

An empirical analysis of attitudes toward online auctions: a comparison of Europe, India, and the United States

Charles Hermans
Missouri State University

Ronald L. Coulter
Missouri State University

Chris K. Ellis
Missouri State University

ABSTRACT

Attitudes toward online auctions are evaluated across three geographic entities: including the European Union, India, and the United States of America. A unidimensional 5-item scale was developed and tested across an on-line sample of 445 Internet users. Factor analysis results supported the unidimensionality of the scale for all three geographic subsamples. Cultural differences toward the scale items resulted in significant differences across the groups. Other similarities and differences were examined across the three subsamples based upon reported frequency of online purchases, use of online auctions, hours spent on the Internet each week and average monthly amount spent on online purchases. The similarities and differences were examined and discussed in the form of basic findings, managerial implications and directions for future research.

Keywords: Online Auctions, Internet Shopping, India, Europe, United States, Auction Attitude Scale

INTRODUCTION

The growth of Internet usage across socio-economic groups, education levels, age categories, and geographical locations is well documented. Most of the growth has logically occurred in those industrialized nations who have the communication infrastructure in place to utilize such technology. Communications infrastructure and developing economies provide the access needed for people to use and exploit the Internet. Internationally, Internet access and use continues to rapidly expand (Internet World Stats 2015a).

The development of expanded business models has followed the increased access and use of the Internet (Stafford and Stern 2002). Many small local businesses, often limited to geographical brick and mortar operations have used the Internet to become international in their ability to reach customers across the world. Such hybrid business models have provided many organizations with significant customer relationship synergies (Gorsch 2001, Steinfeld et al 2002). Related developments include the creation of Internet auction sites, which have increased the likelihood of exchanges between buyers and sellers for all types of goods and services (Stafford and Stern 2006).

While different countries in the world have varying levels of technological infrastructure to accommodate Internet usage and growth, the cultural differences of their populations should also provide a measure of understanding into the unique use and acceptance levels of the Internet, and specifically the use of Internet auction sites. Research on the use of online auctions is relatively new (Gilkeson and Reynolds 2003, Shohat and Musch 2003). The purpose of the present study is to examine whether demographic and culturally related issues may be impacting the use of online auction sites across different countries.

The Online Marketplace

It was estimated on December 31, 2014 that nearly 3.1 trillion individuals or 42.4 percent of the world's population, used the Internet. This represented a 753.0 percent increase since 2000 (Internet World Stats 2015). As Internet penetration rates have continued to increase worldwide, increases in the use of the Internet for online shopping have not always followed at the same pace. It has been reported in a Boston Consulting Group study that while convenience was the overwhelming motivation for Internet users to shop online, an unsatisfying first-purchase experience leads to shoppers spending less time and money online when compared to those shoppers who had a satisfying first experience (Silverstein, et al 2001). For those Internet users who do not shop online, the major concern was the issue of providing their credit card information (Norris et. al 2004; Vargas, 2005).

For a positive, successful shopping experience to occur, online retailers must offer what has been referred to as a seamless transaction. To ensure such a transaction, the online retailer must offer a website that is convenient and easy to navigate, provides a good selection of quality merchandise, offers good customer service, and provides good transaction security (Park and Kim, 2003; Vargas, 2005). These issues become even more prominent when online shopping behavior intentions are examined. The "Global e-Commerce Report," compiled from a study conducted by Taylor Nelson Sofres Interactive in 2002, indicated that 28 percent of worldwide Internet users had already shopped online or planned to do so in the next six months. Once again, they reported the major issue discouraging other Internet users from becoming online

shoppers was related to security of credit cards and other personal information (*Direct Marketing*, 2002).

ONLINE AUCTIONS

Online auctions are one of the most profitable types of e-business (Gregg and Scott 2006, p 95). It was believed that in 1999, \$19 billion dollars' worth of items were exchanged in consumer-to-consumer online auctions every year (Dykema, 1999). It has also been estimated that nearly one-third of all Internet users in the United States have tried an Internet auction site, which translates into nearly 36 million individuals (NCL's 2001 Online Auction Survey, 2001a).

Online auctions operate just as all auctions have operated for centuries, except they are conducted online. As such, they open the global marketplace to both buyers and sellers. Items are offered online with an end date for the auction. Bidders may place their bids until the auction goes offline. At that time, the bidder with the highest offer is declared the winner of the auction. The auction site generally makes a profit from the seller's listing fee, and usually earns a percentage of the final selling price. The online auction site only provides the venue for the auction to take place. The buyer and seller, usually facilitated by contact information provided by the online auction site, orchestrate the actual exchange of product for payment (NCL 2001b, O'Connell 2004).

In a sense, auctions were made for the Internet (O'Connell 2004). A potentially unlimited number of bidders are available to sellers, who theoretically can get true-value pricing for their items. From an economic perspective, an online auction is a very efficient and effective way to create exchanges -- the essence of marketing (Bagozzi 1975). Sites such as eBay have become extremely popular as intermediaries, connecting buyers and sellers (Gregg and Scott, 2006), especially for potential consumers trying to locate difficult-to-find specialty items. For example, in July 2011 there was an average of over 120,000 active auctions per day on eBay for HO scale model railroading equipment.

Despite the vast expansion of online auctions, and encrypted payment systems such as PayPal, many consumers remain reluctant to purchase goods from online auction sites. Online auction fraud has developed into a prevalent and costly issue for both auction users and the online auction companies (Gregg and Scott 2006). Hackers and other unethical Internet users often target individuals who use online auctions. Most ploys either involve hacking directly into an individual's personal files to obtain information, or some scheme to persuade the individual to unwittingly provide account information. Because many online auction users also use payment systems attached to their credit cards by the online auction company, unethical individuals may try "phishing" to get the consumer to provide their online auction account number or credit card number. These attempts generally involve a cleverly designed fake web page of an auction site telling the online user that he or she needs to update their credit card information. In reality, the unethical user is attempting to steal the consumer's credit card information and make illegal purchases using the victim's account (NCL 2001c).

