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# Internet Culture in Developing Countries with Special Reference to E-Commerce

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## Abstract

Businesses are attempting to use the new technology to succeed in achieving their business objectives. Developing countries have realised the importance of E-commerce and are attempting to expand their markets beyond their home countries. There are great opportunities for developing nations to grab a share in the global market through the Internet. It is expected that such a growth in electronic commerce will strengthen the economy of several developing nations and create new jobs in and around their geographical sphere. This study examined the state of Korea (South), India and Australia electronic commerce. Then establish the current growth trends in how electronic commerce will continue to make ways for stronger economic growth and job creation in developing nations.

**Keywords:** E-Commerce, E-market, Internet Business, Developing Countries, Global Market and Internet Culture

## 1. Introduction

Earlier information Systems (IS) researches mainly focused on Information Technology issues of technical aspects (Orlikowski and Baroudi, 1991; Walsham, 1993; Introna, 1996). There is increasing attention among IS researchers, company managers and participants about the actual performance of information systems in developing countries. However recent research focused on studying an electronic commerce (Fertuck, 1995; Lindemann and A, 1998; Summer, 1998) and what factors influence the adoption of Internet Commerce technology (Iacovou, 1995 and Senn, 1996) are not much focused on the impact of social contexts on Information Technology and use and implications on technical and social performance of information systems in developing countries. This study attempts to identify the impact of electronic commerce (e-commerce) on national businesses, and describe organisational culture of electronic market in India, Korea (South) and Australia.

Electronic markets in developing countries are continually growing. In 1997, over 40% of the people in developing countries lived in city areas and over 80% of the telephone lines were used by city dwellers (Petrazzini and Kibati, 1999). Africa, Asia, and Middle East are

the target for about 5% of India's software export, while Korea (South) and Malaysia are outsourcing to countries like Philippines, China, and Vietnam. The success of Internet business depends on providing relevant software, developing skills, experience, user feedback on products, track record and sizeable domestic market. The domestic market is drawing large numbers of IT multinationals into collaborative relationships with local partners in order to serve this market (Heeks, 1999). In Western countries, software represents more than 55% of the IT market, while in countries like China and Indonesia, the figure is less than 20%, and trailing in technological development in comparison to the leading edge nations like USA (Anonymous, 1998). The Internet market in the U.S. is built upon a significant infrastructure that was built up by direct sales and catalogue. However Asia Pacific does not have the same infrastructure to enable e-commerce (Biederman, 2000). While geographical borders can be transcended by the Internet, they are still very real for retailers trying to deliver products.

## **2. E-commerce in India**

The Internet and its related new technologies are gaining popularity in India. The National Association of Software and Service Companies (NASSCOM) studied 68 Indian cities predicts that the Internet subscribers in India is expected to grow to 15 million by December 2003 from the present level of 1.8 million. There were five million personal computers (PCs) as of August 31, 2000, and more than 81 percent sold during 1999-2000 were driven by the need to access the Internet. The Internet users, who now stand at 5.5 million, will also grow to 50 million by December 31, 2003. The Internet market is witnessing a tremendous boom. The growth of e-commerce in India has resulted in exciting opportunities for people around the world to do business globally. KPMG E-Commerce India Survey Report (1998) indicates "E-commerce is increasingly being seen as a strategic tool to gain business advantage and competitive edge."

### ***2.1 Advances in Telecommunication***

Increase in the number of Internet users has also witnessed an increase in the number of telephone lines provided within the country. The recent initiatives taken for modernising the telecom infrastructure in the country will poise to create a communication network, which will surpass the networks of many other countries. India aims to raise the tele-density from 2.5 to 15 per cent during the next decade by adding 150 million new lines.

### ***2.2 E-commerce Activities in India***

Indian businesses are attempting to use the information technology to succeed in achieving their business objectives. The Indian industry has taken the challenge of the new technology in a positive way to provide efficient and effective services for their clients.

According to National Association of Software and Service Companies (NASSCOM), E-commerce revenues are expected to reach \$2.17 billion in 2001-2 as compared to \$1.4 billion in 2001. Driven by the growth in the E-commerce, the Indian software and services industry is expected to maintain its annual growth rate of about 50 percent and notch up \$13 billion during 2001-02. With growing penetration of personal computers in Indian homes and increased desire by corporations to venture into E-commerce, e-business transactions are

bound to increase significantly in the country. In addition to large businesses, small businesses are entering the e-business in a big way.

