Abstract—E-commerce is not a new concept. Electronic data has given the prospect of eliminating paper documents, reducing costs and improving efficiency by exchanging business information in electronic form. The present paper studies how women have gained a foothold in many e-commerce areas. It also studies how e-commerce helped in empowering women? And what is the role of government in the development of e-commerce in developing countries? In B2C e-commerce, most success stories of women-empowered enterprises have to do with marketing unique products to consumers with disposable income. While it is generally agreed that the private sector should take the lead role in the development and use of e-commerce, the government plays an instrumental role in encouraging e-commerce growth through concrete practicable measures.


I. INTRODUCTION

Electronic commerce is more than selling stuff online; it's using online resources and tools to do business better—more efficiently and productively. It's about making and saving money online. Thus E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals. It involves all types of communications technology, including the WWW, email, private bulletin board systems or value-added networks, intranets and extranets.

It uses all forms of communications technology: email, television, fax, mobile and landline phones. Ecommerce can work for any business because it involves the whole business cycle from production, procurement, distribution, sales, payment, fulfillment, restocking, and marketing. It's about relationships with customers, employees, suppliers, and distributors. It involves support services like banks, lawyers, accountants, and government agencies.

II. TYPES OF E-COMMERCE

The major different types of e-commerce are: business-to-business (B2B), business-to-consumer (B2C), business-to-government (B2G), consumer-to-consumer (C2C), and mobile commerce (m-commerce).

- B2B e-commerce is simply defined as e-commerce between companies. This is the type of e-commerce that deals with relationships between and among businesses. E-markets are simply defined as Web sites where buyers and sellers interact with each other and conduct transactions. For example IBM, Hewlett Packard (HP), Cisco and Dell etc. Cisco, for instance, receives over 90% of its product orders over the Internet.

- Business-to-consumer e-commerce, or commerce between companies and consumers, involves customers gathering information, purchasing physical goods (i.e., tangibles such as books or consumer products) or information goods (or goods of electronic material or digitized content, such as software, or e-books) and, for information goods, receiving products over an electronic network. Business-to-government e-commerce or B2G is generally defined as 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.

- Consumer-to-consumer e-commerce or C2C is simply commerce between private individuals or consumers. This type of e-commerce is characterized by the growth of electronic marketplaces and online auctions, particularly in vertical industries where firms/businesses can bid for what they want from among multiple suppliers. For example eBay, allows online real-time bidding on items being sold in the Web.

- Consumer-to-business (C2B) transactions involve reverse auctions, which empower the consumer to drive transactions.

- M-commerce (mobile commerce) is the buying and selling of goods and services through wireless technology—i.e. handheld devices such as cellular telephones and personal digital assistants (PDAs).

III. SUPPLY CHAIN MANAGEMENT

E-commerce facilitates organization networks, wherein small firms depend on “partner” firms for supplies and product distribution to address customer demands more effectively. To manage the chain of networks linking customers, workers, suppliers, distributors, and even competitors, an integrated or extended supply chain management solution is needed. Supply
chain management (SCM) is defined as the supervision of materials, information, and finances as they move from supplier to manufacturer to wholesaler to retailer to consumer. It involves the coordination and integration of these flows both within and among companies. The goal of any effective supply chain management system is timely provision of goods or services to the next link in the chain (and ultimately, the reduction of inventory within each link). Some SCM applications are based on open data models that support the sharing of data both inside and outside the enterprise, called the extended enterprise, and include key suppliers, manufacturers, and end customers of a specific company. Shared data resides in diverse database systems, or data warehouses, at several different sites and companies. Sharing this data “upstream” (with a company’s suppliers) and “downstream” (with a company’s clients) allows SCM applications to improve the time-to-market of products and reduce costs. It also allows all parties in the supply chain to better manage current resources and plan for future needs.