Online buyer and seller trust issues (e.g. risk) are valid, given that the buyer generally does not personally know the seller unless they have had previous exchanges (Pires et al 2004). This becomes very important to the success of Internet auction sites, given that consumers who

were satisfied with their first online purchase experience were likely to continue spending more time and money online (Silverstein, et al 2001). Therefore, it could be hypothesized that consumers who have had a successful Internet auction transaction would also be more likely to continue to use Internet auction sites. As such, the seller's reputation and trustworthiness become very important considerations (Dholakia and Soltysinski 2001). Buyers' and sellers' trust in using online auction systems is usually based on reputation systems developed by the various auction sites (Gregg and Scott 2006). After an auction has ended and the participants have exchanged funds and products, the participants are asked to rate each other. A history of satisfactory exchanges with good ratings from auction partners is used to provide new buyers and sellers with information about the buyers and sellers involved in new auctions they may be considering. Such a system has been found to form a strong foundation for trust in the online auction model (Brinkman and Seifert 2001). The more experience an online auction participant has, the more likely he/she is able to successfully utilize an auction company's reputation system to avoid fraudulent auction participants (Gregg and Scott 2006).

Gender Differences in Online Buying

Gender has been a variable of demographic interest to most online researchers. Early studies regarding gender differences focused on technology usage -- specifically, experience and attitudes toward computers. Early studies generally indicated that males were more comfortable with computers than were females, as evidenced by their playing of computer games (Krendl et. al. 1989; Qureshi and Hoppel 1995). It was argued that as males had generally garnered more experience than females, they were less likely to fear computers. Females were also cited as being less likely to take science and other classes where computers were more likely to be used (Mathiason 2001). Early Internet studies followed which indicated that more males than females were likely to be using the Internet, possibly due to male dominance and resistance to female participation (Herring and DiBenedetto 1995).

Dholakia and Kshetri (2002) stated that gender is one of the most important factors influencing Internet adoption and use. An abundance of statistical data exists regarding Internet access and use across countries, identifying gender differences. Specifically, in the United States, estimates indicate that the population of Internet users is now composed of approximately 50 percent males and 50 percent females (Nua 2001b). Estimates for Western Europe ranged from 75 percent male and 25 percent female (ILO 2008) to 58 percent male and 42 percent female (MMXI Europe 1999). Internet usage in India was estimated at 77 percent male and 23 percent female, which was consistent with the estimate of Internet usage on the Asian continent of 78 percent male and 22 percent female (Hafkins and Taggart 2001).

It would logically follow that as online shopping opportunities have increased, more females will become more active in online purchasing and using Internet auction sites. It has also been suggested from research, that even when controlling for differences in Internet usage, women have a higher perceived risk in purchasing online than do men. The risk to a female can be reduced by having a site recommended by a friend, which results in an increased willingness to purchase online (Gerbarino and Strahilevitz, 2004). In a 1999 study, Weiser (2000) found that females at Texas Tech were more likely to use the Internet for interpersonal communication

and educational assistance, while men were more likely to use the Internet for entertainment and leisure. Another study of respondents from Singapore indicated that males were more likely to browse on the Internet than were females, but the time spent on the Internet by each gender was not significantly different. Also, no significant gender differences were found with regard to frequency of purchases on the Internet (Thompson and Lim 2000).

Since the technology of the Internet is generally thought to be gender-neutral, it would seem logical that very few gender differences should exist in its use across cultures. But as previously discussed, when associated with Internet usage, gender roles do not always refer to one's biological sex, but rather to one's socially-ascribed roles that have been assumed due to culture. As such, gender roles can change and can be changed (Mathiason 2001). Since research has shown that attitude differences towards computers and Internet usage do vary by gender, it seems logical that gender differences may also influence Internet auction attitudes and usage across different cultures. A better understanding of gender and cultural differences should help other researchers and online auction operators to better comprehend issues of importance in promoting and growing global online auction sites.

India: Internet Purchasing, Online Auctions, and Statistics

As the Indian middle class has grown in size, so has the Indian consumer's love for shopping. It was estimated by the Internet and Mobile Association of India (IAMAI) that at the start of 2006 there were 38.5 million Indian Internet users (Euromonitor.com, 2007), but in 2015 India now has 220 million Internet users which is just a 17 percent penetration rate of its total 1.281 billion population. Most Indian users are employing mobile technology as there were only 8.8 million broadband subscribers in 2011. India has a target of 100 million broadband subscribers by 2014, compared to 8.8 million subscribers in 2009 (Euromonitor.com, 2015). It is projected that by 2020 India will have overtaken the US as the second largest Internet user market, increasing by 22.1 percent per year. A cyber café survey conducted by the same organization found that 47 percent of the respondents had shopped online more than once in the previous six month time period, 36 percent had shopped between two and four times, and 23 percent had completed more than one purchase. Age demographics indicated that 84 percent of those shoppers were 18 to 35 years of age, with high disposable incomes. Most were classified as single males (Euromonitor.com, 2007). This is an interesting finding, given that there are over 500 million individuals in India's population under the age of 24. The average age of India's population is significantly lower than that of the United States (Singhal 2004).

No statistical information was located regarding estimates of the number of Internet auction users in India. Equally frustrating, no cross-cultural studies regarding attitudes or differences between Indian online auction users and those from other cultures were found. It should be noted however, that India is now the second-largest user, behind China, of mobile phone technology (E-marketer 2008). Chinese mobile phone users often participate in online auctions using their mobile technology (E-marketer 2008), thus it follows that, given the size of India's mobile technology market, and its similar emergence as a developing country, its population may interact with online auctions in a similar manner.

Europe: Internet Purchasing, Online Auctions, and Statistics

As a continent, Europe had a 2015 population estimate of 827,566,464 individuals, or approximately 11.4 percent of the world's population (Internet World Stats.com 2015b). Countries in the European Union (EU) were estimated in 2011 to have a population of 502,748,071 individuals, of which, 338,420,555 were Internet users. This translated into a 67.3 percent penetration rate in the EU. In 2007, ninety-three percent of students in the EU reported having used the Internet, and somewhere between 80 to 90 percent of all EU businesses were estimated to have Internet access (Internet World Stats.com 2007). Approximately 62.7 percent of households in the UK have broadband enabled computers (Euromonitor.com 2015).

A study of online purchasing of wine in the EU suggested that managing the trust of potential customers was necessary to initiate a purchase (Quinton and Harridge-March 2006). This finding is consistent with early NOP Research Group findings indicating that younger UK Internet users were more wary than others about providing information over the Internet (Nua Internet Surveys 2001a). As previously reported, German online auction users were found to be less affected by information uncertainty than were Japanese users, but more affected than were American online auction users (Vishwanath 2003).

