



UNIVERSIDADE CATÓLICA PORTUGUESA



**Abandoning the Online Shopping Cart before Finalizing
the purchase: influences form attitudes, subjective norms and
internet experience**

A study with Contributions from the Theory of Reasoned Action

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Abstract

Title: Abandoning the Online Shopping Cart before Finalizing the purchase: influences from attitudes, subjective norms and internet experience;

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Summary:

This thesis addresses the problem of online shopping carts abandonment from the point of view of the consumer behaviour: what drives consumers into completing versus abandoning the online purchase?

This is analyzed by the means of a questionnaire, distributed online to a heterogeneous sample, which aims to reduce the sampling bias and ensure a better representation of the online shoppers' community.

It is hypothesized that internet experience, attitudes and subjective norms have a predictive power in explaining consumers' intentions to abandon versus to finalize the online purchase. Additionally, it is hypothesized the existence of a behaviour-action gap, leading consumers who originally intended to purchase, to abandon the e-shopping cart. This gap is suggested to be triggered by the intention to procrastinate the purchase.

The results show the existence of a positive relationship between internet experience and attitudes towards online shopping. In the same line, consumers with higher attitudes towards e-shopping and higher levels of social influence showed higher intentions to finalize the purchase. Consumers with lower levels of attitudes and social influence showed higher intentions to abandon the purchase. Consumers with higher intentions to abandon the purchase have also admitted to abandon a higher percentage of e-carts. Finally, the intention-action gap is stimulated by the intention to postpone the purchase only when intentions to purchase are negative. However, when the intentions to purchase are positive, online procrastination does not influence abandonment.

These results provide insight into the problem of online shopping cart abandonment, and can be applied to the field of online buying behaviour. The results suggest that marketing campaigns targeted at increasing internet experience as well as the attitudes and social influence will decrease e-shopping cart abandonment. However, postponement is not a good predictive of e-shopping cart abandonment for consumers who originally intended to finalize the purchase.

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Preface

This dissertation represents the final part of my Double Master Degree in Business Administration with major in Marketing, at Católica Lisbon School of Business and Economics (CLSBE), and in Advanced Marketing Management, at Lancaster University Management School (LUMS).

This thesis allowed me to engage in deep research in the field of consumer behaviour, more specifically, online consumer behaviour. This combines both my interest in the field of marketing and a very important and growing trend - the internet and the online consumer. Therefore, I am very pleased that I was given the opportunity to develop my thesis within this topic.

I would like to thank a number of people, without whom this research would not have been impossible:

First and foremost, I would like to express my gratitude to my supervisor N.L. Mead PhD, whose support and guidance allowed me to complete this accomplishment.

Finally, I would like to thank my family, who always supported and guided me throughout my entire academic life, which culminates with this dissertation.

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Chapter 1 - Introduction to the Research

1.1 Problem Indication

1.1.1. Problem Background

A study by Jupiter Communications reveals that approximately 72% of internet users research products at least once per month (Shop.org, 2001, cited in Shim et al, 2001). The growth of internet penetration and online sales would suggest equivalent growth of online purchases.

However, it is estimated that online businesses incurred in a loss of over \$6.5 billion due to the abandonment of the purchase before its completion in 2000 (Buerki, 2003, cited in Li and Chatterjee, 2005). Shopping cart abandonment represents more than 50% of missed revenues for online retailers, which significantly affects the profitability (Gutzman, 2000) and compromises the success of the business. This high percentage reflects the dimension of the problem of shopping cart abandonment for online retailers.

Notwithstanding, literature has given little explanation regarding the reasons beneath shopping cart abandonment and how they can be mitigated (Li and Chatterjee, 2005; Kukar-Kinney and Close, 2010). The definition of online shopping cart abandonment is not consistent among authors. The different definitions (Ouellet, 2010; Moore and Mathews, 2006; Cho, 2004; Cho, Kang and Cheon, 2006) can be summarized into the abandonment of the online shopping cart before the purchase is complete. For the purpose of this dissertation, the definition by Kukar-Kinney and Close, (2010) will be used: shopping cart abandonment consists in the practice of consumers' placing item(s) in their online cart without purchasing any item(s) during that online shopping session.

This study responds to the request for further research on this topic by several authors (Close and Kukar-Kinney, 2010; Li and Chatterjee, 2005). Its objective is to provide a deeper understanding of the factors behind e-shopping cart abandonment. More specifically, the Theory of Reasoned Action (TRA) will be used as a basis for the development of this study. TRA has been widely used among researchers who aim to

unveil the determinants of consumers' intentions to behave. Hansen, Jensen and Solgaard, (2004) discovered that this theory is capable of accurately explaining the online consumer behaviour. The authors discovered that more than 55% of the variation in future behaviour can be explained through TRA. Alongside, the theory has provided an acceptable fit to the data. The theory has also been applied in the field of shopping cart abandonment (SCA). Thus, the reasons behind the choice of the TRA are that the theory has proven to provide good insights in past studies targeting the phenomenon of e-shopping cart abandonment. In fact, Gentry and Calantone, (2002) support the use of this theory to explain online shopping intentions. The authors defend the theory as being robust even when generalized.

The findings are expected to help scholars getting a better understanding of this issue, especially from the point of view of the consumer rather than the retailer or the product's characteristics. Also, it is expected to actualize the findings provided by past research – now nearly obsolete due to the fast paced nature of this industry - as well as to help managers creating measures that minimize shopping cart abandonment.

