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Analysis of the Factors that Influence Online Purchasing

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Keywords: TAM, technology acceptance model, online purchasing, privacy, trust, perceived risk, e-satisfaction, e-loyalty

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Analysis of the Factors that Influence Online Purchasing

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Abstract

This paper reviews recent studies related to the Technology Acceptance Model (TAM) in order to derive an extended model that examines online purchasing by consumers. Our model expands the original TAM by including additional constructs including privacy, trust, perceived risk, e-satisfaction, and e-loyalty. We surveyed over 1,850 consumers in the United States and Australia using an instrument that yielded respectable reliability and validity. The findings suggest that our expanded model serves as a very good predictor of consumers' online purchasing behaviors. The linear regression model shows a substantial amount of variance explained for Behavioral Intention (R^2 = .637). We also discover interesting but unexpected results that provide the need for future research. This paper adds to our understanding of the factors influencing online purchasing. Future researchers can refine our model and instrument to further explain consumers' acceptance of Internet-based applications.

Keywords: online purchasing, Internet adoption, privacy, trust, perceived risk, e-satisfaction, e-loyalty

1. INTRODUCTION

The purpose of this research study is to develop and test a model to better understand the factors that are most important in predicting consumers' behavioral intention to purchase over the Internet. This research expands the original Technology Acceptance Model (TAM) by incorporating additional constructs such as trust, privacy, perceived risk, expectations of Internet information and Web site quality, e-satisfaction, and e-loyalty.

Companies spend millions of dollars annually on their Websites to provide their customers with additional functionality and a more integrated marketing stream with the hopes of enticing consumers to purchase goods online. With such an investment by companies in e-commerce, it seems logical to study the acceptance by consumers of these efforts. Consumers also increasingly use the Internet to purchase goods and services. This research study describes the development of a model showing acceptance of online purchasing by individual consumers.

Businesses must adapt to the technological changes in the business world. More companies are selling over the Internet than ever before. Companies must be able to meet customers' needs, not just in bricks-and-mortar stores, but also through Internet sites. Our model and results can help businesses better understand how to meet the needs of their online customers.

This study provides managers with a framework for which areas they need to focus upon when launching new online products, such as shaping and/or changing their consumers' attitude toward using the Internet, gaining and retaining customers' trust, and attaining e-satisfaction and e-loyalty.

This paper is not the first attempt at creating a model to explain or predict user acceptance of Information Technology systems. Much of the background research in this paper comes from the existing Technology Acceptance Model (TAM) literature. This model has been tested repetitively though many different studies, providing support that TAM "consistently explains a substantial proportion of variance in usage intentions and behavior, among a variety of technologies" (Amoroso and Hunsinger, working paper). The model used in this study extends the original TAM, taking into account other factors such as e-Satisfaction and Perceived Behavioral Control.

2. THEORETICAL UNDERPINNINGS

The research model for this paper is presented in Appendix A. The model is a composition of variables that will be discussed in order to understand the theoretical underpinnings of the research.

Trust

Chen et al. (2002) hypothesized that a consumer's perceived trust in a virtual store positively affects his or her attitude toward using the e-store. Bauer et al. (2002) found that customers who trust a Web-based company feel more committed to it. Krishnamurthy (2002) researched the causal antecedents of customer confidence in e-tailers. He discovered that a site's ease of use, the level of online shopping resources, and existence of a trusted third party seal positively influence the level of customer confidence.

H1a: The greater a person's Disposition to Trust, the greater his/her Attitude Toward Using the Internet.

H1b: The greater a person's the Disposition to Trust, the greater the Perceived Risk.

H1c: The greater a person's Disposition to Trust, the greater the level of e-Satisfaction.

Gefen, et al. (2003) examined adoption of an online shopping environment, with repeat visits, by integrating the trust construct with perceived ease of use and perceived usefulness. They found that consumer trust is as important to online commerce as perceived usefulness and ease of use. They also provide evidence that online trust is gained by having a typical, easy-to-use interface, and through consumers' beliefs that safety mechanisms are built into the Web site and that the vendor has nothing to gain by cheating. They also found that online trust is built through (1) a belief that the vendor has nothing to gain by cheating, (2) a belief that there are safety mechanisms built into the Web site, (3) having a typical Web-based interface, and (4) having an interface that is easy to use. This previous research provides support for subdividing the Trust construct into several sub-constructs, as hypothesized below:

H2a: The greater the level of Institution-Based Trust, the greater the Attitude Toward Using the Internet.

