Factors Influencing Consumer Bidding Behavior in Online Auction (Consumer-to-Consumer)

Lola A. Nemes

Lynn University

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Factors Influencing Consumer Bidding Behavior in Online Auction

(Consumer-to-Consumer)

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Lynn University

By

Lola A. Nemes

August 25, 2011
FACTORS INFLUENCING CONSUMER BIDDING BEHAVIOR IN
ONLINE AUCTION (CONSUMER-TO-CONSUMER)

Nemes, Lola A., Ph.D.
Lynn University, 2011

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Factors Influencing Consumer Bidding Behavior in Online Auction

(Consumer-to-Consumer)

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ACKNOWLEDGEMENTS

Dr. Cipolla, you have known me since 2004. You were always there for me, to applaud me for my ideas and not to criticize my mastery or lack of mastery of English. You became my Chair Person and have helped me through this program.

Dr. Green, thank you for keeping me "under your wings". I do not know why but I am grateful that you did. You met with me wherever and whenever it was convenient and comfortable for me. Thank you for the time you spent to correct "The Topics" which were not "Your Job to do"! Thank your wife for me for letting you help me.

Dr. Farazmand, you are one of great compassion, understanding and empathy in comprehending my personal problems. You did not "hide behind a fake smile, pretending everything is "OK". You have made me feel better with "just a sentence or a word".

Deborah Price, thank you for your help and smile!

Dr. Crawford and Dr. Burnstine, thank you for being Dissertation Committee Members and giving positive feedback and great ideas to me regarding my future!

Ana and Melissa Johnson, you have my heartfelt appreciation for the endless correction of my English. What comes around goes around guys. I did not forget you!

Peter you have made my life miserable temporary because you have been exaggerating the extravagant cost of this program, for six years. I sincerely appreciate your personal sacrifices and hard work you have made for me.

My sons, your presence has given me a chance to stay at home for a few months and work at my computer while you were playing next to me. Thank you for breaking my four computers with the last four years.
ABSTRACT

According to the critical analysis of theoretical and empirical literature, there is a need to better understand and to examine the relationship between consumer bidding behavior in online auctions and the related influencing factors. Online auction is a relatively new field of study. It is important to further research the area of online auctions. The theoretical structure, research questions, research hypotheses, and the hypothesized research model are introduced.

Theory of Reasoned Auction, Theory of Planned Behavior, and Technology Acceptance Model are used as theoretical foundations of this study.

This study focuses on the relationship between consumer bidding behaviors in online auctions, and factors influencing those behaviors. The research is focused on the following influencing factors: customer satisfaction, ease of use of the web site, and demographic profile.

A non-experimental, quantitative, correlational research design was conducted to study the relationship between influencing factors and consumer bidding behavior. The target population was people with online shopping experience with eBay who have current access to the Internet.

After IRB approval, the researcher collected the data by a paper and pen questionnaire at a public beach in Boca Raton. The questionnaire was handed out to the eligible participants. The questionnaires were dropped in a closed box.

The data for this study collected from at least 146 eligible participants using pen and paper questionnaire as an instrument. Findings helped to serve the online consumers and the vendors, as well as being a scholarly contribution to the study of online bidding.
This study used SPSS software to analyze the collected data. Descriptive statistics, Cronbach alpha, Pearson r correlation, simple regression, and multiple regressions, were applied in this study.

The study findings indicated that an individual's bidding behavior is influenced positively by factors like consumer satisfaction and ease of use and bidding behavior is not influenced by demographic characteristics.
# Acknowledgements

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# Abstract

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CHAPTER I

INTRODUCTION

Introduction and Background

Consumer-to-consumer online auctions have become more popular in the last 15 years. They are revolutionary in that consumers now have more information and power compared to traditional offline auctions. Selling on the Internet offers a new and convenient way to do business because it is available 24 hours a day, seven days a week, from anywhere in the world.

One of the most successful online auction sites is eBay. For the year of 2010, eBay Inc. posted $9.2 billion in revenue on a General Accepted Accounting Practices basis. For the full year of 2011, eBay expects net revenues in the range of $10.3 billion to $10.6 billion (eBay Inc., 2011).

Since online auctions are a relatively new medium through which the public is better able to participate in commerce, marketers need to review and learn more about the strategy of doing business online. Online auction sites need to learn more about consumer online actions in order to sustain their success (Forrester Research, 2005).

As of today, Internet usage continues to increase worldwide. Internet-based auctions are popular and profitable business ventures. Most studies indicate that the understanding of consumer behavior with online auctions has some limitations (Bapna, Goes, Gupta & Jin, 2004, Bosnjak, Obermeier, and Tuten, 2006). Human behavior cannot be predicted with complete accuracy. However, factors have been found to influence the decision to bid online (Bapna, Goes, Gupta & Jin, 2004, Collier & Bienstock, 2006a, Dillon & Reif, 2004). Ultimately, more research needs to be done to find out the
directions and degree to which these factors affect the decision to bid online (Bhandari, Bliemel, Harold, & Hassanein, 2004; Bosnjak, Obermeier, and Tuten, 2006; Derussy, 2006; Pinker, Seidmann, and Vakrat, 2003).

**Purpose of the Study**

E-commerce gives online auctions the opportunity to extend their reach further than a brick-and-mortar store. E-commerce gives the consumer worldwide availability of many products seven days a week, twenty-four hours a day. In most cases, the cost of doing business is also reduced by coordinating the supply chain and sharing information. Handling transactions is easier online and faster to complete (Clegg & Chu, 2005).

In an English auction, a market user sells products to the highest bidder (Bosnjak, et al., 2006). The online auction environment provides more information about products, buyers, sellers and about the auction itself. Bidders can simultaneously evaluate identical items within the auction itself. An auction usually last seven days and the bidders have an opportunity to observe the other bidders’ dynamic (Dholakia & Simonson, 2005). In addition, online auctions have the opportunity to reach a huge market audience (Pekec & Rothkopf, 2003).

In most cases, costs are lower for buyers and sellers and there is the ability to engage in complex auctions. One essential difference between traditional auctions and online auctions is that online buyers can join in at any time during the auction process, which typically lasts from seven to ten days, and from anywhere in the world (Pinker et al., 2003). In addition, bidders can find information about the price of similar items and
do research while they are bidding. The most popular online auction Web sites in the United States are: eBay, onSale, AuctionNet, and Netis (Zhang, Zhang & Zhang, 2006).

As more auctions are being conducted on the Internet, marketers need the capability to predict and manage consumer behavior. Online auctioneers need to know the psychology behind consumer bidding in order to gain a greater share of the market, as well as to generate loyalty from their customer base. Understanding attitude, culture, language, and consumer desire can help auctioneers to satisfy their customer base (Bosnjak et al., 2006).

The purpose of this research is to analyze theoretical and empirical literature about factors influencing consumer-bidding behavior in online auctions, to identify areas of future scholarly inquiry. This topic was selected because the Internet has been shown to be the most cost effective and economical way to conduct auctions given its ability to connect a larger audience without having a physical location. Language, culture and economic status are not boundaries to conducting online businesses. For example, eBay Inc. has more than 90 million active users globally. Bidders have a chance to visit this online marketplace in 31 different languages (eBay Inc., 2011).

On the other hand, bidding online creates some concerns. For instance, consumers cannot inspect the quality of the goods in person. This can create doubt about product quality. Consumers cannot be sure that the item is authentic, and they are not sure of the accuracy of the quantity or actual size of the item (Bhandari et al., 2004). All this creates lack of trust. In addition, auction Websites have become a target for criminals, counterfeiters, and fraudulent activities. The way most buyers decide whether a seller is trustworthy or not is by the feedback system. But this is not foolproof. If vendors
receive negative comments, they can simply set up another account under a different name and begin again. Feedback can be written by friends as well as by fictitious buyers.

The research from this paper is one step in an effort to find out more about bidders' behavior in online auctions. This research is necessary because the online auction is still considered a new field where flaws in the system, reliability, and manageability have become quite evident (Bapna et al., 2004; Smith & Rupp, 2003).

It is not easy to understand what motivates consumers to place a bid during online auctions. There are some theories about forecasting bidding behavior and researchers are still exploring information about the factors influencing bidding during online auctions (Pinker et al., 2003). Everyone is influenced by their surrounding environment. When marketers find the best ways to implement psychologically motivating factors, then marketing online auctioning will become more successful (Derussy, 2006).
Definitions of Terms

Several independent variables were investigated in this study. Their theoretical and operational definitions are defined below.

Demographics of Bidders

**Theoretical definition.** Demographics of bidders are the personal characteristics of those who use the Internet to make purchases (Dillon and Reif, 2004).

**Operational definition.** Demographic characteristics include gender, age, level of education, primary language spoken at home, gross monthly income, number of people in the household, marital status, occupation, ethnic group, location of residence (Dillon and Reif, 2004).

Shopping Characteristics

**Theoretical definition.** Shopping Characteristics are the customers' personal characteristics combined with satisfaction with the online site. Customers evaluate the online buying experience. If the experience was positive then the customer has a positive impact and she will have a positive outcome when it comes to behavioral intentions (Collier and Bienstock, 2006).

**Operational definition.** Shopping Characteristics include behavioral intention to visit the site again and make purchases (Collier and Bienstock, 2006).
Customer Satisfaction

**Theoretical definition.** Satisfaction is the customer attitude toward a service after using a Web site. During the use of a Web site the customers are satisfied if they receive current and correct information about the items, and they can place trust in an online retailer. If a customer is satisfied then she will return to use the same site over and over again (Collier and Bienstock, 2006b).

**Operational definition.** In the Collier et al. 2006 survey respondents had to answer questions in four areas. The first section was asking questions to find out more about the interactivity of the customers with the Web site. The second part wanted the customers to make an evaluation about the purchased product delivery. The third part was about the failures that occurred during the transactions. The fourth part addressed general satisfaction of the customers. In addition, the survey wanted to find out if the customers are willing to use the same site again in the future. They found that Web site interactivity and the recovery of the problems are the most important for customers.

Ease of Use

**Theoretical definition.** The Web site used by the customer must be used easily. The customers want to find anything on the Web site easily and fast with very few “clicks” (Collier et al., 2006a).

**Operational definition.** Ease of use and usability refer to the ease of using the website (Nielsen, 2003). The major measures of ease of use are the learnability, efficiency, memorability, and errors. “Learnability” means how easy it is for the customers to perform basic searches on the website the first time. Collier at al. (2006a)
conducted a study where one of the dimensions for service quality was the learnability. Efficiency relates to how quickly a customer, who has already learned to use the website, can use the website. Memorability means how easy it is to remember and use a website. Errors apply to the number of errors, the importance of the errors, and how easily someone can recover after making one. To keep the customers the Web site needs to be error free as much as possible. Misleading information about an item or its price can be frustrating. Moreover, if the Web site is always down or some pages cannot be opened or lead to a wrong site then customers eventually are going to leave the site. Too many errors affect the Web site reliability (Collier et al., 2006a).

Several dependent variables were investigated in this study. Their theoretical and operational definitions are defined below.

**Consumer Bidding Behavior**

**Theoretical definition.** Every customer has a different way of bidding. Everyone tries to use strategies to win, and/or spend the least amount of money during a bidding process. There are many factors which can influence someone’s bidding strategies (Bapna, et al., 2004).

Consumer bidding behavior is the consumers’ actions and the circumstances they take into consideration. Bidders usually use reference points to make a decision. The value of the item is not enough for an online bidder to make a decision. Bidders usually consider the timing of bids, price, and number of bids (Dholakia & Simonson, 2005). Consumer purchasing behavior is a process where individuals decide whether to buy
something or not. Consumer purchasing behavior shows us why someone makes a purchase and what influences them (Brown, 1999).

**Operational definition.** Bapna et al. (2004) conducted a study where the authors concluded that there are five types of bidding strategies. These strategies depend on how someone starts or stops bidding, and how many bids they place during bidding on one item. These strategies are characterized by the time of entry, time of exit, and number of bids placed. Users are improving their bidding strategies, and they are using technological advances. It takes time for bidders to learn all the technological advances that an online auction site provides.

**Justification of the Study**

The topic of this research, studying consumer bidding behavior in online auctions, is a new and current area of customer transactions. The significance of this study is a need for more knowledge and understanding and researchers need to know more about factors influencing online bidding. This study will provide a more in-depth understanding about consumers’ bidding behavior in online auctions. If marketers understand consumers bidding behavior better than they could use this information more strategically. The relationship between customer satisfaction, ease of use, and customer bidding behavior is researchable. All variables can be measured in this study and the research hypotheses can be tested. Therefore, the study is feasible. It is easy to find participants since the requirements are to be at least 18 years old, read and write in English, and purchased at least one item in an online auction within the last six months.
CHAPTER II
LITERATURE REVIEW, THEORETICAL FRAMEWORK, RESEARCH QUESTIONS, AND RESEARCH HYPOTHESES

Review of Literature

As more auctions are being conducted on the Internet, marketers need the capability to predict and influence consumer purchase behavior. Online auctioneers need to know the psychology behind consumer bidding in order to gain a greater share of the market, as well as to generate loyalty from their customer base. Understanding attitude, culture, language, and consumer needs can help auctioneers satisfy their customer base (Bosnjak et al., 2006).

For this research, the four major theoretical studies used are the theory of reasoned action, the theory of planned behavior (Ajzen & Fishbein, 1980), the theory of auctions and competitive bidding (Milgrom & Weber 1982), and the technology acceptance model (Davis, Bagozzi, and Warshaw, 1989). The theory of reasoned action (TRA) originated from the field of social psychology, and was developed by Ajzen and Fishbein (Ajzen and Fishbein, 1980).

