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Consumer-to-Consumer Ecommerce: Acceptance and Intended Behavior

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ABSTRACT

Consumer-to-consumer ecommerce is used by individuals who come together to buy and sell products. With the widespread use of this commerce environment comes the need to explore potential influences on its acceptance or one's intention to use it. Using the technology acceptance model, the theory of planned behavior, and ecommerce success theory, a research model is proposed. After collecting 94 survey responses, the model is examined using regression analysis. The findings indicate that perceived usefulness, perceived ease of use, attitude, and satisfaction influence one's acceptance of or intention to use consumer-to-consumer ecommerce. A discussion of the study findings is provided.

Keywords: C2C ecommerce, TAM, TPB, success

INTRODUCTION

Much of today's society utilizes electronic commerce (ecommerce) in some form. With U.S. ecommerce sales in 2012 estimated at \$395 billion and global ecommerce sales at \$1.2 trillion, there is definite growth in this arena (Davis, 2013). The most used form of ecommerce is between businesses and consumers. However, another form is rising in use. Consumer-to-consumer (C2C) ecommerce permits individuals to come together to buy and sell goods/services through the use of information technology. C2C ecommerce is becoming more commonplace. For example, China estimates that its C2C ecommerce transactions plus retail sales in 2012 amounted to \$179 billion (Davis, 2013). C2C ecommerce is changing the face of retailing, travelling, and so forth, and reaching more consumers each year. C2C ecommerce is most often conducted in an electronic auction environment; however, it does not always occur this way. C2C ecommerce can occur in a third-party consumer listing, chat room, discussion forum, or email group. Giving consumers the power to conduct business with their peers is intriguing, and therefore, it has opened numerous avenues for consumers to participate in C2C ecommerce. The individual differences in the venues can be compared and studied in determining their drivers; however, first, it is important to understand what influences an individual to accept or intend to use C2C ecommerce at all, regardless of the venue.

There are many theories that can be used to aid in the understanding of C2C ecommerce. Specifically, in this study we are utilizing the technology acceptance model (TAM), the theory of planned behavior (TPB), and ecommerce success. Previous research has examined portions of these theories in varying types of ecommerce: business-to-consumer (B2C), business-to-business (B2B), and C2C. However, no one study has incorporated all three theories to explain ecommerce acceptance/intention. In particular, these three theories have not been used jointly to explain C2C ecommerce acceptance/intention. Given that C2C must be examined as a separate ecommerce option (Jones & Leonard, 2007), as opposed to B2C or B2B for example, this study aims to determine how these well-established theories hold in the C2C ecommerce realm.

The purpose of this study is to examine the TAM, the TPB, and ecommerce success theory as to influences on C2C ecommerce acceptance/intention. This study begins by exploring the three theories' constructs and the appropriateness of each of the construct's inclusion as an influence on C2C ecommerce acceptance/intention. C2C ecommerce is different from the other types of ecommerce in that a business may not be involved at all in the transaction, especially in informal C2C ecommerce venues. Due to the nature of this type of ecommerce, some of the constructs in the theories do not logically fit. Reasoning will be provided as to why a particular construct should or should not be included here. Once the appropriate constructs are identified, a model and hypotheses are presented. Finally, data analysis and results are provided along with a discussion and conclusion.

BACKGROUND

Acceptance and behavioral intention have long been studied in the information system literature. However, until the last decade, the theories were divergent. Venkatesh, Morris, Davis and Davis (2003) proposed a unified theory of acceptance and use of information technology (UTAUT) in a model. Their model was based on the divergent literature regarding intention and use and sought to compare previous models in order to get closer to a unified look at the acceptance of information technology. Within their model, they proposed four constructs to influence behavioral intention/use: performance expectancy, effort expectancy, social influence, and facilitating conditions. Those constructs take their roots from various theories. In particular, performance expectancy and effort expectancy primarily originate from the technology acceptance model (TAM), and social influence and facilitating conditions are based on the theory of planned behavior (TPB). Therefore, their model is a sound starting point for the development of models addressing acceptance or intention to use information technology. Since our study is examining a specific application, C2C ecommerce, we use Venkatesh et al. (2003) as a starting point for construct development in our model. In particular, we begin by examining the TAM and the TPB.

The TAM is designed to predict information technology acceptance and use. It defines intention to use information technology based on perceived usefulness and perceived ease of use (Davis, 1989; Davis, 1993; Davis, Bagozzi, & Warshaw, 1992). Perceived usefulness is the degree to which an individual believes the use of some information technology will help him perform a task or complete his job better (Davis, 1989). Perceived ease of use is the degree to which an individual believes the information technology is easy to use in order to gain performance

benefits of usage (Davis, 1989). Perceived usefulness and perceived ease of use have been studied extensively in the information system literature, as well as the ecommerce literature. Previous study findings will be discussed in the next section.

The TPB is drawn from the theory of reasoned action (TRA). The TRA has been used to forecast a variety of behaviors and proposes that behavioral intention is predicted by an individual's attitude toward the behavior and subjective norms, where attitude is an individual's evaluation of a situation and subjective norms is an individual's commitment to perform an act. The TPB extends the TRA with the addition of perceived behavioral control (Ajzen, 1985, 1989, 1991). Perceived behavioral control is an individual's ease or difficulty in performing an action. The TPB has been found to more accurately predict behavioral intentions than the TRA (Ajzen & Madden, 1986) and is therefore, used in this study. Each of the dimensions of the TPB is discussed in the following section.

