MODELING TRUST TO STUDY CONSUMERS' ACCEPTANCE OF ONLINE SHOPPING

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Abstract

The Internet has unique characteristics that provide ever-changing opportunities for online companies. Due to this technology, nowadays consumers are always on the verge of accepting new online applications or using the web to substitute traditional activities, such as purchasing by switching to online shopping. This paper theoretically develops and empirically validates a research model that predicts consumer acceptance of e-commerce, by incorporating trust in the well-known technology acceptance model.

Keywords*: online consumer behavior, perceived ease of use, perceived usefulness, technology acceptance, intention, trust, structural equation model.*

JEL Classification: *F15*

1. Introduction

The World Wide Web, the first and current networked global implementation of a hypermedia computer-mediated environment (CME), is increasingly being recognized as an important emerging commercial medium

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and marketing environment (Hoffman and Novak, 1996). Kelly (2006) defined the web as a ‘‘platform for the delivery of engaging services and experiences”.

Hoffman and Novak (1997) argued that successful Web marketing efforts will require an evolution in the marketing concept to where the firm not only attempts to discover and meet customer needs profitably, but also engages in marketing activities that are consistent with the new metaphors that are arising in this emerging medium.

The outlook for business-to-consumer (B2C) electronic commerce depends not only on consumer acceptance of Internet technologies as viable transaction means, but on consumer recognition of Web retailers as reliable merchants (Pavlou, 2003). Moreover, the use of social software opens a window of opportunity for Web 2.0 ‘‘social commerce”, creating virtual places where people can collaborate, get advice from trusted peers, find goods and services and then purchase them with virtual currency (Shin, 2008).

This paper theoretically and empirically validates a research model that predicts consumer acceptance of e-commerce by employing trust in an uncertain online context.

2. Consumer online transaction process

Electronic commerce acceptance is broadly described as the consumer’s engagement in electronic exchange relationships with Web retailers. Hence, online transactions can be viewed as instances of interactive marketing communications (Pavlou, 2003).

Pavlou (2003) described how consumers engage in an online shopping transaction. This process consists of three phases:

(1) Information retrieval – this phase implies an exchange of information, as the consumer browses the website, gathers information about the available products, compares products and prices, and learns about each offering to feel reassured and make an informed purchasing decision;

(2) Information transfer – the second step implies that the consumer has to provide personal information in order to register on the website (usually with his/her email address). This phase also involves automatic information exchange through cookies, log-data, data-mining tools.

(3) Product purchase – the final step also implies the provision of private and sensitive information (such as credit card information or physical

address) in order to complete the purchase of a product or service in an e-setting.

This new paradigm for electronic commerce constructed from considering the Web as an important trading place, where consumers can interact with each other and influence the way they perceive a particular web supplier. For companies it is essential to acknowledge that the consumer retains ownership of his or her personal information and chooses how and if they engage in certain online activities, from which they expect benefits.

3. Technology Acceptance Model in E-commerce

Technology acceptance mode l (TAM) represents an extension of Fishbein and Ajzen's Theory of Reasoned Action (TRA, 1975). This latter theory argued that both the attitude towards a particular action and a consumer's subjective norm (i.e. the social pressure he/she experiences to achieve or not a certain behavior) have a direct impact on behavioral intention, which in turn determines how consumers perform an action, which in marketing and commercial terms implies acquisition of a marketing object.

TAM was proposed in 1989, through Davis' Ph.D. thesis and the original model was aimed at discovering users' acceptance of technology (which referred to information systems and computer adaptation) through four dimensions: perceived usefulness, perceived ease of use, attitude, and behavioral intention. More specifically, TAM assumes that a user primarily experiences two types of perception regarding the use of a new technology, namely perceived usefulness and perceived ease of use. These two perceptions represent major influences on an individual's attitude towards using a particular technology and, ultimately, on actual use or intention to use in the near future (Davis, 1989).

Researchers have given particular attention to this theory and proposed various different versions of it by adding new dimensions. In marketing, TAM is particularly useful because it can be extended to predict and study consumer behavior in an e-setting, whether it is used to reflect adoption of a new social network or a new type of e-commerce.