During the 1970s, they expanded the theory, and by 1980 the theory was used to study voluntary (volitional) behaviors. The purpose of this theory is to predict different influences on behavior. The TRA is used best when an individual wants to check on his or her own volitional behaviors (Taylor & Todd, 1995). The theory of reasoned action is useful because it provides information about behavior, and it is a framework to guide behavior (Ajzen and Fishbein 1977; Sheppard, Hartwick, and Warshaw 1988).
In 1988, the theory of planned behavior (TPB) was created from the existing model of reasoned action. The theory of reasoned action shows that individuals perform a behavior intentionally, and this intention is a function of their attitude toward the behavior (Ajzen & Fishbein, 1980). The main constructs are behavioral intention and the behavior. The main factors affecting behaviors are the attitude toward the behavior and the subjective norm (Wade & Schneberger, 2006).

Behavioral intention is determined by the individual’s attitude. An individual’s intention shows the subjective probability of his/her engagement in any behavior (Kwong & Lee, 2002). Behavioral intention is influenced by how a person’s strength applies when she or he is trying to achieve a goal. This can differ according to individual attitude, and can be influenced by social pressure.

Attitude influences behavior by assisting in the evaluation of the behavior (Brown, 1999). In addition, attitudes are beliefs people develop from personal experiences and outside information, resulting in their beliefs about the outcome of action; whether positive or negative (Taylor & Todd, 1995). Subjective norms can influence the intentional behavior of people. They create a social pressure that influences normative beliefs and subsequent behaviors (Brown, 1999).

Subjective norms are formed in relation to the opinions of others who are important to the individual such as friends, peer groups, family, and community leaders (Taylor & Todd, 1995). These can be influencing factors of the particular behavior (Ajzen & Fishbein, 1980). Perceived behavioral control is an individual’s belief about how to perform a behavior (Brown, 1999). The reasoned action model (Figure 2-1) below shows the relationship between individual beliefs and expected outcomes. An individual
belief about an outcome or a behavior leads to further thought by that individual. This influences the attitude towards the behavior. The attitude also influences the individual’s intention, which leads to the acted behavior. Individuals have their own beliefs about their environment and they take into consideration what others opinions are. This helps form the individual’s subjective norm, which influences their intention as well (Ajzen & Fishbein, 1977).

![Reasoned Action Model](image)

**Figure 2-1:** Reasoned Action Model


The theory of reasoned action addresses essential issues in relation to consumer behavior such as bidding (Sheppard, Hartwick, and Warshaw 1988). Full-scale studies
have been conducted on this theory using a seven-point Likert scale in a questionnaire (Kwong & Lee, 2002). Taylor and Todd added a third element to the theory, the perceived behavioral control, and this is how the theory of planned behavior was later developed.

Aizen and Fishbein (1980) explored ways to forecast behaviors and their outcomes. They began with the premise that most people are rational thinkers and use information to make good decisions. The theory of planned behavior is a general process theory used to predict and explain consumer behavior (Smith & Rupp, 2003). According to the theory, one’s behavior can be manipulated by behavioral meaning determined by attitudes (Ajzen & Fishbein, 1980; Kwong & Lee, 2002). The theory of planned behavior is well-developed, showing the relationship between the concepts. Significant empirical research supports propositions in the theory with an outcome of knowledge. The following concepts explain in more detail the dynamics of the theory.

Individuals like to meet their environmental expectations, so these can influence attitudes. An attitude is a psychological concept that determines the intentions of an individual. Behavior is an action or reaction to something. It may be conscious or unconscious, overt or covert, and voluntary or involuntary.

Behavioral belief is the belief about the performed behavior. A control belief is how much control someone can have over behavior (Brown, 1999). Intention to behave depends on the individual’s attitude, subjective norm, and perceived behavioral control. The attitudes of individuals, social pressure, and perceived behavioral control can also influence someone’s intentions (Kwong & Lee, 2002). Normative beliefs are defined as beliefs about what other people think about a certain behavior (Brown, 1999). Perceived behavioral control (PBC) has an affect on an individual’s intention and behavior.
Perceived behavioral control predicts behaviors that are not completely under volitional control (Simon & Paper, 2007). Subjective norm is the social pressure experienced by the individual. It can influence the individual’s decision to provide the behavior or not. It also depends on the individual’s motivation to comply (Brown, 1999).

Evidence shows that the theory of planned behavior is appropriate and useful for predicting and confirming the forecast of consumer intentions and behavior regarding Internet based environments (Bosnjak et al., 2006). Developing the theory of planned behavior was very useful to social psychologists because it focused on how attitudes can impact behavior (Brown, 1999). The theory of planned behavior has already proven its success in forecasting behavior (Kwong & Lee, 2002).

The theory of planned behavior (Figure 2-2) below shows the relationship among behavioral beliefs, normative beliefs, control beliefs, attitude toward the behavior, subjective norm, perceived behavioral control, intention, and behavior.
Researchers need measurement instruments with a high degree of validity and reliability to achieve the highest accuracy possible. To measure the theory of planned behavior model, the first step is to create survey items. The best known scales were developed by Davis et al. (1989), Hubona and Geitz (1997), Taylor and Todd (1995).

The seven-point Likert scale includes the following responses: extremely strongly disagree, strongly disagree, somewhat disagree, neutral, somewhat agree, strongly agree, and extremely strongly agree. The theory of planned behavior model is exceptionally extensive and has a high degree of explanatory power (Bosnjak, et al., 2006; Broadhead-Fearn & White, 2006; Kwong & Lee, 2002).
Researchers have tested the utility of the theory of planned behavior, predicting, for example, people's ability to follow rules and the behaviors they exhibit. The theory of planned behavior is good in its predictive ability, and it is one of the most popular theories for studying human behavior. In one experimental study, a Web based questionnaire collected data about the standard TPB components of attitudes, subjective norms, and behavioral intention. The Broadhead-Fearn & White (2006) study showed that the subjective norm was a significant predictor. In addition, self-efficiency emerged as the strongest predictor of intentions.

The theory, however, has some limitations. Aizen and Fishbein did not use personality and demographic variables as factors in determining influence in individual decision making (Brown, 1999).

The Technology Acceptance Model (TAM) was developed by Fred Davis and Richard Bagozzi (Bagozzi, Davis, & Warshaw, 1992; Davis, Bagozzi, & Warshaw, 1989). There are four main concepts in the model: perceived usefulness, perceived ease of use, behavioral intentions, and technology acceptance. The model explains that perceived usefulness; and perceived ease of use; affect behavioral intentions and, in turn, behavioral intentions affect users' acceptance of new technologies. The TAM helps to forecast and explain technology-dependent consumer behavior. The TAM is an extension of the theory of reasoned action (Davis et al., 1989; Bosnjak et al., 2006).

Perceived usefulness means that users value the instrument, system or product because it helps in some way. For example, updated software technology helps the individual buy online, making the transaction easier, and faster. The perceived ease-of-use means that the individual does not expect to have difficulty using the new
technology. Perceived usefulness and perceived ease of use are key ingredients to provide information about where marketers should focus.

Behavioral intention is an indicator of human goals, decisions, and actions. The TAM depends on the ease of usage of the new technology. In the TAM model, behavioral intentions lead to using new technologies (user acceptance), which is the outcome. TAM has been defined as a parsimonious model, and it provides recommendations about how to increase the success of online auction sites (Bosnjak et al., 2006). The easier a technology is to use, the more useful it is perceived to be; therefore, there is an increased behavioral intention of consumer use (Bosnjak et al., 2006).

The technology acceptance model (Figure 2-3) below shows that the perceived ease of use affects the perceived usefulness. An individual's behavioral intention depends on perceived usefulness and perceived ease of use. Together these affect the actual system usage.

The Technology Acceptance Model helps predict and explain bidders' behavior in Internet auctions. If an auction website is well developed and user-friendly, bidders are more willing to participate because of the ease of interaction (Baker & Song, 2007). Many other researchers have provided empirical evidence on the relationship which exists between perceived usefulness, ease of use, and system use (Adams, Nelson & Todd, 1992; Davis et al., 1989; Hendrickson, Massey & Cronan, 1993; Subramanian, 1994; Szajna, 1994). These factors tested positive, which means researchers found high reliability and good test-retest reliability plus predictive validity for intent to use, self-reported usage, and attitude toward use (Hendrickson et al., 1993).
Bosnjak et al., (2006) conducted an empirical study to compare two models, Ajzek’s (1977) theory of planned behavior (TOPB) and the Davis’ technology acceptance model. One purpose of the study was to determine which model had better explanatory power through its predictor variables to explain the intention to purchase and the actual purchase (actual bidding behavior) in online auctions.

In both theories, intention played a central role in predicting behavior. The models differ in their description of the factors that determine behavioral intention. The following factors influence intentions in the Theory of Planned Behavior: attitudes toward the behavior, subjective norms, and perceived behavioral control. In the Technology Acceptance Model intentions are influenced by the perceived usefulness.

The weakness of this study is that the sample was a non-random sample. It would be a better research design to conduct the same or similar study using a probability sample. There is a possibility that to explain impulse purchase behaviors, such as
spontaneous behavior, the researcher should use different theories. Different theories focus the researcher's attention on different aspects.

Bosnjak et al. (2006) measured behavioral intention, attitude, subjective norm, and perceived behavioral control according to Ajzen's (1977) TpB model. To measure usefulness and ease of use, they adopted Davis' (1989) 7-point scale and a pilot test questionnaire. The pilot test was web-based and it was completed by 54 students from a German university.

After the pilot test the authors conducted the main study which had two phases. The first phase was a 22-item survey of TAM, TpB, and socio-demographic questions. They were distributed via e-mail to 294 German participants, recruited through Web-based ads. The second part of the study, four weeks later, measured "actual" bidding behavior. A non-random sampling plan (self-selected, non-representative of the general population of web users) resulted in the final data producing a sample of 188 (small sample size), and a response rate of 63.9%. The participants were 47.3% male and 52.7% female, with a mean age of 29.8. Their ages ranged from 15 to 65 years. For the predictor variables, TpB was measured by four factors: behavioral intention, attitude, subjective norm, and perceived behavioral control.

Cronbach's alpha reliabilities ranged from a low of 0.70 for perceived behavioral control scale to a high of 0.96 for perceived ease of use. The dependent variable was measured by actual purchase. Confirmatory factor analysis (CFA), was used to establish construct validity. Since they left four weeks between collection of the predictors (independent and attribute variables) and the dependent variable (actual bidding behaviors), this was predominantly a non-experimental, quantitative, correlational
(explanatory or predictive), prospective survey research design. In the four weeks participants had a chance to try ways to bid online and their actual bidding behavior may change.

This study was also comparative (exploratory). The relevant variables were socio-demographic information. Other variables were the product, price, and store or online site where they were being auctioned. The actual bidding behavior was the dependent variable. The authors measured the following: behavioral intention; attitude; subjective norm; perceived behavioral control; perceived usefulness; and ease of use.

Analysis of the data showed that the TAM was more powerful than the TOPB in predicting bidding in online auctions. However, differences were not significant enough to support the hypothesis that TAM would be significantly more powerful. It was found that the Technology Acceptance Model and the Theory of Planned Behavior are useful to predict consumers' behavior in online auctions.

While there were no significant differences in predictive power, the TAM was a more parsimonious model. Bosnjak et al. (2006) concluded that for both theories, intention plays a central role in bidding behavior. The Theory of Planned Behavior and the Technology Acceptance Model showed moderate predictive power for actual bidding behavior.

The authors have several suggestions for future research, including performing an intervention study to illustrate the value of the differences such as increasing the propensity to bid online. Future studies should have a larger sample size, and they should use every response they receive from customers. In this study the authors used only 188
participants, who responded two times to the questionnaire. Future studies should seek to use a probability sample of online auction users.

The theoretical literature about consumer bidding behavior contends that bidding behavior can be forecasted with the theory of reasoned action. The theory shows that individuals have the intention to perform a behavior. The TRA is the best measured when researchers want to examine behaviors that are under the individual’s volitional control (Ajzen and Fishbein, 1980; Taylor & Todd, 1995; Wade & Schneberger, 2006). The limitations of the theory are personality and demographic variables which were not taken into consideration. Because of the limitations, the authors added a third element to the theory. It was the perceived behavioral control. Therefore, the Theory of Planned Behavior was developed and empirically tested (Godin & Kok, 1996; Taylor & Todd, 1995).

**Theoretical Framework**

The purpose of this study is to find out that what kind of factors influence online bidding behavior, and out of these factors, which one is the most important. There is a need for researchers and marketers to learn more about online bidding behavior to use the opportunities created by the Internet world.

Evidence shows that the theory of planned behavior is appropriate and useful for predicting and confirming the forecast of consumer intentions and behavior regarding Internet based environments (Ajzen, & Fishbein, 1980; Bosnjak et al., 2006; Brown, 1999; Smith, & Rupp, 2003).
Construct 1

The first independent variable is customer satisfaction. Larsen, Attkisson, Hargreaves, and Nguyen’s (1979) Consumer Satisfaction, Client Satisfaction Questionnaire CSQ-8 is an instrument which is usually used after someone has received a service. The questions focus on the service which the participant received. It uses a 4-answer multiple choice scale. Each question is worded in a positive fashion. For instrument reliability, the coefficient alpha ranges from 0.83 to 0.93 in different studies. The instrument validity has been evaluated (Larsen, Attkisson, Hargreaves, and Nguyen, 1979).

