

EXPLORING THE REALITIES AND MYTHS OF eCOMMERCE : AN EMPIRICAL STUDY OF STATE OF HARYANA (INDIA)

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With exponential growth in the Information and Communication Technologies, the Internet has revolutionised the capacity to share information across organizations resulting in radical transformations of organizational practices for procuring supplies, delivering quality goods and better services, and carrying out financial transactions. We are living through a massive change in how business connects with businesses, and consumers now have a world wide market place to choose from.

The use of the Internet for business transactions has grown dramatically over the past few years. Approximately three out of five companies are using eCommerce to some extent and an additional one-fifth say they intend to participate in the future. With nearly 60 million internet subscribers the market place has become viable for internet transactions in India. The use of eCommerce by businesses in Indian states is related to the potential benefits of participating in international value chains, increasing market access and reach, improving internal and market efficiency, and lowering transaction costs. Belief in such benefits has led to the adoption of eCommerce by some businesses in Indian states. However, the questions of what and how much benefit businesses in Indian states are actually reaping from their eCommerce investments are not well covered. Based on primary data collected through survey of 245 businessmen's, professionals and students of state of Haryana (India), this paper explores the realities and myths related to eCommerce status, perceived benefits, and barriers in adoption of eCommerce in state of Haryana (India).

I- Introduction

The role of Information and Communication Technologies (ICT) in business is widely recognized. ICT have a wide geographical coverage and are more efficient in terms of time and cost. These

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facilitate access to global markets, commercial information and knowledge exchange. The advent of Internet has transformed the traditional commercial model and system. No other industry in the world history has achieved a rapid growth in a short time as eCommerce (Khalibi, Thyagarajan, Seetharaman, 2003).

Though only a few years old, eCommerce has taken off at an unprecedented speed despite much skepticism and some initial hesitation. Today is universally accepted that the world is in the grip of an eCommerce revolution (Aldrich, 1999; Evans and Wurster, 1999; Hagel and Armstrong, 1997; and Schwartz, 1999) e.g. Americans bought goods and services worth \$81 billion from online retailers in 2005, a figure expected to jump to \$95 billion in 2006 and to \$144 billion in 2010 (Jupiter Research's, 2006). The U.S. Census Bureau of the Département of Commerce estimated \$26.3 billion in retail e-commerce sales were made during the 2nd quarter of 2006. This value was "adjusted for seasonal variation and holiday trading-day differences, but not for price changes. ... Total [unadjusted] retail sales ... were estimated at \$984.9 billion. ... The second quarter 2006 e-commerce estimate increased 23.0% (\pm 5.4%) from the second quarter of 2005 while total retail sales increased 6.6 % (\pm 0.5%) in the same period" (Scheleur, King, & Shimberg, 2006).

Millions of items are available for sale through auction and fixed-price trading at eBay every day. eBay has 283 million confirmed register users, 78 million of which are active. But, this hyper growth of internet sales is still a European phenomenon and eCommerce has not taken off in other parts of the globe (IMC, 2007).

According to the report of Miniwatts Marketing Group (Table No. 1.0), USA continues to lead with nearly 210 million Internet users and China is on second position with 162 million Internet users, Japan is on third position with nearly 86 million Internet users followed by India is on fourth position in the globe with 60 million Internet users. The total internet penetration of population is 5.2% in India as compare to 21.9% of the world.