This paper aims at proposing a modified TAM in the context of consumers' adoption of online shopping services, by keeping the traditional and well-known variables of TAM, but adding the trust dimension. Giving the uncertainty experienced online, trust is posited as a key driver of perceived

usefulness of online shopping and consumers' perceived ease of use of this e-commerce environment. All of the dimensions and their proposed relationships are further examined in the next sections.

3.1. Attitude and Intention for Online Shopping

Attitude refers to "the degree of a person's positive or negative feelings about performing the target behavior (Davis et al., 1989, p. 984)." By definition, behavioral intention is a measure of the strength of one's willingness to try and exert while performing certain behavior (Ajzen, 1991).

Attitude and behavioral intention are two internal psychological variables that have direct effects on user behavior. In this model, it is hypothesized that attitude has a positive influence on consumer intention to use and accept the web as a shopping channel.

Hypothesis 1. Attitude will positively affect consumers' intention to use or reuse online shopping.

3.2. Perceived usefulness

Davis (1989) defines perceived usefulness as the degree to which a person believes that using a particular system would enhance his or her job performance. Therefore, this study uses this definition to explain consumers' acceptance and adoption of online shopping would offer them better opportunities. The TAM postulates that perceived usefulness has a direct positive effect on positive attitude and there are various empirical studies applying this hypothesis and verifying it.

Hypothesis 2. Perceived usefulness will positively affect consumer intention to use or reuse online shopping.

Hypothesis 3. Perceived usefulness will positively affect attitude regarding e-commerce.

3.3. Perceived ease of use

Perceived ease of use is defined as the degree to which a consumer believes that using a particular technology will be without effort Davis (1989). Applied to online consumer behavior, a Web-retailer that is perceived as facilitating online shopping as an easy operation is likely to be accepted by consumers. Another important relationship proposed by this examined model implies an internal variable, i.e. attitude and one of the model's external factors, i.e. perceived ease of use.

Hypothesis 4. Perceived ease of use will positively affect attitude.

3.4. Trust

In an online environment, there is a temporal and spatial separation between customers and electronic retailers. Thus, consumers experience a sense of uncertainty that could be decreased if web retailers build a foundation of trust with their potential clients.

As a general accepted definition, trust represents the belief that the other party will behave in a socially responsible manner, and, by so doing, will fulfill the trusting party's expectations without taking advantage of its vulnerabilities (Mayer et al, 1995; Gefen and Straub, 2000). McKnight and Chervany (2002) further developed this concept in an B2C e-commerce context and defined trust as the belief that allows consumers to willingly become vulnerable to Web retailers after having taken the retailers' characteristics into consideration.

Many studies have developed the concept of trust as a crucial factor in influencing consumer behavior, especially in terms of minimizing the uncertainty effect of the internet-based e-commerce context (Jarvenpaa and Tractinsky, 1999; Moon and Kim, 2001). Keen (1999) argued that trust is the foundation of e-commerce, focusing on the strategic implications of trust for consumer-marketer relationships. McKnight et al. (2002) show that trust is the foundation of e-commerce and is the most important factor in the success of online vendors.

In the context of TAM, there are various studies that offer theoretical and empirical support for combining TAM's well-known variables with trust. Gefen (1997) and Gefen and Straub (2000) integrated trust, perceived usefulness, and ease of use in the context of e-services. Pavlou (2003) in his study shows a positive impact of trust on perceived usefulness and perceived ease of use. Chircu, Davis, and Kauffman (21) also examined these relationships in their paper in an adjusted technology acceptance model.

In an online shopping environment, regarding perceived usefulness, Gefen (1997) noted that trust represents an important determinant of perceived usefulness because consumers rely on the people behind the website to achieve their shopping goals and expected utility. In other words, consumers cannot perceive utility from an online retailer if they do not consider that company to be trustworthy by its consumers. Chircu, Davis, and Kauffman (2000) argue that trust positively affects perceived usefulness in that it allows

consumers to become vulnerable to the Web retailer to ensure that they receive the expected useful interaction.