1.1.2. Problem Statement

The problem statement that serves as the foundation of this thesis is the following:

Do the variables of attitudes, subjective norms, internet experience and purchase procrastination have predictive utility on consumer's intention to buy versus to abort online transactions? Is this intention related to the number of e-carts abandoned in the past? And, is online procrastination related to shopping cart abandonment and can this construct explain the intention-behaviour discrepancy?

1.1.3. Research Questions

(0) Can internet experience predict attitudes towards e-shopping?

(1) Can attitudes towards e-shopping predict whether consumers intend to purchase or abandon items when they are shopping online?

(2) Can subjective norms predict whether consumers intend to purchase or abandon items when they are shopping online?

(3) Do behavioural intentions to abandon the purchase increase the actual shopping cart abandonment?

(4) Is online procrastination related to shopping cart abandonment and can this construct explain the intention-behaviour discrepancy?

Chapter 2 - Theoretical Framework

2.0. Introduction

In this chapter the Theory of Reasoned Action will be presented as the basis of this research, thus motivating the development of the methodology, including the research hypothesis and conceptual framework. Firstly, the theory will be introduced, including the reasons behind the choice of this theoretical model as well its constructs. Secondly, it will be justified why the theory fits within the boundaries of the present research and how it will be used to answer the problem statement (see 1.1.2.Problem Statement). Finally, based on this theory, as well as on previous literature, the research hypotheses are developed. This aims to provide understandings on the reasons leading to e-shopping cart abandonment. The characteristics of the retailer and product characteristics – a theme more explored by the literature – will not be addressed in this research.

2.1. Research Background

2.1.1. The internet

Ever since its early days, internet has been seen as a powerful tool that can be used to potentially leverage almost any strategy in almost any industry (Porter, 2001). Being recognized as a third wave of global revolution, only after agricultural and industrial revolutions (Rastogi, 200), the internet has the unique characteristic of connecting people around the world, generating enormous opportunities for both individuals and companies.

In fact, the internet has become a popular technology and its usage has continuously grown, becoming a common vehicle for delivering and trading information, services, and goods. It is estimated that over 2.1 billion users had access to the internet in 2010 (CIA, 2012), thus creating a new source for business to find their target audience. This number is expected to increase to 4 billion in a matter of few years (European Communities, 2008).

In this sense, the internet has contributed towards the evolution of the economic and social world, creating new industries such as online auctions and digital marketplaces (Porter, 2001).

2.1.2. Internet commerce

The study of online shopping has evolved from the emergence of electronic commerce (Hassan, Ghani and Said, 2009). Researchers focus on the practices of buying and selling goods online by the means of technologies such as the web, electronic data interchange, email, electronic fund transfers and smart cards (Joseph, 2000).

Keeney (1999) defines electronic commerce, also known as e-commerce or e-comm, as the practice of selling and purchasing products and services over the internet and other computer networks. Rastogi (2002, p.135) adds that e-commerce addresses the needs of different stakeholders by cutting costs “*while improving the quality of goods and services and speed of service delivery*”. This latter definition implies that e-commerce is more than just selling and purchasing goods online, also including the whole process of developing, improving, marketing, selling and delivering these goods. This includes not only online shopping but also online stock and bond transactions as well as buying and downloading software (Rastogi, 2002).

This dissertation focuses on the branch of electronic commerce called online shopping, which is a type of business-to-consumer electronic commerce (B2C e-commerce), more specifically for the retail segment. This form of e-commerce is characterized by the direct and real-time interaction between the buyer and the seller, via the internet where, usually, there are no intermediaries involved (Rastogi, 2002).

Research has shown that e-commerce has become one of the fundamental parts that contributed to the expansion of the internet. A study conducted by UCLA Center for Communication Policy (2001) ranks online shopping as the third most popular internet activity, after the use of e-mail, access to instant messages and online browsing. More recent studies pointed out that more than 627 million people in the world have purchased products over the internet (A.C.Nielsen, 2007, cited in Delafrooz, Paim and Khatibi, 2011) and that global B2C ecommerce had an estimated spending growth from \$708 billion in 2010 to \$1,285 billion in 2015 (Weide and Shirer, 2011).

This environment enables consumers to easily search for product related information, comparing product features and prices among different retail stores and purchasing products without leaving their home. The benefits for the consumer therefore include convenience, easy access to information and lower prices, among others (Zhou, Dai and Zhang, 2007).

2.1.3. Online Consumer Behaviour and e-Shopping Cart Abandonment

Due to the rapid expansion of internet penetration and parallel online shopping, researchers have adopted and developed theories and models with the purpose of studying the online behaviour, including attitudes, intentions and motivations towards online shopping and the factors leading to the abandonment of the shopping cart. Despite being a major concern for retailers, e-shopping cart abandonment is still not well understood by researchers and academics.

Different theories have been used to understand the determinants of consumers' online behaviour, being the Theory of Reasoned Action (TRA) and its family theories including the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) the dominant ones and most used by scholars and researchers. More recently, theories such as the Expectation-Confirmation Theory (ECT), Transaction Cost Theory and Innovation Diffusion Theory (IDT) have been used as theoretical frameworks in the study of online shopping behavior (Cheung et al, 2003; Cao and Mokhtarian, 2005).

However, more emphasis has been given to the antecedents of online purchasing (Cheung et al, 2003). Thus, there is a lack of research on the topic of shopping cart abandonment (Close and Kukar-Kinney, 2010).