H2b: The greater the level of Institution-Based Trust, the greater the Perceived Risk.

H2c: The greater the level of Institution-Based Trust, the greater the level of e-Satisfaction.

H3a: The greater the Structural Assurances, the greater the Attitude Toward Using the Internet.

H3b: The greater the Structural Assurances, the greater the Perceived Risk.

H3c: The greater the Structural Assurances, the greater the level of e-Satisfaction.

Perceived Risk

Featherman (2001) examined consumer evaluations and adoption intentions of an Internet-based information system during conditions of uncertainty and perceived risk. He hypothesized that if potential rewards (benefits of usage) outweigh the potential risks, the information system will tend to be adopted. The findings showed that concern for perceived risk was significant only before the product trial, while the adoption intention choice was significantly affected by concerns for perceived risk both before and after product trial. It also showed that predictive validity was only marginally approved by the inclusion of a measure of perceived usage risk. Noor et al. (2005) found that

perceived risk resulted in a negative intent to share. Van der Heijden et al. (2003) explored factors that influence customer's intentions to purchase online at an electronic commerce website. They found that the effect of perceived risk was strongly negative. Gefen et al. (2003) hypothesized that perceived risk with an online vendor decreased customer loyalty to that e-vendor.

H4: The lower the Perceived Risk, the greater the level of e-Satisfaction.

Expectations - Internet Information

Park and Kim (2003) investigated the relationship between various characteristics of online shopping and consumer purchase behavior. It aimed to indicate that information quality, security perceptions, and user interface quality affect information satisfaction and relational benefit, which in turn are significantly related to each consumer's actual purchase behavior and site commitment. Park and Kim hypothesized that a positive relationship between information satisfaction and user interface quality exists. They also hypothesized that a positive relationship between information satisfaction and security perception exists. Their research findings show that user interface quality and product information quality are significantly related to information satisfaction.

Katerattanakul and Siau (2001) proposed a framework and developed an instrument to measure the information quality of individual or personal websites. The authors hypothesized that consumers cannot access the needed information online because they may lack computing knowledge or due to the privacy and confidentiality of the information. Based upon their research, Katerattanakul and Siau (2001) also hypothesized that designing for comprehension is an effective way to reduce viewer's mental efforts to understand the contents of a document. They also hypothesized that the individual website's representational information quality is measured by whether or not the individual website is confusing or difficult to read; whether or not the individual website is too large; and whether or not every design of every webpage is consistent throughout the individual website.

H5: The higher the Expectations of Internet Information, the greater the level of e-Satisfaction.

Expectations – Web Site Quality

Liang and Lai (2001) suggested that the quality of e-store design has an effect on the consumer purchase decision. They predicted that consumers were more likely to shop at well-designed web sites. Their study found that hygiene factors are critical when consumers decide whether or not to shop online.

Gwee, Hui, and Chau (2002) identified factors pertaining to online contexts that may affect consumers' perception on quality and brand knowledge, both of which have been proved to be important determinants of brand equity. The article also aims to show that having a high quality website and innovative products and technologies may help reinforce consumers' perceived quality. They hypothesized that the quality of value-added services and features is positively related to perceived quality. Gwee, Hui, and Chau also hypothesized that website quality is positively related to perceived quality.

H6: The higher the Expectations of Web Site Quality, the greater the level of e-Satisfaction.

Inertia

Cheung and Limayem (2005) examined whether prior Internet behavior has a strong and significant effect on continued usage. They hypothesized that initial usage has a significant on information systems continued usage.

H7: The greater the Inertia, the greater the level of e-Loyalty.

Convenience

Girard, Korgaonkar, and Silverblatt (2003) examined whether consumers' shopping orientations are significantly related to their preference for online shopping. They found that convenience orientation was a stronger predictor for preference to shop online than experience. Their findings significantly support the study's hypotheses that shopping orientations such as convenience and recreational shopper and demographic variables such as gender, education, and household income were significantly related to consumer's online purchase preference.

H8: The greater the Convenience, the greater the level of e-Loyalty.

E-Satisfaction

Anderson and Srinivasan (2003) studied the influence of e-satisfaction on e-loyalty. They found that two business level factors (trust and perceived value) and three individual level factors (purchase size, inertia, and convenience motivation) moderate the relationship between e-satisfaction and e-loyalty. Thorbjornsen and Supphellen (2004) found that brand loyalty is a stronger determinant of Web site usage than Internet experience and type of motivation (information or entertainment purposes) for the visit. Parsons (2002) suggests that online retailers can build interest and loyalty, similar to what physical retailers have done, by actively promoting online communities and offering ways for consumers to easily escape from daily reality.