United States: Internet Purchasing, Online Auctions, and Statistics

As an industrialized nation that invented the Internet, digital technology has rapidly replaced analog systems in the United States. As prices have dropped due to increased competition, many dial-up services have been replaced with broadband systems allowing permanent Internet access in the home (Euromonitor.com, 2007). Accordingly, online shopping has increased in popularity. Penetration of Internet use in United States households increased from 17 percent in 1990 to 74 percent in 2005. Of the 2011 estimate of over 313 million people in the United States, it was expected that 245 million households (78.2%) had Internet usage. In 2006, it was estimated that 63.7 percent of online users in the United States had purchased goods and services online (Euromonitor.com, 2007). A 2007 report indicated that the United States represented 90 percent of the Internet usage of the entire population of North America, but today's percentage is 78.2 percent as other countries have also expanded their coverage. It was estimated that in 2007, of the 301,139,947 individuals in the United States, 215,088,545 residents (71.4%) had Internet access (Internet World Stats.com 2007). The United States represents 90.2 percent of the Internet users found in North America (Internet World Stats.com 2011b). In North America, 85.2 percent of households had a mobile phone and 74.5 percent had an Internet enabled computer (Euromonitor Global MR blog, 2011). Residents in the United States clearly represent a large and important online market.

An article in *Electronic Times* (2001) reported the results of a study conducted by the PEW Research Center. It stated that 19 percent of US male Internet users have participated in an online auction compared to only 11 percent of female Internet users. The most avid online auction participants were younger men. That number has surely increased to nearly half of all users as female increases in Internet use have surged.

Limited cross-cultural research has shown that differing amounts of information regarding online auction websites are associated with cultural differences in individual tolerance levels for uncertainty. Vishwanath (2003) found that while all online bidders are risk-averse, Americans tend to be less risk-averse when compared to German and Japanese users. American auctions attracted significantly more bidders than Japanese auctions. As a culture, Japan has a much higher uncertainty-avoidance level when compared to the other two countries. When presented with limited product information, the result is lower Japanese online auction participation, and lower final auction values. Because Indian culture is based on Asian, or Eastern philosophy (Bagozzi 1999), one might assume that their attitudes and Internet auction behaviors might be similar to the Chinese. Yet, the People's Republic of China has the largest number of Internet users when compared to other countries in the world. China overtook the US in 2008 (Internet World Stats 2011b). Much of Indian culture was also influenced by British colonization, i.e. Western, policies. Little is known about these cultures and their use of Internet auction sites. Hofstede (2001) reported that India's population score on the Uncertainty – Avoidance dimension was much different from the United States and most European countries.

METHODOLOGY

To examine the attitudes of Internet auction users across a variety of cultures, it follows that an Internet survey would be a logical approach. The methodological goals were accomplished through the design of an online survey to inquire about respondents' attitudes toward the Internet and their relationships to usage of online auction sites.

The survey instrument employed in this study was designed to determine the respondents' attitudes toward using the Internet for shopping. A multi-item unidimensional scale was employed to measure the user's attitudes toward the use of online auction websites. The measurement of such a difficult construct such as an online auction is challenging, especially for a cross-regional comparison. According to Bagozzi, Wong and Yi (1999), there is a widespread cultural bias in consumer research because of the common practice of applying American-developed scales in non-American cultures without considering their cultural appropriateness. Therefore, a major task of this study was to develop an attitude scale that would function cross-regionally with all Internet users in a reliable and valid manner (Collins and Bagozzi 1999). The attitude scale employed in the present study was modified from the Hui, Dube, and Chebat (1997) "Attitude toward the Bank" scale. The scale consists of three scale items: "I like the bank," "I will recommend the bank to my friends," and "I will stay a customer of the bank". This is a scale that has been shown to be valid and reliable in the understanding of individual's attitudes and intentions regarding a specified bank. The modified instrument consisted of five statements. A seven-point modified Likert-scale format was used to measure the responses.

Table 1 presents the results of a factor analysis procedure on five scale items related to respondents' attitudes toward Internet auction sites. The factor analysis resulted in a single dimension for each market (EU, India, and US). The factor analysis was performed for each country, and for the entire three-region combined sample. With the exception of the factor loading on Variable 5 for the Indian sample, all factor loadings exceeded .80 with eight of the loadings exceeding .90. A similar factor structure resulted in every case suggesting a similar

interpretation of items across all three groups. The Chronbach's Alpha statistic of .955 indicated the scale results were reliable.

Beyond demographic questions, respondents were asked about their perceived risk of purchasing online and using online auction sites. They were also asked to provide demographic data and information about their computer usage, online purchasing activity, trust levels, and any concerns about country of origin for products purchased online.

Sample design

Respondents were asked to complete an online survey. The data for the study was collected using a plan designed to draw a geographically stratified sample of Internet users. It was assumed that such an approach would provide a representative sample across the regions of interest. The three populations of interest were Internet users from the European Union, India, and the United States. A total of 445 usable surveys were completed for analysis.

The demographics of the sample are presented in Table 2. Overall, 240 respondents (54%) of the sample were male, while 203 respondents (46%) were female. The respondents were equally distributed by gender across the European Union sub-sample and the United States sub-sample. Respondents from India were more than two-thirds male and less than one-third female, which is consistent with previous findings of most Indian online shoppers being male (Euromonitor.com 2007).

Seventy percent of the respondents predominantly reported were in the "20 – 29" age category. The remaining respondents were fairly evenly distributed across the other categories. Across the three regions, 91 percent of the United States sample were in the "20 – 29" age category, while 70 percent of the Indian respondents were in that age group, and only 57 percent of the European Union respondents were in that age category. Only 2 percent of the US sample was found in the "40 or over" category when compared to the respondents from the other two countries.

Income was converted to Euros for the three sub-samples for comparison purposes. Overall, 227 respondents (51%) reported an income level of less than "10,000" Euros. Ninety-four respondents (21%) reported incomes from "10,000 to 24,999" Euros, 50 respondents (11%) reported incomes of "25,000 to 39,999" Euros, 42 respondents (9%) reported incomes of "40,000 to 59,999" Euros, and only 10 respondents (2%) reported incomes of "more than 60,000" Euros. Country-by-country comparisons indicated that a smaller percentage of European Union respondents were in the "less than 10,000" Euro category when compared to India and the US. Respondents from the European Union were also more likely to have incomes in the "40,000 to 59,999" Euros range than were respondents from India (2%) or the US (6%).