Table 1.0
Top 20 Countries with The Highest Number of
Internet Users (up to June 2008)

#	Country or Region	Internet Users, Latest Data	Penetration (% Population)	% of World Users	Population (2008 Est.)	User Growth (2000 - 2008)
1	China	253,000,000	19.0 %	17.3 %	1,330,044,605	1,024.4 %
2	United States	220,141,969	72.5 %	15.0 %	303,824,646	130.9 %
3	Japan	94,000,000	73.8 %	6.4 %	127,288,419	99.7 %
4	India	60,000,000	5.2 %	4.1 %	1,147,995,898	1,100.0 %
5	Germany	52,533,914	63.8 %	3.6 %	82,369,548	118.9 %
6	Brazil	50,000,000	26.1 %	3.4 %	191,908,598	900.0 %
7	United Kingdom	41,817,847	68.6 %	2.9 %	60,943,912	171.5 %
8	France	36,153,327	58.1 %	2.5 %	62,177,676	325.3 %
9	Korea, South	34,820,000	70.7 %	2.4 %	49,232,844	82.9 %
10	Italy	34,708,144	59.7 %	2.4 %	58,145,321	162.9 %
11	Russia	32,700,000	23.2 %	2.2 %	140,702,094	954.8 %
12	Canada	28,000,000	84.3 %	1.9 %	33,212,696	120.5 %
13	Turkey	26,500,000	36.9 %	1.8 %	71,892,807	1,225.0 %
14	Spain	25,623,329	63.3 %	1.8 %	40,491,051	375.6 %
15	Indonesia	25,000,000	10.5 %	1.7 %	237,512,355	1,150.0 %
16.	Mexico	23,700,000	21.6 %	1.6 %	109,955,400	773.8 %
17	Iran	23,000,000	34.9 %	1.6 %	65,875,223	9,100.0 %
18	Vietnam	20,159,615	23.4 %	1.4 %	86,116,559	9,979.8 %
19	Pakistan	17,500,000	10.4 %	1.2 %	167,762,040	12,969.5 %
20	Australia	16,355,388	79.4 %	1.1 %	20,600,856	147.8 %
TOP 20 Countries		1,115,713,572	25.4 %	76.2 %	4,388,052,548	284.5 %
Rest of the World		347,918,789	15.2 %	23.8 %	2,288,067,740	391.2 %
Total World - Users		1,463,632,361	21.9 %	100.0 %	6,676,120,288	305.5 %

Source : <http://www.internetworldstats.com/top20.htm>, Sept., 2008

USA based research and consulting firm eTForecasts predicts that the two billion Internet users milestone is expected to be cross in India by 2011 (Hindustan Times, 10 January 2006). According to

market researches, Indians go online for a number of activities including eMail (98%), job search (51%), banking (32%), bill payment (18%), stock trading (15%), and matrimonial search (15%). They also regularly reach out to research online content for work (62%) and personal (70%) use; the fast growing eCommerce scenario also contributed significantly (ISPAI, 25 July 2006).

According to the telecom regulator, there were around 180 operational ISPs in the country, after a period of market rationalization. Despite the large number of providers, 10% of the ISPs have 90% of the subscribers. The state-owned – BSNL and MTNL – have grown rapidly to hold first and second place in terms of subscribers. The growing popularity of cyber cafes has been playing a big role in fuelling Internet development in India. There is tremendous enthusiasm amongst the dial-up users and an estimated 60% of users regularly access the Internet via the country's more than 27,000 cyber cafes (ISPAI, 16 February, 2006). At the end of April 2008, in India there were about 4.01 million broadband subscribers. Broadband usage in India is growing at the rate of approximately 20% per month (www.merinws.com, 2008).

According to the Internet & Mobile Association of India (IAMAI) the low cost of broadband has helped increase Internet usage. Emergence of eCommerce and high demand for .in domain registrations are also factors for the increase in online users. The ".in" domain registrations surpassed 150,000 (IAMAI, 17 February 2006). IAMAI also explored that in addition to the 18-35 group, who are pre-dominant consumers of the Internet, the 45-65 age group is also jumping onto the internet band-wagon (Techtree News Staff, 8 December 2005).

The Internet has been a key driver of the Indian economy, helping to establish Bangalore, Hyderabad, Mohali, Gurgaon, Pune etc. as leading technology centres. Outsourcing is bringing billions of dollars of foreign investment into the country every year. Now, consumer purchasing online in India is beginning to pick up as well. Annual online consumer purchasing reached approximately US\$550

million in 2006-2007, according to the Internet & Online Association of India (IOAI). The total value of eCommerce activities within India has exceeded Rs. 570 crore during 2004-05, according to a research conducted by IOAI. The report estimates a 300% plus growth rate during the next couple of years (CRM Today, 07 July 2005).

