kiosks across the country (a large chunk of which is run by ITC's e-choupal). Jhunjhunwala admits that out of the 2500 kiosks that they have installed, only one-third works regularly. Microsoft, for instance, undertook a study of over 350 kiosks, involving 4000 users in six states to understand user habits, which could throw up a viable model. Singh says the study threw up some interesting insights, kiosks, which only offered e-governance services (like registration of life and death, land records etc) were unable to sustain them very long. The reason was simple: while 70 per cent of the revenues when the kiosk was launched came from e-governance, in six months it dropped to 20 per cent. So there was need for offering more comprehensive services in the kiosk for farmers to come in. That is what Microsoft is doing. Says Singh: "Our approach is to bring different kinds of offline as well as online services together to make the kiosk viable." The company has developed educational content online for children in local languages, which is available for a subscription of Rs 50 to Rs 100 a month. A printer and software for desktop publishing ensures that you can publish marriage or invitation cards or even a CV for a nominal Rs 10 to Rs 12 apiece. And as PCs our loaded with Windows Media Player - many local kiosks owners have converted themselves into mini movie halls - offering movie shows at a nominal Rs 2-3 a show. How does Microsoft ensure that the model is viable? Take, for instance, its tie up with Dhristee - an NGO, which has perhaps the cheapest-priced kiosk model. Kiosks are not cheap - one connected with a VSAT (Very Small Aperture Terminal), battery pack and printer, requires an investment of over Rs 70000. The method is straightforward: the entrepreneurs have to pay Rs 20000 upfront. The rest comes from bank loans. Kiosks owners need to pay about Rs 1666 per month to pay off the loan but Drishtee offers them a minimum income guarantee of Rs 3000 a month. Says Singh: "Our experience has shown that the entrepreneur is cash positive within the first two to three months." He points out that an average in a village of 5000 homes at least 20 people go to the kiosk everyday - and that is enough to break even and make money.

Microsoft of course funds Dhritsi lump sum or with software support - which can be used to subsidise the overall investment, reduce his upfront cost, or his loan burden depending on

individual needs. There are other models too. And many are using innovative ways to generate revenues. Jai Kisan has, in fact, gone up-market by creating a "Kisan Soochna Kendra" in far-flung villages of Uttaranchal where road communication is not at its best. The kendra has swanky styling - it is built with glazed tile floorings and equipped with the latest gizmos - laser printers and scanners and even a movie video camera and PCs connected by VSAT to the outer world. But is also costs money - an investment of a steep Rs 510,000.

11. CHALLENGES

However, Sanjiv Sharma CEO of Jai Kisan.org says that despite the high cost, the model works. The owner of the Kendra - who is generally the gram pradhan, puts Rs 25000 upfront. Jai Kisan (which gets funds from various agencies including companies like Microsoft) forks out Rs 40000, and banks fund the remaining portion. Then you also get grants from the Khadi Vikas Industry Board - which use the kiosks for selling and promoting khadi products. To add to the viability, Jai Kisan guarantees the owner Rs 11,000 a month - which ensures that even after paying back the loan instalment (Rs 7500) he is making money. The question, though, is how does Jaikisan afford to provide such a high level of guarantee? Well, simply put, it has innovative ways of getting in revenue. The NGO for instance has roped in companies ranging from Pepsi to coke to advertise by using the walls of the Kendra to sell their products. Last year, it generated at an average Rs 5000 a month from selling advertising space. This year, it expects to hit Rs 11000 - which will take care of the minimum guarantee it offers the entrepreneur. Secondly, the NGO has helped in floating Jai Kisan Foods (made out of farmer enraptures in the village), which sell farm products ranging from mangoes, herbs, and medicinal plants through the Jaikisan portal to potential buyers - dispensing with the middlemen. Already companies like Dabur are using the structure to buy medicinal plants directly from the farmers. No doubt communication costs - through VSATs - are a key impediment in proliferation of the kiosk model. But as Jaikisan executives tell you, telephone connectivity of BSNL is unreliable (exchanges don't have power for days), private sector wireless connectivity is conspicuous by its absence - so there is no choice but to go for a VSAT even if it is not cheap. Singh says if wireless connectivity was available, investment costs would fall by more than half and kiosk owners would have to pay only a monthly running cost of broadband connectivity. That, of course, remains the biggest challenge.