Furthermore, Chircu, Davis, and Kauffman (2000) also argued that trust in an e-commerce website increases perceived ease of use. They explain this assessment by the fact that consumers who trust web retailers do not feel like they have to constantly understand, monitor, and control their online transaction, thus the online shopping process becomes effortless.

Pavlou (2003) stated that trust creates positive attitudes and perceived behavioral control toward transactions with Web retailers, reducing uncertainty and providing expectations for a satisfactory transaction, thus positively influencing consumer behavioral intentions to transact in an e-setting. Also, Jarvenpaa and Tractinsky (1999) empirically showed the favorable effect of trust on consumer purchase intentions.

Consistent with the existing empirical papers, trust can be incorporated in TAM, thus the following hypotheses are proposed:

Hypothesis 5: Consumers' trust in online shopping services will positively affect perceived usefulness.

Hypothesis 6: Consumers' trust in online shopping services will positively affect perceived ease of use.

Hypothesis 7: Consumers' trust in online shopping services will positively affect intention to use or reuse online shopping services.

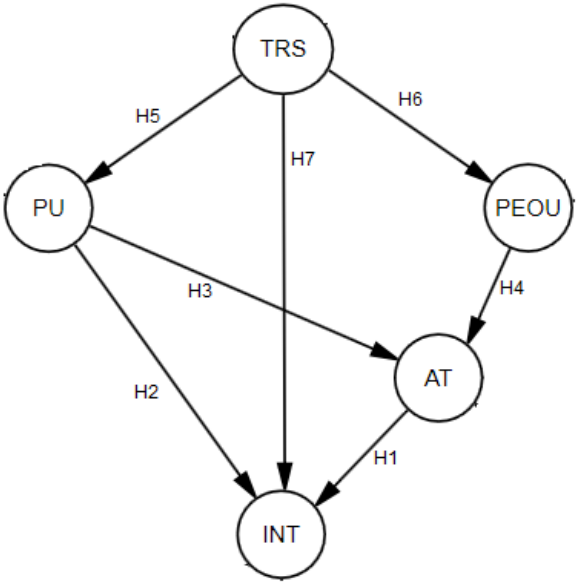
4. Research Methodology

Fig. 1 presents the 'TAM + Trust Model' to be proposed in this study. The utility of considering the TAM model and proposing different forms of this widely used model stems from the fact the Internet relies on an ever-changing technology. Consumers are always on the verge of adopting the result of new technology in the form of products and services, which they purchase primarily from the Internet.

Notably, from the original technology acceptance model a relationship was excluded from this adjusted proposed model, namely the influence of perceived ease of use on perceived usefulness. This hypothesis was excluded from the analysis in order to prevent a recursive set of interrelationships between trust, perceived ease of use, and perceived usefulness.

Figure 1summarizes these proposed hypotheses for this new model which incorporates trust to examine consumer behavior regarding the acceptance of online shopping services.

Figure1. Research proposed model



Note: AT = attitude for e-commerce, PU = perceived usefulness, PEOU = perceived ease of use, INT = Intention to use or reuse online shopping services, using online shopping services, TRS = trust

4.1. Research Instrument

The constructs used in this new adjusted TAM model which integrates trust as an important factor influencing consumers' acceptance of online shopping services were extracted from existing papers

The participants indicated their agreement with a set of statements using five-point Likert scales (ranging from ''strongly disagree" to ''strongly agree") drawn from previously validated instruments, as shown in Table 1.

The scales for perceived usefulness (PU), perceived ease of use (PEOU) and behavioral intention were adapted from existing studies on the technology acceptance model (Venkatesh and Davis (2000); Davis et al., 1989; Bhattacherjee, 2001). Attitude was assessed with five items from Hernández et al. (2010), whereas the measures for trust were adapted from Pavlou (2003).