Adding to this, online retailers work in a fast-paced environment, due to the fast changes that characterize the internet, including adoption rate and the way consumers use it (Grewal, Iyer and Levy, 2004; Limayem, Khalifa and Frini, 2000; Clark and Wright, 2005). Cheung et al. (2003) alert for the fact that most studies regarding online consumer research reveal contradictory results. The authors suggest that previous findings should be reviewed and actualized in the light of the same theories, however targeting the new and more informed online consumer.

This thesis responds to these requests, by using the Theory of Reasoned Action as a base model to answer the proposed research questions as well as to actualize the literature on this topic.

2.2 The Theory of Reasoned Action

2.2.1. Background to the Theory

The Theory of Reasoned Action was developed by Fishbein and Ajzen (1975, 1980) with the aim to predict behavioural intentions. According to Hale, Householder and Greene (2003, p. 259) this model was developed “*out of frustration with traditional attitude-behavior research, much of which found weak correlations between attitude measures and performance of volitional behaviors*”.

This model is widely used by social psychologists (Ajzen and Fishbein, 1980) who intend to explore the determinants of the human behaviour. However, the model proved to be adaptable to other fields of study that assume behaviour is indirectly affected by several factors, but these factors can be integrated in one of the two variables of attitude and social norms (Davis, Bagozzi and Warshaw, 1989).

Also, Sheppard, Hartwick and Warshaw (1988, p.338) identified that the majority of the research using the model “*investigated activities for which the model was not originally intended*”. Nevertheless, the authors also found that the model performed well in these different fields of research. Therefore, it was concluded that the

model can be used in different contexts, although not discarding the need to make some modifications whenever appropriated.

The theory has therefore been tested in diverse laboratory and field studies, ranging from the health-care and medicine field (Fishbein, 2008; Xing et al, 2012) to education (Zheng, 2012; Law and Yuen, 2012), sociology (Lee, 2012; Hassandoust, Kazerouni and Perumal, 2012), management (Lada, Tanakinjal and Amin, 2009; Ramayaha et al, 2009) and several others.

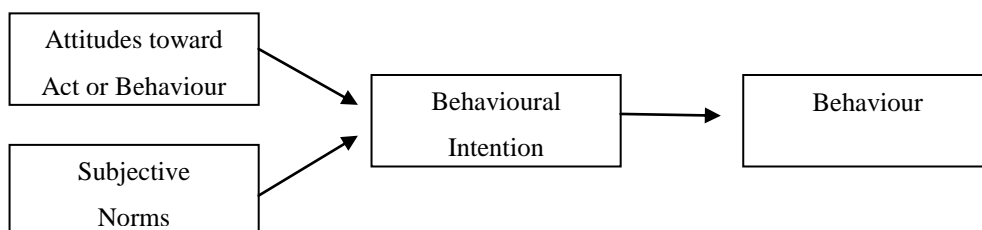
2.2.2. Model description

According to the theory, the human behaviour is preceded by an intention to perform the behaviour – named as behavioural intention. Behavioural intention, in turn, is preceded or influenced by two variables – (1) attitudes towards behaviour and (2) subjective norms.

Behavioural intention measures how likely the subject of study is to perform a specific behaviour. Attitude toward behaviour is defined as the “*general feeling of favourableness or unfavourableness for that behaviour*” (Fishbein and Ajzen, 1975, cited in Kotler et al., 2009, p. 256). Subjective norm are defined as the “*perceived opinion of other people in relation to the behaviour in question*” (Fishbein and Ajzen, 1975, cited in Kotler et al., 2009, p. 256). In other words, it refers to the person's willingness to follow the beliefs of other people who are important to him or her.

To summarize, the TRA (figure 1) assumes that the intention to perform a certain behaviour is influenced by one's own attitudes as well as the social beliefs shared by referents. The model can be represented in the following framework:

Figure 1: Theory of Reasoned Action



2.3 Theoretical Framework

2.3.1. Model Fit

The model is appropriate to study online shopping behaviour due to its particularity of predicting attitudes towards a behaviour – in this case abandoning the shopping cart – rather than towards particular products or services (Hansen, Jensen and Solgaard, 2004).

The reasons underlying this choice are based on the fact that the theory has been widely used as a base model in previous researches measuring both offline (Magnusson et al., 2001; Tarkiainen et Sundqvist, 2005) and online (Hansen, Jensen and Solgaard, 2004; Yoh et al, 2003; Shih, 2004) purchase behaviour and proved to accurately measure the study variables, allowing the researchers to draw conclusive findings. Additionally, it is a simple, easy to apply theory that accesses the factors influencing one's intention to perform a specific behaviour – in this context the intention to finalize the online purchase. Understanding the factors underlying the behaviour intentions might give a new understanding to why consumers abandon the shopping cart, thus allowing managers to design strategies that contradict this tendency.

It is acknowledged that new models have been and will continue to be developed to explain the online shopping milieu. Nevertheless, as highlighted by Gentry and Calantone (2002, p.945) “*it seems reasonable that existing models of buyer behaviour will still apply*”.

The next section briefly discusses the hypothesized relationships between the variables.

2.3.2. Attitudes, Internet Experience and Behavioural Intentions

Internet Experience and Attitudes

Online shopping requires the access to resources such as the internet and a computer as well as basic computer skills. Thus, the question of a relationship between internet experience and online shopping behaviour arises.

In fact, literature has identified past internet experience as a determinant variable in explaining online purchase behaviour (Brown, Pope and Vogues, 2003; Devaraj, Fang and Kohli, 2002; Foucault and Scheufele, 2002; Koivumi, 2001; Moe and Pader, 2004; Park and Jun 2003; Pires, Stanton and Eckford, 2004; Yang and Lester, 2005). Experienced internet users average 20 online purchases each year, as opposed to 4 yearly purchases for less experienced users (UCLA Center for Communication Policy, 2001). Bellman, Lohse and Johnson (1999) found that people who use the internet as a routine tool buy online more frequently.