Education levels of the respondents were mostly reported in college-related categories. The largest number of respondents, 173 (39%), indicated that they had "some college". The next largest group of respondents, 122 (27%) reported "graduate school" education levels. One hundred respondents (22%) indicated they had "completed college". The lowest number of respondents was found in the "other" category, with 33 respondents (7%); and the "high school or lower" category, with 18 respondents (4%). Across countries, respondents from the US reported a larger percentage of having "some college", while Indian respondents reported higher

percentages in the categories of “completed college” and “graduate school”. As expected, an Internet sample would be mostly composed of either college students or college graduates.

Chi Square tests across the five demographic variables by three regions were all significant at the .05 level, indicating statistical association differences by country. While some of the cells did have fewer than 5 observations per cell, the findings were very significant. Given that the study relates to the usage of Internet auction sites, the sample demographics are appropriate.

FINDINGS

The findings of the study are presented in Tables 3 through 8. The responses of the survey’s subjects on the five statements regarding attitudes toward online auctions were analyzed using a univariate ANOVA procedure to examine differences across countries. The univariate F-scores were all found to be significant at the .05 level, as can be seen in Table 3. The largest differences were found on statements 1, 3, and 4. Because significant main effects were found, Tukey post-hoc comparisons were computed to ascertain where the significant differences were across the countries on each of the five statements. The results, presented in Table 4, indicate a variety of interaction effects. While respondents from India were found to have the lowest attitude scores on all five statements, Indian responses also were found to be significantly lower on all responses when compared to American respondents. When compared to EU respondents, Indian responses were significantly different only on statements 3 and 4, relating to “I find using auction sites to be useful / effective,” and “I have been very satisfied with my online purchases”. When EU and US attitude scores were compared, statement 1, “I like using auction sites”, statement 2, “I would recommend auction sites to my friends and family”, and statement 4, “I have been very satisfied with my online auction purchases” were found to be significantly different. In each case US respondents held significantly more positive attitudes toward online auctions than did EU respondents. A comparison using a 5-question average across the three countries also showed significant differences.

Respondents were also asked how many times in the last six months they had purchased items on the Internet for their own personal use. Table 5 provides an examination of the three regions, grouped by respondent gender. While no statistical differences were found based on gender differences for each region, Indian respondents had significantly fewer purchases on average when compared to respondents from the EU and US. Even though in the past women have been found to use the Internet less than men, the current results show that no significant gender differences exist for using the Internet to make purchases.

A question of primary focus asked how many times respondents had used an online auction site to buy or sell items. An examination of the findings grouped by gender across regions is presented in Table 6. Again, Indian respondents made fewer online auction site transactions than did EU or US respondents. Interaction effects were found between gender and region for EU and US respondents but not for Indian respondents. Gender differences by country were nominal for Indian respondents, but were statistically significant for both EU and US respondents as seen in Figure 1. For both EU and US respondents, males averaged significantly higher number of items purchased when compared to females from their respective regions.

Males and females from the US were involved in more online Internet transactions than respondents of the same gender from EU and India.

Respondents were also asked how many hours they spend on the Internet each week. The results grouped by gender across regions are presented in Table 7. The overall average for all respondents was 14.46 hours. Male respondents' average of 16.36 was statistically higher than female respondents' average of 12.19 ($p < .01$). Both males and female US respondents spent significantly less time on the Internet than did EU and Indian respondents. Again, male respondents from all three regions spent significantly more time online than did their female counterparts. Indian male and female respondents spent significantly more time online than both American male and female respondents and EU female respondents. See Figure 2.. Only Indian and EU males spent more time online than Indian females.

Table 8 examines the amount of money spent for online purchases by the respondents, segmented by gender and region. The grand average for the entire sample was 29.75 Euros. The average of 34.99 for all males was significantly higher than the 23.43 Euro average for all females. While both EU and US males spent significantly more than their respective female counterparts, the same was not true for Indian respondents. See Figure 3. EU and US female respondents were not significantly different in the amounts they spent online, but both spent significantly more than Indian female respondents. EU males spent significantly more than their Indian and US male counterparts. The low Indian respondent spending results are surprising, given the high number of hours spent online by Indian respondents. Perhaps the Internet for Indian respondents has now become a "wish book," similar to the old Sears catalogue for Americans decades ago. Indians may also be Internet browsers who look online for products but then buy offline (Paulson 1997). Concerns about security, delivery, or costs may also have influenced their relatively low expenditures for online purchases.

DISCUSSION AND IMPLICATIONS

This study examined respondents' attitudes toward online auctions by gender and across three different regions: the European Union, India, and the United States. Initial statistical analyses indicated that online respondents from the European Union, India, and the United States viewed the five basic attitude statements toward online auctions similarly. Factor analysis demonstrated that respondents representing the three regions, and as the total sample, were interpreting the five online auction site attitude scale items in a similar and consistent manner.

Statistical differences in the five attitude statements were found to exist across the three regions. In every case, Indian respondents usually held the lowest attitude positions, while respondents from the United States usually held the highest attitude positions. Respondents from the EU held attitude positions in between US and Indian respondents, but were generally more similar to the US respondents than to the Indian respondents. This finding is consistent with Vishwanath's (2003) conclusion that Americans are more risk-tolerant than German and Japanese online auction users. The current study has shown that U.S. online auction participants are also more positive toward online auctions than are respondents from the EU and India.

While Indian respondents' scores were the lowest on all five statements, Tukey tests indicated they were also significantly lower than EU respondents on two statements: (1) I find auction sites to be useful/ effective; and (2) I have been very satisfied with my online auction purchases. EU respondents were significantly lower than US respondents on three statements relating to their likely use of online auction sites, recommending auction sites to their friends and family, and being satisfied with their online auction purchases. Vishwanath's (2003) conclusion that Americans strongly embrace the use of online auction sites is again supported.

When asked how many times in the last six months they had purchased items online for their own personal use, Indian respondents had significantly fewer purchases when compared to EU or US respondents. Male US respondents had the highest usage of online auction sites, followed by EU males and US females. Males and females within each region showed no differences in their online purchasing frequencies. This finding was somewhat inconsistent with earlier studies that indicated that men were more likely to make use of online purchasing capabilities, but is more consistent with current findings that male dominance of the Internet is over (Williamson 2008).