IV. THE ROLE OF WOMEN IN THE WORKFORCE

Today Women were making decisions regarding their lives, education, and career goals. Women in business act as an essential player in the business world. Women entrepreneurs are creating jobs, hope and opportunities in every community worldwide, be it a corporate, government or private sector. The role of women in the workforce has increased dramatically over the last several decades. Many women are successfully balancing both work and family life to create a strong path for future generations who may wish to accomplish the same achievements. The fact that women now have so many new doors open that were once closed, it is possible to achieve anything in terms of business. One of the best ways to gain top-level employment is through a college education, which can either be achieved in a traditional classroom or online. For the woman who has children, learning at home is an ideal way to gain the knowledge necessary to obtain a job with higher pay. Thanks to technology and the innovations that the internet now offers, women can learn and/or work at home. Some of the leading businesses of today are those that are primarily web-based and can be operated from the comfort of a home office. For women who have found the traditional workplace to be less than ideal, the internet provides a way to earn a terrific living with little or no overhead. In corporate sectors sometimes an extraordinary partnership occurred, with women an integral part of a team. Things haven't changed too much in women's roles; it's more so that people are more acceptant of women and their many roles in the business.

The role of Business women has become more significant than man in many areas of business. Industries such as construction, architrave, leisure, entertainment and art oriented industry have realized the advantage of having a women counterpart because of their way of understanding things differently and using their imaginative skills more fluently than man. Woman in business have more to give than to take and their many roles in the business.

women more positively. Women tend to emphasize relationship of style or equality and stability whether they are talking to men or women.

V. WOMEN AND E-COMMERCE

New information and communication technologies can be powerful tools for increasing the competitiveness of countries and contributing towards economic growth and development. However, in many parts of the world, women, especially those living in rural areas, are still excluded from accessing the Internet or do not have the skills to use it in a profitable way. On the other hand, examples from developing countries demonstrate that, if given access and knowledge-how, women entrepreneurs have benefited from using the new technologies in a large number of areas, such as getting access to valuable business information, finding new (export) markets, marketing their products and services over the Internet, securing large orders through networking with community members, and generally cutting costs through more efficient business practices.

Women are under-represented in the Indian software industry, constituting about 23 percent of the IT workforce (NASSCOM 2004). Within engineering and science streams, computer science is considered to be a good option for girls because it leads to office-based work and is not associated with shop floor or dirty outdoor jobs, as are other engineering specializations.

ICT (Information and Communication Technologies) makes the role of distance less significant in organizing business and production, particularly for transnational corporate companies. The current trend towards global networking leads to massive relocation of information-intensive service sector jobs from high wage to low wage countries. The trend is particularly visible in areas such as call centers or customer care services, medical transcription work (from the US), clerical and data entry work, Geographical Information Systems or accounting. The resultant trade in business information in fact is a much bigger component of e-commerce than the much publicized on-line retailing. Some developing countries, such as India, are receiving a substantial amount of such relocated outsourced jobs, where salaries of ICT workers are one-tenth of those in the US. A large proportion of these jobs go to women. In the light of these new developments, the women’s forum could initiate a sharing of experiences among countries, such as between India and Sub-Saharan African countries.

Women entrepreneurs are increasingly setting up their own networks, and becoming more integrated in existing ones, they are also beginning to form and participate in virtual associations, networks and online forums. Regional, national and international women entrepreneurs’ associations have been found in particular to provide an important source of information and support to nascent, new and established women business owners. Women are forming associations to increase their access to Technology, increase familiarity with business cultures in foreign markets and access these markets more effectively. These associations also provide mentoring and training, and catalyze the process of building Networks with government and corporate procurement officials. All of these developments are contributing to promoting a pro-active
entrepreneurial culture for women and facilitating the transition to international activity. Thus, in many respects, women-owned businesses may be in the process of overcoming obstacles in many of the areas crucial for internationalization. The extent to which women entrepreneurs seize the opportunities offered by networking and new technologies is critical for their ability to grow and internationalize, and fulfill their potential as major players in the global economy.

Davangere district in Karnataka has taken the lead in this program and is in the process of training 250 women in the operation of these services by using computers and the Internet. The services range from operating bank accounts to providing information, as well as buying railway tickets.

Newsletters in rural Uttar Pradesh, started by women as a development effort to help communicate among themselves and share opinions, have evolved into forms of social mobilization. These newsletters, now taking the form of newspapers, address social issues which affect entire communities and are in turn mobilizing these communities in the process.

The Guyanan Weavers Cooperative is an organization founded by 300 women from the Wapishana and Macushi tribes in Guyana, northern South America. The cooperative revived the ancient art of hammock weaving using 19th century accounts and illustrations of the hammocks made by European travelers and the cultivation of cotton on small family plots and hand-weaving. The organization then hired someone to create a web site, which was instrumental in bringing their wares online. Not long after, in the mid-1990s, the group of weavers was able to sell hammocks to Queen Elizabeth, Prince Philip, the Smithsonian Institute, and the British Museum. Since 1998, they have sold about 20 hammocks through the Internet at $1,000 per piece.