12. SOLUTIONS

Some are trying to get over the problem. Intel is pushing for Wimax as a cheaper solution but with its standards still not been fixed, this might be a while away. n-Louge, has deployed cordect (wireless and local loop) technology to bring in connectivity to the villages. And it charges between Rs500 to Rs1000 monthly to ensure uninterrupted connectivity. Says Jhunjunwala: "It is a much cheaper option virtually one sixth the cost of a VSAT connection. And the bandwidth which is not shared is far superior in quality than VSAT". This would require a cluster of kiosks in a 25-50 kilometer area to justify the initial investment, which could be around Rs40 lakh (after all you need to put in a couple of base stations around). So Jhunjhunwala says you need at least 200-300 kiosks to make it viable. At the moment with most companies spreading the kiosks over a larger geographical distance - it might not be the best option. Agrees ITC's Sivakumar: "At the moment, only a VSAT is viable because you don't have the concentration of digital infrastructure in a small geographical distance". But that is not deterring many companies and researchers to work out niche applications - which can be converted into a viable business model. One such area is banking. Mobile wireless ATMs-developed by IIIT Bangalore is one such solution. Satchidananda points out that it costs a bank Rs12 lakh (Rs1.2 million) to set up a one- man branch in rural India, add in the huge running cost and it is unviable. But a mobile ATM operator invests Rs12 lakh - and the infrastructure could be used for many villages, across talukas and many banks. So it is surely a cost-effective solution. Satchidananda and his team are also working on creating a databank of village homes - information any bank; insurance company or even an FMCG would pay for - to process a loan application, an insurance claim or target a product. The solution, underway in Karnataka, aims to encourage entrepreneurs to invest in a PDA and go to each home to collect information on topics like assets, livestock, crop patterns and income (they are paid for this collection of course by the bank or by the data center which wants to collect this information). This information is then sent wirelessly to data centers, which are owned by telcos. Companies can tie up or pay for this information available with telcos. Says Satchidananda: "A bank can use this information to do individual credit rating and it can outsource the loan recovery work to the PDA owner. So it is a win win for both". Surely even telcos can make money-by selling this valuable information to potential clients. Bridging the "digital divide" might not be as easy as it sounds. However, companies are taking the first steps to work out viable and scaleable models to make it a reality.

13. Issues in E-commerce

E-commerce, or electronic commerce, generally refers to commercial transactions between businesses (B2B e-commerce) or between businesses and consumers (B2C e-commerce) that

take place wholly or partially over the Internet or other electronic communication networks.

Rapid developments in Information and Communication Technology (ICT) have fueled the new paradigm of Electronic Commerce (E-Commerce). Enterprises all over the globe have either created or are in the process of creating the E-Commerce front-ends to their traditional businesses. Several new products and services are being innovated and marketed through Internet thus creating global business opportunity to the tune of billions of dollars. Since the business transactions as well as the delivery of goods are handled through electronic media, several changes in the business regulations become necessary for the smooth conduct of business and to offer consumer protection. Developing countries are likely to lag behind and loose out on the benefits of ICT revolution and e-commerce opportunities if the policies to provide access to the technologies, education, skill development, e-commerce regulation and consumer protection are not introduced in time. E-commerce is still at an early stage and a number of related issues are not yet resolved - security, privacy, data protection, encryption, copyright and intellectual property etc. Given the enormous economic opportunities at stake for all companies across the world, developing countries should be involved as equal partners in the development of the growing body of Internet governance. In addition to increasing the international visibility of their products, producer firms from developing countries must overcome a multitude of supplementary obstacles to ensure the successful completion of a transaction once a potential trading partner has been identified. There are various obstacles:

• Awareness: There is currently a lack of awareness and knowledge in developing countries about e-commerce. Among the private sector in particular, regional differences in the level of awareness have been observed.

• Infrastructure and access: Physical infrastructure barriers including inadequate telecommunication systems, poor Internet connectivity and lack of access to the necessary hardware and software. Indeed, the gap between industrialized and developing countries in terms of infrastructure and access is huge and growing. The reach and geographic coverage of telephone services, its bandwidth, the cost of telephone services, the national policies governing the telecommunications sector and the number of computers are major determining factors to what extent developing countries and their private sectors can partake in the global push for e-commerce. The impending satellite revolution may well facilitate access and connectivity although it is not yet clear whether the pricing structure for these satellite links will be affordable for actors in the developing world.

• Human capacity and skills: E-commerce requires a different mix of capacities and skills, which is another major constraint in developing countries. A second major capacity issue involves human resource development and specialized technical skills. E-commerce is computer and network intensive, requiring skilled programmers and applications-development personnel. Furthermore, as the majority of Internet content and programming languages are English-based, intensive language training is necessary. In addition, for B2C e-commerce and government services online to succeed, consumers also require both basic literacy and computer skills.