In keeping with global trends, it is expected that E-commerce in India will be dominated by business-to-business (B2B) transactions. The NASSCOM study shows that the real business opportunity will be in providing software solutions and services in e-business areas. The market for providing e-solutions is also expected to fetch annual revenue of \$667 million by 2002.

The KPMG Report shows that a large number of organisations have realised E-Commerce as a new channel to provide new services to their clients and allocated budget for E-commerce integration. Though Web sites, Internet access and E-mail are popular in major industry segments, financial service organisations are implementing Electronic Data Interchange (EDI), Smart Cards and Debit/Credit Cards. Nationalised Banks such as State Bank of India, Canara Bank, Central Bank of India have computerised their customer transactions within their own branches. It is expected that the bank branches within a city or within a radius of 50-100kms will be networked shortly. Soon we could expect a national network of these banks to provide various services including ATMs and Internet banking facilities for the urban and rural communities. One possible solution would be to create 5 zones, namely, North, South, East, West and Central India and integrate these zones in phases.

A survey of E-commerce in India administered by Indian Market Research Bureau shows that Indian Businesses consider E-commerce as a crucial or substantial part of their business strategy. They associate E-commerce more with accessing new markets, particularly international markets. As there are more multinational companies venturing in a large scale, in the areas of pharmaceuticals, automobiles, etc, industries can expect 20-25% of yearly turnover coming from E-commerce by the next 3 years.

### ***2.3 What is needed?***

Factors that are affecting the E-commerce are the lack of funds, lack of skill/training within the businesses and lack of proper commercial and legal system for conducting business electronically.

Households are not interested in buying through the net, as they are not sure of the quality and delivery of products. Many are not interested, as they can't bargain with the vendors. The Other important issue is the culture that will increase the problems associated with E-commerce, in particular the B2B and B2C transactions. Global businesses will have to consider the large Indian market and address the local issues. This will include:

- Local language (more than 15 major languages)
- Local business practices
- Content based on the local requirements

Localisation involves the change of entire infrastructure depending on the country's social system and culture.

### 3. Internet commerce in Korea (South)

The Internet was introduced in Korea (South) in 1984. Since the first commercial Internet service was launched in 1994, the user base has more than doubled every year. The number of hosts directly linked to the Korean (South) Internet service providers' servers has exceeded 300,000, and the number of domestic Internet users reached 5million people in Korea (South) (Anonymous, 1999). Figure 1 shows that information technology (IT) service and system integration (SI) markets in Korea (South) are:

	1999	2000	2001
<b>IT service</b>	\$1,761million	\$2,143million	\$2,768million
<b>SI</b>	595	769.5	1,044
<b>Growth</b>		+29.4%	+21.7 %

Figure 1. IT service and SI markets in Korea (South), Source: IDC, 2000

Korea's Internet Users number 20.9 million. In year 2000, the e-commerce domestic sales sharply increased from the previous year (The Ministry of Commerce of Republic of Korea, 2001). The local market for the Internet shopping mall business more than tripled. In general, 65%-70% of Asian companies implementing e-commerce is that fail to transform businesses into truly customer-centric organizations (McKinsey, 2001).

The frequency of Internet use by consumers and businesses has been continuously increasing despite the domestic and regional economic recession. Through foreign investments, Korean (South) venture companies are gaining more than just finance (Anonymous, 2000). An increasing number of foreign companies are making investments in the Korean (South) market by joining up with promising Internet businesses. However, the nation's culture differences are likely to become an obstacle to the global firms until they have learned the characteristics of the domestic market (Lee, 1999).

#### 3.1 A case of Internet Auction

A typical example of developments in the Korean (South) Internet business is the Internet auction. Internet auction sites are the most popular place for trading stocks that are yet to be listed on the Korean Stock Exchange (KOSDAQ). These sites are mainly promoted through a series of events and services. The Internet companies anticipated that the prize money would promote transactions between sellers and buyers (Anonymous, 1999). Since, transactions through the Internet were transparent, the Korean (South) government agreed to provide a tax reduction for trading through the Internet. However, financial institutions service fees for settlement of transactions are currently high, and the frail distribution system needs to be improved for the development of the Internet auction business.

Korea (South) is ranked second by virtually every growth measure, with the region's second largest on-line population (Anonymous, 1999). Korean (South), Chinese and Japanese

language sites form a small portion of the world's total, with English commanding 96% of the sites, compared to 0.61% in Japanese, 0.18% in Chinese and 0.07% in Korean.