Table 1. Constructs used in the model

Dimension	*Measure items*	*Research*
Attitude for online shopping (AT)	AT1: Shopping online saves me time AT2: The Internet is the best place to find bargains AT3: The Internet is the best place to buy items that are hard to find AT4: My general opinion of e-commerce is positive AT5: Using the internet to make purchases is a good idea	Hernández et al. (2010)
Trust (TRS)	TRS1: This Web retailer is trustworthy TRS2: This Web retailer is one that keeps promises and commitments TRS3: I trust this Web retailer because they keep my best interests in mind	Pavlou (2003)
Perceived usefulness (PU)	PU1: I think that online shopping is very useful to my life in general PU2: I think that online shopping is helpful to improve my performance on the internet. PU3: I think that online shopping is helpful to enhance effectiveness of my life.	Davis et al. (1989)
Perceived ease of use (PEOU)	PEOU1: I find online shopping clear and understandable PEOU2: I find that online shopping does not require a lot of mental effort PEOU3: I find online shopping easy to use	Venkatesh and Davis (2000); Davis et al. (1989)
Intent to use or reuse online shopping services (INT)	INT1: I intend to continue to purchase goods from the Internet shopping site that I regularly use INT2: I intend to use the Internet to get more product information.	Bhattacherjee (2001); Davis et al. (1989)

4.2. Sample and Data Collection

The primary scope of this study is to understand online shopping behavior of consumers who accept this type of e-commerce. From January to April 2013, an online survey was posted on various forums devoted to online shopping, and members wee invited to support this survey. The study used primary data, namely data originated specifically to address the research problem.

The online survey generated 107 usable questionnaires. Table 2 presents the profile of the respondents, as well as the screening questions which show high levels of experience regarding the use of internet in general, and online shopping in particular.

Table 2 – Respondents' profile

		Frequency	**Percentage (%)**
Sex	Male	38	35.5
	Female	69	64.5
	Total	**107**	**100.0**
Country	Australia	7	6.5
	Brazil	2	1.9
	Denmark	3	2.8
	France	3	2.8
	Germany	7	6.5
	Greece	1	.9
	India	5	4.7
	Poland	1	.9
	Romania	21	19.6
	Spain	7	6.5
	UK	14	13.1
	USA	36	33.6
	Total	**107**	**100.0**
Age	18-25	74	69.2
	26-30	21	19.6
	30-40	6	5.6
	Over 40s	6	5.6
	Total	**107**	**100.0**
Experience with Internet	2 - 3 years	5	4.7
	3 - 4 years	1	.9
	4 - 5 years	4	3.7
	5 - 6 years	11	10.3
	Over 6 years	86	80.4
	Total	**107**	**100.0**

Experience with online shopping	I usually just search for information on e-commerce sites, but I never bought anything	2	1.9
	I purchased just once from an web retailer	11	10.3
	I purchased more than once from web retailers	94	87.9
	Total	**107**	**100.0**
Frequency of online shopping in the last year	Once	16	15.0
	2 or 3 times	17	15.9
	4 or 5 times	31	29.0
	6 or 7 times	16	15.0
	7 or 8 times	8	7.5
	More than 8 times	19	17.8
	Total	**107**	**100.0**

5. Empirical Analysis and Results

5.1. Exploratory Factor Analysis

Firstly, the empirical analysis started with an exploratory factor analysis, which was used to reduce the number of scales assigned to each elaborated online behavior dimension. This analysis was achieved using SPSS, and as additional methods we used Principal Components (as the extraction method) and Varimax (as the rotation method, in case more than one factor was extracted for each dimension). The results for the exploratory factor analysis are shown in Table 3.

The first step in the validation process of the exploratory factor analysis was to measure the reliability and dimensionality of the scales used in this analysis. The reliability and validity of the research instrument were evaluated with SPSS, using Cronbach's alpha. The examination of the scales' reliability was meant to reflect the internal consistency of the constructs. Reliability is identified by Cronbach's alpha with a minimum of 0.70 (Cronbach, 1970). As shown in Table 3 all values were above the recommended level of 0.7.