• Legal and regulatory framework: A proper regulatory framework must be in place for e-commerce to prosper. Existing laws and regulations might not be applicable as some of the online services do not exist in the physical world and boundaries between services as well as industries have become blurred. E-commerce requires a supportive legal framework in the banking and industrial sectors, as well as legal and juridical changes in response to challenges that have emerged in tandem with the new technologies. These include standards and protection of digital signatures, the liability of value-added networks, regulation of certification authority, protection of intellectual property, and computer crime and data protection.

• Taxation: Taxation is another issue of concern and contention. As the Declaration on global electronic commerce of 1998 stands, there is a moratorium on the imposition of customs duties on electronic transmissions. However, if there is the projected dramatic shift from physical transactions, normally subject to sales and other taxes, to virtual online transactions, free from any transaction tax, the tax base of local and state governments might become eroded.

• Financial institutions and intermediaries: Thus far, financial institutions and banks in developing countries are hesitant to take an active role in promoting e-commerce. However, merchants need the involvement of banks to broaden the reach and appeal of e-commerce and to help prevent fraud and potential losses attributable to credit card fraud. But beyond the credit card approach, banks and other financial service intermediaries are challenged to develop alternative modalities for secure and reliable online transactions in environments where credit cards are not commonplace.

• Inadequate transportation and distribution networks: There is need to give high priority to strengthening logistics and transport infrastructures to support time-sensitive, increasingly tightly integrated, global supply chains.

14. TRADE ISSUES

For E-commerce to be a truly global tool for trade and development, a `global information infrastructure' (GII) which makes possible the electronic exchange of information about products and services, buy and sell orders and financial transactions is a necessary pre-requisite. GII access is a necessary but not sufficient condition for the development of electronic commerce. For it to be operational world-wide, it is essential to create a policy and regulatory environment that favours the development of eCommerce and harmonizes national approaches in diverse areas including telecommunications, trade procedures, intellectual property, privacy and security. Involvement of the developing countries and assistance to them for improving their expertise and infrastructure are some of the key requirements of the future.

When we talk about trade through eCommerce, it eliminates geographical distances in bringing buyers and sellers together but there are certain points whether there would be custom duty on electronic delivery of goods and services? Who would be responsible for setting these rules and standards and who should enforce them? What will happen in case of copyright and Intellectual Property Rights related issues? Would electronic delivery of services fall within the scope of GATS? eCommerce may have implications on the revenue and fiscal positions of nations and the importance of developing human resources and critical infrastructure in this regard.

e-commerce makes it increasingly difficult for countries to distinguish between goods and services. WTO rules approach trade in goods and services differently; Goods are generally subject to tariffs while trade in services is limited by restrictions on national treatment and/or quantitative controls regarding market-access. As a result, several important WTO rules, particularly the General Agreement on Trade in Services, which emerged from the Uruguay Round, may already be in need of reconsideration and negotiation.

The digitization of information, combined with ability to make it available to a mass audience at small marginal cost, has raised concerns that global trade rules do not protect information producer's rights to own and profit from their work. As a result, many countries are seeking to discuss the impact of electronic commerce on the areas of copyright and related rights, trademarks, patents, domain names and unfair competition within the framework of the WTO's Trade in Intellectual Property (TRIPs) agreement. Differences have emerged, however, over balancing the needs of information and content providers with ensuring equal access to new technologies and methods. Stronger rules on TRIPs could potentially reduce developing country access to new tools and technologies. The Institutions that have direct responsibilities for governing international trade have tended to take a cautious approach to the governance of Internet-based e-commerce.

15. WEBSITE TRUST ISSUES

With the increase in Internet fraud, Web users' awareness of Trust issues in E-Commerce has also increased. The trustworthiness of Web information is becoming critical for both Web consumers and Commerce Service Providers (CSP). How does one assess E-Commerce Trust and represent it into a way that Web users and CSPs can understand and measure. In eCommerce when the website is designed we know that the explanatory tasks are best supported by a network or combination of information structure. While searching tasks are best supported by a hierarchical info structure. In order to succeed in eCommerce, online vendors need to begin with a user friendly and trust – worthy website so that users feel comfortable and confident interacting with it. The website should facilitate product search within a short amount of time and must provide users into a good sense of control over the interaction e.g. a privacy policy and tight security controls should be in place, information on all aspects of the customer relationship should be clearly stated on the websites. In case of E-Commerce environment on the Internet, where business providers and consumers identify each other by their Web sites, email addresses or some electronic means (eg. a public key, or certificate). These changes have brought about a new set of electronic threats and risks, such as fraud , misuse of personal data (eg. credit card number), and deliberate misinformation (ie. the content of Web documents), Web spoofing (ie. mimic legitimate businesses to unlawfully obtain consumers' credit card numbers), eavesdropping (eg. identity theft), and repudiation.