Gender is typically viewed as the most useful demographic for understanding online usage (Weiser 2000, Dholakia and Kshetri, 2002). When respondents in the study were asked how many times they had used an online auction site to buy or sell items, significant gender differences were respectively found between EU and US respondents, but not for Indian respondents. Again, US male respondents used online auction sites slightly more often than male respondents from the EU. While there were no significant differences between male and female respondents, Indian respondents indicated a significantly lower number of online auction purchases than either male or female respondents from the EU and the US.

Surprisingly, when asked how many hours per week they spend on the Internet, Indian males averaged over 18 hours, closely followed by EU males at nearly 17 hours, and Indian females at over 16 hours. Both US males and females, and EU females were under the grand mean for all respondents of 14.5 hours. This is a key finding in that while both Indian men and women spend a large amount of time online, they purchase significantly fewer items from online auction sites when compared to respondents from the EU and US. Their large amounts of time online have not translated into Internet auction usage.

Finally, when asked how much money respondents spent each month making online purchases, EU men spent the most, followed by US men, and then equal amounts spent by both EU and US females. Both male and female Indian respondents spent significantly lower amounts than did their counterparts from the EU and US. Surprisingly, Indian females spent slightly more than Indian males. These new findings may be associated with India being an emerging economy, using primarily mobile phone service to access the Internet, or to other reasons associated with Internet security or product delivery issues (postal service, etc.).

Online auction sites must recognize that cultural differences are based on long-established values and beliefs. As Bagozzi et. al. (1999) indicated, Eastern and Western cultures developed differently and as such may prove to be useful to some degree in understanding the differences between Indian, European, and American respondents toward online auction usage. It can be argued that both American and Indian Culture were touched by European influences. Britain colonized both India and the United States, although India existed as a culture long

before the United States came into existence after the Revolutionary War. Most early colonists in the United States were originally British subjects. As such, even though Indian culture was influenced by British colonization efforts, its true cultural roots are likely more Eastern than Western. Indian attitudes toward auctions might be more similar to the Japanese as Vishwanath (2003) reported when comparing Japanese versus United States views and usage of online auction sites.

Managers should also note that while the early dominance of the Internet by males has generally disappeared, Internet auction sites are still used by significantly more males than females. Perhaps future studies will see females using online auction sites as often as males.

LIMITATIONS

While the current study collected data over the Internet, other data collection methods were deemed too expensive and time-consuming for the present study. It is conceivable that if mail, telephone or even personal interviews had been conducted the data might have shown more differences. However, because the study was interested in online purchasers and auction users, the approach of a self-administered Internet survey was deemed appropriate. Those individuals who do not have Internet access, or very limited access, would have been less likely to see the survey request and to have completed it. Even though the respondents were Internet users and the survey was conducted online, self-selection bias remains a potential issue. It is likely that some online Internet users may be more inclined to complete a survey than are other Internet users. How the respondents might have differed from those who chose not to complete the survey is unknown.

The scale employed in the study was modified from a previously existing instrument. Although no prior evidence of validity and reliability was available for the modified instrument before this study, literature reviews and logic were employed to modify the original instrument. As such, it provides a useful starting point for exploring the topic of online auction research.

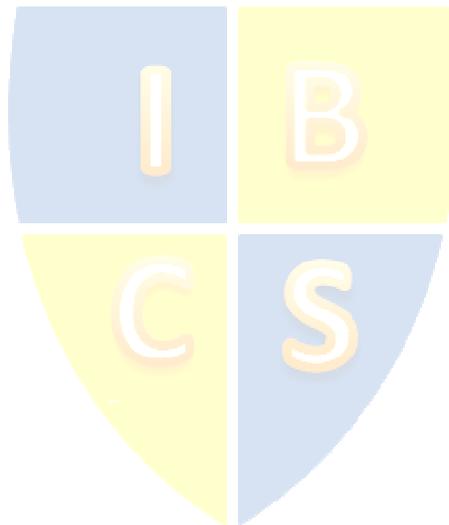
Viewing the EU, the US and even India as culturally homogenous regions/ countries is somewhat unrealistic. Future studies should consistently examine and compare their results to the current findings. Additionally, studying other culturally-related variables may also provide useful information in understanding regional Internet and online auction differences.

Future research should investigate why Indian respondents spend so much more time online when compared to other countries, yet use online auctions the least. Perhaps career differences requiring the use of the Internet may explain some discrepancies. Other reasons may relate to confidence in delivery services after an auction is won, or whether the cost of delivery may lessen the attraction of using auctions or making purchases online.

Perhaps tolerance of information uncertainty with online auctions is important to understanding the Indian online auction user, as Vishwanath (2003) found it to be in describing differences between US, German, and Japanese online auction users. Perceived risk differences across the cultures might provide useful information in understanding differences in online auction attitudes and usage. As an emerging economy with a growing middle class, India represents a substantial market in the global setting. More research is clearly needed to further understand and develop the Indian consumer as an online auction user.

If females do not increase their use of online auctions in the next few years, future research should look to see if there is something about auctions that men enjoy more than females enjoy. It might be the excitement of winning, or perhaps of getting what might be considered a good deal on the item. Women may also just want to buy the item now and not have to bid and wait for the auction to end. Many psychological considerations need future examination.

In an era of globalization, Internet usage allows consumers from around the world to communicate, purchase and sell goods and services. A better understanding of attitudes toward Internet applications, including online auctions, can impact their use by consumers from different cultural backgrounds. The complex nature of culture, and different usage applications of the Internet, will require continual examinations for future potential interactions.



BIBLIOGRAPHY

Bagozzi, Richard (1975) "Marketing as Exchange," *Journal of Marketing*, Vol 39 (October) p32-39.

Bagozzi, P. Richard, Nancy Wong, and Youjae Yi (1999) "The Role of Culture and Gender in the Relationship between Positive and Negative Affect," *Cognition and Emotion* 13 (6), 641-672.

Brinkman, U. and M. Seifert (2001) "Face to Interface": On the problem of Constituting trust in the Internet, as for example in electronic auctions *Zeitschrift fur Soziologie*, 30, p. 23-47.