Table 3. Descriptive Statistics and EFA Results

Dimension	*Items*	*Average*	*Standard deviation*	*Factor loading*	*Eigenvalue*	*% of Variance*	*KMO*	*Cronbach's alpha*
Attitude (AT)	AT1	4,14	0,995	0,823	3,881	77,621	0,824	0,856
	AT2	3,62	1,121	0,879				
	AT3	4,07	0,993	0,806				
	AT4	4,12	0,855	0,812				
	AT5	4	1,037	0,783				
Perceived usefulness (PU)	PU1	3,87	0,982	0,864	2,151	71,683	0,704	0,802
	PU2	3,21	1,026	0,817				
	PU3	3,50	1,004	0,858				
Perceived ease of use (PEOU)	PEOU1	3,84	0,859	0,773	1,840	71,343	0,750	0,774
	PEOU2	3,55	1,135	0,747				
	PEOU3	4,01	0,837	0,828				
Intent to use or reuse online shopping services (INT)	INT1	4,21	0,877	0,886	1,570	78,505	0,650	0,721
	INT2	4,35	0,756	0,868				

For the adjusted technology acceptance model which incorporates trust in relation to online shopping, one factor was extracted for all the dimensions studied. The criteria used to identify and interpret the factors was that each element should have a factor loading greater than 0.7 and Eigenvalues greater than 1 (Field, 2005). Also, the eligibility of the factors can also be observed in terms of the variance explained by each resulted factor, as the variation exceeds 70%. The validity of the factors can also be noticed in terms of the Kaiser-Meyer-Olkin test with values greater than 0.5, in a range from 0.650 to 0.824.

5.2. Confirmatory Factor Analysis

Confirmatory factor analysis was examined using the maximum likelihood method to further establish that the model is adequate before applying the structural equation model. The modification indices option in AMOS detected certain covariances, which were taken into account for all the latent variables. The structure of the factors obtained through the exploratory factor analysis was confirmed by a first-degree CFA. The measurement model was investigated, obtaining results that show an excellent fit for the proposed model: $\chi^2 = 41.779$, df = 36, p = 0.002, χ^2 / df = 1.161, GFI (goodness of fit index) = 0.941, NFI (normed fit index) = 0.952, RFI (relative fit index) =

0.912, CFI (comparative fit index) = 0.993, RMSEA (root mean square error of approximation) = 0.039.

In order to validate the first-degree confirmatory factor analysis, the research model's constructs were evaluated in terms of convergence validity, discriminant validity and reliability (Table 4).

Table4. CFA results

Constructs	*CR*	*AVE*	*Correlations between factors*				
			INT	**AT**	**PU**	**PEOU**	**TRS**
INT	0.787	0.785	**0.860**				
AT	0.861	0.708	0.790	**0.860**			
PU	0.855	0.749	0.855	0.830	**0.885**		
PEOU	0.743	0.791	0.750	0.711	0.708	**0.769**	
TRS	0.784	0.845	0.790	0.835	0.813	0.747	**0.833**

Note: CR = Composite Reliability, AVE = Average Variance Extracted; the bolded elements on the diagonal of the matrix reflect the squared AVE

The reliability of the CFA is relevant for the technology acceptance model for consumers who shop online. This feature of the model can be seen in the fact that all composite reliability (CR) values are greater than the acceptable levels of 0.6 proposed by Bagozzi and Phillips (1991) and 0.7 proposed by the Gefen et al. (2000), as the values range from 0.743 to 0.861.

Convergent validity was assessed using Fornell and Larcker's (1981) suggested criteria of factor loadings higher than 0.7 and average variance extracted (AVE) for each construct higher than 0.5. These conditions were met, proving the convergence validity of the model.

To examine discriminant validity, this study compared the shared variance between constructs with the average variance extracted from the individual constructs. The shared variance between constructs was lower than the average variance extracted from the individual constructs, confirming discriminant validity (Table 4). Also, according to Hair et al. (1995), in order to prove discriminant validity, all the factor correlations should be below the 0.9 threshold to avoid multicollinearity, a condition also met and exhibited in Table 4.