These risks represent elements of uncertainty in the E-Commerce environment, which can produce devastating results (eg. financial losses). To limit or better deal with these elements of uncertainty, Trust has been identified as an important concept in E-commerce.

There are a number of Public Key Infrastructure (PKI) trust models using certificates which provide authentication of identities of business parties, from which an initial trust relationship can then be established. Trust is transferred along a set of certificates - which thus forms an unbroken chain of Trust, ie. Transitivity of Trust is created by constructing a chain of certificates. This chain of certificates can be of arbitrary length. The Root Certification Authority (CA) is regarded as the most trustworthy. Everyone must know the public key of the root CA used.

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16. SECURITY ISSUES

The frauds are increasing, so information has to be secured by all means. The consequences are that such security attacks could kill a merchant just by the fear and mistrust is still in customers and this is the reason of volatile customer retention factor.

Web shopping is generally very easy. Customer without knowing the back-ground, clicks on a related site, goes into that site, buys the required merchandise, enters credit card details and then expects delivery within a couple of days. This entire process looks very simple but a developer or businessmen knows exactly how many hurdles need to be jumped to complete the order. Customer information has to pass through several hands so security and privacy of the information are a major concern. The safety and security of a customer's personal information lies within the hands of the business. Therefore businesses have to give the customer first their guarantee, and second peace of mind that the information passed over is of no risk to any invading eyes.

Many people are not willing to disclose their personal information on the Web. It is up to individuals to decide how much personal information they are willing to disclose and how it might be used. Interestingly, one survey found that many people who disclose personal information do so in hope of financial benefit, such as winning a sweepstakes. And last month's disclosure by major credit card companies that over 40 million cards may have been compromised is evidence that even the leading financial institutions are not immune to the threats. Clearly, it's more important than ever to secure your web storefront—to safeguard your customer's private information and ultimately protect your bottom line! The most responsible things you can do to secure the data submitted via your site is to implement secure sockets layer or SSL.

The SSL protocol allows client/server applications to communicate in a way designed to prevent eavesdropping, tampering, and data forgery. SSL protects network access, online communications, and digital transactions by enabling a secure channel between your servers and your users. With SSL in place, information transmitted from your online store (e.g., via web forms) is encrypted before it is sent over the Internet.

When you connect to a secure web server such as https://www.domain.com, the server authenticates itself to the web browser by presenting a "digital certificate." A digital certificate is an electronic file that uniquely identifies individuals and servers. Digital certificates allow the client (i.e. web browser) to authenticate the server prior to establishing the encrypted SSL session. Typically, digital certificate requests are reviewed and approved by an independent and trusted third party to ensure their validity. This "signer" of the digital certificate is known as a certification authority (CA). Popular CAs include Geotrust® (http://www.geotrust.com/) and VeriSign® (http://www.verisign.com/). A valid, signed certificate gives consumers confidence that they are sending personal information securely and to the right place.

SSL certificates provide non-forgeable proof of your website's identity, and they are a great way to instill customer confidence in the integrity and security of online business. Without SSL security in place, information is transmitted in "clear text." This is practically an open invitation for hackers, script kiddies, and other mischief makers to use commonly available "packet sniffing" software to snatch the information while in transit.

Customers are becoming increasingly aware of the advantages of SSL security and will often (and with good reason) not purchase online from stores that have not implemented digital certificates and SSL. All major web merchants now use SSL security to encourage customers to buy online.
Recently the Worldwide eCommerce Fraud Prevention Network was formed by American Express and e-tailers such as Amazon.com and Buy.com to establish common grounds for reducing the threats created by increasing reliance on the Internet for ecommerce. Membership has expanded swiftly to now include 375 large and small players united to promote the growth of e-commerce in large part by keeping fraud to a minimum. Some of the recommended strategies for merchants advocated by this group include: obtaining real-time information from a credit card company, use of address verification systems, use of credit card verification codes, purchase of rule-based detection systems, and purchase of predictive statistical models. Visa uses third-party security assessments to build its own evaluation and weigh these against benchmarks of competitors to develop compliance standards. Visa has also recently launched Global Security Web to serve as an information resource for merchants. This site includes a program for a security self-assessment to help merchants find out what the weak and strong points in preventing unauthorized access to their information.