In addition to the TAM and the TPB, many models of information system success have been developed over the years. Since this study is in regards to C2C ecommerce, it is appropriate to consider how success might be measured in that environment. While Venkatesh et al. (2003) do not specifically address success, many of the dimensions of the UTAUT could be considered as success measures. The first substantial study regarding information system success was published by DeLone and McLean (1992). That model proposed that information system success consisted of six dimensions: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. System quality was defined as a measure of the information processing of the system, information quality as a measure of the output of the information system, use as a measure of an individual's consumption of the information system output, user satisfaction as a measure of an individual's response to the use of the information system output, individual impact as a measure of the effect of the information system on an individual's behavior, and organizational impact as a measure of the effect of the information system on the organization's performance (DeLone & McLean, 1992). That initial model of information system success was later revised to include service quality, a measure of the service the individual receives (DeLone & McLean, 2003), and net benefits, a measure of the impact on the individual, organization and society (DeLone & McLean, 2003; Seddon, 1997). Net benefits was considered to extend beyond just the individual or organization and was used, therefore, in the place of individual impact and organizational impact in the model. Finally, the model was revised to fit ecommerce (DeLone & McLean, 2004). The model for ecommerce incorporated information quality, system quality, service quality, use, and satisfaction as potential influences on the net benefits to the individual or organization (DeLone & McLean, 2004). While all of these dimensions are appropriate when considering a generalized study of ecommerce, the evaluation of C2C ecommerce requires that we evaluate the appropriateness of each prior to inclusion in the current study. Each of the dimensions of success will be discussed in the next section, with the exception of net benefits and system quality. Net benefits was not measured as a universal dimension in this study but as an individual dimension. While the individual dimension is still part of net benefits (DeLone & McLean, 1992; Seddon, 1997), we chose not to use the term net benefits in this study since we are not considering any organizational/business aspects. Additionally, system quality was not addressed. Given that C2C ecommerce is using the Internet to conduct the information processing, system quality is not a relevant dimension for this study.

Each of the models, TAM, TPB and success, can be used to help explain the overall intention to use C2C ecommerce. Previous studies have incorporated portions of the two: for example, TAM and success (Wixom & Todd, 2005), TAM and TPB (Lee & Chen, 2010; Yaghoubi & Bahmani, 2010), and so forth. However, no model addresses all three for ecommerce, or more specifically, for C2C ecommerce. Therefore, this study proposes a model incorporating dimensions of all three theories. Each dimension is discussed below regarding meaning and previous findings, and a research model is proposed along with hypotheses.

MODEL DEVELOPMENT AND HYPOTHESES

Based on the TAM, the TPB, and ecommerce success theory, a research model is developed. The model proposes influences on one's intention, or acceptance of, C2C ecommerce. Intention/acceptance is an individual's aim to complete or not complete an act (i.e., use) (Fishbein & Ajzen, 1975), and has been suggested to be an accurate predictor of one's actual behavior (Ajzen, 1991). The model proposes perceived usefulness and perceived ease of use (factors of TAM), attitude, perceived behavioral control, and subjective norm (factors of TPB), and information quality, service quality, and satisfaction (factors of ecommerce success) as influences on an individual's acceptance or intention to use C2C ecommerce. Figure 1 illustrates the model. A discussion of each variable is provided below.

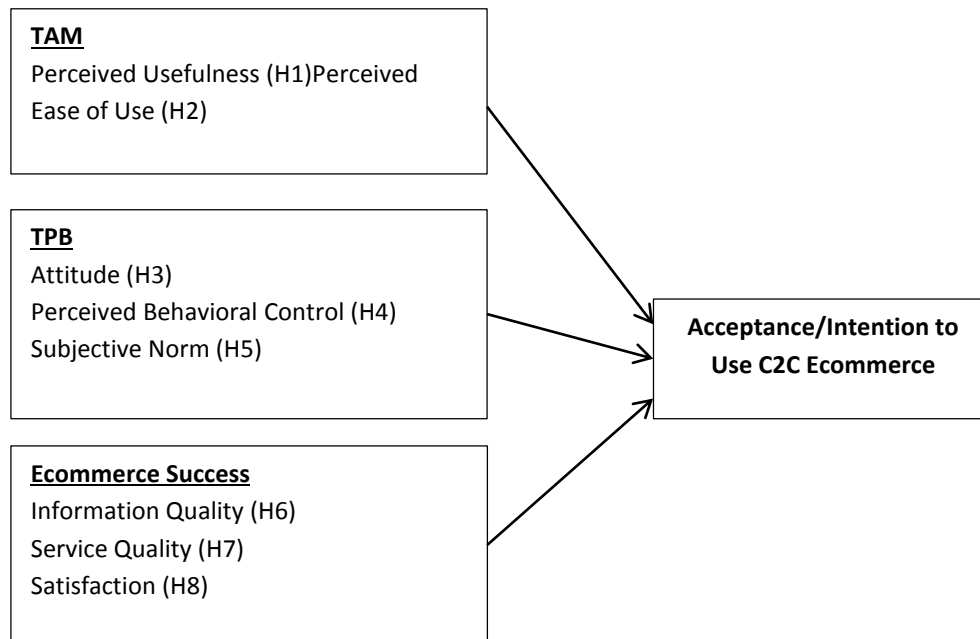


Figure 1: Research Model.