Bauer et al. (2002) found that customers who trust a Web-based company feel more committed to it. They also found that customer satisfaction has the strongest influence on commitment. Methlie and Nysveen (1999) studied the loyalty of online banking customers and found that customer satisfaction, followed by brand reputation, had the most significant impact on loyalty.

Methlie and Nysveen (1999) focused upon the loyalty in online banking environments and how they are similar to the physical marketplace. They hypothesized that increasing customer satisfaction would lead to higher affective loyalty. They also hypothesized that increasing brand reputation would lead to higher affective loyalty. Based upon their research, findings report that customer satisfaction and brand reputation are in fact the two most important determinants for affective loyalty. The effect of customer satisfaction, brand reputation, and search costs were significant in the predicted direction. The authors concluded with support for the satisfaction hypotheses and the brand reputation hypotheses for affective loyalty. The findings of their study support their hypotheses regarding the effects of customer satisfaction and brand reputation on affective loyalty. The results indicate stronger support for reputation and satisfaction than for switching costs and search costs as determinants of loyalty.

Kim and Hu (2004) investigated the impact of satisfaction on loyalty in the context of electronic commerce. They hypothesized that the higher the level of e-satisfaction, the higher the level of e-loyalty.

H9: The greater the level of E-Satisfaction, the greater the level of e-Loyalty.

Perceived Value

Kim and Xu (2004) suggested that customer price sensitivity is lower when non-price attributes are of greater importance. Particularly, the trustworthiness of the Internet vendor has been noted as an important non-price attribute amid the uncertainty and risks of internet shopping. Kim and Xu hypothesized that perceived value is positively related to purchase intention for potential and repeat customers.

H10a: The greater the Perceived Value, the greater the level of e-Loyalty.

H10b: The greater the Perceived Value, the greater the Behavioral Intention.

H10c: The greater the Perceived Value, the greater the Behavioral Intention to Purchase.

Perceived Usefulness

Van der Heijden et al. (2003) studied the effects of perceived usefulness compared to a consumer's attitude. They hypothesized that perceived usefulness directly affects a consumer's attitude towards online purchasing. Chen, et al. (2002) hypothesized that a consumer's perceived ease of use of a virtual store positively affects his or her attitude towards using the virtual store. They found that higher perceived usefulness does not lead to higher consumer behavioral intent, however, even though other previous studies provided different findings. Carey and Day (2005) found a strong relationship between perceived usefulness and attitude.

H11a: The greater the Perceived Usefulness, the greater the Perceived Value.

H11b: The greater the Perceived Usefulness, the greater the Attitude Toward Using.

Perceived Ease of Use

Van der Heijden, et al. (2003) hypothesized that perceived ease of use directly affects a consumer's attitude towards online purchasing. Chen, et al. (2002) suggested that a consumer's perceived ease of use of a virtual store positively affects his or her attitude toward using it.

Previous studies suggest that perceived ease of use influences usefulness, attitude, intention, and actual use (Chau and Hu, 2001). Davis, et al. (1989) found that perceived ease of use directly and indirectly affects usage through its impact on perceived usefulness through the attitude toward using the Internet. Davis, et al. (1989) also found that perceived ease of use is a significant secondary determinant of people's intentions to use computers. Chau's study (1996) also showed that perceived ease of use significantly affected near-term usefulness, but did not significantly affect intention to use. Venkatesh and Davis (2000) discovered that TAM2 retains perceived ease of use from TAM as a direct determinant of perceived usefulness. The importance of perceived ease of use increased when an online shopper buys a product online as opposed to just gathering information about a product.

H12a: The greater the Perceived Ease of Use, the greater the Attitude Toward Using.

H12b: The greater the Perceived Ease of Use, the greater the level of e-Satisfaction.

Attitude Toward Using

Martins and Kellermanns (2001) used a web-based information system as their point of study for the proposed model of acceptance. Attitude towards using the web-based system was also predicted to affect behavioral intention; as with other models, this hypothesis was also strongly supported.

H13a: The greater the Attitude Toward Using, the greater the Behavioral Intention.

H13b: The greater the Attitude Toward Using, the greater the Behavioral Intention to Purchase.

Privacy

George (2002) examined whether privacy and internet trustworthiness helped determine attitudes towards the Internet. He hypothesized that the more experienced an individual is with the internet, the more positive the individual's beliefs about internet trustworthiness. George also hypothesized that the more positive an individual's attitudes toward internet purchasing, the stronger the individual's intent to make consumer purchases over the internet.