Thus, and although the TRA did not include past behaviour as a predictor of future intention to behave, it is proposed in the present research that assessing past online experience will allow a better understanding of online shopping and correspondent abandonment. The inclusion of this variable in the model is defended by various researchers who found that studying past behaviour as a variable in the model can increase its explanatory power (Bentler and Speckart, 1979, 1981; Sutton and Hallett, 1989). Similarly, experience has been found to positively influence consumers' intentions to purchase online (Shim and Drake, 1990; Bhatnagar, Misra and Rao, 2000; Blake, Neuendorf and Valdiserri, 2003; Burroughs and Sabherwal, 2001; Citrin et al., 2000; Goldsmith and Goldsmith, 2002; Liao and Cheung, 2001).

However, research has not assessed how the internet influences attitudes towards online purchasing. A better understanding regarding this interaction might help managers develop new marketing strategies that focus on increasing favourable attitudes by stimulating the visit of their websites by customers.

Based on the literature, this research proposes to identify what is the relationship between internet past experience and attitudes. Do people who purchase online more frequently have more favourable attitudes towards online shopping than those who are less experienced? In other words, can internet experience be the foundation for favourable attitudes towards e-shopping? This leads to the following hypothesis:

Hypothesis 1 (H1): Consumers with more internet experience are more likely to have positive attitudes towards online shopping.

This hypothesis is expected to unveil whether internet shopping experience influences attitudes towards online shopping, which is expected to reduce the consumers' intentions to abandon the e-shopping cart.

Attitudes and Behavioural Intentions

Attitudes are “the degree of favorableness and un favorableness of an individual's feeling towards a psychological object” (Ajzen and Fishbein, 2000). According to the TRA, attitudes have a strong predictive power on the intentions to perform a certain behaviour, being that more favourable attitudes are seen as predicting higher intentions to behave. In the online shopping setting, several studies assessed and confirmed this relationship, either on the intention to purchase products and services online (Chuchinprakarn, 2005; Verhoef and Langerak, 2001; Haque and Khatibi, 2005; Khatibi, Haque and Karim, 2006; Suki, Ramayah, and Suki, 2008) or in determining consumers' online shopping rate (Goodwin, 1999; Wu, 2003; Yang, Lester, and James, 2007).

However, studies in the online shopping literature have focused on the relationship between attitudes towards e-shopping and intentions to purchase online. There is a lack of understanding in the literature about how attitudes are linked to the intentions to abandon the purchase. Based on this recognition, the present research aims to fill this gap in the e-shopping research.

From the theory previously discussed, the following hypotheses are derived:

Hypothesis 2a (H2a): There is a positive relationship between attitudes towards online shopping and intentions to purchase – higher levels of attitudes are related to higher levels of purchase intentions.

Hypothesis 2b (H2b): There is a negative relationship between attitudes towards online shopping and intentions to abandon the online transaction – lower levels of attitudes are related to higher levels of abandonment intentions.

2.3.3. Subjective Norms and Behavioural Intentions

The literature proposes that consumers, when facing a choice on how to behave, take into account how important referent others act or think one should act (Bearden, and Etzel, 1982; Hsu et al., 2006). Thus, a positive relationship between subjective norms and behavioural intentions is suggested. In empirical terms, this means that favourable opinions of referent ones will encourage the consumer to purchase products from the internet, while negative opinions will work in a reverse way.

The research of Hansen, Jensen and Solgaard (2004), confirmed that beliefs held by different groups concerning online shopping can predict these groups' intentions to buy groceries online. Also, Howard and Sheth's research (1969) concluded that one of the major reasons for this behaviour is the social influence.

From the theory previously discussed, the following hypotheses are derived:

Hypothesis 3a (H3a): Consumers who believe their significant referents approve the use of internet for shopping are more likely to have more intentions to purchase – there is a positive relationship between subjective norms and intentions to purchase.

Similarly, it is expected that when subjective norms are favourable towards e-shopping, consumers will tend to abandon the shopping cart less often, being encourage to finalize the purchase:

Hypothesis 3b (H3b): Consumers who believe their significant referents approve the use of internet for shopping are less likely to intent to abandon the online transaction.

2.3.4. Behavioural Intention and Actual Behaviour

Abandonment Intention and Abandonment

Social psychologists regard intentions as a mental state that causally precedes behaviour and that can be elicited through questionnaires (Manski, 1990).

According to Ajzen' (1991, p.181), behavioural intentions are defined as motivational factors that capture how hard people are willing to try to perform a behaviour. This assumption is shared among several social psychological models, including the attitude-behaviour theory (Triandis, 1980), the theory of planned behaviour (Ajzen, 1985, 1991), and the protection motivation theory (Rogers, 1983).

The TRA suggests behavioural intention as the best predictor of actual behaviour. This has been supported by numerous researches that demonstrated the existence of positive correlation between the two variables. Sheppard, Hartwick and Warshaw, (1988) analyzed 87 studies to find an average correlation of .53 between intentions and behaviour. Specifically for e-shopping, it has been demonstrated that purchase intention are a predictive factor of actual purchase behaviour (Chen, Gillenson and Sherrell, 2002; Limayem, Khalifa and Frini, 2000).