Perceived Usefulness

Perceived usefulness (PU) is part of the TAM and is the expectation that the information system, in this case, C2C ecommerce, will improve performance (Davis, Bagozzi, & Warshaw, 1989; Davis et al., 1992). PU has been studied extensively with findings in many areas that influence

this study. PU was originally studied in the workplace and found to affect intention to use computers (Davis et al., 1992), attitude toward information system use (Davis, 1993), and user acceptance of information technology (Davis, 1989). Following those initial studies, PU was studied in regards to online and ecommerce use. PU was found to impact the number of times a consumer purchases online (McCloskey, 2003-04) and his/her attitude toward shopping online (Lee & Chen, 2010; Vijayasarathy, 2004); to affect one's intention to use the web (Agarwal & Karahanna, 2000), an e-vendor (Gefen, Karahanna, & Straub, 2003), e-banking (Jahangir & Begum, 2007; Yaghoubi & Bahmani, 2010), and a social networking (Sledgianowski & Kulviwat, 2009) or social shopping (Shen, 2012) site; and to impact C2C ecommerce satisfaction (Jones & Leonard, 2007). PU has also been established as a critical part of information system success (Rai, Lang, & Welker, 2002). Given these findings, the following hypothesis is proposed:

H1—Perceived usefulness will positively influence the acceptance/intention to use C2C ecommerce.

Perceived Ease of Use

Perceived ease of use (PEOU) is a part of the TAM and is the degree to which one expects the information system, in this case C2C ecommerce, to be free of effort (Davis et al., 1989, 1992). PEOU and PU are traditionally studied together and have similar results in studies. As with PU, PEOU was initially studied in the workplace and found to affect attitude toward information system use (Davis, 1993) and user acceptance of information technology (Davis, 1989). PEOU was then studied in regards to online and ecommerce use. PEOU was found to impact whether an individual would buy a product online (McCloskey, 2003-04), a consumer's attitude towards online purchasing (Lee & Chen, 2010; van der Heijden, Verhagen, & Creemers, 2003; Vijayasarathy, 2004); to affect one's intention to use the web (Agarwal & Karahanna, 2000), an e-vendor (Gefen et al., 2003), e-banking (Jahangir & Begum, 2007), and a social networking site (Sledgianowski & Kulviwat, 2009); and to impact C2C ecommerce satisfaction (Jones & Leonard, 2007). PEOU has also been established as a critical part of information system success (Rai et al., 2002). In C2C ecommerce, PEOU has also been found to be related to website performance for auction buyers (Rauniar, Rawski, Crumbly, & Simms, 2009). Given these findings, the following hypothesis is proposed:

H2—Perceived ease of use will positively influence the acceptance/intention to use C2C ecommerce.

Attitude

Attitude (ATT) is a dimension of the TPB and is defined as the degree to which an individual favorably or unfavorably evaluates a situation (Fishbein & Ajzen, 1975). It is one's view about behavioral values. Attitude has also been studied extensively in an online environment. It has been found to influence one's intention to purchase online (Lee & Chen, 2010; Shim, Eastlick, Lotz, & Warrington, 2001), one's behavioral intention in a virtual environment (Lin, 2006), and one's intention to use online banking (Yaghoubi & Bahmani, 2010). Additionally, a buyer's attitude was examined in a C2C ecommerce environment and was found to be influenced by the

perceived risk and trust of the seller (Leonard, 2012). Attitude has also been proposed to be included as a part of TAM, along with satisfaction (Wixom & Todd, 2005). Given these findings, the following hypothesis is proposed:

H3—Attitude will positively influence the acceptance/intention to use C2C ecommerce.

Perceived Behavioral Control

Perceived behavioral control (PBC) is the perceived ease or difficulty of achieving the action (Ajzen, 1991). PBC is a dimension of the TPB and has been studied in online ecommerce studies; however, C2C ecommerce studies have not examined PBC as an influence on intention. Previous work indicates that PBC influences behavioral intention in a virtual environment (Lin, 2006), influences intention to purchase in an online environment (Lee & Chen 2010), and positively affects one's intention to use online banking (Yaghoubi & Bahmani, 2010). These initial findings in the ecommerce arena need to be further substantiated in the C2C ecommerce arena. Therefore, the following hypothesis is proposed:

H4—Perceived behavioral control will positively influence the acceptance/intention to use C2C ecommerce.

Subjective Norm

Subjective norm (SN), or personal normative beliefs, is a dimension of the TPB and is defined as the moral commitment to perform an action (Schwartz & Tessler, 1972). It is the perceived social pressure to take action or not and is proposed to influence one's intention (Fishbein & Ajzen, 1975). SN has been found to influence behavioral intention in many information technology studies regarding ethics (Banerjee, Cronan, & Jones, 1998; Leonard & Cronan, 2001; Leonard, Cronan, & Kreie, 2004). Additionally, SN has been studied in an online setting and was found to influence an individual's intention to use online banking (Yaghoubi & Bahmani, 2010). However, SN has not been studied in C2C ecommerce as to its influence on acceptance or intention. Given these findings, the following hypothesis is proposed:

H5—Subjective norm will positively influence the acceptance/intention to use C2C ecommerce.

Information Quality

Information quality (IQ), or content quality, is a measure of information system success (DeLone & McLean, 1992; DeLone & McLean, 2003) and ecommerce success (DeLone & McLean, 2004). It is measured by the quality of the information the information system produces, in this case C2C ecommerce (DeLone & McLean, 1992). IQ has been found to be critical to website success (Liu & Arnett, 2000) and information success (Rai et al., 2002). IQ has also been studied in C2C ecommerce and was found to have a significant impact on trust (Jones & Leonard, 2008). Therefore, the following hypothesis is given:

H6—Information quality will positively influence the acceptance/intention to use C2C ecommerce.