Increased penetration of credit cards, improved security for Internet transactions and simplified process to conduct eCommerce transaction has helped in the growth of B2C transactions, according to IDC. As per industry estimates, the festive season of Diwali alone saw around 3,45,000 eCommerce transactions in India last year, at an aggregate value of Rs 53 crore, says the Internet & Online Association (IOA). During the festive season, eCommerce revenues increased almost 250% with nearly 2,30,000 Indians making purchases online across more than 3,45,000 transactions; the average transaction value was Rs 1,535 and average value per e-commerce shopper was Rs 2,300, said IOA. Prashanth Prakash, CEO of Erasmic Consulting (consultant for new start-ups and e-commerce companies), says that e-commerce is growing annually at about 20% in the US, 25% globally, and 55% in India (Financial Express, 25 April 2005).

From 8.1 lakh who transacted the net during Diwali, it is likely to be around 12 lakh this year. The online business conducted during Diwali last year was around Rs 115 crore which is expected to cross the Rs 250 crore mark this year (Ray, 2006). In normal months, 85 per cent of orders are self-purchases but during festivals like Diwali and Rakhi, the gifting orders increase to over 50 per cent. In Rakhi 2006, we shipped a record 12000 Rakhis on a single day all over the world compared to 5000 in 2005, says Vaitheeswaran, whose company is offering free shipping and money back guarantee (www.zeenews.com, 19 October 2006). In India, 4115 Business-2-Business (B2B) websites and 2065 Shopping and Services (B2C) websites are working. The details of commercial websites of state of Haryana (India) are explained in Table No. 2.

Table No. 2
Details of District Wise Commercial Websites of
State of Haryana (India)

Sr. No.	Name of District	Nature & No of eCommerce Website
1.	Ambala	Business & Shopping – 33 Real Estate – 02 Health – 03
2.	Panchkula	Business & Shopping – 06 Health – 03 Real Estate – 02
3.	Faridabad	Business & Shopping – 92 Community – 02 Education - 04 Health – 01 Employment – 01 Travel & Tour – 02
4.	Hissar	Business & Shopping – 01
5.	Rohtak	Community–01
6.	Jhajjar	N.A.
7.	Sonepat	Business & Shopping – 06 Community–01
8.	Panipat	Business & Shopping – 04
9.	Karnal	Community – 02 Tour & Travel – 02
10.	Kurukshetra	Education – 01
11.	Yamuna Nagar	Business & Shopping – 01 Tour & Travel – 01
12.	Gurgaon	Business & Shopping – 77 Community – 09 Education – 04 News & Media – 02 Real Estate – 03 Tour & Travel – 09 Entertainment & Arts – 02
13.	Sirsa	Business & Shopping – 02
14.	Charki Dadri	N.A.
15.	Kaithal	N.A.
16.	Rewari	N.A.
17.	Narnaul – Mahendargarh	N.A.
18.	Bhiwani	N.A.
19.	Fatehabad	N.A.
20.	Jind	Tour & Travel – 02

Source : http://in.dir.yahoo.com/regional/countries/india/states_and_union_territories/haryana/districts, (September, 2008)

Since eCommerce is still emerging in state of Haryana, research on this subject has been limited. The Study however, focuses on the micro issues of the industry such as the current status of Internet and eCommerce usage, perceived benefits, barriers of the industry and its readiness in adopting the technology.

II- Methodology

The purpose of this paper is to make an exploratory assessment of the realities and myths related to eCommerce status, perceived benefits, and particularly barriers in adoption of eCommerce in state of Haryana (India). The study will explore these topics of interest :

- To analysed the effect of demographic variables viz. age, gender and occupation on issues like eCommerce awareness, online purchase experience, type of products purchased etc.
- To study about the customer's perception towards eCommerce transactions in terms of their readiness towards online shopping.
- To evaluate the people's perception towards the benefits and limitations of eCommerce.