Both hypotheses were supported by George's research. More internet experience

was associated with more positive views about the trustworthiness of the internet. Also, positive attitudes toward internet purchasing were found to be associated with the intent to make purchases.

H14a: The greater the level of Privacy, the greater the Attitude Toward Using.

H14b: The greater the level of Privacy, the greater the Disposition to Trust.

H14c: The greater the level of Privacy, the greater the Institution-Based Trust.

H14d: The greater the level of Privacy, the greater the level of Structural Assurances.

E-Loyalty

Holland and Baker (2001) explored the development of an e-business marketing model that capitalizes on customer participation and the likelihood of brand loyalty, following such efforts. They hypothesized that creating brand site loyalty leads to predictive behavioral and attitudinal outcomes from customers, such as repeat visits to, patronage of the site, and a more favorable view of the website.

Gefen et al. (2003) examined whether e-vendors must offer superior service quality in order to create customer loyalty and trust that the service entails. His research hypothesized that customer support in an e-vendor increases customer loyalty to that vendor.

Thorbjornsen and Supphellen (2004) hypothesized that for well known websites, brand loyalty is a major determinant of website usage. Results from their research show that brand loyalty is a much stronger determinant of website usage than conventional determinants. It also found that brand loyalty is significantly, positively related to frequency of website usage, but negatively related to visit duration.

H15a: The greater the level of e-Loyalty, the greater the Behavioral Intention.

H15b: The greater the level of e-Loyalty, the greater the Behavioral Intention to Purchase.

Perceived Behavioral Control

Shim, et al. (2001) studied the Internet usage intentions of users. The authors predicted perceived behavioral control would

positively impact behavioral intention of users to use the system. Research findings showed strong support for this hypothesis. Venkatesh (2000) studied the adoption of an Information System, using a model based on the original Technology Acceptance Model. He predicted that a user's perceptions of external control of the system would affect perceived ease of use of the system; this was strongly supported. Chau and Hu (2001) used a business application to study the acceptance of an IT, specifically by business professionals. The authors predicted perceived behavioral control would affect behavioral intention to use the business application. The relationship between these variables was supported.

H16a: The greater the Perceived Behavioral Control, the greater the Behavioral Intention.

H16b: The greater the Perceived Behavioral Control, the greater the Behavioral Intention to Purchase.

Behavioral Intention

Behavioral intention refers to the user's intended behavior for accepting and using the technology. Several articles examine the relationship between experience using the Internet and the user's behavioral intention to use the Internet (Gefen, 2002; Koufaris, 2002) each found strong support for the direct correlation of these two variables. Several other studies (Elgarah, 2005; Hu et al., 2003; Venkatesh, 2000) examined the effect of perceived ease of use on behavioral intention. Elagarah's study had no results. There were mixed findings in the other studies, as Venkatesh found support for this hypothesis and Hu found no support for this hypothesis.

3. RESEARCH AND MEASUREMENT MODEL

Based upon the literature review and hypotheses, the research model shown in Appendix A evolved. We will use it to study the acceptance of online purchasing by consumers.

Measurement Scales

We measured the various constructs to examine their impact on the use of Internet technologies to purchase products. We used previous TAM-related research to derive the constructs for our study. Most of our survey used a five-point Likert scale ranging from Strongly Agree to Strongly Disagree.

We developed our survey based upon previous survey questions in earlier studies. Our survey consisted of thirteen sections to measure the constructs in our model and to capture demographic data. We administered the survey online through an online tool, Survey Monkey.

Sample

Over 1,850 consumers in the United States and Australia completed the online survey, many of whom are students. This sample is appropriate for our study since these students are representative of the desired population who purchase goods online.

Reliability and Validity

By examining the Cronbach Alpha reliability coefficients, we found strong support for construct reliability. Strong support for construct validity was found by examining the factor analysis data. All measurement scales showed relatively high Cronbach Alpha coefficients at $\alpha > 0.70$.

We used factor analysis to assess construct validity. Principal component analysis was conducted with a thirteen-factor solution, with eigenvalues greater than 1.0, explaining 80.494% of the variance in the data set. After examining the factor loadings that did not load strongly on any factor, that loaded on a factor other than the one intended, or that loaded relatively equally across multiple factors, an analysis of the loadings was conducted.

Tables for Cronbach Alpha coefficients, factor analysis, and eigenvalues are not included due to page limitations but are available upon request.