Service Quality

Service quality (SQ), or support quality, is a measure of ecommerce success (DeLone & McLean, 2004). It relates to the value and correctness of service the consumer receives (Ziethaml, Berry, & Parasuraman, 1996). SQ has been found to be critical to website success (Liu & Arnett, 2000) and to impact C2C ecommerce satisfaction (Jones & Leonard, 2007). Given these findings, the following hypothesis is given:

H7—Service quality will positively influence the acceptance/intention to use C2C ecommerce.

Satisfaction

Satisfaction (SAT) is a measure of information system success (DeLone & McLean, 1992, 2003) and ecommerce success (DeLone & McLean, 2004; Molla & Licker, 2001). It is one's feelings toward aspects affecting the situation (Bailey & Pearson, 1983; DeLone & McLean, 1992), and is "an important means of measuring customers' opinions of an ecommerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service" (DeLone & McLean, 2004, p. 34). Satisfaction has been found to have a positive and significant effect on consumer commitment and trust of a website (Casalo, Flavian, & Guinaliu, 2007) and of a site owner (DeWulf, Schillewaert, Muylle, & Rangarajan, 2006). Satisfaction has also been found to affect system usage (Igarria & Tan, 1997) and to positively affect commitment to a website (Li, Browne, & Wetherbe, 2006). Additionally, satisfaction has been found to be a strong predictor of a consumer's intention to continue using a vendor (Chen & Chou, 2012) and of a consumer's online repurchase intentions (Chen, 2012). Given these findings, the following hypothesis is proposed:

H8—Satisfaction will positively influence the acceptance/intention to use C2C ecommerce.

METHOD AND SAMPLE

Undergraduate students located in a Southwestern university in the United States were used for this study. The participants were solicited based on their enrollment in introductory to management information system courses. This collection of participants is appropriate for this study as they represent the largest group of online users (Drennan, Sullivan, & Previte, 2006). Respondents were given modified versions of instruments created for the constructs (refer to Table 1 for the sources of each construct and Tables 2-9 for the actual instrument questions for each construct; acceptance/intention was measured using a single item: "If I wanted to buy/sell a product, I would use C2C e-commerce"). The questionnaire was administered to the participants in a classroom setting. Participants were asked to indicate on a seven-point Likert scale their agreement with the questionnaire statements regarding their perceptions of C2C ecommerce. C2C ecommerce was defined at the top of the survey instrument to ensure that all participants understood the concept. Additionally, the respondents were asked to complete a section on demographics and a section regarding their previous experiences in buying and selling through C2C ecommerce. To ensure content validity, the items were first pilot tested with individuals of

varying levels of experience with C2C ecommerce. Based on the pilot test, the instrument was refined before actual data collection occurred.

Ninety-four survey responses were collected. A regression tool that uses the alpha level, number of predictors, anticipated effect size, and desired statistical power level was used to determine the minimum sample size needed (Soper, n.d.). According to this tool, our sample size is sufficient. A majority of the respondents (87.23 percent) had participated in C2C ecommerce. Thirty-four percent had been the seller in a C2C ecommerce transaction. A majority of the respondents (83 percent) had purchased an item more than once using C2C ecommerce. Sixty-six percent of the respondents had purchased an item using C2C ecommerce within the last six months. Online auctions were the method of choice for 62 percent of the respondents; however, many of the respondents had conducted C2C ecommerce in multiple venues other than online auctions. In fact, 53 percent had used third-party sites to conduct their transaction. Respondents' ages ranged from 18 to 42. The majority (84 percent) fell between the ages of 18 and 22. The genders of the respondents were slightly more male than female (57.45 percent males; 41.49 percent females).

Construct	Adapted From	Measure*
Attitude	Verhagen, Meents, & Tan (2006)	3 items
Information quality	Liu and Arnett (2000)	5 items
Intention/acceptance	Fishbein & Ajzen (1975)	1 item
Perceived behavioral control	Chen, Pan, & Pan (2009); Liao, Lin, & Liu (2010)	3 items
Perceived ease of use	Devaraj, Fan, & Kohli (2002); Jones & Leonard (2007)	4 items
Perceived usefulness	Devaraj et al. (2002); Jones & Leonard (2007)	4 items
Satisfaction	Devaraj et al. (2002); Jones & Leonard (2007)	3 items
Service quality	Liu and Arnett (2000)	5 items
Subjective norm	Ajzen (1991); Fishbein & Ajzen (1975)	2 items

*Using a seven-point Likert scale.

Table 1: Survey Instrument Sources.

DATA ANALYSIS AND RESULTS

Validity and Reliability of Measures

Since all of the variables were collected from the same source, we used Harman's single-factor test to check for any common method variance (Harman, 1967). All variables were entered together. The test assumes that if all variables load on one factor accounting for all of the variance or one factor accounts for a majority of the variance, there is a high level of common method variance present. Using factor analysis, seven factors were found with Eigenvalues greater than 1.0. The variance explained ranged from 4 percent to 25 percent of the total. These results provide evidence that common method variance is not a concern.

Construct validity and reliability were tested on the multi-item constructs of the model. Using principal component analysis (PCA), factors were extracted. The factors with Eigenvalues greater than 1.0 were retained. Varimax rotation was also used. High item correlations were

indicated using a 0.50 cutoff. In addition, reliability was tested on each of the multi-item construct. Each of the constructs well exceeded the recommended Cronbach's alpha threshold of .50 with the lowest at .71 (Nunnally, 1967).