Great success is possible for those businesses which implement e-commerce. Just as there are legitimate opportunists who play fair, there are opportunists in the criminal element hoping to seek small fortune or destroy someone else's dream.

17. SECURING E-COMMERCE NETWORK

E-Commerce operates on and through communications networks, principally the Internet. Therefore, safeguarding the integrity of your Web site and its associated software and data is critical, especially where 24x7 operation is expected.

Information Security Issues	Key Actions
Malicious or opportunistic damage may occur if the network safeguards fail to prevent unauthorized access to the corporate network, when it is open up for Web based e-commerce	• Consider establishing a secure area, entirely separate from internal network, perhaps a DMZ, to cut off **all** and any network traffic that is not **explicitly** permitted access through firewall and router configuration. • Insist that all administration of the Web site may only be undertaken from a dedicated workstation, via a secure network or leased line. • Add supplementary authentication techniques, such as smart cards, to provide a greater degree of access control to your Web site and its data files.
If the network access controls to Web server are poor, the site may be subject to unauthorized access ('hacked'), leading to theft (e.g. of credit card numbers) or corruption of data.	• Where ISP hosts Web site, detailed safeguards to protect unauthorized access should be made available and scrutinized for adequacy. Ensure that strong access control procedures are in force to restrict internal access to Web site .

18. TRANSFER OF TECHNOLOGY

The outcome of outsourcing is that it lead to transfer of technology from developed to developing countries, which involves questions of investment, expertise government politics, market access etc. A developing country which encourages electronic eCommerce and with a climate conducive to investment likely to attract foreign investment in sectors related to it.

19. INSURANCE ISSUES

It has been observed that customers is aware of risk inherent in the use of Internet to conduct business and continued reliance on internal computer system, network. The insurance industry is forward to insure third party liability and first party risks related to eCommerce activities. The insurer have developed the liability policies which cover claims for injury or damage because of error, wrong act, the computer virus, infringement of IPR, the invasion or infringement of right or privacy or publicity etc. The first party policies cover lost income and extra expenses because of "crash" of the insured computer system or website, loss of data, software, the denial of access to the insured's website(s).

Some insures sell only third party liability policies. These policies are generally taken by dot com start up companies. The fortune 1000 companies take up generally with first party eCommerce insurance issues are to risk be addressed as :

• What potential gaps exist in traditional insurance policies w.r.t eCommerce risks.
• What alternatives risk transfer mechanisms are available to finance eCommerce risks.
• What are the new stand-alone insurance products for eCommerce risks?

20. BACK – END ISSUES / PROCESSING

The speed and accuracy of various processes that go in managing an eCommerce store are very important. The most important behind the scene activities in a well built e – business:

• Inventory and resource management is ensuring you have the product when it is needed and dealing with supply and demand factors.
• Nurturing the customer relationship solving their queries properly, making a transparent revenue generating information. Allow users to track their orders online.

• Delivery of goods or services in time to the correct location and acknowledging the money transaction can make e – business effective i.e. deliver goods through proven shipping carriers that reach to all locations within time frame.

- Stock management – any kind of stock i.e. book, electronic goods, jewellery etc. electronic stock management is must. The inventory database related to website must be linked to back office environment. You must have control upon staff i.e. person hours per project in order to meet the deadline related to delivery of good, getting paid is just as important. On the Internet, watch out for expensive payment methods.

Whenever e–business is to be done, each and every product should not be displayed, as every deal may not be that profitable through online commerce. In eCommerce shifting from paper based system, the customer and order information is to be acquired.

E-commerce, though it is still in an embryonic condition, is growing rapidly and is likely to have a dominant position in the knowledge economy of tomorrow. Already its economic impact is much greater than was predicted not so long ago, as it is not limited to the Inter-net which, though its role as a catalyst is important, is only one of the media involved. The business community, for its part, cannot stand aloof from this new trading dynamic: they must take advantage of the many opportunities offered by e-commerce. Even though the obstacles are considerable and there are many challenges to be met, ignoring this new form of trade is hardly a viable solution. The lag we now observe in the corporate world, and particularly among SMEs and their larger counterparts, and, among industrialized economies and transition economies, has to be addressed as quickly as possible. E-commerce is no longer a "virtual" reality, but a concrete one, and has to be dealt with on many fronts: legal, fiscal, economic and social issues require urgent actions.

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