Therefore, all constructs in the model had adequate reliability, convergent validity, and discriminant validity.

5.3. Structural Equation Modeling

Structural equation modeling estimates the unknown coefficients in a set of linear structural equations, as is assumes there is causal structure among a set of latent variables, and that the observed variables are indicators of the latent variables. A structural equation model represents a series of hypotheses about how variables in the analysis are generated and related (Hu & Bentler, 1999).

This paper proposes an adaptation of the TAM that consists of trust, along with the traditional components of TAM. In this sense, structural equation modeling was used to test the hypotheses proposed for the model examined. Firstly, the measurement was assessed in accordance with the cutoff criteria proposed by Hu and Bentler (1999) and developed in Table 5.

Table5. Model accuracy measurement

Measurement	*Measurement model result*	*Recommended values*
χ^2	27.308 (p=0.000. 5df)	$p \leq 0.05$
χ^2 /df	4.462	≤ 5
GFI	0.907	≥ 0.90
NFI	0.916	≥ 0.90
RFI	0.901	≥ 0.90
CFI	0.929	≥ 0.90
RMSEA	0.096	≤ 0.10

Note: χ^2 =Chi-square, χ^2 /df = ratio of Chi-square and degrees of freedom, GFI = Goodness of fit index, NFI = Normed fit index, RFI = Relative fit index, CFI = Comparative fit index, RMSEA = Root mean square error of approximation.

In short, all the indicators have recorded satisfactory values, suggesting adequate model fit.

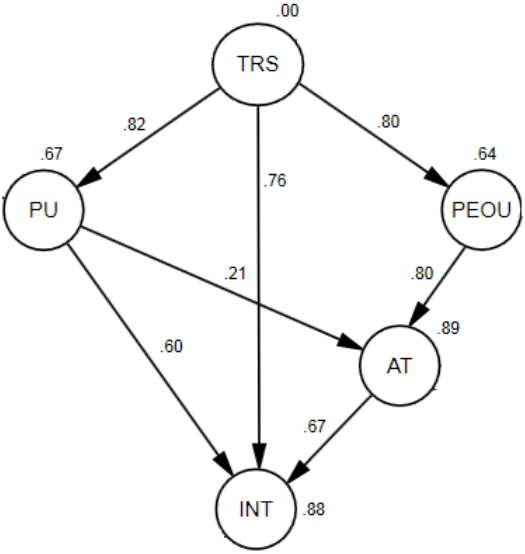
To analyze the adjusted technology acceptance model using the structural equation modeling technique, we analyzed the path coefficients of the hypothetical relationships between the different latent constructs. Table 6 reflects information regarding the unstandardized and standardized coefficients estimates, statistical significance, and standard error of each relationship. Figure 2 presents the information about the model in a visual manner. One hypothesis of the seven associated with this newly proposed extended technology acceptance model is insignificant.

Table6. Summary of the hypotheses testing

Hypotheses	*Significance*	*Unstandardized Regression Weights*	*Standardized Regression Weights*	*Standard Error*	*Hypothesis Result*
H1. AT→INT	***	0.667	0.673	0.188	Confirmed
H2. PU→INT	*	0.657	0.604	0.245	Confirmed
H3. PU→AT	0.69	0.225	0.205	0.124	Refuted
H4. PEOU→AT	***	0.864	0.799	0.124	Confirmed
H5. TRS→PU	***	0.901	0.816	0.146	Confirmed
H6. TRS→PEOU	***	0.914	0.799	0.145	Confirmed
H7. TRS→INT	*	0.956	0.762	0.258	Confirmed

**** Significant at a 0.001 level (Two-tailed), ** Significant at a 0.005 level (Two-tailed), * Significant at a 0.010 level (Two-tailed)*

Figure2. The standardized results of the research model TAM + Trust



Note: AT = attitude for e-commerce, PU = perceived usefulness, PEOU = perceived ease of use, INT = Intention to use or reuse online shopping services, using online shopping services, TRS = trust

As presented in Figure 2 and Table 6, consumers' behavioral intention to use or reuse online shopping services is positively associated with attitude for e-commerce (β = 0.67), perceived usefulness (β = 0.60), and trust (β = 0.76) as all hypotheses are supported. These findings validate H1, H2, and H7, respectively. Furthermore, the three factors explain for a very large portion of consumer intention's variance (R^2 = 0.88).