Women have gained a foothold in many e-commerce areas. In B2C e-commerce, most success stories of women-empowered enterprises have to do with marketing unique products to consumers with disposable income. The consumers are found largely in developed countries, implying that there is a need for sufficient infrastructure for the delivery of products for the business to prosper and establish credibility. For example, if an enterprise can venture into producing digital goods such as music or software that can be transmitted electronically or if such goods can be distributed and/or delivered locally, then this is the option that is more feasible and practicable. There are many more successful cases of ecommerce ventures that the women sector can emulate. Some concrete examples are: Tortasperu.com (http://www.tortasperu.com.pe), a business involving the marketing cakes in Peru run by women in several Peruvian cities, Ethiogift (http://ethiogift.com), involving Ethiopians buying sheep and other gifts over the Internet to deliver to their families in other parts of the country, thereby dispensing with the physical delivery of goods abroad; and the Rural Women’s Association of the Northern Province of South Africa, which uses the Web to advertise its chickens to rich clients in Pietersburg. While most of the examples involve B2C e-commerce, it must be noted that women are already engaged in wholesale distribution businesses in developing countries. Thus, they can begin to penetrate B2B or B2G markets. For example, the Grameen Village Phone Network is a classic example of women’s empowerment in Bangladesh. Operators of the village phones are all poor women (who have been selected for their clean and strong credit record). These village phones are regularly visited by members of male-dominated villages. Notably, the women entrepreneurs (village operators) enjoy wider discretion in expending their profits from their phone services than with their household income.

VI. THE ROLE OF GOVERNMENT IN THE DEVELOPMENT OF E-COMMERCE

While it is generally agreed that the private sector should take the lead role in the development and use of e-commerce, the government plays an instrumental role in encouraging e-commerce growth through concrete practicable measures such as: Creating a favorable policy environment for e-commerce and Becoming a leading-edge user of e-commerce and its applications in its operations, and a provider to citizens of e-government services, to encourage its mass use.

Among the public policy issues in electronic commerce that governments should take are:

- “bridging the digital divide” or promoting access to inexpensive and easy access to information networks
- legal recognition of e-commerce transactions
- consumer protection from fraud
- protection of consumers’ right to privacy
- legal protection against cracking (or unauthorized access to computer systems) and
- Protection of intellectual property.

It is important that government adopt policies, laws and incentives that focus on promoting trust and confidence among e-commerce participants and developing a national framework that is compatible with international norms on e-commerce (covering for instance, contract enforcement, consumer protection, liability assignment, privacy protection, intellectual property rights, cross-border trade, and improvement of delivery infrastructure, among others).

Government can use e-commerce in the following ways:

E-procurement - Government agencies should be able to trade electronically with all suppliers using open standards-through ‘agency enablement’ programs, ‘supplier enablement’ programs, and e-procurement information systems.

Customs Clearance - With the computerization of customs processes and operations (i.e., electronic submission, processing and electronic payment; and automated systems for data entry to integrate customs tables and codes), one can expect more predictable and more precise information on clearing time and delivery shipments, and increased legitimate revenues.

Tax Administration - This includes a system for electronic processing and transmission of tax return information, online issuances of tax clearances, permits, and licenses, and an electronic process registration of businesses and new taxpayers, among others.
The following are the more relevant areas for government intervention with respect to SME uptake of e-commerce:

**E-SME Development** - Government can provide incentives to encourage widespread e-commerce use by SMEs. An “e-SME development program” in which various sectors can provide technical assistance to SMEs promote e-commerce uptake, can also be developed. Banks, financial lending and training institutions, and corporations should be encouraged to develop “SME desks” that will address the specific needs of SMEs. In particular, steps should be taken to:

- provide incentives to individuals to become entrepreneurs by lowering borrowing rates
- provide incentives to SMEs that intend to use e-commerce in their business operations
- broaden credit extension facilities to SMEs in order for them to use ICT and e-commerce;
- Offer discounts on business solution software packages and software licenses.

Moreover, big businesses and corporations should be encouraged to transfer technology to SMEs by offering them free training in ICT and e-commerce.