Hypothesis :

- $H_0(1)$: There is no significant relationship between the demographic variables like age, gender, profession of respondents and eCommerce awareness of respondents.
- $H_0(2)$: There is no significant relationship between the demographic variables like age, gender, profession of respondent and previous experience of respondents.
- $H_0(3)$: There is no significant relationship between the demographic variables like age, gender, profession of respondents and readiness of respondents for buying on Internet.

Survey Instruments :

A well-structured closed ended questionnaire was designed to obtain demographic information regarding respondent's age, sex, occupation, familiarity with internet, awareness of eCommerce, previous experience of shopping on internet and their readiness to

purchase again on Internet. The data collected through questionnaires was coded and analysed using statistical tests like Comparative Mean, Mean Plots, Standard Deviation, ANOVA, Post Hoc and Descriptive analysis etc. were used. The data was analysed using SPSS version 12.0 for windows throughout the study.

Sampling Method and Sample Size :

Judgmental sampling method was followed. 327 respondents filled up the schedule. 82 schedules were rejected due to inadequate information provided by them. Data was analyzed on the basis of responses provided by 245 respondents.

Table 3
Survey Response Rate

	Total Sample Size	Response Received	Usable Response Received	Response Rate (%)
eCommerce Survey	500	327	245	65.4

Population Definition :

This study utilised primary data collected through a personal and postal survey. Survey was conducted between November and December of 2007 in various districts of state of Haryana (India). The population of this study comprised manufacturers, traders, bankers, doctors, lawyers, government officials and students of various streams like MBA, BBA, BAMS, MBBS, BDS, B-Pharmacy, MCA, BCA etc.

III- Frequency Distribution

Table No. 4.1:
Age Group

	Frequency	Percent
Below 25	70	28.6
26-30	72	29.4
31-35	41	16.7
More than 36	62	25.3
Total	245	100.0

Table No. 4.2 :
Occupation-

	Frequency	Percent
Business	63	25.7
Professional	137	55.9
Student	45	18.4
Total	245	100.0

Table No. 4.3 :**Gender**

	Frequency	Percent
Male	186	75.9
Female	59	24.1
Total	245	100.0

Table No. 4.4 :**Familiar with Internet**

	Frequency	Percent
No	26	10.6
Yes	219	89.4
Total	245	100.0

Table No. 4.5**Frequency of Internet use**

	Frequency	Percent
No	26	10.6
Daily	73	29.8
Weekly	84	34.3
Monthly	62	25.3
Total	245	100.0

Table No. 4.6**Purpose of internet use**

	Frequency	Percent
No	26	10.6
Business	25	10.2
Information	121	49.4
Entertainment	73	29.8
Total	245	100.0

Distribution of respondents indicates that age wise they are almost equally distributed into below 25, 26-30 and more than 36 age groups (Table No. 4.1). Almost 56% respondents are Professionals, 26% businessmen and 18% students (Table No. 4.2). Majority of respondents i.e. 76% were males (Table No. 4.3). 89.4% were familiar with Internet (Table No. 4.4). Out of 219 respondents who're familiar almost 30% use internet daily, 34.3% use weekly and 25.3% use it monthly (Table No. 4.5). Further 49.4% respondents use it for information purpose, almost 30% use for entertainment and 10.2% use for business (Table No. 4.6).

IV- Finding and Discussion:

For verifying the hypotheses, one way Analysis of Variance (ANOVA) is used. Respondent's answers on three issues; Awareness about eCommerce, Previous experience on Internet and Their repurchase intention were taken as dependent variable and demographic variables age, gender and profession were taken as independent.