4. ANALYSIS

Descriptive Statistics

Table 1 shows the descriptive statistics for the constructs and for the individual questionnaire items, respectively. A look at the means of the constructs shows high agreement with the items within Perceived Usefulness (mean=4.37), Behavioral Intention (mean=4.19), and Perceived Behavioral Control (mean=4.10). Respondents show

more disagreement with the items within the Privacy construct (mean=2.85).

Table 1. Descriptive Statistics

Construct	Mean	Std. Devia-tion
Perceived Usefulness	4.3691	.60749
Perceived Ease of Use	3.8500	.66319
Attitude Toward Pur-chasing	3.5853	.78732
Risk Perception	3.4325	.61196
Perceived Behavioral Control	4.0999	.65224
Behavioral Intention	4.1911	.63256
Behavioral Intention to Purchase	3.5704	.75029
Convenience	3.4924	.72303
Inertia	3.3275	.67479
Expectations – Inter-net info	3.8978	.76050
Expectations – Web site quality	3.9471	.71997
Perceived Value	3.9894	.73784
e-Loyalty	3.5193	.69038
Privacy	2.8476	.64593
Disposition to Trust	3.2528	.71155
Institution-Based Trust	3.3603	.69913
Structural Assurances	3.1827	.76057
e-Satisfaction	3.3228	.64985

Correlations

We examined the correlation matrix (not included due to page limitations but available upon request). We used correlations to examine the relationships between the constructs. This provides an initial test for how well the hypotheses were supported. We investigated only those correlations >= .450 since our sample size is quite large (n=1,868).

We found strong support for the hypothesized correlation between Disposition to Trust and E-Satisfaction (r=.529), validating H1c. The relationship between Institution-

Based Trust and Attitude Toward Using was strongly correlated (r=.506), showing support for H2a. H2c was also supported with a strong correlation between Institution-Based Trust and E-Satisfaction (r=.650). A significant correlation exists between Structural Assurances and E-Satisfaction, supporting H3c. Significant correlations were also found between E-Loyalty and the following constructs: Inertia (r=.452), Convenience (r=.565), E-Satisfaction (r=.555), and Perceived Value (r=.529), providing support for H7, H8, H9, and 10a. The relationships hypothesized in H10b and H11a between Perceived Value and Behavioral Intention (r=.644), and Perceived Usefulness and Perceived Value (r=.520) were found to be statistically significant, supporting H10b and H11a, respectively. Significant correlations (where r >= .450) were also found for H13, H14b, H14c, H14d, H15, and H16. No significant correlations (where r >.450) were found for H1a, H1b, H2b, H3b, H4, H5, H6, H11b, H12b, and H14a, however.

Regression Analysis

We also used regression analysis to test the hypotheses and allow further validation of the instrument. The variance explained for Behavioral Intention was very strong (R2=.637) with all the following coefficients found to be significant at p = .000: Attitude toward Purchasing, Perceived Behavioral Control, and Perceived Value. This provides strong statistical support for H13, H16, and H10b, respectively. E-loyalty was not found to be statistically significant, giving no statistical support from the regression analysis for H15.

The linear regression model for Behavioral Intention to Purchase online shows a very strong amount of variance explained (R2=.606). The coefficients for Attitude Toward Using (p=.000), Perceived Behavioral Control (p=.000), and E-Loyalty (p=.000) were all statistically significant, showing strong support for hypotheses H13b, H16b, and H15b. However, the relationship between Behavioral Intention to Purchase and Perceived Value (p=.117) was not found to be statistically significant, thus providing no support for H10c.

The amount of variance explained by the regression analysis for Attitude toward Purchasing this model is fairly high (R2=.445). Hypotheses H12a and H11b were strongly

supported where p=.000 for both Perceived Ease of Use and Perceived Usefulness.

As discussed earlier, the Trust construct was tested in three parts: Disposition to Trust, Institution-based Trust, and Structural Assurances. Institution-based Trust (p=.000) and Structural Assurances (p=.014) were significant while Disposition to Trust (p=.060) was not significant, showing support for H2a and H3a, but no support for H1a. Also, the Privacy (p=.259) and Perceived Risk (p=.342) constructs were not found to be significant.

The amount of variance explained by the regression analysis for E-Loyalty is fairly high (R^2=.501). All four constructs, Perceived Value, E-Satisfaction, Convenience, and Inertia were significant at the p=.000 level, providing support for Hypotheses H10a, H9, H8, and H7, respectively.