Collins, Judith M. and Richard P. Bagozzi (1999) "Testing the Equivalence of the Socialization Factor Structure for Criminals and Noncriminals," *Journal of Personality Assessment* 72(1) p 68-73.

Direct Marketing (2002) "Online Marketing: Internet Users Weigh in Worldwide," (Oct) Vol 65, Issue 6, p 28-35.

Dholakia, Ruby Roy and Nir Kshetri (2002) "Gender Asymmetry in the Adoption of Internet and E-commerce," working paper, <http://www.crito.uci.edu/noah/HOIT/HOIT%20Papers/Gender%20Asymmetry.pdf>, Acquired online 8/20/2015.

Dholakia, Utpal and Soltysinski, Kerry (2001) "Coveted or Overlooked? The Psychology of Bidding for Comparable Listings in Digital Auctions," *Marketing Letters* Vol 12 (3), p. 225-237.

Dykema, Evie Black (1999) "Consumers Catch Auction Fever," proprietary Forrester Report, Forrester Research Inc., Cambridge, MA 02139.

Electronic Times (2001) "Gender gap on the Web," (March 5) <http://findarticles.com/p/articles/mi/-m0WVI/is-2001-March-5/ai-71355003> acquired online 3/5/2008.

EMarketer (2008) "India To Become Second Largest Mobile Market," (March 27) <http://www.emarketer.com/Article.aspx?id=1006102> acquired online 8/20/2015.

Euromonitor Global Market Research Blog (2010) <http://blog.euromonitor.com/2010/05/qa-socioeconomic-impact-of-growing-internet-use...> (May 4) acquired online 8/29/2011.

Euromonitor International (2007) "Consumer E-Commerce Markets in India," (Dec. 8) <http://www.iamai.in/rsh-pay.aspx?rid=Daz9DZ0zeb8> acquired online 8/29/2011.

Euromonitor International (2015) "Reference Books – India"
<http://www.euromonitor.com/india/country-factfile> acquired online 8/20/2015.

Gerbarino, Ellen and Michal Strahilevitz (2004) "Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation," *Journal of Business Research*, (July) Vol 57, issue 7, p768- 775.

Gilkeson, James H. and Kristy Reynolds (2003) "Determinants of Internet Auction Success and Closing Price: An Exploratory Study" *Psychology and Marketing*, Vol 20 (6) (June) 537-566.

Gorsch, D. (2001) "Do hybrid retailers benefit from the coordination of electronic and physical channels?" Proceedings of the 9th European Conference on Information Systems. p.1-6. acquired online 7/14/2008.

Gregg, Dawn G. and Judy Scott (2006) "The Role of Reputation Systems in Reducing Online Auction Fraud," *International Journal of Online Commerce*, Vol 10, (3) Spring 95-120.

Hafkins, Nancy and Nancy Taggart (2001) "Gender, Information Technology, and Developing Countries: An Analytic Study,"
http://www.mujiresenred.net/zonaTIC/IMG/pdf/Gender_Book_NoPhotos.pdf, Academy for Educational Development acquired online 8/20/2015.

Herring, S. Johnson and T. DiBenedetto (1995) "This discussion is going too far! Male resistance to female participation on the Internet," In K. Hall and M. Bucholtz (ed.) *Gender Articulated: Language and the Socially Constructed Self*, (New York: Routledge), p 67-96.

Hofstede, G. (2001) *Culture's consequences*, 2nd ed. Thousand Oaks, CA: Sage Publications.

Hui, Michael K., Laurette Dube, and Jean-Charles Chebat (1997) "The Impact of Music on Consumers' Reactions to Waiting for Services," *Journal of Retailing*, Vol 73 (1), p 87-104.

ILO - International Labour Organization (2008) "Laborsta Internet,"
<http://laborsta.ilo.org/default-page-E.html> acquired online 3/28/2008.

Internet World Stats: Usage and Population Statistics (2015) "World Internet Users" (August 5)
<http://www.internetworldstats.com/stats.htm>. Acquired online 8/20/2015.

Internet World Stats: Usage and Population Statistics (2015a) "World Internet Users" (August 5)
<http://www.internetworldstats.com/stats.htm>. Acquired online 8/20/2015.

Internet World Stats: Usage and Population Statistics (2015b) "World Internet Usage and Population Statistics" (March) <http://www.internetworldstats.com/stats.htm>. Acquired online 8/20/2015.

Krendl, K.; M. Brother, M. and C. Fleetwood (1989) "Children and computers: Do sex-related differences persist?" *Journal of Communication*, 39, p 85-93.

MMXI Europe "European INTERNET MEASUREMENT Results FROM MMXI EUROPE," <http://findarticles.com/p/articles/mi-m0EIN/is-1999-Nov-1/ai57045772> , acquired online 3/29/2008.

Mathiason, John, (2001) "IT and the Advancement of Gender Equality: International Perspective," <http://www.unu.edu/globseminar/2001/shimane/mathiason-ft.pdf>. Acquired online 3/5/2008.

NCL - National Consumers League (2001a) "Online Auctions 2001 Survey summary of findings," <http://www.nclnet.org/shoppingonline/auctionsurvey.htm> acquired online 3/5/2008.

NCL - National Consumers League (2001b) "Online Auctions 2001 Survey questions & results," <http://www.nclnet.org/shoppingonline/auctionresults.htm> acquired online 3/5/2008.

NCL - National Consumers League (2001c) "Online Auctions 2001 Buyers, Sellers Need Auction Education," <http://www.nclnet.org/shoppingonline/onlineauctions.htm> acquired online 3/5/2008.

Norris, Bruce, Ernan Haruvy and Ram Rao (2004) "Seller Rating, Price, and Default in Online Auctions," (2004) *Journal of Interactive Marketing*, Vol 18, No 4 (Autumn) p 37-50.

Nua Internet Surveys (2001a) "NOP Research Group: Young Net Users More Aware of Dangers, (July 30) <http://www.nua.com/surveys/index.cgi?f=VS&art-id=905357028&rel=true> accessed online 10/18/2005.

Nua Internet Surveys (2001b) "Women outnumber men online in U.S." (January 15).

O'Connell, Patricia (2004) "eBay: In Praise of the Perfect Market," *Business Week Online*, (August 27) <http://www.businessweek.com>, Acquired online 3/1/2006.