A) Awareness About eCommerce

Distribution of the respondents indicated that majority of respondents 133 (54.3 per cent) were cognisant and 112 (45.7 percent) were not cognisant regarding eCommerce issues.

I. Effect of Age

A significant relation among the age and eCommerce awareness of respondents was observed, by one way ANOVA ($F_{3,241} = 2.740, p < .044$). Null hypothesis that there is no significant relationship between the age of respondent and eCommerce awareness of the respondents has been rejected. Post hoc analysis and Descriptive analysis clearly revealed that respondents of age < 25 were having high mean score (.67) than other age groups, hence more aware than others. The post hoc analysis also revealed that there was a significant difference between the < 25 and > 36 age groups contributing to the overall significant difference between the groups.

II. Effect of Gender

A significant relation among the gender and eCommerce awareness of respondents was observed, by one way ANOVA ($F_{1,243} = 5.624, p < .019$). Null hypothesis that there is no significant relationship between the gender of respondent and eCommerce awareness of the respondents has been rejected. Post hoc analysis cannot be applied in this case. Descriptive analysis clearly revealed that female respondents were having high mean score (.68) than male respondents (.50), hence were more aware than males.

III. Effect of Profession

A significant relation among the profession and eCommerce awareness of respondents was observed, by one way ANOVA ($F_{2,242} = 9.166, p < .001$). Null hypothesis that there is no significant relationship between the profession of respondent and eCommerce awareness of the respondents has been rejected. Post hoc analysis and Descriptive analysis clearly revealed that students were having high mean score (.76) than serviceman (.56) and businessman (.35). The post hoc analysis also revealed that the significant differences between all the groups were contributing to the overall significant difference between the groups.

B) Previous Experience of Online Shopping

The researcher pondered over the second issue of previous experience of online shopping. Majority of the respondents 202 (82.4%) did not have any experience of online shopping. Out of remaining 43 (17.6%) respondents; 24 (55.81%) had earlier purchased gift items while 19 (44.18%) had purchased electronic goods. The study also disclosed that yahoo.com 95 (49.22%) was the

most preferred website for earlier/future purchase, followed by rediff.com 55 (28.49%) and indiatimes.com 34 (17.61%).

I. Effect of Age

A significant relation among the age and previous experiences of online shopping by the respondents was observed, by one way ANOVA ($F_{3,241} = 3.422, p < .018$). Null hypothesis that there is no significant relationship between the age and previous experiences of online shopping of the respondents has been rejected. Post hoc analysis and Descriptive analysis clearly revealed that respondents of age < 25 were having high mean score (.29) than other age groups, hence more aware than others. The post hoc analysis also revealed that there was a significant difference between the < 25 and > 36 age groups contributing to the overall significant difference between the groups.

II. Effect of Gender

No significant relation among the gender and previous experiences of online shopping by the respondents was observed, by one way ANOVA ($F_{1,243} = 0.019, p > .890$). Hence, null hypothesis that there is no significant relationship between the gender and previous experiences of online shopping of the respondents has been accepted.

III. Effect of Profession

A significant relation among the profession and previous experiences of online shopping by the respondents was observed, by one way ANOVA ($F_{2,242} = 3.455, p < .033$). Null hypothesis that there is no significant relationship between the profession and previous experiences of online shopping of the respondents has been rejected. Post hoc analysis and Descriptive analysis clearly revealed that students were having high mean score (.27) than serviceman (.19) and businessman (.08). Hence it can be concluded that students were found to be more prone to online shopping experience. The post hoc analysis also revealed that the significant differences between students and business groups were contributing to the overall significant difference between the groups.

C) Would You Like To Purchase Online

Majority of the respondents 139 (56.7%) inclines the online purchase intention, while 106 (43.3%) were ready to experience the flavor of

online purchase. Out of 202 respondents having no previous experience of online shopping, 70 (34.65%) were ready to purchase online, while remaining 132 (65.34%) were still do not have any intention for online purchase. On the other side, 7 (16.28%) of those respondents, who had earlier online purchase experience turn down to purchase online.