Construct 2

The second independent variable is ease of use. Zhuang and Lederer’s (2004) Website Usefulness instrument was originally developed by Davis (1989). Many studies already measured the impact of the ease of use of the Web site. Ease of Use shows the following: easy to read; understandable; easy to access related links; and easy to return or jump pages. Each question is worded in a positive fashion. The authors improved the reliability and validity, and data pilot testing was used. The questionnaire was revised after four pilot tests. The validity was evaluated by t-test, item reliability, construct reliability, and average variance. All factors were significant (p<0.001). Discriminant validity was measured by chi-square test, variance-extracted test, and confidence interval test. All tested items reliabilities were sufficiently high and statistically different from zero (p < 0.05). All Cronbach’s alphas exceeded 0.60 (Zhuang & Lederer, 2004).
Construct 3

The dependent variable is customer bidding behavior. Collier and Bienstock’s (2006) E-Service Quality Questionnaire pretest survey had numerous questions. Five (5) dealt with ease of use, four (4) dealt with privacy, eleven (11) dealt with design, eight (8) dealt with functionality, three (3) dealt with timeliness, three (3) dealt with order accuracy, ten (10) dealt with interactive fairness, four (4) dealt with outcome fairness, six (6) dealt with procedural fairness, five (5) dealt with satisfaction and two (2) dealt with behavioral intentions. The satisfaction and behavioral intention scales were adapted from the Tax, Brown, and Chandrashekaran (1998) and Mathwick (2002) research studies. A 5-point Likert-type scale was used. The reliability of the survey instrument was tested by calculating the coefficient alpha. For the satisfaction and behavioral intention the authors performed a confirmatory factor analysis. The authors had an acceptable level of reliability ($\alpha \geq .70$). The satisfaction was $\alpha = .905$, and the behavioral intentions were $\alpha = .931$ (Collier and Bienstock, 2006b).

Research Questions

The study will answer the five following questions in order to address the five respective hypotheses. To identify the relationship among the dependent variable and the independent variables the researcher introduced a hypothesized model. See Figure 2-4 on page 24.
1. What is the relationship between consumer satisfaction and consumer bidding behavior in online auctions?
2. What is the relationship between ease of use and consumer bidding behavior in online auctions?
3. What is the relationship between demographics, consumer satisfaction and consumer bidding behavior in online auctions?
4. What is the relationship between demographics, ease of use and consumer bidding behavior in online auctions?
5. What is the relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions?

**Research Hypotheses**

H1: There is a significant relationship between consumer satisfaction and consumer bidding behavior in online auctions.

H2: There is a significant relationship between ease of use and consumer bidding behavior in online auctions.

H3: There is a significant relationship between demographics of bidders, consumer satisfaction and consumer bidding behavior in online auctions.

H4: There is a significant relationship between demographics of bidders, ease of use and consumer bidding behavior in online auctions.

H5: There is a significant relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions.
Figure 2-4. Hypothesized Model
CHAPTER III
METHODOLOGY

This chapter presents the research design, population, sample plan, settings, instrumentation, data collection procedures, and data analysis. The chapter will conclude with the evaluation of the research methods.

First, the research design will present the type of research method and the instrument used with the independent and dependent variables. Second, target and accessible population will be defined and the method of sampling will be discussed. Third, the procedures, methods of data collection and ethical considerations will be discussed. Fourth, the questionnaire will be described and its reliability and validity will be explained. Fifth, the data analysis will describe the statistical procedures, including descriptive analysis (median, mean, mode, and standard deviation), internal consistency reliability, correlational analysis, simple and multiple regressions. Sixth, the strengths and weaknesses of the research method will be evaluated.

Research Design

A quantitative, non-experimental, correlational (explanatory) design was used to examine the relationship among demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior for respondents in Boca Raton, Florida who are 18 years old or older and have made on-line bids or purchases. The sample was accessed using a systematic sampling plan. The survey setting was in a public area of a Boca Raton, South Beach Pavilion during weekdays and weekends. It was a randomly selected quota sample.

Demographics of the customers included gender, age, level of education, primary language, gross monthly household income, number of people in a household, marital status, occupation status, ethnic group, and location of residence.

There were five research questions for this study. Research Question 1 describes the relationship between consumer satisfaction and consumer bidding behavior in online auctions. Research Question 2 describes the relationship between ease of use and consumer bidding behavior. Research Question 3 describes the relationship between demographics, consumer satisfaction and consumer bidding behavior in online auctions. Research Question 4 describes the relationship between demographics, ease of use and consumer bidding behavior. Research Question 5 describes the relationship between demographics, consumer satisfaction, ease of use and consumer bidding behavior in online auctions. Independent variables are the demographic characteristics of the bidders, customer satisfaction and ease of use in online auctions. The dependent variable is consumer bidding behavior in online auctions. To answer the research questions, five hypotheses were tested.

The first hypothesis examines the relationship between consumer satisfaction and consumer bidding behavior in online auctions. The independent variable is consumer satisfaction, and the dependent variable is the consumer online bidding behavior. The
second hypothesis examines the relationship between ease of use and consumer bidding behavior in online auctions. The independent variable is ease of use, and the dependent variable is the consumer online bidding behavior.

The third hypothesis examines the relationship between demographics of bidders, consumer satisfaction and consumer bidding behavior in online auctions. The independent variables are the demographics of bidders and customer satisfaction, and the dependent variable is the consumer online bidding behavior.

The fourth hypothesis examines the relationship between demographics of bidders, ease of use and consumer bidding behavior in online auctions. The independent variables are the demographics of bidders, and ease of use, and the dependent variable is the consumer online bidding behavior. The fifth hypothesis examines the relationship between demographics of bidders, customer satisfaction, ease of use, and consumer bidding behavior in online auctions. The independent variables are demographics of bidders, customer satisfaction, and ease of use, and the dependent variable is the consumer online bidding behavior. To test the hypotheses regression analyses was used. Simple regression was tested for hypotheses one and two, and multiple regressions to test hypotheses three, four, and five.
Population and Sampling Plan

Target and Accessible Population

The targeted population was people with online shopping experience who were at least 18 year old, who read and writes in English, and who purchased at least one item in an online auction within the last six months. For this study the accessible population was located at a Boca Raton beach, South Beach Pavilion, in Florida. The estimated monthly attendance of the South Beach Pavilion is between 10,584 and 26,198 (City of Boca Raton, 2010). Annually an estimated 223,373 people, or a monthly average of 18,614 people, visit the public beach. An estimated 612 people visit the beach daily. See Table 3-1.

The accessible South Beach population was customers who visit the public beach in Boca Raton. Depending on the weather, different numbers and groups of people are at the beach. South Florida’s warm weather attracts people from all over the United States and many other countries. In Boca Raton there are also colleges and universities, and Florida has many retirees. Florida also has a huge immigrant population, such as South Americans, who are used to warm weather. Data collection lasted a week.

Setting

The sample was selected from people who visited a recreational area of South Beach Pavilion, in Boca Raton, Florida. The sampling was a systematic random non-probability sampling plan. The final data are self-selected based on customers who decided to participate in the study and were self-reported. The data collection procedure was conducted during the day in two different time periods. The time period was from...
7:00 A.M to 12:00 P.M. and from 12:01 P.M. to 5:00 P.M. During the week, every hour two visitors were asked to complete a paper and pen interview. The participants were asked at every thirty minutes. During the weekend every hour five visitors participated. The researcher asked a visitor to participate every ten minutes. Paper and pen, self-report questionnaires were used to have a higher response rate.

Table 3-1

*Estimated Attendance at South Beach Pavilion*

<table>
<thead>
<tr>
<th>Estimated Monthly</th>
<th>Estimated Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>Attendance</td>
</tr>
<tr>
<td>October, 2008</td>
<td>10,584</td>
</tr>
<tr>
<td>November, 2008</td>
<td>15,546</td>
</tr>
<tr>
<td>December, 2008</td>
<td>16,152</td>
</tr>
<tr>
<td>January, 2009</td>
<td>14,161</td>
</tr>
<tr>
<td>February, 2009</td>
<td>17,524</td>
</tr>
<tr>
<td>March, 2009</td>
<td>21,527</td>
</tr>
<tr>
<td>April, 2009</td>
<td>23,412</td>
</tr>
<tr>
<td>May, 2009</td>
<td>26,198</td>
</tr>
<tr>
<td>June, 2009</td>
<td>20,238</td>
</tr>
<tr>
<td>July, 2009</td>
<td>24,340</td>
</tr>
<tr>
<td>August, 2009</td>
<td>12,772</td>
</tr>
<tr>
<td>September, 2009</td>
<td>20,921</td>
</tr>
<tr>
<td><strong>Estimated Total</strong></td>
<td><strong>223,373</strong></td>
</tr>
</tbody>
</table>

Source: City of Boca Raton, RFP NO 2010-004, December 15, 2009.
This non-experimental, natural environment design adequately controls for certain conditions, such as weather.

**Sampling Plan**

**Proportionate Sample.** For validity purposes it is important to have a proportionate representation of visitors for weekdays and weekends. The weekends are much busier at the public beach. Table 3-2 shows the number of visitors that needed to respond in the morning and afternoon for each weekday and weekend. This includes ten during the mornings and ten in the afternoon for each weekday. Two visitors were asked each hour. One visitor was asked every half an hour, one on the hour, and one on the half-hour. On the weekend, 20 visitors were asked to fill out the survey in the morning and 20 visitors in the afternoon. One visitor was filling out the questionnaire every ten minutes.
Table 3-2

Weekday and Weekend Proportionate Sampling Plan of Participants

<table>
<thead>
<tr>
<th></th>
<th>7:00 A.M. – 12:00 P.M.</th>
<th>12:01 P.M. – 5:00 P.M.</th>
<th>Total # of Participants Respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Tuesday</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Wednesday</td>
<td>10</td>
<td>10</td>
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<td>Thursday</td>
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<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Saturday</td>
<td>30</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>Sunday</td>
<td>30</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>110</td>
<td>220</td>
</tr>
</tbody>
</table>

Sampling (Non-Probability). The sample was systematically selected. In this study, the researcher selected a visitor during specific times. During weekdays the first visitor was selected on the hour and the second on the half-hour for each hour. During weekends a visitor was selected every ten minutes. The collection of the data was divided into two periods for weekdays and weekend. The first period was 7:00 A.M. through 12:00 P.M., and the second period was 12:01 P.M. through 5:00 P.M. Before 7:00 A.M. and after 5:00 P.M. the beach is closed to the public.

The first visitor who was selected to complete the paper and pen questionnaire is the first to arrive after 7:00 A.M. or after 12:01 P.M. When a visitor agreed to complete
the questionnaire, the participant was informed that they may only complete the survey one time, so this way the researcher avoided selecting the same visitor more than once. The researcher stayed at the beach during weekdays and weekends to collect the needed data for one week.

As an incentive to the participants, the researcher gave a coupon valued at $2.50 that was purchased by the researcher from the local Hot-Dog stand. The $2.50 coupon was used to receive a free Hot-Dog and water.

Sample Size

The collected data from the participants’ responses was used for statistical tests. One of the primary tests is regression analysis. To make sure that this data has a large enough number to perform the statistical analysis, the sample size is calculated for regression analyses according to Green’s (1991) estimate: $n \text{ (sample size)} = 50 + 8(m)$, where “m” is the number of independent variables. The number of predictor variables in this study is 12. This includes ten for the bidders’ demographics, one for customer satisfaction and one for ease of use. To calculate the sample size for this study, the minimum sample size will be: $n = 50 + 8(12) = 146$, or at least 146 participants.
Sample Criteria

Eligibility Criteria. Visitors that met the following criteria were invited to participate:

1. Participants will be 18 years old or older.
2. Participants are able to read and write English.
3. Participants have purchased at least one item in an online auction within the last six months.

Exclusion Criteria. Visitors were not invited that met the following criteria:

1. The visitor who is younger than 18 years old.
2. Visitor who is not able to speak or write English.
3. Visitors who never participate in an online bidding process or have not participated within the past six months.

Instrumentation

The questionnaire was evaluated by experts, such as faculty members at Lynn University. In addition, family members were asked to fill out a questionnaire to see if online customers can understand and complete the instrument without difficulty. The four part instrument for this study is presented in Appendix A.

Part 1: Customer Satisfaction

Larsen, Attkisson, Hargreaves, and Nguyen’s (1979) Consumer Satisfaction, Client Satisfaction Questionnaire CSQ-8 is an instrument which is usually used after
someone has received a service. The questions focus on the service which the participant received. It uses a 4-answer multiple choice scale. Each question is worded in a positive fashion. Reliability: The coefficient alpha ranges from 0.83 to 0.93 in different studies. The instrument validity has been evaluated (Larsen et al., 1979).

For coding, the value of one (1) is the first or the most positive answer, and four (4) the last or the most negative answer. For example, the code for excellent was one (1), for good was two (2), for fair was three (3), and for poor was four (4).

Part 2: Ease of Use

Zhuang and Lederer’s (2004) Website Usefulness instrument was originally developed by Davis (1989). Many studies already measured the impact of the ease of use of the Web site. Ease of Use consists of the following: easy to read; understandable; easy to access related links; and easy to return or jump pages. Each question is worded in a positive fashion. The questionnaire was revised after four pilot tests. The validity was evaluated by t-test, item reliability, construct reliability, and average variance. All factors were significant (p<0.001). Discriminant validity was measured by chi-square test, variance-extracted test, and confidence interval test. All The questions are measured by a 5-point Likert scale ranging from 1 = “strongly agree” to 5 = “strongly disagree” (Zhuang & Lederer, 2004)

Part 3: Bidding Behavior

Collier and Bienstock’s (2006b) E-Service Quality Questionnaire pretest survey had numerous questions. Five (5) dealt with ease of use, four (4) dealt with privacy, eleven (11) dealt with design, eight (8) dealt with functionality, three (3) dealt with
timeliness, three (3) dealt with order accuracy, ten (10) dealt with interactive fairness, four (4) dealt with outcome fairness, six (6) dealt with procedural fairness, five (5) dealt with satisfaction and two (2) dealt with behavioral intentions. A 5-point Likert-type scale was used. The scale coding ranges from 1 = totally agree and 5 = totally disagree.