**Awareness Campaign** - Evidence suggests that SMEs have insufficient knowledge of information technology and e-commerce. Government and private sector partnerships can engage in a campaign to disseminate information to SMEs about e-commerce policies, best practices, success stories, and opportunities and obstacles relating to the use of ICTs and e-commerce. These awareness campaigns could include free training courses and workshops on e-commerce, security and privacy, awards programs, and information centers to assist SMEs. Ultimately, this information campaign should come in the form of an overall e-commerce development strategy for the economy, focusing on its various innovative applications for SMEs.

**E-Government** - Government should be the lead-user of e-commerce if various business and private-sector related activities are to be prompted to move online. E-government can take the form of various online transactions such as company registration, taxation, applications for a variety of employee and business related requirements etc.

**Network Infrastructure and Localization of Content** - An important strategy in this regard is the construction of “telecenters” or electronic community centers that would serve as a community-shared access and connectivity platform especially in the rural areas (e.g., an electronic agri-information center which provides market information to farmers in rural areas). These telecenters can also be a venue for capacity building, skills enhancement, training, communications and content development.

**Strengthening Consumer Protection** - A more comprehensive measure that government can undertake to ensure security in e-commerce transactions is the establishment of a Certification Authority, which verifies seller and buyer identities, examines transactions and security procedures, and issues digital certificates to those who are able to meet the set security standards. A good example of this government effort is Singapore’s Certification Authority, Netrust.

The above case studies show how ICTs can become a tool for the transformative empowerment of women at a collective level. Connectivity and access to information for livelihoods and enterprises:

(i) Connectivity through networks can support access to information, covering technical information on sustainable agricultural practices and innovation, market news and agricultural commodity process, weather predictions and rainfall patterns, recommended crops for the season and information on institutions that provide expertise and training;

(ii) Data Management: Information technologies can create systems to store, retrieve and manage information which can help enhance operational efficiency and accuracy in financial transactions, something that organizations that work with poor women, can benefit from;

(iii) Creation of Data Repositories: ICTs can help to reclaim women’s agricultural knowledge base and can facilitate the systematic recording and dissemination of knowledge about agricultural practices;

(iv) Mobilization and education of women workers: ICTs can bring about political empowerment of women by furthering their demands, needs and rights as workers.

(v) Linking of women producers to global markets: Although not an easy avenue, ICTs can enable women producers to benefit from e-commerce by linking them to global markets.

(vi) Efficient communication for micro-enterprises of poor women: For poor women involved in micro enterprises, ICTs can enable building of a network with customers, suppliers, banks, etc, thus facilitating timely access to people and resources and thereby providing better business opportunities;

(vii) Opportunities for skill-building and employment: It is possible that disadvantaged women with handicaps in education and training can still benefit from opportunities in the IT labor market. This can happen if they can master basic aspects of computer use and maintenance. There are some organizations that are attempting to explore such possibilities;

(viii) Opportunities for self-employment: Self employment through ICTs is another area that can become an income-earning possibility for the poor. Since ICTs offer business opportunities, beside the Grameen Bank of Bangladesh, in West Godavari district of Andhra Pradesh, women’s self-help groups have set up kiosks and have become kiosk operators, thus running a successful micro-enterprise.

**VII. CONCLUSION**

The role of a business women in world today have change dramatically than it use to in mid century. Business woman have changed herself and given herself a new identity in the new world and is standing shoulder to shoulder with a man in every aspect of life be it professional or personal. There is a perception that the Information Technology and Information Technology Enabled Services (IT/IT-ES) sectors have apparently provided a more level playing field in terms of employment opportunities without any gender bias. This claim
seems to be borne out by the prediction that the percentage of women in such industries is set to rise dramatically in the coming years. However, there are still some glaring anomalies as viz., the representation of women in upper management is significantly disproportionate to the overall percentages.

VIII. FUTURE SCOPE

While many examples exist of how women have used the new technologies to improve their businesses, create new businesses or find new employment opportunities, the large majority of women in developing countries are still excluded from the information economy. This implies a range of actions to be taken, both by women themselves as well as policy makers, to address the gender digital divide. Women need to become active promoters of the use of ICT and enhance their capacities in ICT training and skills. Women also need to become more involved in ICT policy making and development to ensure that women’s needs are incorporated in policies related to infrastructure, access, training and education. Policy makers need to mainstream gender in the complete range of policies that comprise their national ICT strategies, with the objective to enhance women’s participation in the information economy and thus increase national capacity and achieve greater economic growth and development, and international competitiveness.

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