In accordance with the original TAM, both perceived ease of use and perceived usefulness denote relationships with attitude, causing 89% of the variance in this latent dimension, however perceived ease of use has a higher beta coefficient (β = 0.80) than perceived usefulness (β = 0.21). However, this latter relationship was found to have a rather low and insignificant value. Thus, hypothesis 4 is validates, whereas hypothesis 3 is not.

Also, H5 and H6 were supported, since perceived usefulness (β = 0.82) and perceived ease of use (β = 0.80) were strongly related to consumers' trust with online shopping. In this model, trust explains much of the variance in both perceived usefulness (R^2 = 0.67), and perceived ease of use (R^2 = 0.64).

6. Discussion and Conclusion

6.1. Theoretical Contribution

This study adds to the existing and ever-expanding TAM theory, by providing empirical evidence that trust is an essential construct that should be considered in an e-commerce setting. Therefore, a primary contribution of this research is the inclusion of a variable that tries to minimize the uncertainty of the online environment with the traditional constructs of the technology acceptance model into a coherent model that can help predict consumer acceptance of e-commerce.

Marketing research thus far has experimentally and theoretically approached technology acceptance model in various online and offline contexts. However, this model is highly adaptable and can always benefit from adding new dimensions to better understand consumer behavior.

The more trust consumers have in a web retailer, the less they will over-scrutinize every detail of an e-commerce site to asses its eligibility. Once consumers trust a site, they tend to minimize their cognitive effort and focus on the positive aspects of online shopping: perceived usefulness and perceived ease of use. This finding validates how imperative the role of trust in online

shopping services and how it affects other importance factors, i.e. perceived usefulness and perceived ease of use.

Moreover, a trusted site might incite a strong behavioral intention to buy or rebuy, including in this category particularly spontaneous shopping. As trust represents an antecedent of consumer intention to use or reuse online shopping, reducing the uncertainty of this new form of commerce represents a crucial element in consumer acceptance of e-commerce. This idea is consistent with previous work in e-commerce (Pavlou, 2003; Jarvenpaa and Tractinsky, 1999).

6.2. Implications for Managers

This paper has important practical implications for managers, as they can use the finding to influence online consumer purchasing behavior. E-commerce companies should acknowledge that trust is of fundamental importance for adequately capturing consumer behavior in e-commerce.

Therefore, through this parsimonious model companies can predict online consumer behavior and improve their understanding of consumers' acceptance of B2C e-commerce.

This study provides a conceptual depiction for managers to facilitate the right conditions for people to trust a web retailer. Specifically, web retailers should emphasize how reliable their online shopping services and by keeping their promises and commitments.

There aspects are extremely important because in information-intensive environments such as the World Wide Web, attention will be focused less on competitive strategy and more on cooperative strategy (Hoffman and Novak, 1996).

6.3. Research Limitations

This research must also be interpreted in the context of its limitations. Firstly, the data for this study was collected from a limited number of respondents, which should be improved for a broader implementation and validation of the results.

Secondly, limitations of this study include those commonly associated with online questionnaires, including unsystematic sampling procedures and low response rates. While representativeness can always be improved, for the present research great efforts have been made in order to have a higher response rate for the sample.

Thirdly, given the sample, the research did not include in its analysis demographic variables, such as sex, age, social class, and ethnicity. Therefore, this is another area in which the research could be improved and extended, perhaps using these demographic variables as mediation variables.

In conclusion, this study provides various new ways to improve the consumer assessment acceptance of B2C e-commerce and to add another important variable, and thus expand the future research in this direction of observing the drivers of consumer engagement in online shopping.

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