A significant amount of variance is explained in the regression analysis for the E-Satisfaction construct (R^2=.464). All three trust-related constructs are significant, sustaining Hypotheses H1c, H2c, and H3c. Expectations – Web Site Quality is also key at the p=.000 level of significance, confirming H6. Surprisingly, Perceived Risk (p=.248), Expectations – Internet Info (p=.851), and Perceived Ease of Use (p=.563) do not show a significant relationship with E-Satisfaction, giving no support for Hypotheses H4, H5, and H12b.

5. DISCUSSION AND CONCLUSIONS

This study's purpose was to create a new model to study Acceptance of Online Purchasing by consumers based on the original Technology Acceptance Model (TAM) and previous related studies. The relationships between variables found in our proposed model of hypotheses and the resulting model have minimal differences. The final model is one that may be used to predict the acceptance of online purchasing by consumers. We feel it may be useful for a variety of stakeholders, not only researchers, but also companies with E-business offerings to examine the research done in this study, in hopes of getting the greatest benefit out of their websites.

Support for Hypotheses

Appendix B breaks down each of the hypotheses and the results of each based on the Correlation Analysis and the Regression Analysis.

By subdividing the Trust construct, we were able to pinpoint which sub constructs of Trust are most important in influencing Attitude Toward Purchasing, Perceived Risk, and e-Satisfaction. We can conclude that both Institution-based Trust (H2a) and Structural Assurances (H3a) positively influence Attitude Toward Purchasing and e-Satisfaction., and a greater Disposition to Trust leads to greater e-Satisfaction (H1c). Support was provided for these relationships by both the correlation analysis and regression analyses. However, a person's Disposition to Trust does not significantly influence his/her Attitude Toward Purchasing (H1a) or Perceived Risk (H1b).

In addition to Structural Assurances, we were surprised to find that only Expectations – Web Site Quality significantly influence e-Satisfaction (H6); Hypotheses H4 and H5 were not supported.

As expected, all four predictors (Inertia, Convenience, E-Satisfaction, and Perceived Value) significantly influence E-Loyalty, as shown by both the regression analyses and correlation matrix, providing support for H7, H8, H9, and H10a.

The extremely strong correlations between Attitude Toward Using the Internet and Behavioral Intention to Purchase (r=.728) and between Perceived Behavioral Control and Behavioral Intention (r=.698) support H13b and H16a; the beta weights for each relationship (.573 and .429) were also significant at the p=.000 level. We found the relationship between Attitude Toward Using and Behavioral Intention to be somewhat surprising. Sun (2003) found in a comparative analysis of TAM study results that the relationship between Attitude and Behavioral Intention was only statistically significant 43% of the times it had been studied. Some previous studies have also excluded Perceived Behavioral Control as a predictor, even though it shows importance in this study.

Major Findings

The linear regression model shows an impressive amount of variance explained for Behavioral Intention ($R^2 = .637$). Perceived Value, Perceived Behavioral Control, and Attitude Toward Purchasing are all significant constructs.

When limiting behavioral intention to only examine a consumer's intent to purchase from an online site, the amount of variance explained remains quite high ($R^2 = .598$). Several interesting differences occur when looking just at a person's intent to purchase online, however. We discovered that Perceived Value significantly influences Behavioral Intention (H10b), but does not significantly influence Behavioral Intention to Purchase (H10c). We also found that E-Loyalty significantly impacts Behavioral Intention to Purchase (H15b), but does not influence Behavioral Intention (H15a). More research needs to be conducted to better understand these discrepancies.

We discovered that several constructs not included in the original TAM, Institution-based Trust and Structural Assurances, play an important role in influencing consumers' attitudes toward purchasing.

When we limit the scope of the research to look only at the constructs that directly impact consumers' e-Loyalty, we find that Perceived Value, e-Satisfaction, Convenience, and Inertia have a significant effect. Also, when we examine only the factors that directly influence e-Satisfaction, we discover that all three trust-related constructs (Disposition to Trust, Institution-based Trust, and Structural Assurances) and Expectations – Web site quality are significant.

We also discovered that certain subconstructs of Trust, not included in the original TAM, play an important role in influencing consumers' attitudes toward purchasing. Both Institution-based Trust and Structural Assurances positively influence Attitude Toward Purchasing and e-Satisfaction. A greater Disposition to Trust leads to greater e-Satisfaction (H1c). However, a person's Disposition to Trust does not significantly influence his/her Attitude Toward Purchasing (H1a) or Perceived Risk (H1b). These findings suggest that additional research should be conducted to better understand the subconstructs that comprise Trust, as some seem to hold more importance than others.