All of the PU construct items loaded on one factor. Cronbach's alpha was 0.71. The percent variation explained was 53.6 percent. Table 2 provides the results of the factor analysis for the PU construct. A PU variable was calculated for each subject as the average of the items.

Perceived Usefulness	Loadings
C2C e-commerce gives me greater control over my buying/selling experience.	0.73
C2C e-commerce improves the quality of my decision making.	0.80
C2C e-commerce is a more effective way to buy/sell products and services.	0.78
Overall, I find C2C e-commerce very useful.	0.69
Cronbach's alpha	0.71
Eigenvalue	2.15
Variance Explained	53.6%

Table 2: PU Construction Factor Analysis.

All PEOU items loaded on one factor. Cronbach's alpha was 0.75. The percent variation explained was 57.5 percent. Table 3 provides the results of the factor analysis for the PEOU construct. A PEOU variable was calculated for each subject as the average of the items.

Perceived Ease of Use	Loadings
Overall, I believe C2C e-commerce is easier than other forms of commerce.	0.72
It is easy for me to buy/sell using C2C e-commerce.	0.80
My interactions during C2C e-commerce are clear and understandable.	0.78
I believe it is easy to do what I want to do while conducting C2C e-commerce.	0.74
Cronbach's alpha	0.75
Eigenvalue	2.30
Variance Explained	57.5%

Table 3: PEOU Construct Factor Analysis.

All of the ATT construct items loaded on one factor. Cronbach's alpha was 0.79. The percent variation explained was 71.4 percent. Table 4 provides the results of the factor analysis for the ATT construct. An ATT variable was calculated for each subject as the average of the items.

Attitude	Loadings
I am confident regarding buying/selling a product using C2C e-commerce.	0.80
The thought of buying/selling a product using C2C e-commerce is appealing to me.	0.90
I think it is a good idea to buy/sell a product using C2C e-commerce.	0.83
Cronbach's alpha	0.79
Eigenvalue	2.14
Variance Explained	71.4%

Table 4: ATT Construct Factor Analysis.

All of the PBC construct items loaded on one factor. Cronbach's alpha was 0.81. The percent variation explained was 72.8 percent. Table 5 provides the results of the factor analysis for the PBC construct. A PBC variable was calculated for each subject as the average of these items.

Perceived Behavioral Control	Loadings
Using C2C e-commerce to buy/sell a product is easy/difficult.	0.88
Using C2C e-commerce to buy/sell a product is simple/complicated.	0.90
Using C2C e-commerce to buy/sell a product is under my control/out of my control.	0.78
Cronbach's alpha	0.81
Eigenvalue	2.18
Variance Explained	72.8%

Table 5: PBC Construct Factor Analysis.

Both of the SN construct items loaded on one factor. Cronbach's alpha was 0.90. The percent variation explained was 91.3 percent. Table 6 provides the results of the factor analysis for the SN construct. An SN variable was calculated for each subject as the average of these items.

Subjective Norm	Loadings
People who influence my behavior think I should participate in C2C e-commerce.	0.96
People who are important to me think I should participate in C2C e-commerce.	0.96
Cronbach's alpha	0.90
Eigenvalue	1.82
Variance Explained	91.3%

Table 6: SN Construct Factor Analysis.

All of the IQ construct items loaded on one factor. The Cronbach's alpha was 0.88. The percent variation explained was 67.7 percent. Table 7 provides the results of the factor analysis for the IQ construct. An IQ variable was calculated for each subject as the average of these items.

Information Quality: My use of C2C e-commerce depends on:	Loadings
Customized information about the product being presented.	0.67
The information about the product being relevant to me.	0.83
The information provided by the seller/buyer being accurate.	0.87
The product being completely described.	0.90
My perceived quality of the product.	0.82
Cronbach's alpha	0.88
Eigenvalue	3.38
Variance Explained	67.7%

Table 7: IQ Construct Factor Analysis.

All of the SQ construct items loaded on one factor. Cronbach's alpha was 0.86. The percent variation explained was 64.2 percent. Table 8 provides the results of the factor analysis for the SQ construct. An SQ variable was calculated for each subject as the average of these items.

Service Quality: My use of C2C e-commerce depends on:	Loadings
Me being able to get feedback from the seller.	0.72
The seller responding quickly to me.	0.83
The sellers' assurance to solve my problems.	0.88
The sellers' empathy to my problems.	0.80
The sellers' follow-up services.	0.76
Cronbach's alpha	0.86
Eigenvalue	3.21
Variance Explained	64.2%

Table 8: SQ Construct Factor Analysis.

Finally, all of the SAT construct items loaded on one factor. Cronbach's alpha was 0.77. The percent variation explained was 68.8 percent. Table 9 provides the results of the factor analysis for the SAT construct. An SAT variable was calculated for each subject as the average of the items.

Satisfaction	Loadings
Overall, I am satisfied with my C2C e-commerce experience.	0.79
The C2C e-commerce environment provided information content that met my needs.	0.87
It is possible for me to buy/sell the product of my choice easily using C2C e-commerce.	0.82
Cronbach's alpha	0.77
Eigenvalue	2.06
Variance Explained	68.8%

Table 9: SAT Construct Factor Analysis.