Following the theory, the existence of a positive relationship between likelihood to abandon online purchases and abandonment rate of online purchases is expected. In other words, do consumers who show higher intentions to abandon online purchases engage in the practice of shopping cart abandonment more often?

This leads to the construction of the following hypothesis:

Hypothesis 4 (H4): There is a positive relationship between intentions to abort and actual shopping cart abandonment (supported by the theory of reasoned action).

It is important to note that predicting future behaviour – asking whether the consumer intends to abandon the shopping cart in the next purchase experience – is beyond the scope of this research. This is justifiable with the fact that several studies have proved the power predictive power of such method being netnography the mostly supported method for assessing this construct. Therefore, the present research proposes to analyse this relationship based on previous behaviour.

Procrastination Intention and Abandonment when Purchase intentions are positive

As previously mentioned, the TRA suggests behavioural intention as the best predictor of actual behaviour.

However, not always this is observed, and empirical research indicates the existence of a gap between intentions to behave and performance of the behaviour (Wong and Sheth, 1985). This happens when the subject of study demonstrates a positive intention towards the behaviour but the performance of this behaviour is not observed. Steel (2007, p.70), defines the intention-action gap as “*the degree to which people follow up on their original work plans*”.

The TRA fails to consider this possibility. However, this phenomenon has been a major concern since the beginning of online shopping (Mzoughi, Negra and Habacha, 2012) due to the lost sales associated with it.

In the present study, it is suggested that this gap is one of the causes leading to the abandonment of online shopping carts, which makes it fundamental to understand what stimulates its existence.

Shopping research has documented the existence of “*a chronic and conscious tendency to slow down or hold back a planned purchase*” (Darpy, 2000, cited in Mzoughi et al., 2007, p. 92) among consumers, more commonly referred as purchase procrastination. One of the observed outcomes of this behaviour is the purchase abandonment (Steel, 2007). Additionally, Forrester’s study (2005, cited in Nicholls, 2011) points delaying the purchase to compare prices on other websites and save the product in the e-cart for later consideration as one of the major causes of e-shopping cart abandonment.

Thus, it is proposed that intention to procrastinate the purchase is positively related to the intention-action gap.

Based on this, the following hypotheses were developed:

Hypothesis 5a (H5a): The intention-action gap is stimulated by the intention to postpone the purchase, i.e., when the intentions to purchase are positive, online procrastination positively influences abandonment.

Procrastination Intention and Abandonment Rate

Following the same theoretical grounds, it is expected that a positive relationship will be observed between one’s intention to procrastinate the purchase and frequency of shopping cart abandonment.

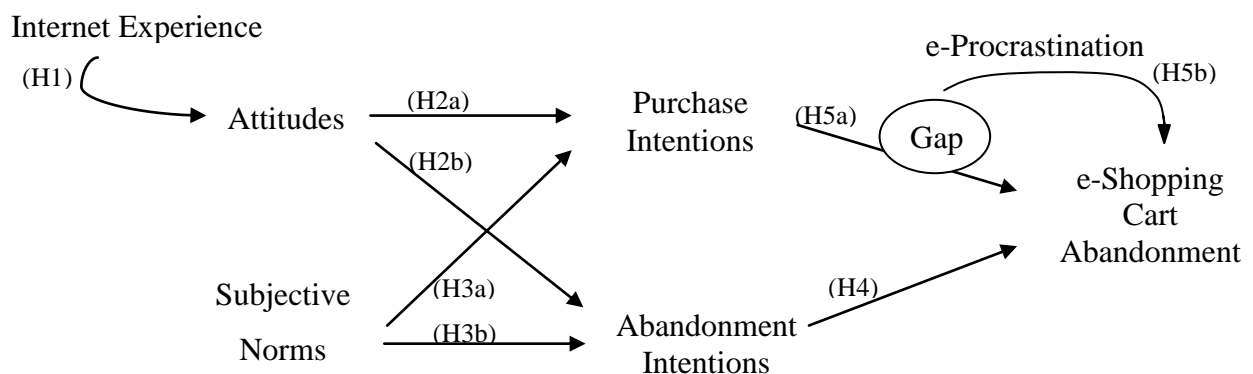
Hypothesis 5b (H5b): There is a positive relationship between procrastination and frequency of shopping cart abandonment – consumers who procrastinate the purchase, abandon the shopping cart more often.

2.4. Theoretical summary

This study focuses on three main factors that lead to online shopping cart abandonment, on the basis of the Theory of Reasoned Action. These factors are assumed to be the foundation of shopping cart abandonment. Additionally, this research aims at understanding if the online shopping cart abandonment is provoked, not by the intention to abandon but rather by the existence of a gap between intention to purchase and actual purchase. This gap is suggested to exist when the consumer decides to procrastinate the purchase. Finally, previous internet experience is accessed in order to understand how it influences the consumers’ attitudes towards online shopping.