I. Effect of Age

No significant relation among the age and online purchase intention of the respondents was observed, by one way ANOVA ($F_{3,241} = 2.020, p < .112$). Hence, null hypothesis that there is no significant relationship between the age and online purchase intention of the respondents has been accepted.

II. Effect of Gender

No significant relation among the gender and online purchase intention of the respondents was observed, by one way ANOVA ($F_{1,243} = 1.819, p > .179$). Hence, null hypothesis that there is no significant relationship between the gender and online purchase intention of the respondents has been accepted.

III. Effect of Profession

A significant relation among the profession and online purchase intention of the respondents was observed, by one way ANOVA ($F_{2,242} = 7.190, p < .001$). Hence, null hypothesis that there is no significant relationship between the profession and online purchase intention of the respondents has been rejected. Post hoc analysis and Descriptive analysis clearly revealed that students were having high mean score (.60) than serviceman (.40) and businessman (.25), indicating students willingness for online shopping than others. The post hoc analysis also revealed that the significant differences between all the groups were contributing to the overall significant difference between the groups.

D) Respondents Perception towards Benefits and Limitations of eCommerce

The study disclosed that majority of respondents 110 (44.9%) were found of the opinion that eCommerce saves time, 70 (28.6%) appreciated its 24 hr. service, 41 (16.7%) believed it to be inexpensive and only 24 (9.8%) viewed it as solution for superior customer satisfaction.

Safety/Security is still the major concern for majority of respondents as 135 (55.1%) attributed lack of trust on eCommerce sites as its biggest limitation. While other 50 (20.4%) stated lower internet access as a hurdle in Indian scenario. Surprisingly 42 (17.3%) attributed cultural constraints as limitation of eCommerce.

V- Conclusion

Various studies have indicated that eCommerce development offers a promising way for business to meet the challenges of the ever-changing environment. It provides effective and efficient ways, such as buyers can gather information rapidly about the availability of the products or services, evaluate, or negotiate with vendors. The present study attempted to determine the awareness level and previous experience of users for eCommerce transactions as well as customer's perception towards eCommerce transactions in terms of their readiness towards online shopping. Further it was aimed to determine the effect of demographic variables viz. age, gender and Professional on awareness, previous experience as well as on their readiness for buying online in future.

Results of hypothesis testing indicated that age was a primary determinant that was found to be affecting awareness and previous experience of respondents. Young respondents of age <25 were found to be more aware and possessed previous experiences of online shopping. No effect of age was found on the readiness of respondents for online shopping in future.

Gender was a differentiating factor for awareness and Females were found to be more aware about eCommerce. No significant relation was observed between gender and previous experience of respondents. Finally no significant relationship between the gender of respondent and readiness of users for buying on Internet was observed.

Profession affected all issues of eCommerce. Students were found to be more aware, had previous experience and further showed their readiness for online shopping. Professionals were the next in the line and businessmen were found to be least exposed to eCommerce. Neither they had any previous experience nor did they show interest for future online shopping. Lack of infrastructure, poor computer

penetration, and inadequate literacy rate is among the few biggest hurdles on the way.

The study suggests that adequate infrastructure supported by transparent legal environment along with proper awareness and training programs, supported by private organization and government can be used as foundation to build more sophisticated and reliable environment for eCommerce adoption and usage.

This study was performed in Haryana, a state of north India. It is recommended that the future research can be extended to all other state of India in order to obtain more representative results. The adoption attentions and benefits realised from eCommerce might be expected to vary according to the industrial sector in which a firm operates, therefore future studies should be undertaken in order to understand the impact of eCommerce adoption and use on industry sectors. Although estimates vary, it is clear that eCommerce technologies provide new ways of remaining competitive in the global market. Every day new companies are launching services via Internet, aiming for new customers and new markets. We can be certain that eCommerce is the way ahead, but in India eCommerce still has to travel a long journey.

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