Model Testing

Regression analysis was performed to test the relationships between the construct variables and acceptance/intention to use C2C ecommerce (indicated as BI). Variance inflation factors (VIF) were examined for each of the independent variables in the model. All values were small (1.0) suggesting there is no problem with multicollinearity in the data.

Table 10 shows the results of the regression results on BI using the eight independent constructs. Support was found for H1, H2, H3, and H8.

Dependent Variable: BI						
Theory	Independent Variable	Standardized Beta	Standard error	<i>t</i>	<i>p</i>	Relevant Hypothesis
TAM	PU	0.566	0.125	6.48	0.000***	H1 supported
	PEOU	0.492	0.148	5.33	0.000***	H2 supported
TPB	ATT	0.504	0.118	5.50	0.000***	H3 supported
	PBC ⁱ	-0.187	0.120	-1.80	0.076	H4 not supported
	SN	0.221	0.132	1.80	0.077	H5 not supported
Ecommerce Success	IQ	-0.058	0.149	-0.55	0.586	H6 not supported
	SQ	0.098	0.124	0.93	0.357	H7 not supported
	SAT	0.513	0.134	5.64	0.000***	H8 supported

Overall model fit: $p=0.000^{***}$; $R^2=0.46$; $^{***}p<0.001$

ⁱItems were reverse-coded in the survey.

Table 10: Hypotheses Results.

DISCUSSION AND CONCLUSION

TAM

Perceived usefulness and perceived ease of use were both expected to positively influence the acceptance/intention to use C2C ecommerce (H1 & H2). This study found additional support for studies previously done in ecommerce. The results here indicate that, as in other forms of ecommerce, PU and PEOU have an impact on a person's decision to use C2C ecommerce.

TPB

Attitude, perceived behavioral control, and subjective norm were all elements of the theory of planned behavior. Each element was expected to positively influence the acceptance/intention to use C2C ecommerce (H3, H4, and H5). However, support was only found for attitude (H3).

Attitude was found to significantly influence BI. This indicates that a favorable assessment of C2C ecommerce by the individual would result in that individual accepting it or intending to use it. This is further support for the numerous studies that have found attitude to be an influence in ecommerce.

No significant relationship was found between PBC and BI. This could be because C2C ecommerce is still a relatively new way to transact. Perhaps there are no expectations from the consumer in regards to the ease or difficulty of this type of transaction. In that case, the PBC would not factor into the consumers decision process of whether or not to participate.

We did not find a significant relationship between SN and BI. This is inconsistent with studies regarding online banking (i.e., a B2C relationship) (Yaghoubi & Bahmani, 2010). This may be because C2C ecommerce is typically conducted in an individual manner. Others may not be affected by the participation or lack of participation by the consumer. Whereas in online banking,

for example, it may be the preference of a vendor to receive payment from the individual using online banking rather than regular mail. It may be that an individual's employer prefers to electronically deposit a paycheck rather than print it out. There may even be incentives to participate or penalties for not participating. C2C ecommerce does not have the additional parties involved to impose pressure on the consumer.

Ecommerce Success

Information quality, service quality, and satisfaction were expected to have a positive influence on a person's acceptance/intention to use C2C ecommerce (H6, H7, and H8). However, support was only found for satisfaction. Satisfaction was found to significantly influence BI. This indicates that one's feelings toward C2C ecommerce are an important consideration. While feelings are difficult to gauge, C2C ecommerce sites can seek to make the experience inviting in order to sway one's feelings. There was no significant relationship between IQ and BI. Perhaps this is reflective of the type of item being sold. If the product is a rare item, the consumer will have likely done a considerable amount of research in regards to it. In this case, the consumer is not looking to the seller for this information. If there is no expectation or need for this from the seller, it may not be important in the consumer's intention to use C2C ecommerce to purchase it.

There was also no significant relationship between SQ and BI. SQ has been studied in regards to C2C ecommerce and was found to have an impact on satisfaction (Jones & Leonard 2007). Since C2C ecommerce is still relatively new, it may be that consumers are still focused on the product and not the accompanying service. In other words, rather than looking for a repeat seller/buyer, the product itself is the driver of the transaction. In this case, the SQ would be a small importance in the decision (accept/intention) to use C2C ecommerce and satisfaction would be the major influence, as our study supports.

Overall

TAM, TPB, and Ecommerce success theories can be used to evaluate the acceptance or intention to use C2C ecommerce. However, TAM has the most substantial findings with both PU and PEOU being significant influences on acceptance. TPB and ecommerce success theories only have attitude and satisfaction, respectively, as significant influences. These findings imply that the theories need to be reevaluated for the C2C ecommerce realm. While ecommerce success theory is designed for ecommerce, it is not specifically designed to measure C2C ecommerce, and as previously indicated, Jones and Leonard (2007) found that C2C ecommerce is a unique field of study and must be treated separately from other ecommerce environments (i.e., B2C, B2B, and so forth). The same is true for TPB, as it was not designed for ecommerce, in general, or C2C ecommerce.

Given the findings from this study, it is plausible that the existing theories should be combined to create one overall model for C2C ecommerce acceptance/intention. PU, PEOU, attitude, and satisfaction are all closely held emotions by the consumer. Identifying other emotional aspects could be the next step in understanding the C2C ecommerce environment.

Additionally, this study provides practical implications for consumers when deciding to sell products using C2C ecommerce. Given the significance of PU, PEOU, attitude, and satisfaction, sellers can focus on making the transaction simple and easy to complete in order to attract more buyers to their products. Also, completing the transaction in an efficient and proper manner could impact the buyer's attitude and perceived satisfaction from the transaction. Ultimately, the sellers in C2C ecommerce can use this study's findings to identify factors that will most likely impact their ability to reach other consumers using this transaction method.