The reliability of the survey instrument was tested by calculating the coefficient alpha. For the satisfaction and behavioral intention the authors performed a confirmatory factor analysis. The authors had an acceptable level of reliability (α ≥ .70). The satisfaction was α = .905, and the behavioral intentions were α = .931 (Collier and Bienstock, 2006b).

**Part 4: Demographic and Shopping Characteristics Information**

Part 4 of the questionnaire addresses the demographic and shopping characteristics of participants. The demographics begin with gender. The code for male is 1, and for female the code is 2.

The next demographic question is the participant’s age. The age categories were 18 to 25 (coded as 1), 26 to 35 (coded as 2), 36 to 45 (coded as 3), 46 to 55 (coded as 4), 56 to 65 (coded as 5), 66 and older (coded as 6).

The level of education was taken into account. The categories are No high school degree (coded as 1), High school graduate (coded as 2), GED recipient (coded as 3), some college without receiving degree (coded as 4), Associate degree (coded as 5), Bachelors degree (coded as 6), Masters Degree (coded as 7), or Ph. D. (coded as 8).
The participants’ primary language (spoken at home) was taken into consideration. The choices included English (coded as 1), Spanish (coded as 2), and Other (coded as 3).

Gross monthly income was asked. The choices were $35,000.00 or less (coded as 1), $35,001.00 to $50,000.00 (coded as 2), $50,001.00 to $65,000.00 (coded as 3), $65,001.00 to $80,000.00 (coded as 4), $80,001.00 to $100,000.00 (coded as 5) and the last one are more than $100,001.00 (coded as 6).

Number of people in the household was a question. Participants were asked if there is one family member (coded as 1), two (coded as 2), three or four (coded as 3), five or six (coded as 4) or more than six people (coded as 5).

Next is the marital status, single and never married (coded as 1), married (coded as 2), divorced (coded as 3) or widowed (coded as 4).

Occupation was also required. They were listed as Business owner/proprietor (coded as 1), Executive/Senior Management (coded as 2), other type of management (coded as 3), Professional (coded as 4), Technical (coded as 5), Sales (coded as 6), and Administrative (coded as 7), Full time parent/homemaker (coded as 8), Student (coded as 9), Retired (coded as 10), and Unemployed (coded as 11).

Ethnicity was asked. The choices were Caucasian (coded as 1), African-American (coded as 2), Asian (coded as 3), European (coded as 4), Hispanic (coded as 5), Middle Eastern (coded as 6), Native American (coded as 7), and Double Nationality (coded as 8).

The place of residence was asked. The choices are: Urban (coded as 1), Suburban (coded as 2), Rural (coded as 3).
There were questions about the number of online purchases by the participants in the last six months. The answer were one (coded as 1), two (coded as 2), three to five (coded as 3), six to ten (coded as 4), eleven to twenty (coded as 5), and more than 20 (coded as 6).

The next question was about the amount the participants spent on average on online auction. Less than $5.00 (coded as 1), between $5.01 to $20.00 (coded as 2), between $20.01 to $50.00 (coded as 3), between $50.01 to $200.00 (coded as 4), between $200.01 to $2,000.00 (coded as 5), or more than $2,000.01 (coded as 6).

The next area was how long participants have been making online purchases through bidding. The answers are one year or less (coded as 1), 2 years (coded as 2), 3 to 5 years (coded as 3), 6 to 8 years (coded as 4), 9 to 12 years (coded as 5), more than 12 years (coded as 6).

Next was about who receive the items purchased on an online auction. The answers are the participants herself (coded as 1), household member (coded as 2), family member not in the household (coded as 3), friends not in the household (coded as 4), or the purchase target is business purpose (coded as 5), or resale purpose (coded as 6).

**Procedures**

**Ethical Considerations**

The researcher made sure that every step of this study was ethical and protected the participants.

1. The researcher asked permission from the instrument developers to use the instruments. An email was sent from her Lynn University email account to the
instrument developers, and the researcher has received approval to use all instruments (See Appendix B).

2. The researcher submitted an application to the Institutional Review Board (IRB) of Lynn University to get approval. After receiving the approval of the IRB, the data collection began.

3. It is important to protect the subjects’ safety and confidentiality in all aspects.

4. The participants were informed about the purpose of the study

5. By the participants agreeing to complete the questionnaire they have given their consent.

6. Anonymity was protected; no personal identifiers were required on the questionnaire. The researcher made sure that the participants are aware of the anonymity.

7. Since the participants were contacted at a public location it is not necessary to obtain any approval from the City of Boca Raton to conduct the data collection.

8. Systematic and proportionate sampling was used. Eligible participants were asked to fill out a paper and pen questionnaire at a public beach in Boca Raton.

9. During weekdays the first visitor was selected on the hour and the second on the half-hour for each hour. During weekends a visitor was selected every ten minutes. Weekdays and weekends were attended by the researcher. When visitor choose not to participate in the study, then the researcher selected the next eligible visitor.

10. The study is anonymous in order to protect the identity of all participants. There were no forms of identification on the questionnaire. The anonymity were
maintained by placing every filled out questionnaire in a box which was in front of the Hot-Dog stand. Data is reported as "group" responses. Identity is unknown. Participation in this survey is voluntary and return of the completed survey constitutes informed consent.

11. The results of this study will be published in a dissertation, scientific journal and/or presented at professional meetings. Individual privacy will be maintained in all publications or presentations resulting from this study. All the data gathered during this study, which was previously described, were and will be kept strictly confidential by the researcher.

12. Data will be stored in locked files and destroyed five years after at the end of the research. All information will be held in strict confidence and will not be disclosed unless required by law or regulation.

Data Collection Methods

A self-selected, self-reported methodology was used. Those who walk by were invited to participate. There was information on the table, so the potential participants were able to decide if they wanted to participate or not. The researcher approached beach visitors and asked them if they would be willing to participate in the survey. If they declined, the researcher wished them a good day at the beach. If they agreed, they were given a questionnaire. In addition, during weekdays the first visitor was selected on the hour and the second on the half-hour for each hour. During weekends a visitor was selected every ten minutes and the researcher spoke to those visitors. The researcher endeavored to reach as many people as possible.
A quantitative, non-experimental, correlational research design was used. The target population was people who are in South Florida, U.S.A., visiting a public beach in Boca Raton. The target population was people with online shopping experience during the last six months with any online auction. The researcher focused on online auction sites and used every response regardless of the product the eligible individual purchased online.

After IRB approval, the researcher began to collect the data. Paper and pen questionnaires were used because of the higher return rate. The subjects need to be over 18 years of age, be able to write and read in English, and have purchased online by bidding within the last six months. Every adult was able to participate. The location was a public beach in Boca Raton, Florida. The researcher had an opportunity to collect the data with an incentive by offering a free Hot-Dog and water from the local Hot-Dog stand to anyone who was willing to participate.

The plan was to dress comfortably and nicely to make people believe that the researcher was doing everything professionally. The researcher began discussions with the first person on the hour and in a few minutes the researcher was able to determine who was eligible to become a participant.

The questionnaire was given to the participants when they agreed to participate. The questionnaire was filled out by the participants; the researcher was in close proximity to answer any question in case the participants had any questions. The participants dropped the completed questionnaire in a closed box.

The sample was systematically selected. In this study, the researcher selected a visitor during specific times. During weekdays the first visitor were selected on the hour
and the second on the half-hour for each hour. During weekends a visitor was selected every ten minutes. The collection of the data was divided into two periods for weekdays and weekend. The first period was 7:00 A.M. through 12:00 P.M., and the second period was 12:01 P.M. through 5:00 P.M. Before 7:00 A.M. the beach is closed for the public, and after 5:00 P.M. the beach will be closed to the public.

The first visitor to be selected to complete to paper and pen questionnaire was the first one who arrived after 7:00 A.M. or after 12:01 P.M. When a visitor agreed to complete the questionnaire, the participant was informed that they could only complete the survey one time. In this way the researcher could avoid selecting the same visitor more than once during the data collection period. The researcher stayed at the beach during weekdays and weekends to collect the needed data for one week. As an incentive to the participants, the researcher was giving a coupon valued at $2.50 that was issued by the local Hot-Dog stand. The $2.50 coupon was used to receive a free Hot-Dog and water.

Methods of Data Analysis

This study used SPSS software to analyze the collected data. Descriptive statistics, Cronbach’s alpha, Pearson’s r correlation, simple regression, and multiple regressions were the statistical tools that were applied in this study. A four part questionnaire was given to each participant (See Appendix A). The first part of the questionnaire included question # 1 through # 8. These items were summed and then divided by eight to determining the value for customer satisfaction. The second part of the questionnaire included question # 9 through # 26. These items were summed and then
divided by eighteen to determining the value for ease of use. The third part of the questionnaire included question # 27 and # 28. These items were summed and then divided by two to determining the value for customer bidding behavior. Questions # 29 through # 38 included demographic questions. The last 4 questions which are # 39 through # 42 are shopping characteristics questions.

Through descriptive statistics, any data problems and statistical assumptions concerning the parameters used in this study were further examined. The research questions’ descriptive statistics described the beach visitors (frequency, percent, mean, and standard deviation). The variables were measured with scales. The consistency of the scales was estimated through Cronbach’s alpha. A Cronbach coefficient alpha for each of the scales needs to reach 0.70 for reliability (Nunnally and Bernstein, 1994). Pearson $r$ correlation coefficients instruments would further establish criterion related validity. Pearson $r$ correlation coefficients explored the bivariate relationship between Customer Satisfaction, ease of use and bidding behavior.

Research Question 1 is the relationship between consumer satisfaction and consumer bidding behavior in online auctions. To answer research question 1, hypothesis 1 were tested using simple regression.

Research Question 2 is the relationship between ease of use and consumer bidding behavior. To answer research question 2, hypothesis 2 was tested using simple regression.

Research Question 3 is the relationship between demographics, consumer satisfaction and consumer bidding behavior in online auctions. To answer research question 3, hypothesis 3 was tested using multiple regression.
Research Question 4 is the relationship between demographics, ease of use and consumer bidding behavior. To answer research question 4, hypothesis 4 was tested using multiple regression.

Research Question 5 is the relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions. To answer research question 5, hypothesis 5 was tested using multiple regression.

Simple and multiple regressions with a level of significance of 0.05 were used as criteria to not reject the hypotheses.

**Evaluation of the Research Methods**

Both internal and external validity were examined to discuss the strengths and weaknesses of the study. The factors other than independent variables (customer satisfaction, ease of use) that affected the dependent variable (bidding behavior) are concerned with internal validity. The strengths and weaknesses of the internal and external validities from the research methodology were evaluated as follows:

**Internal Validity: Strengths**

The study is quantitative, non-experimental, and an explanatory research design and is more valid than exploratory. This quantitative research design has a higher internal validity. Data analysis and procedures are considered appropriate for testing the hypotheses created in this study. Because of this the internal validity of the study strengthened. Data analysis and procedures are considered appropriate for testing the hypotheses created in this study. Because of this the internal validity of the study
strengthened. Valid and reliable research instruments were used. Close ended questions used in the questionnaire. The sample size is sufficient to conduct the data analysis.

**Internal Validity: Weaknesses**

The reliability of using multiple instruments may lessen the reliability. Using a non-experimental research design is a greater threat to internal validity than would be an experimental design.

**External Validity: Strengths**

The survey was completed in a natural environment and with a diverse accessible population, not in a laboratory setting. The proportionate and systematic sampling plan was adopted to decrease the sampling bias and to promote representativeness of the sample with the target population.

**External Validity: Weaknesses**

The study uses a convenient sample, so it limits the generalization of the study. The participants may be not be representative of the population throughout Florida, the United States, or internationally. The final data-producing sample was self-selected (only visitors who agreed to participate in the survey) and this introduced a selection bias that affected population validity. Limiting the setting where the sample is accessed to visitors on a beach in Boca Raton limited ecological validity.
Chapter III presented the research methods to test the five research hypothesis and answer the five research questions about the factors influencing consumer bidding behavior in online auctions (C2C). In this chapter the research design, population and sampling plan, instrumentation, procedures, methods of data analysis, and the evaluation of the research methods were presented. Chapter IV will present the findings of this study. Chapter V will discuss the findings.
CHAPTER IV
RESULTS

This chapter analyzes and presents the results on factors influencing consumer bidding behavior in online auctions (consumer-to-consumer). The data were analyzed statistically by the SPSS 19® program, which included descriptive distributions, exploratory factor analysis, reliability analysis, Pearson’s correlation, and simple and multiple regression analyses, to test the hypotheses and to answer the research questions.

This chapter is divided into two sections. The first section provides the descriptive statistics for the respondents in the study and data preparation, while the second section presents the results and findings for the relationships between the influencing factors and the bidding behavior in online auctions.

A total of 180 surveys were handed to eligible respondents. Of these 180 surveys, 158 surveys were usable or a 87.77% usable rate. Twenty-two surveys were not fully answered. The minimum requirement was 146 surveys, so 158 surveys was sufficient.