Based upon the theory discussed above and the hypotheses derived from it, the following conceptual framework was developed (figure 2):

Figure 2: Conceptual Framework



This research expects to address the following hypotheses:

(1) Attitudes and Past-Experience

H1: Consumers with more internet experience are more likely to have positive attitudes towards online shopping;

H2a: There is a positive relationship between attitudes towards online shopping and intentions to purchase – higher levels of attitudes are related to higher levels of purchase intentions;

H2b: There is a negative relationship between attitudes towards online shopping and intentions to abandon the online transaction – lower levels of attitudes are related to higher levels of abandonment intentions;

(2) Subjective Norms

H3a: Consumers who believe their significant referents approve the use of internet for shopping are more likely to have more intentions to purchase – there is a positive relationship between subjective norms and intentions to purchase;

H3b: Consumers who believe their significant referents approve the use of internet for shopping are less likely to intent to abandon the online transaction;

(3) Intention Behaviour

H4: There is a positive relationship between intentions to abort and actual shopping cart abandonment;

H5a: The intention-action gap is stimulated by the intention to postpone the purchase, i.e., when the intentions to purchase are positive, online procrastination positively influences abandonment;

H5b: There is a positive relationship between procrastination and frequency of shopping cart abandonment – consumers who procrastinate the purchase, abandon the shopping cart more often;

Chapter 3 – Empirical Methods

3.0. Introduction

This chapter discusses the empirical part of the dissertation, including the details of research design and process, and the methods used to test the proposed hypotheses. This study adopts a survey approach to collect empirical data. First, the procedures used for the development of the questionnaire are explained (pre-test, subjects and procedure). Reliability of all constructs is assured by the fact that all questions were developed and tested in previous researches and it was verified a Cronbach α of above .7 for all measurements, therefore indicating internal consistency. Second and last, the structure of the questionnaire is explained, including the different components used to measure the different variables of the model framework: attitudes, subjective norms, internet experience, intentions to purchase the product and intentions to abandon the purchase, intentions to procrastinate the purchase and shopping cart abandonment (intentions to abandon the shopping cart as a consequence of procrastination and frequency of past e-shopping cart abandonment).

3.1. Research Design and Materials

The instrument of this research was the questionnaire (Appendix A). It aimed to gather information about the online consumer, including demographics and internet past experience. The questionnaire also aimed at understanding the online purchase behaviour, including attitudes and subjective norms towards it. Intentions to procrastinate the purchase and likelihood of abandoning the shopping cart were also assessed in the questionnaire.

All the questions were adapted from past research; slight modifications were only made to enhance the fit of the questions to the context of the present study. The exclusive adoption of items that had been carefully developed tested and validated in previous research aimed at guaranteeing measurement reliability and validity to the present research. Additional analysis to the adopted scales, as well as to the modified ones, demonstrated that all items employed had good reliability (all Cronbach α are greater than .7) (Appendix B), since, according to Srinivasan (1985), a reliability coefficient .5 or higher is acceptable.

3.1.1. Pre-test

Before administering the questionnaires to the main sample of participants, a small-scale pre-test was conducted with a total sample population of 10 respondents, selected at convenience. This was complemented with personal unstructured interviews. The main objectives of the pre-test were to guarantee that the questions were clear to the actual respondents as well as to ensure validity of the measurement scales. Several items, including wordings and question structures, were improved based on the respondents' feedback:

The initial measurement of attitudes had to be complemented with two other options (unattractive/attractive and un-enjoyable, enjoyable). Small word changes included the use of online store instead of "online mall" and some questions were improved in order to be clearly understood by the respondents. For example, question 2 was initially written as "Online shopping is Please complete", being afterwards changed to "What do you think about using the internet for personal Shopping

Finally, pre-testing was used to determine the necessary time to complete the questionnaire, which was used to inform future respondents about the questionnaire's length.

3.1.2. Subjects and procedure

The data were collected through Mechanical Turk (mTurk) and analyzed using SPSS Version 17.0. mTurk is a convenient crowd-sourcing platform for collecting responses, providing fast and inexpensive results. Furthermore, it ensures that all respondents have basic online knowledge and access to the conditions necessary to purchase online (access to a computer and internet as well as basic computer skills).

The sample consisted of $n = 311$ respondents. However, after excluding incomplete and irrelevant data, as well as those who answered randomly to the questions (see 3.2 Instrumentation) the effective response rate was of $n = 202$. All the respondents had already purchased online at least once. This was assessed through a non-leading screening question (Appendix A question 1).

44% of the respondents were female, being that 10% were in the age range of 30 - 34. Of the 55.9% males, 14.9% were in the age range of 18 - 24. The average age of the sample was 30 – 34. The answers included 36 different nationalities, being 27% from the USA, 8% from the UK, 8% from India and 5% from Romania.

Subjects were highly educated, since only .5% had not completed the secondary school, 45.5% had completed undergraduate degree and 38.1% had completed post-graduate degree. Most of respondents were students (34.8%), managers or administrators (15.8%) or self-employed (14.4%). 45% earned total household incomes of less than € 16,000 and only 3.5% earned more than € 80,000.

3.1.3. Questionnaire Design and Measures

The questionnaire was divided in six major parts.

Part I consisted of a screening question, which aimed to understand whether the respondents were part of the interest population for this study. All respondents that had never purchased online were immediately redirected to the thank you page and did not take part in the questionnaire. At this point of the survey, the respondents were not aware of the objective of the research. This had the objective to discourage respondents answering that they had previously purchased online just to receive the monetary bonus associated with completing the survey.

Part II collected behavioural questions, including attitudes towards web shopping, subjective norms and purchase intentions:

Attitudes

- Attitudes towards online shopping were measured on a seven-point semantic differential scale with five bipolar adjectives. The adjectives selected to measure this construct - *Bad/Good*, *Foolish/Wise*, *Unpleasant/Pleasant* – were adopted from the work of Taylor and Todd (1995), while *Unattractive/Attractive* and *Unenjoyable/Enjoyable* were adopted from Atilgan-Inan and Karaca's scale (2011). The measure showed a high degree of internal validity ($\alpha = .85$).