Value to the Practitioner

Businesses must adapt to the technological changes in the business world. More companies are selling over the Internet than ever before. Companies must be able to meet customers' needs, not just in physical stores, but also through online purchasing sites. Our model and results can help practitioners better understand how to meet the desires of their online customers.

This study provides managers with a framework for which areas they need to focus upon when launching new online products, such as shaping and/or changing their consumers' attitude toward using the Internet, making their Website easier to use, and enhancing the perceived usefulness of the technologies that allow consumers to access their products online. The model we presented in this paper also serves as an important first step toward subsequent predictive modeling with critical marketing variables.

Limitations

We did not examine all of the individual and environmental factors that may influence a consumer's cognitive and emotional responses to purchasing through the Internet, such as physical stimuli (Koufaris, 2002).

Future Research

Future researchers may want to examine the shopping characteristics of other age groups and/or look at Internet purchasing in other countries. Expanding the number of constructs measured may provide researchers with new insight on consumers' usage of e-commerce sites. Adding other variables could increase the predictive power of the model.

Researchers could also look at the correlation between the type of product purchased and the type of Internet technology used to buy it. Consumers are beginning to access the Internet more through new technologies including Smartphones and similar devices, so additional research could also be conducted in this area.

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Appendix A. Research Model
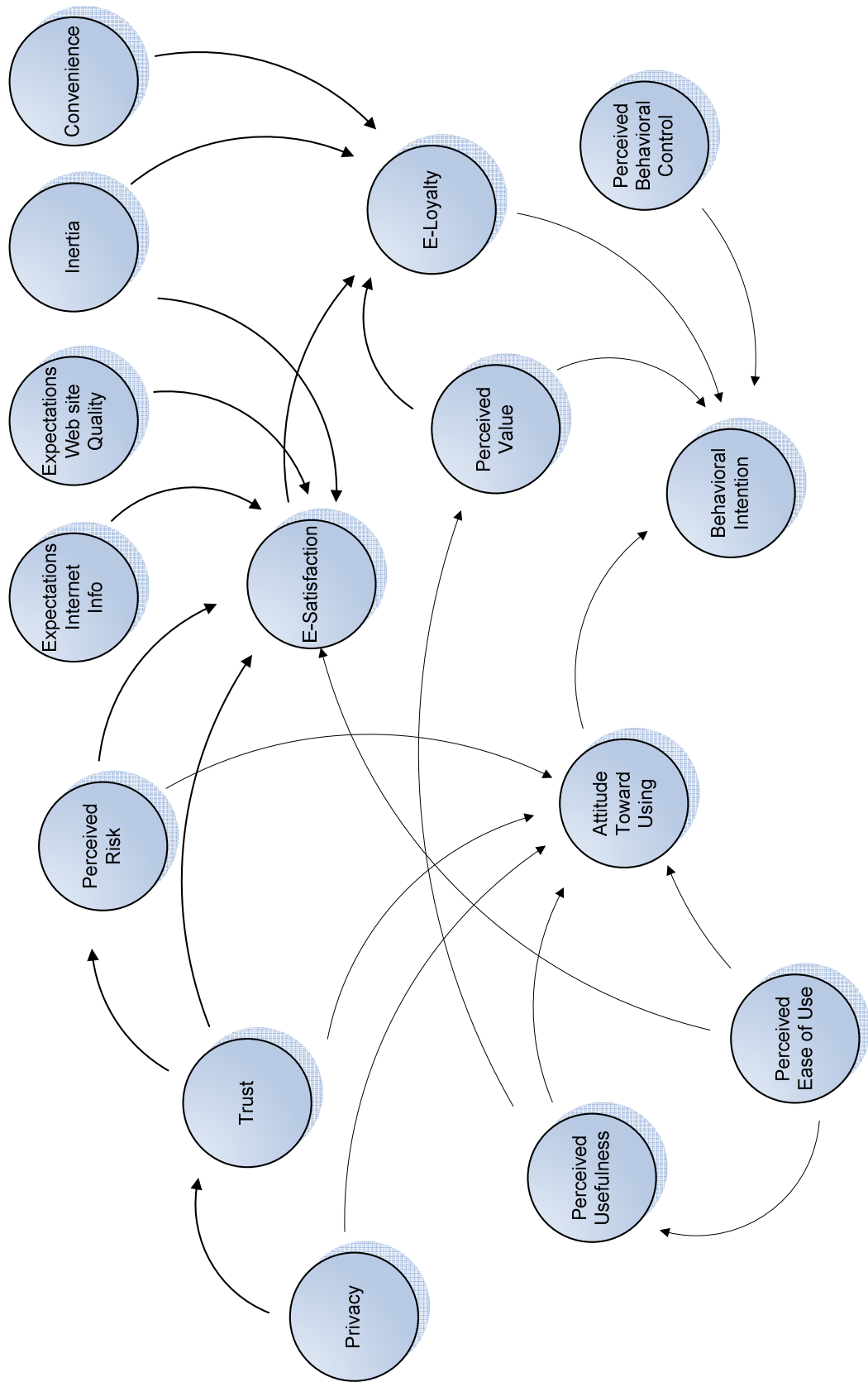
Appendix B. Summary of Hypotheses and Findings