Descriptive Statistics
In this section descriptive statistics for the respondents are presented. This includes gender, age, level of education, primary language, gross yearly household income, numbers of people in the household, marital status, occupation status, ethnicity, location of residence, number of online purchases in the last six months, average total amount spent for each purchase, number of years in online purchases, and for whom the purchases were made.
Frequency distributions for the demographic variables are presented in Table 4-1.

Table 4-1

Demographic Characteristics and Frequency Distribution

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (N=158)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>90</td>
<td>57.0</td>
</tr>
<tr>
<td>Female</td>
<td>68</td>
<td>43.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>86</td>
<td>54.4</td>
</tr>
<tr>
<td>26-35</td>
<td>18</td>
<td>11.4</td>
</tr>
<tr>
<td>36-45</td>
<td>24</td>
<td>15.2</td>
</tr>
<tr>
<td>46-55</td>
<td>19</td>
<td>12.0</td>
</tr>
<tr>
<td>56-65</td>
<td>8</td>
<td>5.1</td>
</tr>
<tr>
<td>66 and older</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No High School Degree</td>
<td>14</td>
<td>8.9</td>
</tr>
<tr>
<td>High School Degree</td>
<td>50</td>
<td>31.6</td>
</tr>
<tr>
<td>GED</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Some College, but did not receive a</td>
<td>32</td>
<td>20.3</td>
</tr>
<tr>
<td>degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Degree</td>
<td>10</td>
<td>6.3</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>29</td>
<td>18.4</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>16</td>
<td>10.1</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Primary Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>138</td>
<td>87.3</td>
</tr>
<tr>
<td>Spanish</td>
<td>14</td>
<td>8.9</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>3.8</td>
</tr>
<tr>
<td>Gross Yearly Household Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$35,000 or less</td>
<td>54</td>
<td>34.2</td>
</tr>
<tr>
<td>$35,001-$50,000</td>
<td>31</td>
<td>19.6</td>
</tr>
<tr>
<td>$50,001-$65,000</td>
<td>14</td>
<td>8.9</td>
</tr>
<tr>
<td>$65,001-$80,000</td>
<td>16</td>
<td>10.1</td>
</tr>
<tr>
<td>$80,001-$100,000</td>
<td>12</td>
<td>7.6</td>
</tr>
<tr>
<td>More than $100,000</td>
<td>31</td>
<td>19.6</td>
</tr>
</tbody>
</table>
Table 4-1 Continued

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (N=158)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of People in Household</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>26</td>
<td>16.5</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>26.6</td>
</tr>
<tr>
<td>3 or 4</td>
<td>59</td>
<td>37.3</td>
</tr>
<tr>
<td>5 or 6</td>
<td>30</td>
<td>19.0</td>
</tr>
<tr>
<td>More than 6 people</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single and Never Married</td>
<td>89</td>
<td>56.4</td>
</tr>
<tr>
<td>Married</td>
<td>49</td>
<td>31.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>19</td>
<td>12.0</td>
</tr>
<tr>
<td>Widowed</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Occupation Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner/Proprietor</td>
<td>24</td>
<td>15.2</td>
</tr>
<tr>
<td>Executive/Senior Management</td>
<td>5</td>
<td>3.2</td>
</tr>
<tr>
<td>Other Management</td>
<td>9</td>
<td>5.7</td>
</tr>
<tr>
<td>Professional</td>
<td>25</td>
<td>15.8</td>
</tr>
<tr>
<td>Technical</td>
<td>7</td>
<td>4.4</td>
</tr>
<tr>
<td>Sales</td>
<td>12</td>
<td>7.6</td>
</tr>
<tr>
<td>Administrative</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Homemaker/Full-time parent</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Student</td>
<td>47</td>
<td>29.7</td>
</tr>
<tr>
<td>Retired</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Not Employed</td>
<td>20</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>Ethnic Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>98</td>
<td>62.0</td>
</tr>
<tr>
<td>African American</td>
<td>6</td>
<td>3.8</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>European</td>
<td>7</td>
<td>4.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>36</td>
<td>22.8</td>
</tr>
<tr>
<td>Native American</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Double</td>
<td>6</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Location of Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>81</td>
<td>51.3</td>
</tr>
<tr>
<td>Suburban</td>
<td>61</td>
<td>38.6</td>
</tr>
<tr>
<td>Rural</td>
<td>16</td>
<td>10.1</td>
</tr>
</tbody>
</table>
The sample includes 158 respondents. The largest group of respondents were Caucasian males, between the ages of 18 to 25, single and never married, with at least a high school degree, and having at least 1 year of experience in online bidding. The majorities of respondents were (1) students who spoke English, (2) purchased at least one item in an online auction, (3) who earn $35,000.00 or less yearly, (4) spent an average of...
from $50.00 to $200.00 in online auctions, and (5) who purchased for themselves. The majority of the respondents live in urban areas, with three or four people in the household. The following figures are representations of the demographic findings. See Figure 4-1. Male (57.0%) and female (43.0%) respondents were adequately represented in this study.

**Figure 4-1.** Gender Distribution among the Sample (N=158)
The largest age group of respondents was 18 to 25 years of age (54.4%). This was followed by 36 to 45 years of age (15.2%). Another eighteen respondents were between the ages of 26 to 35, nineteen were between the ages of 46 to 55, eight were between the ages of 56 to 65, and three were 66 years old or older. See Figure 4-2.

**Figure 4-2.** Age Distribution among the Sample (N=158)
Fifty respondents (36.6%) had received a high school degree, which was followed by a group who received a Bachelor’s degree (18.4%). Out of 158 respondents, 14 had no high school degree, four had a GED, 32 started college but did not receive a degree, 10 had an associate’s degree, 16 had Master’s degrees, and three had Doctoral degrees. See Figure 4-3.

**Figure 4-3.** Education Distribution among the Sample (N=158)
Most respondents spoke English (87.3%) as a primary language, which was followed by respondents who speak Spanish (8.9%) as their primary language. Out of 158 respondents, six spoke a primary language other than English or Spanish. See Figure 4-4.

**Figure 4-4.** Primary Language Distribution among the Sample (N=158)
Fifty-four respondents (34.2%) made $35,000 or less a year. Thirty-one (19.6%) made more than $100,000 and another thirty-one (19.6%) made between $35,001 to $50,000 a year. Out of 158 respondents, fourteen made $50,001 to $65,000 a year, sixteen made $65,001 to $80,000, and twelve made $80,001 to $100,000 a year. See Figure 4-5.

**Figure 4-5.** Gross Yearly Household Income Distribution among the Sample (N=158)
Fifty-nine of the respondents (37.3%) have households of three or four people. Forty-two respondents (26.6%) have household of two people. Out of 158 respondents, 26 live alone, while 42 live with someone. Thirty have five or six people in the household, and one participant’s household has more than six members. See Figure 4-6.

**Figure 4-6.** Number of People in Household Distribution among the Sample (N=158)
Eighty-nine respondents (56.3%) were single and never married. Forty-eight (31.0%) were married. Out of 158 respondents, 19 were divorced and one was a widow. See Figure 4-7.

**Figure 4-7.** Marital Status Distribution among the Sample (N=158)
Forty-seven respondents (29.7%) were students. Twenty-five respondents (15.8%) work as professionals. Out of 158 respondents, twenty-four were owner/proprietors, five were executive/senior managers, nine were working in other management positions, seven had a technical job, twelve worked at sales, three as administrators, two were Homemaker/Full time Parent, four were retired, and twenty had no job. See Figure 4-8.

*Figure 4-8. Occupation Distribution among the Sample (N=158)*
The majority of the respondents (ninety-eight, representing 62.0% of the total) were Caucasian. Thirty-six (22.8%) were Hispanic. Out of 158 respondents, six were African American, two were Asian, seven were European, and three were Native American. There were no Middle Eastern respondents. Out of 158 respondents, six had double citizenship. See Figure 4-9.

Figure 4-9. Ethnicity Distribution among the Sample (N=158)
The locations of the residences are mostly urban (51.3%) or suburban (38.6%).

Out of 158 respondents, sixteen resided in rural settings. See Figure 4-10.

*Figure 4-10. Location of Residency Distribution among the Sample (N=158)*
Fifty-four respondents (34.2%) had made one online auction purchase in the last six months. Forty-three respondents (27.2%) had made three to five online auction purchases in that timeframe. Out of 158 respondents, thirty-five had made two online bidding purchases, nineteen had made six to ten online bidding purchases, four had made eleven to twenty online bidding purchases, and three had made more than twenty online bidding purchases. See Figure 4-11.

Figure 4-11. Number of Online Purchases Distribution among the Sample (N=158)
Forty-three respondents (27.2%) spent between $50.01 and $200.00 per purchase. Thirty-seven (23.4%) spent between $20.01 and $50.00. Out of 158 respondents, twenty-seven spent less than $5.00 per purchase, thirty-three spent between $5.01 and $20.00. Thirteen spent $200.01 and $2000.00, and five spent more than $2000.00 on an online purchase. See Figure 4-12.

**Figure 4-12.** Total Amount Spent Distribution among the Sample (N=158)
Fifty-five respondents (34.8%) have one year or less experience in online auctions. Forty-two (26.6%) have three to five years’ experience. Out of 158 respondents, thirty-four had two years of experience, eighteen had six to eight years of experience, eight had nine to twelve years of experience, and one had more than twelve years of experience in how to purchase something in an online auction site. See Figure 4-13.

Figure 4-13. Years of Experience Distribution among the Sample (N=158)
One hundred and twelve respondents (70.9%) made purchases for themselves. Thirty-one (19.6%) purchased something for household members. Out of 158 respondents, five purchased something for family member who were not in the household, one made a purchase for a friend not in the household, seven made purchases for business purpose, and two purchases were made because of resale opportunities. See Figure 4-14.

![Whom to Purchase Distribution among the Sample (N=158)](image)

**Figure 4-14.** Purchase for Whom Distribution among the Sample (N=158)
The examined mean, standard deviation, skewness, and kurtosis descriptive statistics for the sample population are presented in Table 4-2. The mean scores for gender is 1.43, for number of years is 2.08, for level of education is 3.89, for primary language is 1.16, for gross yearly household income is 2.96, for number of people in household is 2.61, for marital status is 1.57, for occupation status is 6.25, for ethnic group is 2.49, for location of residence is 1.59, for number of online purchases is 2.32, for total amount spent is 2.98, for years of experience is 2.32, and for whom to purchase is 1.52.

**Table 4-2**

Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Statistics</th>
<th>Std. Deviation Statistics</th>
<th>Skewness Statistics</th>
<th>Std. Error</th>
<th>Kurtosis Statistics</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male or Female</td>
<td>1.43</td>
<td>.497</td>
<td>.284</td>
<td>.193</td>
<td>-1.944</td>
<td>.384</td>
</tr>
<tr>
<td>Number of Years</td>
<td>2.08</td>
<td>1.394</td>
<td>1.020</td>
<td>.193</td>
<td>-.098</td>
<td>.384</td>
</tr>
<tr>
<td>Level of Education</td>
<td>3.89</td>
<td>2.028</td>
<td>.236</td>
<td>.193</td>
<td>-1.274</td>
<td>.384</td>
</tr>
<tr>
<td>Primary Language</td>
<td>1.16</td>
<td>.463</td>
<td>2.894</td>
<td>.193</td>
<td>7.702</td>
<td>.384</td>
</tr>
<tr>
<td>Gross Yearly Household Income</td>
<td>2.96</td>
<td>1.938</td>
<td>.490</td>
<td>.193</td>
<td>-1.326</td>
<td>.384</td>
</tr>
<tr>
<td>Number of People in Household</td>
<td>2.61</td>
<td>.996</td>
<td>-.125</td>
<td>.193</td>
<td>-8.62</td>
<td>.384</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1.57</td>
<td>.726</td>
<td>.968</td>
<td>.193</td>
<td>-.068</td>
<td>.384</td>
</tr>
<tr>
<td>Occupation Status</td>
<td>6.25</td>
<td>3.438</td>
<td>-.181</td>
<td>.193</td>
<td>-1.390</td>
<td>.384</td>
</tr>
<tr>
<td>Ethnic Group</td>
<td>2.49</td>
<td>2.120</td>
<td>1.052</td>
<td>.193</td>
<td>-.195</td>
<td>.384</td>
</tr>
<tr>
<td>Location of Residence</td>
<td>1.59</td>
<td>.669</td>
<td>.705</td>
<td>.193</td>
<td>-.581</td>
<td>.384</td>
</tr>
<tr>
<td>Number of Online Purchases</td>
<td>2.32</td>
<td>1.238</td>
<td>.690</td>
<td>.193</td>
<td>-.016</td>
<td>.384</td>
</tr>
<tr>
<td>Total Amount Spent</td>
<td>2.98</td>
<td>1.338</td>
<td>.132</td>
<td>.193</td>
<td>-.735</td>
<td>.384</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>2.32</td>
<td>1.238</td>
<td>.588</td>
<td>.193</td>
<td>-.482</td>
<td>.384</td>
</tr>
<tr>
<td>Whom to Purchase</td>
<td>1.52</td>
<td>1.069</td>
<td>2.611</td>
<td>.193</td>
<td>6.597</td>
<td>.384</td>
</tr>
</tbody>
</table>
Results and Findings

Prior to analyzing the hypotheses and answering the research questions for this study, an exploratory factor analysis was conducted on the items of the Consumer Satisfaction Questionnaire, Website Ease of Use Questionnaire and E-service Quality questionnaire used in this study. This was done in order to determine if there were any other underlying factors on the survey instrument, as well as to determine whether the items for each component were found to comprise the desired outcome variables. This meant that since there were instruments used in the study, the validation and reliability of the instruments would have to be examined in order to make sure that each instrument is valid and reliable when used in combination with the others.