### **3.2 Future**

The Korean (South) online shopping firms take pleasure in rapidly growing sales with Internet access through cable TVs. Home shopping sales increased by more than 70% and sales by Internet shopping malls more than quadrupled so far this year (Bickers, 1999). Korean (South) shopping mall businesses will be less influenced by the global Internet business because of the rapid growth and internal market conditions. A combination of factors is performing an important part in promoting success to the Internet business in Korea (South). These factors include Government support, rapid developments and adoption of Internet technologies, an educated online user foundation and a positive business attitude produced with willingness of venture capitalists.

## **4. E-business in Australia**

Andersen Consulting, of the 19 million of the Australian population, 7.4 million are online. This has increased by 1.9 million in the twelve months from 1999 to 2000. The Australian e-market is estimated to be worth US\$2.9 billion at the end of 2000 and is expected to be in excess of US\$37 billion by 2004. In their review of electronic commerce, indicate that as early as April 1999, 80% of the Australian business leaders were of the understanding that electronic commerce would revolutionise the way business would be conducted in the following five years (Andersen Consulting, 1999)

### **4.1 The Business Sectors**

Australian business has now accepted the Internet is not a fad but moreover a business tools that has become an integral component of business strategy. This can be seen in the ever-expanding business-to-business (B2B) and business-to-consumer (B2C) markets, The Internet has now offers businesses the opportunity to expand their products and services into a truly global market.

At the national level down to small business, e-commerce is creating new cultures in business practices. The E-commerce revenue generates new trading opportunities, provides opportunities to substantially reduce costs and overheads, and introduces new supply and distribution methodologies (Muecke, 2000). E-commerce now provides the avenues for business to generate sustainable economic growth and employment, via the new business opportunities available in the new markets.

### **4.2 Business Attitudes**

There still does exist some resistance and scepticism to the e-commerce revolution in business. There are many fears and reasons, which managers have expressed for the continuation of their "true and tried" business methods.

Concerns expressed (Jones. T, 1998) also include:

- Loss of individual contact with customers
- Not being able to afford technology costs

- Too complex for the business(es)
- Resistance to retraining
- Lack of desire to modify/change current business practices
- Fear of loss of profit

### ***4.3 Australian Culture in General***

The general culture of business and business practices is now changing to stay in line with the advancing technology of e-commerce. This affects in turn now the general economic culture of the customer. Businesses are now presenting options, some forced, to alter the general way of life. The introduction of e-banking, online payments, shopping and ordering across the Internet, now offers the end user the avenues of shopping not from the local supermarket, but literally from anywhere around the globe.

As the Internet is not a local market, but rather a truly global market, cultural issues are not limited to their initially targeted market, and as such all issues must be so addressed accordingly. Issues, including cultural, have the potential to impact on the decision process on how a person, or group, decides “what is, what can be, how to feel, what to do and how to go about doing it” (Goodenough, 1971). Even though the Australian sector is generally cautious about the investment of time, money and the needed financial resources needed (Jones, T, 1998), and the end user is somewhat not totally confident with the Internet and e-commerce, there is a swelling in the electronic revolution, which is influencing the many different cultures of both the individual and businesses in Australia.

## **5. Conclusion**

This study has highlighted that the Internet phenomenon is globally on the increase, with an exponential growth coming from Non English Speaking countries. It is expected that developing countries will contribute heavily as e-commerce and e-business companies continue to expand and attract via markets beyond their home countries. Companies from developing countries are looking towards the electronic commerce solutions to provide a medium to do business faster and better.

E-commerce applications are already revolutionizing the business environment. Corporations are exploring ways to use the Internet as a new and sophisticated medium to make and generate profit in a continually more rapid fashion, than was previously realised. Businesses are concentrating in introducing and expanding activities such as sales, marketing, research and communication and at the same time re-design their business processes to reap the greatest benefits, while attracting both new customer bases and maintaining their existing clientele. Business organisations are now identifying E-commerce as a strategic part of their business practices. It is fully recognised that improved customer service, productivity and product quality will benefit from such endeavours. Though currently, the E-mail, World Wide Web (WWW) Access and Websites dominate the current technologies used, the investigation foresees EDI, Extranet, Smart cards and Debit/Credit card will be implemented in the very near future.

There is still a large, unutilised potential for Business-to-Business (B2B) implementation of e-commerce with those organizations that do not trade with their business partners

electronically. The major factors impacting and concerning those organisations in developing countries, include:

- Government and legal support for electronic transaction,
- Development of technical infrastructure with the trading partners, and
- Improving security issues.