LIMITATIONS AND FUTURE RESEARCH

This study utilized university students as survey subjects. While the students are a representative sample of the C2C ecommerce consumer group, future studies should seek to gather additional data from older users of C2C ecommerce. Older consumers (ages 52-87) have been studied separately as to influences in an online environment (McCloskey, 2006), but they have not been examined in C2C ecommerce. Future studies should seek to examine this population.

This study examined three existing theories (TAM, TPB, and ecommerce success). However, this study does not consider all possible theories or constructs and does not incorporate all possible constructs from the UTAUT. The research model employed in this study is a starting point. The findings from this study should be used to further explore influences on the acceptance/intention to use C2C ecommerce, and to identify new models to explain C2C ecommerce's use. Additionally, interactions between variables and potential mediation effects should be explored.

This study utilized both buyers and sellers of C2C ecommerce together. It may be that there are different influencers to each of the participants. There were more buyers than sellers of C2C ecommerce among the participants of this study. A review of sellers alone may find different results than what was found here. Future studies should seek to determine if there are indeed differences in the drivers of buyers and seller to use C2C ecommerce.

This study provided a look at the constructs that influence a consumer's acceptance and intention to use C2C ecommerce in general. Future studies should look at which drivers affect consumer's acceptance and intention to use the various types of C2C ecommerce venues (i.e., online auctions, third-party listings, and so forth). Each venue can have aspects that may attract and/or deter consumers from utilizing it. The majority of the participants in this study used online auctions. However, online auctions and chat rooms are very different in look and administration. It would be interesting to see which aspects affect a consumer's decision in each venue.

CONCLUSION

There is a myriad of opportunities for consumers to transact online. B2C ecommerce and C2C ecommerce can be quite different. This can make it difficult to apply theories used to study B2C ecommerce directly to C2C ecommerce. Due to this, models need to be developed and tested to determine what influences a consumer to accept/intend to use C2C ecommerce. This study found

that perceived usefulness, perceived ease of use, attitude, and satisfaction each impacted a consumer's decision. As the use of C2C ecommerce increases, more models need to be developed to explain this unique type of ecommerce.

REFERENCES

- Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, 24, 665-694. doi: 10.2307/3250951
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior*. (pp. 11-39). New York: Springer-Verlag.
- Ajzen, I. (1989). Attitude, structure and behavior. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude, structure and function* (pp. 241-274). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22, 453-474. doi: 10.1016/0022-1031(86)90045-4
- Bailey, J. E., & Pearson, S. W. (1983). Development of a tool measuring and analyzing computer user satisfaction. *Management Science*, 29(5), 530-545. doi: 10.1287/mnsc.29.5.530
- Banerjee, D., Cronan, T. P., & Jones, T. W. (1998). Modeling IT ethics: A study in situational ethics. *MIS Quarterly*, 22, 31-60.
- Casalo, L. V., Flavian, C., & Guinaliu, M. (2007). The influence of satisfaction, perceived reputation and trust on a consumer's commitment to a website. *Journal of Marketing Communications*, 13(1), 1-17. doi: 10.1080/13527260600951633
- Chen, Y- Y. (2012). Why do consumers go internet shopping again? Understanding the antecedents of repurchase intention. *Journal of Organizational Computing and Electronic Commerce*, 22(1), 38-63. doi: 10.1080/10919392.2012.642234
- Chen, Y- T., & Chou, T- Y. (2012). Exploring the continuance intentions of consumers for B2C online shopping: Perspectives of fairness and trust. *Online Information Review*, 36(1), 104-125. doi: 10.1108/14684521211209572

- Chen, M.- F., Pan, C.- T., & Pan, M.- C. (2009). The joint moderating impact of moral intensity and moral judgment on consumer's use intention of pirated software. *Journal of Business Ethics*, 90, 361-373. doi: 10.1007/s10551-009-0046-8
- Davis, D. (2013). A \$1.2 trillion global payday for e-commerce. *Internet Retailer*. Retrieved March 4, 2014, from <http://www.internetretailer.com/2013/06/27/12-trillion-global-payday-e-commerce>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319-340. doi: 10.2307/249008
- Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38, 475-487. doi: 10.1006/imms.1993.1022
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003. doi: 10.1287/mnsc.35.8.982
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22, 1111-1132. doi: 10.1111/j.1559-1816.1992.tb00945.x
- DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60-95.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9-30.
- DeLone, W. H., & McLean, E. R. (2004). Measuring e-commerce success: Applying the DeLone & McLean information systems success model. *International Journal of Electronic Commerce*, 9(1), 31-47.
- Devaraj, S., Fan, M., & Kohli, R. (2002). Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics. *Information Systems Research*, 12(3), 316-333. doi: 10.1287/isre.13.3.316.77
- DeWulf, K., Schillewaert, N., Muylle, S., & Rangarajan, D. (2006). The role of pleasure in Web site success. *Information and Management*, 43, 434-446. doi: 10.1016/j.im.2005.10.005
- Drennan, J., Sullivan, G., & Previte, J. (2006). Privacy, risk perception, and expert online behavior: An exploratory study of household end users. *Journal of Organizational and End User Computing*, 18(1), 1-22. doi: 10.4018/joeuc.2006010101

- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51-90.
- Harman, H. H. (1967). *Modern factor analysis*. Chicago, IL: University of Chicago Press.
- Igbaria, M., & Tan, M. (1997). The consequences of information technology acceptance on subsequent individual performance. *Information & Management*, 32(3), 113-121. doi: 10.1016/S0378-7206(97)00006-2
- Jahangir, N., & Begum, N. (2007). Effect of perceived usefulness, ease of use, security and privacy on customer attitude and adaptation in the context of e-banking. *Journal of Management Research*, 7(3), 147-157.
- Jones, K., & Leonard, L. N. K. (2007). Consumer-to-consumer electronic commerce: A distinct research stream. *Journal of Electronic Commerce in Organizations*, 5(4), 39-54. doi: 10.4018/jeco.2007100103
- Jones, K., & Leonard, L. N. K. (2008). Trust in consumer-to-consumer electronic commerce. *Information and Management*, 45(2), 88-95. doi: 10.1016/j.im.2007.12.002
- Lee, S. M., & Chen, L. (2010). The impact of flow on online consumer behavior. *Journal of Computer Information Systems*, 50(4), 1-10.
- Leonard, L. N. K. (2012). Attitude influencers in C2C e-commerce: Buying and selling. *Journal of Computer Information Systems*, 52(3), 11-17.
- Leonard, L. N. K., & Cronan, T. P. (2001). Illegal, inappropriate, and unethical behavior in an information technology context: A study to explain influences. *Journal of the Association for Information Systems*, 1(12), 1-28.
- Leonard, L. N. K., Cronan, T. P., & Kreie, J. (2004). What influences IT ethical behavior intentions: Planned behavior, reasoned action, perceived importance, or individual characteristics? *Information & Management*, 42, 143-158. doi: 10.1016/j.im.2003.12.008
- Li, D., Browne, G. J., & Wetherbe, J. C. (2006). Why do internet users stick with a specific Web site? A relationship perspective. *International Journal of Electronic Commerce*, 10(4), 105-141. doi: 10.2753/JEC1086-4415100404
- Liao, C., Lin, H. N., & Liu, Y. P. (2010). Predicting the use of pirated software: A contingency model integrating perceived risk with the theory of planned behavior. *Journal of Business Ethics*, 91, 237-252. doi: 10.1007/s10551-009-0081-5

- Lin, H.- F. (2006). Understanding behavioral intention to participate in virtual communities. *CyberPsychology & Behavior*, 9(5), 540-547. doi: 10.1089/cpb.2006.9.540.
- Liu, C., & Arnett, K. P. (2000). Exploring the factors associated with Web site success in the context of electronic commerce. *Information & Management*, 38, 23-33.
- McCloskey, D. (2003-04). Evaluating electronic commerce acceptance with the Technology Acceptance Model. *Journal of Computer Information Systems*, 49-57.
- McCloskey, D. W. (2006). The importance of ease of use, usefulness, and trust to online consumers: An examination of the Technology Acceptance Model with older consumers. *Journal of Organizational and End User Computing*, 18(3), 47-65. doi: 10.4018/joeuc.2006070103
- Molla, A., & Licker, P. S. (2001). E-commerce systems success: An attempt to extend and respecify the DeLone and Mclean Model of IS success. *Journal of Electronic Commerce Research*, 2(4), 131-141.
- Nunnally, J. C. (1967). *Psychometric theory*. New York: McGraw-Hill.
- Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. *Information Systems Research*, 13(1), 50-69. doi: 10.1287/isre.13.1.50.96
- Rauniar, R., Rawski, G., Crumbly, J., & Simms, J. (2009). C2C online auction website performance: Buyer's perspective. *Journal of Electronic Commerce Research*, 10(2), 56-75.
- Schwartz, S. H., & Tessler, R. C. (1972). A test of a model for reducing measured attitude-behavior discrepancies. *Journal of Personality and Social Psychology*, 24(2), 225-236. doi: 10.1037/h0033365
- Seddon, P. B. (1997). A respecification and extension of the DeLone and McLean Model of IS success. *Information Systems Research*, 8(3), 240-253.
- Shen, J. (2012). Social comparison, social presence, and enjoyment in the acceptance of social shopping websites. *Journal of Electronic Commerce Research*, 13(3), 198-212.
- Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions model: The role of intention to search. *Journal of Retailing*, 77, 397-416. doi: 10.1016/S0022-4359(01)00051-3
- Sledgianowski, D., & Kulviwat, S. (2009). Using social network sites: The effects of playfulness, critical mass and trust in a hedonic context. *Journal of Computer Information Systems*, 49(4), 74-83.

- Soper, D. S. (n.d.). *Statistical calculators*. Retrieved December 10, 2013, from <http://www.danielsoper.com/statcalc>
- van der Heijden, H., Verhagen, T., & Creemers, M. (2003). Understanding online purchase intentions: Contributions from technology and trust perspectives. *European Journal of Information Systems, 12*(1), 41-48. doi: 10.1057/palgrave.ejis.3000445
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425-478.
- Verhagen, T., Meents, S., & Tan, Y-. H. (2006). Perceived risk and trust associated with purchasing at electronic marketplaces. *European Journal of Information Systems, 15*, 542-555. doi: 10.1057/palgrave.ejis.3000644
- Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model. *Information and Management, 41*, 747-762. doi: 10.1016/j.im.2003.08.011
- Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research, 16*(1), 85-102.
- Yaghoubi, N-. M., & Bahmani, E. (2010). Factors affecting the adoption of online banking. *International Journal of Business and Management, 5*(9), 159-165.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31-46.

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