For the exploratory factor analysis (EFA), only factor loadings that were observed to be greater or equal to .50 were retained in the analysis. Similarly, only those factors that were observed to have eigenvalues greater or equal to 1.00 were retained in the model. To better illustrate each of the factors a varimax rotation was used on the variables. This essentially maximizes the variation between the items and the factors. This meant that smaller factor loadings became smaller and larger factor loadings were made larger for ease of interpretation (Darren & Mallery, 2010).
The results of the factor analysis for the entire sample are presented in Table 4-3.

**Table 4-3**

*Factor Loadings for the Factor Analysis on the Survey Instruments*

<table>
<thead>
<tr>
<th>Service Wanted</th>
<th>Factor 1</th>
<th>Website Meet Needs</th>
<th>Factor 2</th>
<th>Recommend to Friend</th>
<th>Factor 3</th>
<th>Satisfy with Help</th>
<th>Factor 2</th>
<th>Service Helped</th>
<th>Factor 3</th>
<th>Overall Satisfaction</th>
<th>Factor 2</th>
<th>Come Back</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.711</td>
<td></td>
<td>.676</td>
<td></td>
<td>.753</td>
<td>.718</td>
<td>.646</td>
<td>.744</td>
<td>.783</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Worldwide Order</td>
<td></td>
<td></td>
<td>.470</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Frequently Asked Questions</td>
<td>.155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Company Policies</td>
<td>.273</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>.082</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compare Products</td>
<td>-.221</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Products</td>
<td>-.104</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website Return Answers</td>
<td>-.060</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Order Online</td>
<td>.044</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Secure Online Order</td>
<td>.108</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order Tracking</td>
<td>.224</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quickly Loads</td>
<td>.303</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loads Large Volumes</td>
<td>.314</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrequently Crashes</td>
<td>.341</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Description</td>
<td>-.231</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy to Navigate</td>
<td>-.039</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides Links</td>
<td>-.208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intent to Purchase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.937</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 8 iterations.
From the consumer satisfaction questions the quality of service component was extracted because the initial eigenvalues were greater than 1. From the ease of use questions two components had eigenvalue lower than 1, so they were extracted. The two components were the “Respond in 48 hours” question and the “Access to human” question. Last of all, the intent to visit component was extracted from the bidding behaviors questions because the eigenvalue was lower than 1. The consumer satisfaction scores had factor loadings from .646 to .783. The ease of use scores factor loadings were from -.470 to .341. The bidding behavior score factor loading was .937.

It was found that the questions on the survey instrument did measure the variables that they were intended to measure. To illustrate the reliability between the items on the survey instrument, Cronbach’s alpha statistics were computed for each underlying variable. A reliability analysis is presented in Table 4-4 for the consumer satisfaction scores, website ease of use scores, and bidding behavior scores.

Table 4-4

Reliability Analysis for the Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Satisfaction</td>
<td>7</td>
<td>.849</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>16</td>
<td>.940</td>
</tr>
<tr>
<td>Bidding Behavior</td>
<td>1</td>
<td>(see explanation below)</td>
</tr>
</tbody>
</table>

For the purpose of this study, the reliability coefficients were computed using only the questions that were provided on the survey instrument for the consumer
satisfaction scores, website ease of use scores, and bidding behavior scores. Based on the internal consistency/reliability measurements using Cronbach’s alpha statistics, it was observed that two of the underlying variables that were being measured by the survey instrument resulted in very reliable estimates. This is because the lowest coefficient was observed to be equal to .849 (for the consumer satisfaction variable), while the highest coefficient was observed with an alpha coefficient of .940 (for the website usefulness score). This indicated that the questions used on the survey instrument did measure the desired constructs with an alpha of greater than 0.70 (Nunnally and Bernstein, 1994). For the bidding behavior score Cronbach’s alpha was not calculated because out of the two items one was extracted since its eigenvalue was higher than 1, and only one item is the measure for bidding behavior.

A Pearson correlation coefficient was performed for the independent variables. The results are show in Table 4-5. No findings exceed .800, indicating acceptable levels of correlation. Bidding behavior had the highest Pearson’s correlation coefficient, .632, to ease of use.

Table 4-5

Pearson Correlation Coefficient for Consumer Satisfaction Variables

<table>
<thead>
<tr>
<th></th>
<th>Satisfaction</th>
<th>Ease of Use</th>
<th>Bidding Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td>.574</td>
<td>1.000</td>
</tr>
<tr>
<td>Ease of Use</td>
<td></td>
<td></td>
<td>.632</td>
</tr>
<tr>
<td>Bidding Behavior</td>
<td>.492</td>
<td>.632</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* and ** indicate 2-tailed significances of <0.01 and <0.05 (difference) levels, respectively.
The next steps were to test the five hypotheses and then answer the five research questions.

**Findings of Research Questions**

To address the five research question five hypotheses were examined. The first two hypotheses were addressed by conducting simple regression analysis. The last three hypotheses were addressed by conducting multiple regression analysis.

**Research Question 1.** What is the relationship between consumer satisfaction and consumer bidding behavior in online auctions? In order to address this research question the following hypothesis was examined. H1: There is a significant relationship between consumer satisfaction and consumer bidding behavior in online auctions.

To analyze the hypothesis, a simple regression analysis was conducted. The independent variable that was included in the model was the consumer satisfaction, and the dependent variable is the consumer online bidding behavior. The R statistic provided the value. R square was used to measure how much of the variability in the outcome was accounted for by the predictor. The value was .242, which means that consumer satisfaction accounted for 24.2% of consumer online bidding behavior. In addition, adjusted R square was used to measure how well the models generalize. Ideally, adjusted R square (.238) and R square (.242) should be very close, or the same. The difference between the two equaled .004 (about 0.4%). This difference means that if the model was derived from the population rather than a sample, it would have accounted for approximately 0.4% less variance in the outcome.
The results for the first simple regression analysis are presented in Table 4-6.

**Table 4-6**

*Simple Regression Results with Consumer Satisfaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.422</td>
<td>.194</td>
<td>2.176</td>
<td>.031</td>
<td></td>
</tr>
<tr>
<td>Consumer Satisfaction</td>
<td>.845</td>
<td>.120</td>
<td>.492</td>
<td>7.065</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note. R=.492, R Squared = .242, Adjusted R Square=.238

The consumer satisfaction variable was statistically significant ($t = 7.065, p < .001$). The model predicted that for every unit increase in the consumer satisfaction scores, the bidding behavior increased by .845.

Additional results for the simple regression analysis are presented in Table 4-7. The ANOVA results are that there is a significant difference for consumer satisfaction scores ($F=49.917, p=0.000$). This model was able to explain 23.8% of the variation in the dependent variable.

**Table 4-7**

*ANOVA Results for Bidding Behavior and Consumer Satisfaction*

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Satisfaction</td>
<td>24.4444</td>
<td>1</td>
<td>24.444</td>
<td>49.917</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>76.392</td>
<td>156</td>
<td>.490</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.835</td>
<td>157</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable = Bidding Behavior
Based on the statistical results, research question 1 can be answered affirmatively.

**Research Question 1:** What is the relationship between consumer satisfaction and consumer bidding behavior in online auctions?

**Findings:** Consumer Satisfaction has a significant relationship with bidding behavior in online auctions. Therefore Hypothesis 1 is supported.

**Research Question 2.** What is the relationship between ease of use and consumer bidding behavior? In order to address this research question the following hypothesis was examined. H2: There is a significant relationship between ease of use and consumer bidding behavior in online auctions.

To address the hypothesis, a simple regression analysis was conducted. The independent variable that was included in the model was the ease of use, and the dependent variable was the consumer online bidding behavior. The R statistic provided the value. R square was used to measure how much of the variability in the outcome was accounted for by the predictor. The value was .399, which means that consumer satisfaction accounted for 39.9% of consumer bidding behavior. In addition, adjusted R square was used to measure how well the models generalize. Ideally, adjusted R square (.395) and R square (.399) should be very close, or the same. The difference between the two equaled .004 (about 0.4%). This difference means that if the model was derived from the population rather than a sample, it would have accounted for approximately 0.4% less variance in the outcome.
The results for the second simple regression analysis are presented in Table 4-8 and in Table 4-9.

**Table 4-8**

*Simple Regression Results with Ease of Use*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.284</td>
<td>0.151</td>
<td>1.880</td>
<td>1.880</td>
<td>0.062</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>0.798</td>
<td>0.078</td>
<td>0.632</td>
<td>10.176</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note. R=.632, R Squared = .399, Adjusted R Square=.395

The ease of use variable was statistically significant \( t = 10.176, \ p < .001 \). The model predicted that for every unit increase in the website ease of use scores, the bidding behavior increased by .798 units. Additional result for the simple regression analysis is presented in Table 4-9. The ANOVA results are that there is a significant difference for website ease of use scores \( F=103.554, \ p=.00 \). This model was able to explain 39.5% of the variation in the dependent variable.

**Table 4-9**

*ANOVA Results for Bidding Behavior and Ease of Use*

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use</td>
<td>40.230</td>
<td>1</td>
<td>40.230</td>
<td>103.554</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>60.605</td>
<td>156</td>
<td>.388</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.835</td>
<td>157</td>
<td>.388</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable = Bidding Behavior
Based on the results research question 2 can be answered affirmatively.

**Research Question 2**: What is the relationship between ease of use and consumer bidding behavior?

**Findings**: Ease of use has a significant relationship with bidding behavior in online auctions. Therefore Hypothesis 2 is supported.

**Research Question 3**: What is the relationship between demographics, consumer satisfaction and consumer bidding behavior in online auctions? In order to address this research question the following hypothesis was examined. H3: There is a significant relationship between demographics of bidders, consumer satisfaction and consumer bidding behavior in online auctions.

To address the hypothesis, a multiple regression analysis was conducted. The independent variables that were included in the model were the demographics of bidders and customer satisfaction, and the dependent variable was the consumer online bidding behavior. The R statistic provided the value. R square was used to measure how much of the variability in the outcome was accounted for by the predictor. The value was .269, which means that consumer satisfaction accounted for 26.9% of the variability. In addition, adjusted R square was used to measure how well the models generalize. Ideally, adjusted R square (.192) and R square (.269) should be very close, or the same. The difference between the two equaled .077 (about 7.7%). This decrease means that if the model was derived from the population rather than a sample, it would account for approximately 7.7% less variance in the outcome.
The results for the first multiple regression analysis are presented in Table 4-10.

**Table 4-10**

*Multiple Regression with Consumer Satisfaction Variables and Demographics of Bidders*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>( \beta )</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.936</td>
<td>.441</td>
<td></td>
<td>2.121</td>
<td>.036</td>
</tr>
<tr>
<td>Consumer Satisfaction</td>
<td>.049</td>
<td>.121</td>
<td>.030</td>
<td>.404</td>
<td>.687</td>
</tr>
<tr>
<td>Gender</td>
<td>-.013</td>
<td>.059</td>
<td>-.023</td>
<td>-.229</td>
<td>.819</td>
</tr>
<tr>
<td>Age</td>
<td>.001</td>
<td>.035</td>
<td>.003</td>
<td>.034</td>
<td>.973</td>
</tr>
<tr>
<td>Level of Education</td>
<td>-.044</td>
<td>.139</td>
<td>-.026</td>
<td>-.320</td>
<td>.749</td>
</tr>
<tr>
<td>Primary Language</td>
<td>.014</td>
<td>.036</td>
<td>.034</td>
<td>.391</td>
<td>.697</td>
</tr>
<tr>
<td>Gross Yearly Household Income</td>
<td>-.055</td>
<td>.065</td>
<td>-.069</td>
<td>-.854</td>
<td>.394</td>
</tr>
<tr>
<td>Number of People in Household</td>
<td>-.031</td>
<td>.116</td>
<td>-.028</td>
<td>-.270</td>
<td>.787</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-.009</td>
<td>.020</td>
<td>-.039</td>
<td>-.460</td>
<td>.646</td>
</tr>
<tr>
<td>Occupation Status</td>
<td>.001</td>
<td>.031</td>
<td>.003</td>
<td>.035</td>
<td>.972</td>
</tr>
<tr>
<td>Ethnic Group</td>
<td>-.081</td>
<td>.093</td>
<td>-.068</td>
<td>-.876</td>
<td>.383</td>
</tr>
<tr>
<td>Location of Residence</td>
<td>-.075</td>
<td>.058</td>
<td>-.117</td>
<td>-1.300</td>
<td>.196</td>
</tr>
<tr>
<td>Number of Online Purchases</td>
<td>.028</td>
<td>.054</td>
<td>.047</td>
<td>.514</td>
<td>.608</td>
</tr>
<tr>
<td>Total Amount Spent</td>
<td>-.027</td>
<td>.062</td>
<td>-.041</td>
<td>-.430</td>
<td>.668</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>.021</td>
<td>.059</td>
<td>.029</td>
<td>.361</td>
<td>.718</td>
</tr>
<tr>
<td>Whom to Purchase</td>
<td>.009</td>
<td>.055</td>
<td>.012</td>
<td>.162</td>
<td>.872</td>
</tr>
</tbody>
</table>

*Note. R=.519, R Squared = .269, Adjusted R Squared= .192, Dependent Variable = Bidding Behavior*
The regression model was able to explain a total of 19.2% of the variation in the bidding behavior variable. The model predicted that for every unit increase in the consumer satisfaction scores, the bidding behavior increased by .049 units. It should also be noted that consumer satisfaction with the largest standardized beta weight (β=.030) has the largest correlation with the dependent variable which is the bidding behavior.

Additional results for the multiple regression analysis are presented in Table 4-11. The ANOVA results are that there is a significant difference for consumer satisfaction scores (F=3.491, p=.00).