Hypothesis	Variable 1 (Independent)	Variable 2 (Dependent)	Correlation Analysis	Sig	Support (r >= .45)	Regression Analysis	Sig	Support (sig <=0.01)
1a	Disposition to Trust	Attitude Toward Using	r = .319	0.000	No	β = -.066	0.060	no
1b	Disposition to Trust	Perceived Risk	r = .065	0.045	No	N/A	N/A	N/A
1c	Disposition to Trust	E-Satisfaction	r = .529	0.000	Yes	β = .108	0.002	yes
2a	Institution-based Trust	Attitude Toward Using	r = .506	0.000	Yes	β = .244	0.000	yes
2b	Institution-based Trust	Perceived Risk	r = .440	0.000	No	N/A	N/A	N/A
2c	Institution-based Trust	E-Satisfaction	r = .650	0.000	Yes	β = .357	0.000	yes
3a	Structural Assurances	Attitude Toward Using	r = .445	0.000	Yes	β = .100	0.014	yes
3b	Structural Assurances	Perceived Risk	r = .359	0.000	Yes	N/A	N/A	N/A
3c	Structural Assurances	E-Satisfaction	r = .594	0.000	Yes	β = .210	0.000	yes
4	Perceived Risk	E-Satisfaction	r = .033	0.302	No	β = .028	0.248	no
5	Expectations – Internet info	E-Satisfaction	r = .348	0.000	No	β = -.007	0.851	no
6	Expectations – Web site quality	E-Satisfaction	r = .379	0.000	No	β = .121	0.001	yes
7	Inertia	E-Loyalty	r = .452	0.000	Yes	β = .182	0.000	yes
8	Convenience	E-Loyalty	r = .565	0.000	Yes	β = .256	0.000	yes
9	E-Satisfaction	E-Loyalty	r = .555	0.000	Yes	β = .253	0.000	yes
10a	Perceived Value	E-Loyalty	r = .529	0.000	Yes	β = .242	0.000	yes
10b	Perceived Value	Behavioral Intention	r = .644	0.000	Yes	β = .318	0.000	yes
10c	Perceived Value	Behavioral Intention to Purchase	r = .427	0.000	No	β = .041	0.117	no
11a	Perceived Usefulness	Perceived Value	r = .520	0.000	Yes	N/A	N/A	N/A

11b	Perceived Usefulness	Attitude Toward Using	r = .354	0.000	No	β = .114	0.000	yes
12a	Perceived Ease of Use	Attitude Toward Using	r = .592	0.000	Yes	β = .415	0.000	yes
12b	Perceived Ease of Use	E-Satisfaction	r = .315	0.000	No	β = .016	0.000	no
13a	Attitude Toward Using	Behavioral Intention	r = .514	0.000	Yes	β = .228	0.000	yes
13b	Attitude Toward Using	Behavioral Intention to Purchase	r = .728	0.000	Yes	β = .573	0.000	yes
14a	Privacy	Attitude Toward Using	r = .262	0.000	No	β = .034	0.259	no
14b	Privacy	Disposition to Trust	r = .514	0.000	Yes	N/A	N/A	N/A
14c	Privacy	Institution-based Trust	r = .511	0.000	Yes	N/A	N/A	N/A
14d	Privacy	Structural Assurances	r = .532	0.000	Yes	N/A	N/A	N/A
15a	E-Loyalty	Behavioral Intention	r = .471	0.000	Yes	β = .029	0.240	no
15b	E-Loyalty	Behavioral Intention to Purchase	r = .519	0.000	Yes	β = .171	0.000	yes
16a	Perceived Behavioral Control	Behavioral Intention	r = .698	0.000	Yes	β = .429	0.000	yes
16b	Perceived Behavioral Control	Behavioral Intention to Purchase	r = .476	0.000	Yes	β = .171	0.000	yes