Subjective Norms

- Subjective norms intended to measure the degree to which respondents are influenced by the opinion of referent ones. This construct was measured by a seven point likert scale, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). This scale extracted seven items developed by Taylor and Todd (1995), Hsu et al (2006) and Limayem, Khalifa and Fini (2000). The scale showed to have high internal consistency ($\alpha = .86$). Respondents were asked to indicate the importance of referent ones (i.e. important friends, family, media and popular press) approving their use of the internet for shopping.

Behavioural Intentions – Purchase Intention

- In order to understand the likelihood of finalizing the purchase (Purchase Intention), a seven point likert scale was used, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). This scale was first developed and tested by Vijayasathy (2004) to understand purchase intentions. Items include the subjects' intention to use an online store for shopping, to use an online store whenever appropriate and whether the consumer would consider purchasing a product from an online store. Internal consistency was assessed by Cronbach's α whose coefficients for the five constructs were above .7 ($\alpha = .85$), indicating a good level of internal consistency among the items making it up.

Part III aimed at measuring online procrastination intentions and respective consequences.

Behavioural Intentions –Procrastination Intention

- The scale to measure consumer global procrastination consisted in a four item, seven points likert scale developed by Darpy (1999, 2000), ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Reliability analysis indicates an appropriate fit with the data ($\alpha = .77$). The construct aimed to understand the subject's tendency to procrastinate using the following items:

“When the decision to buy is made, I don't wait any more; When I have a purchase intention, I usually buy rapidly; I am one of those people who spend more time than others to choose between one brand and another; I lose a lot of time to weigh

the various attributes of a product before making a final purchase decision” (Darpy, 1999, 2000)

Before proceeding with the analysis, items 3 and 4 from question 5 had to be reversed.

Behaviour – Abandonment as a consequence of Procrastination

- To assess online procrastination consequences, a *Yes/No* set of questions, provided by Mzoughi et al (2007), was used. This measurement was developed in the basis of a vocabulary experiment where respondents were asked to read a hypothetical scenario describing the process of purchasing clothes [according to Darpy (1999), private clothing purchase is highly expected to be postponed]. The respondents were then asked to indicate, from a list of the four identified consequences, what they were likely to do, being one of the options the abandonment of the online shopping cart.

Part IV measured online shopping cart abandonment.

Behavioural Intention – Purchase abandonment

- The intention to abort an online purchase was measured using a seven point semantic differential scale proposed by Cho (2004), including the following six items: *Very Unlikely/Very Likely; Not at all/Definitely; Not Possible/Possible; Uncertain/Certain; Not Existent/Existent; Not Probable/Probable*. Internal reliability was tested by the author and it was re-confirmed in the present study ($\alpha = .93$).

Actual Behaviour – Purchase abandonment

- Abandonment frequency was assessed using a seven point likert scale, ranging from *Never* to *Always*, developed by Kukar-Kinney and Close (2009). The scale included four items that aimed to determine consumers' abandonment behaviour, such as the frequency of which respondents left items in the shopping cart without buying them, how often they closed the webpage before finishing the transaction and how often they abandoned the online shopping cart. Internal validity was re-ensured ($\alpha = .88$).

Part V explored the profile of the online shopper in order to gather data concerning internet usage and previous online purchasing experience. All the

measurement items in this part of the questionnaire were measured on a multiple-answer basis, except for internet experience.

This included:

- The average time spent online, from 0h-5h to more than 31h, (divided in branches of 5);

- Money spent on online purchases, from €1-€ 25 to more than €500, (divided in branches of 9);

- Reasons for shopping online, including *convenience; product/service not available offline; better prices; curiosity and others;*

- Type of products and services previously purchased, including *food and beverage; clothing/accessory/shoes; toys; computer/electronics/software; book/DVD/CD and others;*

- Major reasons for using the internet, including *information search on products and services; communications (e.g., e-mailing, chat room); work/business; banking-related activities; paying bills; education purpose (e.g., research for knowledge); entertainment (e.g., games, music) and others;*

- The level of internet expertise was assessed by asking the respondent to auto-evaluate their expertise level in terms of internet experience. This was measured by a seven points likert scale including only one item: *beginner/expert.*

Part VI: comprised all the socio-demographic information needed to profile the respondent. The questions in this section are developed on categorical basis including gender, age, nationality, education level, current occupation and household income.

3.2. Summary

The different variables used in the questionnaire to test each hypothesis and respective reliability analysis results are summarized in the following table:

Table 1

Part	Q. Nr.	Name of Measure	Type of Question	Type of Scale	Details	Nr. Items	Chrobach Alpha
I	Q1	Screening Question	Dichotomous	-	(1) Yes (2) No	-	-
II	Q2	Attitudes	Scale	Semantic Differential	(1) Very Negative, (7) Very Positive	5	.85
	Q3	Subjective Norms	Scale	Likert	(1) Strongly Disagree, (7) Strongly agree	7	.86
	Q4	Purchase Intentions	Scale	Likert	(1) Strongly Disagree, (7) Strongly agree	5	.85
III	Q5	Procrastinate Intentions	Scale	Likert	(1) Strongly Disagree, (7) Strongly agree	4	.77
	Q6	Abandonment as a Consequence of Procrastination	Dichotomous	-	(1) Yes, (2) No	-	-
IV	Q7	Abandonment Intentions	Scale	Semantic Differential	(1) Very Negative, (7) Very Positive	6	.93
	Q8	Abandonment Frequency	Scale	Likert	(1) Never, (7) Always	4	.88
V	Q9 – Q14	Profiling the online shopper	Multiple Choice				
VI	Q15 – Q20	Demographics	Multiple Choice; Open Question				

Chapter4 - Results

4.0. Introduction

In this section, the tests and results of the research hypotheses will be presented. Firstly, the sample is profiled. Secondly, normality of the sample means is reassured through the theorem of the central limit, allowing the analysis of the data for a normal population. Finally, the results of the analyses are presented. This aims at creating initial ground for further research. It was ensured that there was no violation of the assumptions of normality (see 4.1. Normality), reliable (Appendix B) and linearity (scatter plots - Appendix C)

4.1. Normality

Normality of the sample means is ensured by the theorem of the central limit, based on the fact that the sample size for each test is >30 ($n > 30$). Therefore, all the analysis that follow will take normality as an assumption.