Once these issues are addressed, industry will be more confident with the Internet and transacting across the Internet will become popular and more commonplace in the developing countries, especially more so in the business-to-business sector. It is also expected that the trading with the consumer sector will increase in popularity, as the female population accessing the Internet is continually on the increase with access availability. Internet Banking has now become a reality in many developed countries, with the developing countries rapidly following suit.

There are great opportunities for companies in the developing nations to grab a share in the global market through the Internet. Areas such as banking and finance, education, news, publishing, travel services and the retail and wholesale trade sectors, need to continue to introduce E-commerce solutions for domestic and international audiences at the business-to-consumer and business-to-business levels.

More shopping sites, portals (generic and specialised), service sites and acceptable payment systems are required to strengthen and continue the growth of E-commerce in developing countries. The results of this investigation indicate that the current growth in E-commerce will continue to pave way for stronger economic growth and job creation in developing nations.

## References

Andersen Consulting., *A Review of E-Commerce in Australia*, 1999.

Anonymous., "Computer and Related Services", World Trade Organisation, Geneva, 1998.

Anonymous., "Unitel to seek Nasdaq listing as Korean ISP's from queue", *Euroweek*; London, Aug, 1999.

Anonymous., "Investment from overseas targets Korean venture companies", *Business Korea; Seoul*, March, 2000.

Biederman, D., "E-commerce comes to Asia", *Traffic World*, 261(9): 23, 2000.

Bickers, C., *Far Eastern Economic Review*, Hong Kong; Jul 1; Vol. 162, Iss. 26; pp.4, 1999.

Fertuck, L., *System Analysis & Designing with Modern Methods*, Wm. C. Brown Communications, IA, USA, 1995.

Goodenough, W. H., *Culture, Language and Society*, Modular Publications, Addison-Wesley, Reading, MA, 1971.



Heeks. B. R., "Portals become key territory in online battle", *Communication of The ACM* (42: 6), 1999.

<http://asia.internet.com/cyberatlas/oo1122india.html>

<http://asia.internet.com/cyberatlas/000928india.html>

[http://www.firstmonday.dk/issues/issues5\\_11/aoki/index.html](http://www.firstmonday.dk/issues/issues5_11/aoki/index.html)

<http://www.giic.org/events>

<http://www.indialine.com/net.editorial9.html>

Iacovou, C. L., "Electronic Data Interchange and Small Organisations: Adoption and impact of Technology", *MIS Quarterly*, Decmber, 1995.

IDC: <http://www.nua.com/surveys>, 2000.

Introna, L. D., "Commentary on the intellectual structures of information systems design", *Accounting, Management and Information Technology*, 6(1/2), pp.87-97, 1996.

Jones, T., "Taking the Plunge- Small Business Attitudes to Electronic Commerce", *DOCITA Report*, 1/98, 1998.

KPMG: [http://www.in.kpmg.com/ecommerce\\_report.html](http://www.in.kpmg.com/ecommerce_report.html)

Lee. S., " Net Giant target Korea ", *Business Korea*: Seoul, July, 1999.

Lindemann, M. A. and A. Rugh., "Electronic contracting within the reference model for electronic markets", in 6<sup>th</sup> European Conference on Information Systems (EICIS-98), Aix-en-Provence, France: Euro-Arab Management School, 1998.

McKinsey, K., *Far Eastern Economic Review*; Hong Kong; Feb 15, pp.40, 2001.

Muecke, T., "Electronic Commerce and Australian Small Business: Next Steps?", Speech to National Small Business Forum, [http://www.setel.com.au/sbc/speeches/sp2000\\_01.htm](http://www.setel.com.au/sbc/speeches/sp2000_01.htm) , 2000.

Orlikowski, W. and Baroudi, J. J., "Studing Information Technology in organizations: Researchs and assumptions", *Information Systems Research*, 2(1), pp.1-24, 1991.

Petrazzini. B. and Kibati. M., "The Internet in Developing Countries", *Communication of the ACM* ( 42: 6), 1999.

Senn, A. J., "Capitalizing on Electronic Commerce: The Role of the Internet in Electronic Markets", *Information Systems Management*, 13(3), Summer, pp. 15-24, 1996.

Summer, M. and Klepper. R., "Business Strategy and the use of web sites", Proceedings of First International Conference on Telecommunications and Electronic Commerce (ICTEC), November, 1998.

The Ministry of Commerce of Republic of Korea., The annual report, 2001.

Walsam, G., "Interpreting Information Technology in organizations", John Wily and Sons, West Sussex, 1993.