Park, Chung-Hoon and Young-Gul Kim (2003) "Identifying key factors affecting consumer purchase behavior in an online shopping context," *International Journal of Retail & Distribution Management*, Vol 31, No. 1, p 16-29.

Paulson, L. D. (1997) "Online shopping survey shows lots of looking, little buying," *Newsbytes*, June 13 (<http://www.newsbytes.com/>).

Pires, Guilherme, John Stanaton, and Andrew Eckford (2004) "Influences on the perceived risk of purchasing online," *Journal of Consumer Behavior*, Vol 4, Issue 2, p 118-131.

Quinton, Sarah and Sally Harridge-March (2006) "The management of risk and initiation of trust in online purchasing: UK online wine market," *International Journal of Information Technology & Management*, Vol 5, Issue 4, p267-278.

Qureshi, S. and C. Hoppel (1995) "Profiling Computer Predispositions," *Journal of Professional Services Marketing*, 12, p 73-83.

Shohat, Michael and Jochen Musch (2003) "Online auctions as a research tool: A field experiment on ethnic discrimination," *Swiss Journal of Psychology*, Vol. 62, No. 2, p. 139-145.

Silverstein, Michael, Peter Stanger and Nina Abdelmessih (2001) "Winning the Online Consumer 2.0," Boston Consulting Group (February) www.bcg.com acquired online 8/10/2011.

Singhal, Arvind (2004) "A Changing India," in *Rediff India Abroad*, <http://www.rediff.com/money/2004/feb/21guest1.htm> acquired online 8/8/2011.

Stafford, Marla Royne and Barbara Stern (2002) "Consumer Bidding Behavior on Internet Auction Sites," *International Journal of Electronic Commerce*, Vol. 7, No. 1, p. 135-150.

Steinfeld, C., H. Bouwman, and T. Adelaar (2002) "The dynamics of click-and-mortar electronic commerce: opportunities and management strategies," *International Journal of Electronic Commerce* 7 (1) p 93-120.

Stern, Barbara B. and Marla Royne Stafford (2006) "Individual and social determinants of winning bids in online auctions," *Journal of Consumer Behaviour*, Vol. 5, p. 43-55.

Thompson, S. H. Theo and Vivien G. Lim (2000) "Gender Differences in internet usage and task preferences," *Behavior and Information technology*, Vol 19, No 4, p 283-295.

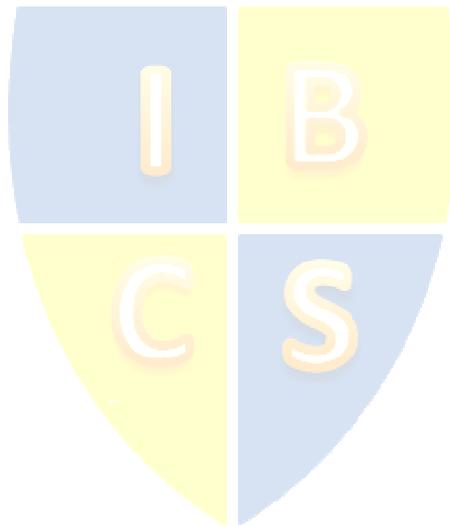
Ueltschy, Linda C., Robert F. Krampf, and Peter Yannopoulos (2004) "A cross-national study of perceived consumer risk towards online (Internet) purchasing," *Multinational Business Review* (Fall) Vol 12, Issue 2, p 59-82.

Vargas, Melody (2005) "Online Purchase Failures & Motivations," <http://www.BusinessWeekOnline.com> acquired online 10/18/2005.

Vishwanath, Arun (2003) "Comparing Online Information Effects: A Cross-Cultural Comparison of Online Information and Uncertainty Avoidance," *Communication Research*, Vol 30, No. 6 p 579-598.

Weiser, Eric B. (2000) "Gender Differences in Internet Use Patterns and Internet Application Preferences: A Two-sample Comparison," *CyberPsychology & Behavior*, Vol 3, No. 2, p167-178.

Williamson, Debra Aho (2008) "Men, You're Outnumbered Online," (March 24) *eMarketer* <http://www.emarketer.com/Article.aspx?id=1006082&src=article-right-sitesearch> acquired online 8/20/2015.



Appendix

Question	Description	EU Factor	India Factor	US Factor	Combined
	Eigenvalue	4.25	4.14	4.27	4.24
	Variance Explained	85.17%	82.98%	85.42%	84.95%
1	ATOA1. I like using auction sites.	.920	.853	.938	.916
2	ATOA2. I would recommend auction sites to my friends and family.	.905	.942	.957	.923
3	ATOA3. I find using auction sites to be useful / effective.	.912	.973	.931	.928
4	ATOA4. I have been very satisfied with my online auction purchases.	.892	.852	.831	.875
5	ATOA5. I am comfortable when purchasing from an online auction.	.883	.773	.851	.858

		EU		India		US		Total	
Sample size	n	209	(47%)	100	(22%)	134	(31%)	443	(100%)
Gender	Male	104	(50%)	69	(69%)	67	(50%)	240	(54%)
	Female	105	(50%)	31	(31%)	67	(50%)	203	(46%)
Age, in years	13 to 19	20	(10%)	7	(7%)	2	(1%)	29	(7%)
	20 to 29	119	(57%)	70	(70%)	125	(91%)	314	(70%)
	30 to 39	35	(17%)	8	(8%)	7	(5%)	50	(11%)
	40 or over	35	(17%)	15	(15%)	3	(2%)	53	(12%)
Income, in Euros	Less than 10,000	92	(46%)	54	(60%)	81	(60%)	227	(51%)
	10,000 to 24,999	40	(20%)	21	(23%)	33	(24%)	94	(21%)
	25,000 to 39,999	28	(14%)	10	(11%)	12	(9%)	50	(11%)
	40,000 to 59,999	32	(16%)	2	(2%)	8	(6%)	42	(10%)
	more than 60,000	6	(3%)	3	(3%)	1	(1%)	10	(2%)
Education level	high school or lower	13	(6%)	4	(4%)	1	(1%)	18	(4%)
	some college	70	(33%)	8	(8%)	95	(70%)	173	(39%)
	completed college	49	(23%)	38	(38%)	13	(10%)	100	(22%)
	graduate school	54	(26%)	42	(42%)	26	(19%)	122	(27%)
	other	23	(11%)	9	(9%)	1	(1%)	33	(7%)