Table 4-11
ANOVA Results for Bidding Behavior, Consumer Satisfaction, and Demographics of Bidders

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Satisfaction</td>
<td>27.167</td>
<td>15</td>
<td>1.811</td>
<td>3.491</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>73.669</td>
<td>142</td>
<td>.519</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.835</td>
<td>157</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results research question 3 can be answered, stating that based on the data collected from the eligible respondents. Research question 3 can be answered negatively since no independent variable is significant at 0.05.

*Research Question 3: What is the relationship between demographics, consumer satisfaction and consumer bidding behavior in online auctions?*
Findings: Demographics and consumer satisfaction has no significant relationship with bidding behavior in online auctions, because p value is not equal or less than 0.05 and the hypotheses 3 is not supported.

Research Question 4. What is the relationship between demographics, ease of use and consumer bidding behavior? In order to address this research question the following hypothesis was examined. H4: There is a significant relationship between demographics of bidders, ease of use and consumer bidding behavior in online auctions.

To address the hypothesis, a multiple regression analysis was conducted. The independent variables that were included in the model were the demographics of bidders, and ease of use, and the dependent variable was the consumer online bidding behavior.

The R statistic provided the value. R square was used to measure how much of the variability in the outcome was accounted for by the predictor. The value was .431, which means that consumer satisfaction accounted for 43.1% of the variability. In addition, adjusted R square was used to measure how well the models generalize. Ideally, adjusted R square (.371) and R square (.431) should be very close, or the same. The difference between the two equaled .060 (about 6.0%). This difference means that if the model was derived from the population rather than a sample, it would have accounted for approximately 6.0% less variance in the outcome.
The results for the second multiple regression analysis are presented in Table 4-12 and in Table 4-13.

Table 4-12

*Multiple Regression with Ease of Use Variables and Demographics of Bidders*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.175</td>
<td>.407</td>
<td>.430</td>
<td>.668</td>
<td></td>
</tr>
<tr>
<td>Ease of Use</td>
<td>.812</td>
<td>.087</td>
<td>.643</td>
<td>9.353</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>.118</td>
<td>.106</td>
<td>.073</td>
<td>1.109</td>
<td>.269</td>
</tr>
<tr>
<td>Age</td>
<td>.025</td>
<td>.051</td>
<td>.044</td>
<td>.492</td>
<td>.623</td>
</tr>
<tr>
<td>Level of Education</td>
<td>-.002</td>
<td>.031</td>
<td>-.004</td>
<td>-.050</td>
<td>.961</td>
</tr>
<tr>
<td>Primary Language</td>
<td>-.170</td>
<td>.122</td>
<td>-.098</td>
<td>-1.392</td>
<td>.166</td>
</tr>
<tr>
<td>Gross Yearly Household</td>
<td>.023</td>
<td>.032</td>
<td>.056</td>
<td>.722</td>
<td>.471</td>
</tr>
<tr>
<td>Number of People in</td>
<td>.011</td>
<td>.058</td>
<td>.013</td>
<td>.183</td>
<td>.855</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-.054</td>
<td>.103</td>
<td>-.049</td>
<td>-.527</td>
<td>.599</td>
</tr>
<tr>
<td>Occupation Status</td>
<td>.014</td>
<td>.017</td>
<td>.062</td>
<td>.830</td>
<td>.408</td>
</tr>
<tr>
<td>Ethnic Group</td>
<td>.014</td>
<td>.028</td>
<td>.036</td>
<td>.486</td>
<td>.628</td>
</tr>
<tr>
<td>Location of Residence</td>
<td>-.034</td>
<td>.082</td>
<td>-.028</td>
<td>-.408</td>
<td>.684</td>
</tr>
<tr>
<td>Number of Online</td>
<td>-.044</td>
<td>.051</td>
<td>-.067</td>
<td>-.846</td>
<td>.399</td>
</tr>
<tr>
<td>Total Amount Spent</td>
<td>.041</td>
<td>.047</td>
<td>.069</td>
<td>.872</td>
<td>.385</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>-.017</td>
<td>.055</td>
<td>-.027</td>
<td>-.316</td>
<td>.752</td>
</tr>
<tr>
<td>Whom to Purchase</td>
<td>.002</td>
<td>.052</td>
<td>.002</td>
<td>.033</td>
<td>.974</td>
</tr>
</tbody>
</table>

Note. R=.656, R Square = .431, Adjusted R Square=.371, Dependent Variable = Bidding Behavior

The regression model was able to explain a total of 37.1% of the variation in the bidding behavior variable. Among the variables the ease of use (t=9.353, p<.001) was significant. The model predicted that for every unit increase in the consumer satisfaction scores, the bidding behavior increased by .812 units. It should also be noted that ease of use with the largest beta weight (B=.643) has the largest correlation with the dependent variable which is the bidding behavior.
Additional results for the multiple regression analysis are presented in Table 4-13. The ANOVA results are that there is a significant difference for ease of use scores ($F=7.167$, $p<.001$).

**Table 4-13**

**ANOVA Results for Bidding Behavior, Ease of Use, and Demographics of Bidders**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use</td>
<td>43.446</td>
<td>15</td>
<td>2.896</td>
<td>7.167</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>57.390</td>
<td>142</td>
<td>.404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.835</td>
<td>157</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results research question 4 can be answered, stating that based on the data collected from the eligible respondents. Research question 4 can be answered partially affirmatively.

**Research Question 4:** What is the relationship between demographics, ease of use and consumer bidding behavior?

**Findings:** Ease of use is the only independent variable that was significant at equal to or less than 0.05. No demographic variable was significant. Therefore hypothesis 4 is partially supported.

**Research Question 5.** What is the relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions?
In order to address this research question the following hypothesis was examined. H5: There is a significant relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions.

To address the hypothesis, a multiple regression analysis was conducted. The independent variables that were included in the model were the demographics of bidders, customer satisfaction, and ease of use, and the dependent variable is the consumer online bidding behavior. The R statistic provided the value. R square was used to measure how much of the variability in the outcome was accounted for by the predictor. The value was .448, which means that consumer satisfaction accounted for 44.8% of the variability. In addition, adjusted R square was used to measure how well the models generalize. Ideally, adjusted R square (.385) and R square (.448) should be very close, or the same. The difference between the two equaled .063 (about 6.3%). This difference means that if the model was derived from the population rather than a sample, it would have accounted for approximately 6.3% less variance in the outcome.
The results for the third multiple regression analysis are presented in Table 4-14 and in Table 4-15.

### Table 4-14

**Multiple Regression Results with Consumer Satisfaction Variables, Ease of Use variables, and Demographics of Bidders**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.063</td>
<td>.406</td>
<td>.155</td>
<td>.877</td>
<td></td>
</tr>
<tr>
<td>Consumer Satisfaction</td>
<td>.292</td>
<td>.140</td>
<td>.170</td>
<td>2.092</td>
<td>.038</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>.694</td>
<td>.103</td>
<td>.549</td>
<td>6.754</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>.095</td>
<td>.106</td>
<td>.059</td>
<td>.899</td>
<td>.370</td>
</tr>
<tr>
<td>Number of Years</td>
<td>.011</td>
<td>.051</td>
<td>.020</td>
<td>.222</td>
<td>.825</td>
</tr>
<tr>
<td>Level of Education</td>
<td>.000</td>
<td>.031</td>
<td>.001</td>
<td>.016</td>
<td>.988</td>
</tr>
<tr>
<td>Primary Language</td>
<td>-.134</td>
<td>.122</td>
<td>-.078</td>
<td>-1.100</td>
<td>.273</td>
</tr>
<tr>
<td>Gross Yearly Household</td>
<td>.019</td>
<td>.031</td>
<td>.047</td>
<td>.615</td>
<td>.540</td>
</tr>
<tr>
<td>Number of People in</td>
<td>.006</td>
<td>.057</td>
<td>.008</td>
<td>.111</td>
<td>.912</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-.052</td>
<td>.101</td>
<td>-.047</td>
<td>-.517</td>
<td>.606</td>
</tr>
<tr>
<td>Occupation Status</td>
<td>.010</td>
<td>.017</td>
<td>.043</td>
<td>.576</td>
<td>.566</td>
</tr>
<tr>
<td>Ethnic Group</td>
<td>.014</td>
<td>.027</td>
<td>.037</td>
<td>.507</td>
<td>.613</td>
</tr>
<tr>
<td>Location of Residence</td>
<td>-.036</td>
<td>.081</td>
<td>-.030</td>
<td>-.441</td>
<td>.660</td>
</tr>
<tr>
<td>Number of Online</td>
<td>-.042</td>
<td>.051</td>
<td>-.065</td>
<td>-.823</td>
<td>.412</td>
</tr>
<tr>
<td>Total Amount Spent</td>
<td>.026</td>
<td>.047</td>
<td>.043</td>
<td>.540</td>
<td>.590</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>-.020</td>
<td>.054</td>
<td>-.032</td>
<td>-.380</td>
<td>.705</td>
</tr>
<tr>
<td>Whom to Purchase</td>
<td>-.008</td>
<td>.052</td>
<td>-.011</td>
<td>-.155</td>
<td>.877</td>
</tr>
</tbody>
</table>

Note. R=.669, R Squared = .448, Adjusted R Squared=.385, Dependent Variable = Bidding Behavior

The regression model was able to explain a total of 44.8% of the variation in the bidding behavior variable. Among the variables the ease of use (t=6.754, p<.001) was significant and the consumer satisfaction (t=2.092, p<.001) was significant. The model predicted that for every unit increase in the ease of use scores, the bidding behavior increased by .694 units. It should also be noted that ease of use with the largest beta weight (β = .549) has the largest correlation and significant with the dependent variable.
which is the bidding behavior. Additional result for the multiple regression analysis is presented in Table 4-16. The ANOVA results are that there is a significant difference for website ease of use scores ($F=7.1525, p<.001$).

Table 4-15

**Multiple Regression Results for Bidding Behavior, Consumer Satisfaction, Ease of Use, and Demographics of Bidders**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use</td>
<td>45.174</td>
<td>16</td>
<td>2.823</td>
<td>7.152</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>55.661</td>
<td>141</td>
<td>.395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.835</td>
<td>157</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results we can answer research question 5, stating that based on the data collected from the eligible respondents. Research question 5 can be answered partially affirmatively.

**Research Question 5:** What is the relationship between demographics of bidders, consumer satisfaction, ease of use, and consumer bidding behavior in online auctions?

**Findings:** Demographics have no significant relationships with bidding behavior in online auctions because $p$ value is not equal or less than 0.05 for the variables. However, $p$ value is .038 for consumer satisfaction and $p$ value is .000 for ease of use. Therefore, hypothesis 5 is partially supported.
Summary of Findings

To address the first hypothesis, simple regression analyses was conducted. The R Square was .242, which means that consumer satisfaction accounted for 24.2% of bidding behavior. The adjusted R square was .238. The consumer satisfaction variable was statistically significant (t = 7.065, p < .001). This model was able to explain 23.8% of the variation in the dependent variable. Consumer Satisfaction has a significant relationship with bidding behavior in online auctions. Therefore, hypothesis 1 was tested and the research question 1 was affirmatively answered.

To address the second hypothesis, a simple regression analysis was conducted. The R square was .399, which means that consumer satisfaction accounted for 39.9% of variability of bidding behavior. The adjusted R square was .395. The ease of use variable was statistically significant (t = 10.176, p < .001). This model was able to explain 39.5% of the variation in the dependent variable. Ease of use has a significant relationship with bidding behavior in online auctions. Therefore, hypothesis 2 was tested and the research question 2 was affirmatively answered.

To address the third hypothesis, multiple regression analyses were conducted. The R square was .269, which means that consumer satisfaction accounted for 26.9% of the variability. The adjusted R square was .192. The regression model was able to explain a total of 19.2% of the variation in the bidding behavior variable. Demographics and consumer satisfaction have no significant relationship with bidding behavior in online auctions and the hypothesis 3 is not supported. Therefore, hypothesis 3 was tested and the research question 3 was not affirmatively answered.
To address the fourth hypothesis, multiple regression analyses were conducted. The R Square was .431, which means that consumer satisfaction accounted for 43.1% of the variability. The adjusted R square is 0.371. The regression model was able to explain a total of 37.1% of the variation in the bidding behavior variable. Demographics and ease of use has partially significant relationship with bidding behavior in online auctions. Therefore, hypothesis 4 was tested and the research question 4 was partially affirmatively answered.

To address the fifth hypothesis, multiple regression analyses were conducted. The R Square was .448, which means that consumer satisfaction accounted for 44.8% of the variability. The adjusted R square is .385. Among the variables the ease of use (t=6.754, p<.001) was significant. Demographics, consumer satisfaction and ease of use have a partially significant relationship with bidding behavior in online auctions. Therefore, hypothesis 5 was tested and the research question 5 was partially affirmatively answered.

Chapter IV presented the findings of the study after testing the five research hypothesis and answering five research questions about the (demographics, customer satisfaction, and ease of use) factors influencing consumer bidding behavior in online auctions (C2C). The result finds that no demographic characteristics were significant in any of the five equations. However, ease of use was significant (H2, H4, H5), while customer satisfaction was in two models (H1, H5), but not in one (H3). Chapter V will discuss the findings.
CHAPTER V
DISCUSSION AND CONCLUSIONS

Discussion

The purpose of the study was to examine factors influencing consumer bidding behavior in online auctions (consumer-to-consumer). This was accomplished by using a non-experimental quantitative research design that collected information from participants. This chapter will provide a discussion of the results from Chapter 4 within the framework of the past literature. In this way, the research questions will be answered in order to gain a better understanding about the factors influencing consumer bidding behavior in online auctions. The research questions related to the major theories and empirical studies. The conclusions drawn about these questions will help to better understand and explain how factors can influence consumer bidding behavior.