Table 3. Attitudes Toward Online Auctions (ATOA Scale)		Univariate ANOVA comparison of regional means							
		Mean Response				ANOVA results			
Question		EU	India	US	Overall	MSE	F	df1, df2	p-value
1	ATOA1. I like using auction sites.	4.13	3.80	4.59	4.22	2.77	6.30	2, 388	0.002
2	ATOA2. I would recommend auction sites to my friends and family.	4.24	4.04	4.65	4.33	2.74	4.09	2, 384	0.018
3	ATOA3. I find using auction sites to be useful / effective.	4.53	3.96	4.75	4.48	2.52	6.45	2, 385	0.002
4	ATOA4. I have been very satisfied with my online auction purchases.	4.40	3.99	4.71	4.42	2.19	6.06	2, 378	0.003
5	ATOA5. I am comfortable when purchasing from an online auction.	4.14	3.80	4.42	4.16	2.50	4.03	2, 380	0.018
5-question average		4.29	3.92	4.63	4.32	2.55	25.80	2, 1927	0.000

Table 4. Post Hoc Comparisons		EU - India			EU - US			India - US		
		t	df	p-value	t	df	p-value	t	df	p-value
1	ATOA1	1.45	256	0.149	-2.39	302	0.018	-3.62	218	0.000
2	ATOA 2	0.89	251	0.375	-2.17	301	0.031	-2.72	216	0.007
3	ATOA 3	2.61	252	0.010	-1.20	301	0.232	-3.64	217	0.000
4	ATOA 4	1.97	246	0.050	-1.85	299	0.065	-3.59	211	0.000
5	ATOA 5	1.57	248	0.119	-1.55	297	0.123	-2.89	215	0.004
5-question average		4.00	1343	0.000	-4.33	1642	0.000	-7.79	1219	0.000

Table 5. Online Purchasing Behavior	In the last 6 months, how many times have you purchased items on the Internet for your own personal use?		
	EU	India	US
Male	6.43	1.68	6.80
Female	6.51	1.79	6.07

Table 6 Number of Online Auction	How many times have you used an online auction site to buy or sell items?
----------------------------------	---

Purchases	EU	India	US
Male	9.50	1.18	12.57
Female	3.87	0.79	6.39

Figure 1.

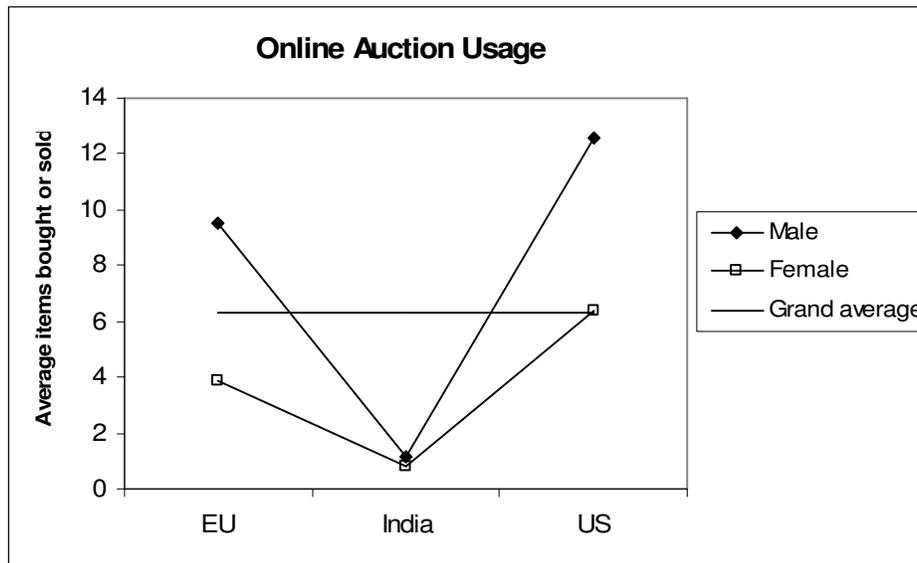


Table 7 Number of Hours Spent Online each Week by Gender and Country	Hours spent on the Internet each week by country		
	EU	India	US
Male μ	16.942	18.174	13.582
Female μ	12.466	16.581	9.7313

Figure 2.

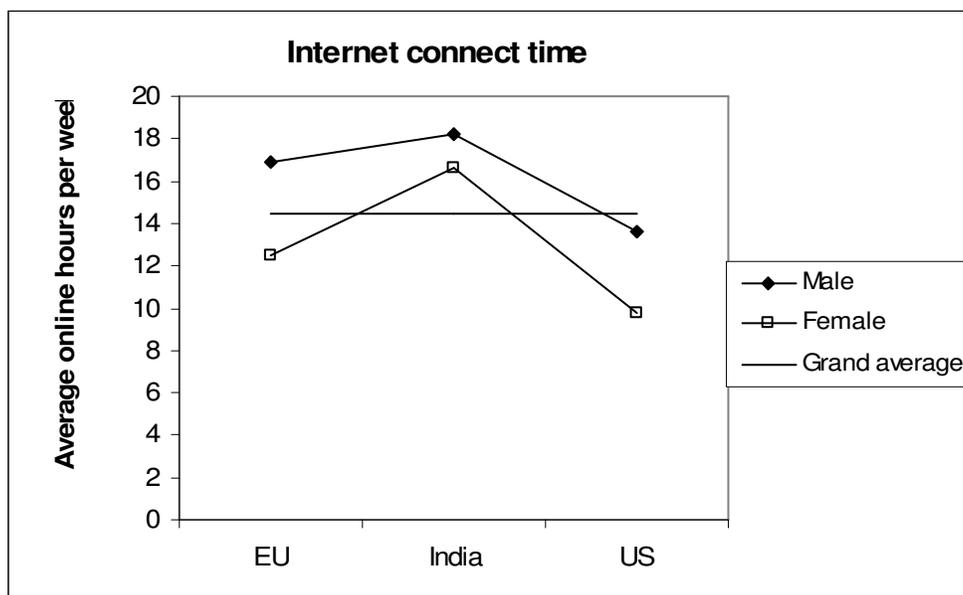


Table 8 Online purchase expenditures by Gender (Euro)	How much money do you spend each month making online purchases?		
	EU	India	US
Male	48.72	10.54	35.98
Female	25.28	12.71	25.41

Figure 3.