The answers from this information will help online organizations to better understand consumers, and to increase their ability to sell.

Interpretations

There were five hypotheses tested in this study. Consumer satisfaction and ease of use were observed in this study to investigate how they affect online bidding behavior. In addition demographics and shopping characteristic of the bidders were observed in the study to see how these variables could affect a person during online bidding. In addition, personal demographic characteristics, number of online purchases, total amount spent, years of experience, and to whom to purchase were observed. The current study’s
findings with regard to these measures will be discussed within the framework of the findings from past research.

**Consumer Satisfaction**

Consumer satisfaction was measured in past research by Collier et al. (2006). They found that Web site interactivity and recovery from problems are the most important factors for customers. These two services are the most important to satisfy the customer, so the shopper’s attitude will be positive toward the next purchase online. This study supported this finding, confirming that consumer satisfaction is an important influencing factor in online bidding in two of the three hypotheses (H1, H5) testing this variable.

**Ease of Use**

In 2003 Nielsen was measuring website ease of use for the first time by participants. Collier at al. (2006a) conducted a study where they found that ease of use is important and without it customers will leave the site and never return. This study found that website ease of use is the most important factor for bidding participants in all three of the hypotheses (H2, H4, H5) testing this variable.

**Demographics of Bidders**

This study’s findings show that the demographics of bidders do not influence a person in a bidding process. Although the analysis revealed that individuals with higher income and higher education are more likely to bid in online auctions and younger individuals had a more positive attitude toward using online auction sites than older
people demographics is not a significant factor because all p values were higher than 0.05.

Bidding Behavior

Bapna et al. (2004) conducted a study where the authors concluded that users are improving their bidding strategies, and they are using technological advances. It takes time for bidders to learn all the technological advances that an online auction site provides. This study found that bidders learn the use of the technological advances by time. Demographics were not factors. However, ease of use was always a significant predictor and customer satisfaction was somewhat a predictor (in 2 of 3 models).

Practical Implications

More specific differences between these variables (ease of use and consumer satisfaction) could be further investigated to gain a better insight as to how they affect an individual’s behavior toward bidding in an online auction. Online bidding with the intent to purchase goods has become a topic of global interest. This study provided a better understanding on how factors can influence online bidding behavior. For example, during data collection the researcher was turned down by a lot of elderly people. Only 1.9 % participants were 66 or older. All of them stated a variation of: “It is hard for us to use those sophisticated online bidding sites!” The findings of this research along with future research should help online companies to increase their revenue by understanding their customers better. This study showed that customer satisfaction and ease of use are very important influencing factors for online bidding companies. It is important to make sure that bidders receive excellent customer satisfaction.
Conclusion

This study provided an overview of the major theories that served as a foundation for this study. There was also a discussion of the findings and past research that revealed any similarities and differences that may be helpful for future research. These findings indicate that an individual’s bidding behavior is influenced positively by factors like consumer satisfaction and ease of use and bidding behavior is not influenced by demographic characteristics.

Limitations

The limitations refer to the internal and external weaknesses in the validity of the study. The study only examined two influencing factors and the demographics. There are more factors which could influence online bidding behavior negatively or positively, such as product price, product quality, training, technology (Dillon and Reif, 1994).

The study adopted a non-experimental design so that the validity of the design was not controlled by the researcher. The sampling method that was employed in the study was not able to gather information from a generalized sample, so it was not a random sample of the entire population. The date were collected from a “high income beach area” in South Florida. The gross yearly income entered by participants is questionable compared to the average age online shopper population. The survey did not limit the asked experiences to one specific website. Some participants could have had a very bad experience by using only one website. If they could use another site their responses might have been totally different. Overall, improvements could be made in
order to increase the applicability of research results and conclusion. For example, select a different location for data collection, where a researcher could have a more generalized sample and select one specific website and collect data from respondents about the site. Finally, it would be important to examine more factors in online bidding to see if they have any influence on the bidding process, such as product price and product quality.

**Recommendations for Future Study**

There are four suggestions for future research. First, the demographics that are used in the sample population could be more closely examined. Additionally the population could be more varied in future research. A majority of the sample population in this study were Caucasian and 18 to 25 years old. The results from this study may not necessarily represent the all the influencing factors which has effect on online bidding behavior.

Second would be to find out how the older generation could have training about the use of Internet and online bidding sites. This study found that elderly individuals were by far the most unaccepting of technology. Further research should investigate as to causes for this.

Third, during data collection the researcher was turned down by older people when asking them to fill out the questionnaire. They stated that they never used any Internet site to purchase anything in their whole life. They think that online sites are hard to understand and they do not have financial trust in online auctions websites with their money. It means that how to involve elderly people with online auctions can be an area for the future study.
Last of all, a possible future study could be to find out why younger individuals spend more time with their computers, and how can online auction companies teach elderly people for the usage of the computers. As far as this study went, elderly or middle aged people have more money than younger individuals. The researcher can assume that an older people have harder time physically to go and find the best deals and/or prices in stores.

How online bidding companies can show them the easiness of online bidding, and the comfort of sitting in a chair, and receiving anything by delivery service sometimes in a cheaper price than from a regular store. If online bidding companies can learn marketing strategies to attract older generation, it could make a lot more money!
REFERENCES


BIBLIOGRAPHY


http://www.floridaauctioneers.org/home.asp


APPENDIXES

Appendix A

Survey Instruments
Part 1 Customer Satisfaction

Please provide information about your experiences in online auctions by answering questions about the type of service you received prior, during, and after your online purchase. Please, clearly mark (X) the best answer for your experiences. The CSQ Scales, including the CSQ-8, in all languages and media are Copyright (c) 1979, 1989, 1990, 2006, 2007, 2010 Clifford Attkisson, Ph.D. Use, transfer, copying, reproduction, merger, translation, modification, or enhancement (in any version, format, and/or media including electronic), in whole or in part, is forbidden without written permission by Dr. Attkisson.

1. How would you rate the quality of service you received?
   - [ ] Excellent
   - [ ] Good
   - [ ] Fair
   - [ ] Poor

2. Did you get the kind of service you wanted?
   - [ ] Yes, definitely
   - [ ] Yes, generally
   - [ ] No, not really
   - [ ] No, definitely not

3. To what extent has the website met your needs?
   - [ ] Almost all of my needs have been met
   - [ ] Most of my needs have been met
   - [ ] Only a few of my needs have been met
   - [ ] None of my needs have been met

4. If a friend were in need of similar help, would you recommend the website to him or her?
   - [ ] Yes, definitely
   - [ ] Yes, I think so
   - [ ] No, I don’t think so
   - [ ] No, definitely not

5. How satisfied are you with the amount of help you received?
   - [ ] Very satisfied
   - [ ] Mostly satisfied
   - [ ] Indifferent or mildly dissatisfied
   - [ ] Quite dissatisfied
6. Have the services you received helped you to deal more effectively with your online purchase?
- Yes, they helped a great deal
- Yes, they helped somewhat
- No, they really didn’t help
- No, they seemed to make things worse

7. In an overall, general sense, how satisfied are you with the service you received?
- Very satisfied
- Mostly satisfied
- Indifferent or mildly dissatisfied
- Quite dissatisfied

8. If you were to seek help again, would you come back to the website?
- Yes, definitely
- Yes, I think so
- No, I don’t think so
- No, definitely not

Adapted with permission from Client Satisfaction Questionnaire developed by Attkisson in 1979.
Part 2 Ease of Use

Please clearly mark (x) the appropriate response for each statement which indicates your feelings based on your online auction experiences.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>The website responds within 48 hours to email queries</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>The website allows customers easy access to humans in order to have their questions answered</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>The website readily accepts orders worldwide</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>The website provides answers to frequently asked questions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>The website provides important company policies (i.e., on credit, privacy, or payment terms)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>The website provides useful general company information (e.g., company history, background, phone number, and physical location)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>The website allows customers to compare multiple products easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>The website allows customers to search product contents easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>The website returns answers to product searches that fit customer profiles well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>The website allows customers to complete their orders online easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>The website allows customers to complete their orders online securely</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>The website provides up to date order tracking for the customers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>The website usually loads quickly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>The website loads quickly during sudden, large volume surges</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>The website infrequently crashes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Neither</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-------</td>
<td>---------</td>
<td>----------</td>
<td>------------------</td>
</tr>
<tr>
<td>24. The website provides rich product description using multimedia</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. The website is easy to navigate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. The website provides links to direct customers easily to related items</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Adapted with permission from **Website Ease of Use Questionnaire** developed by Zhuang and Lederer in 2004.
Part 3 Bidding Behavior

Please clearly mark (x) the appropriate response for each statement which indicates your feelings based on your online auction experiences.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Totally Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Totally Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. I intend to continue to visit this e-retailer's site in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. I intend to purchase from this e-retailer in the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Adapted with permission from E-Service Quality Questionnaire developed by Collier and Bienstock in 2006.
Part 4 Demographic and Shopping Characteristics Questionnaire

Please clearly mark (x) one response for each question that best describes you.

29. Gender: ______Male ______Female

30. Age
   □ 18-25
   □ 26-35
   □ 36-45
   □ 46-55
   □ 56-65
   □ 66 and older

31. Level of Education:
   □ No High School Degree
   □ High School Degree
   □ GED
   □ Some College, but did not receive a degree
   □ Associate Degree
   □ Bachelors Degree
   □ Masters Degree
   □ Doctoral Degree

32. Primary Language
   □ English
   □ Spanish
   □ Other

33. Gross Yearly Household Income:
   □ $35,000 or less
   □ $35,001-$50,000
   □ $50,001-$65,000
   □ $65,001-$80,000
   □ $80,001-$100,000
   □ More than $100,000

34. How many people are in your household:
   □ 1
   □ 2
   □ 3 or 4
   □ 5 or 6
   □ More than 6 people
35. Marital Status
   ( ) Single and Never Married   ( ) Married
   ( ) Divorced   ( ) Widow

36. Occupation Status:
   ( ) Owner/Proprietor
   ( ) Executive/Senior Management
   ( ) Other Management
   ( ) Professional
   ( ) Technical
   ( ) Sales
   ( ) Administrative
   ( ) Homemaker/Full-time parent
   ( ) Student
   ( ) Retired
   ( ) Not Employed

37. Ethnic Group:
   ( ) Caucasian
   ( ) African American
   ( ) Asian
   ( ) European
   ( ) Hispanic
   ( ) Middle Eastern
   ( ) Native American
   ( ) Double

38. Location of Residence
   ( ) Urban
   ( ) Suburban
   ( ) Rural

39. I have made online auction purchase(s) ___ times in the last six months.
   ( ) 1
   ( ) 2
   ( ) 3 to 5
   ( ) 6 to 10
   ( ) 11 to 20
   ( ) More than 20
40. On the average total amount spent for each time for purchase
   □ Less than $ 5.00
   □ Between $ 5.01 and $ 20.00
   □ Between $ 20.01 and $ 50.00
   □ Between $ 50.01 and $ 200.00
   □ Between $ 200.01 and $ 2000.00
   □ More than $ 2001.00

41. I have been making online auction purchase for __________ years?
   □ 1 year or Less
   □ 2 years
   □ 3 to 5 years
   □ 6 to 8 years
   □ 9 to 12 years
   □ More than 12 years

42. I usually make purchases most of the time for (Mark only one!)
   □ Myself
   □ Household Members
   □ Family not in the Household
   □ Friends not in the Household
   □ Business Purpose
   □ Resale Purpose
Appendix B

Instrument Permission Approvals
Customer Satisfaction Instrument

Re: Permission request from Lola A. Nemes

C. Clifford Attkisson, Ph.D.

To: Lola Nemes
Cc:

Lola,

You have my permission to make the single modification that you are requesting. You do not have permission to use the questionnaire beyond the number of uses that you have purchased. You also do not have permission to publish or further disseminate the modified scale that you will use. You can reprint the scale in your report as long as you indicate that it is a sample copy and not for reproduction and has a citation of copyright. All copyright ownership is retained by C. Clifford Attkisson, Ph.D.

Please send this email to your advisor.

Good luck with the work.

Clifford Attkisson
Hi Lola,

Thank you for your interest in our instrument. Both Dr. Lederer and I give you the permission to adapt the instrument as long as you reference one of our papers that used it.

Regards,

Youlong

-----Original Message-----
From: Lola Never
Sent: Fri, 5/8/2009 11:15 AM
To: Zhuang, Youlong
Subject: Permission to adapt your instrument

Dear Dr. Zhuang,

My name is Lola Torosak. At the present, I am a PhD student at Lynn University, Boca Raton, Florida. I am asking for your permission to adapt the instrument that you developed (2004).

Thank You for taking time from your busy schedule!
Dear Dr. Joel E. Collier,

My name is Lola A. Nemes. At the present, I am a PhD student at Lynn University, Boca Raton, Florida. I am asking for your permission to adapt a section from your instrument that you developed (E-Service Quality Questionnaire)

Satisfaction and Behavioral Intentions
55. In general I (am/was) happy with the service experience.
56. In general, I was pleased with the quality of the service this e-retailer provided.
57. I was satisfied with the service the service this e-retailer provided.
58. I felt pretty negative about this e-retailer.
59. I will recommend this e-retailer to my friends.
60. I intend to continue to visit this e-retailer’s site in the future.
61. I intend to purchase from this e-retailer in the future.

Thank You for taking time from your busy schedule!

Sincerely,

Lola A. Nemes
VITA