4.2. Main Analyses

4.2.1. Sample Profile

In terms of internet usage, 96% of the sample ($n = 202$) spends, on average, more than 31 hours on the internet per week and 30% spends more than € 500 in online purchases per year. The major reasons given for shopping online are convenience (86%) and better prices (69%), but “easy” and “variety” were given as the main “other reasons”. computer/electronics/software (72%) and book/DVD/CD (74%) are the products mostly purchased; being airline and concert tickets the main products selected among “others”. Finally, 95% uses the internet for information search on products and services, 90% for communications (e.g. e-mailing, chat room) and 88% for entertainment (e.g. games, music). All the outputs of the analysis that follows below can be found in Appendix C.

4.2.2. Attitudes and Internet Experience

Internet Experience and Attitudes

H1: Consumers with more internet experience are more likely to have positive attitudes towards it – internet experience influences attitudes towards online shopping.

An independent one-tailed t-test was conducted in order to understand the effect of internet experience on the consumers' attitudes towards online shopping

Before proceeding this analysis, internet users were divided in beginners Vs. experts through a median split.

Null Hypothesis: Media of attitudes for experts is equal to the media of attitudes for beginners – there is no significant difference between the level of attitudes for the two groups (μ attitudes experts = μ attitudes beginners).

The Levene's Test for Equality of Variances is significant at $p \leq .05$. Thus, not assuming equality of variances, the null hypothesis is rejected: $t(200) = 9.6$, $p < .001$ (one tailed). There is a significant difference between the media of attitudes for experts ($M=4.99$, $SD=.82$) and the media of attitudes for beginners ($M=3.45$, $SD=1.39$). It can be concluded that experts have higher attitudes towards online shopping than beginners, based on the mean of the sample. Thus, internet experience has an important influence in the consumers' attitudes towards online shopping and H1 is supported.

Attitudes towards online shopping

H2a: There is a positive relationship between attitudes towards online shopping and intentions to purchase – higher levels of attitudes are linked with higher levels of purchase intentions.

The relationship between the means of attitudes ($M=4.22$, $SD=1.38$) and purchase intentions ($M=4.87$, $SD=1.44$) was assessed through means of a one tailed correlation test. The results indicate a strong positive relationship between the two variables ($r(202) = .75$, $p < .001$). This relationship can be concluded as being statistically significant.

56.3% ($r^2 = .75^2 = .563$) of the variations in purchase intentions can be explained by variations in attitudes towards the internet. Thus, H2a is supported i.e. attitudes are said to positively influence the consumer towards the practice of online shopping, since positive attitudes are linked with higher levels of online purchase intentions.

H2b: There is a negative relationship between attitudes towards online shopping and intentions to abandon the online transaction – lower levels of attitudes are related to higher levels of abandonment intentions.

The (one-tailed) correlation between the two variables, the average of attitudes ($M=4.22$, $SD=1.38$) and abandonment intentions ($M=3.95$, $SD=1.57$), showed a significant, moderate negative relationship ($r(202) = -.34$, $p < .001$).

11.6% ($r^2 = (-.34)^2 = .116$) of the variations in abandonment intentions can be explained by variations in ones' attitudes towards the internet. Thus, H2b is supported: attitudes and abandonment intentions are negatively related.

4.2.3. Subjective Norms and Behavioural Intentions

Subjective Norms and Purchase Intentions

H3a: Consumers who believe their significant referents approve the use of internet for shopping are more likely to have more intentions to purchase – there is a positive relationship between subjective norms and intentions to purchase.

H3a is supported. There is a medium positive correlation ($r(202) = .51$, $p < .001$, one-tailed) between subjective norms ($M=4.35$, $SD=1.21$) and purchase intentions ($M=4.87$, $SD=1.44$). The coefficient of determination ($r^2 = .51^2 = .262$) allows the conclusion that 26.2% of the variation in purchase intentions can be attributed to the influence of subjective norms.

Subjective Norms and Abandonment Intentions

H3b: Consumers who believe their significant referents approve the use of internet for shopping are less likely to intent to abandon the online transaction.

Results show the existence of a weak negative correlation ($r(202) = -.35$, $p < .001$, one-tailed) between the mean of the variables subjective norms ($M=4.35$, $SD=1.21$) and abandonment intentions ($M=3.95$, $SD=1.57$), since 12% ($r^2 = .35^2 = .12$) of the variations in abandonment intentions can be explained by variations in the subjective norms. Thus, H3b is supported.

4.2.4. Behaviour Intentions and Behaviour

Abandonment Intention and Abandonment

H4: There is a positive relationship between intentions to abort and actual shopping cart abandonment.

H4 is not rejected since the correlation output demonstrated that there is a strong positive relationship ($r(202) = .61$, $p < .001$) between the variables abandonment intention ($M=3.95$, $SD=1.57$) and abandonment frequency ($M=3.99$, $SD=1.44$). Thus, it can be concluded that 37% ($r^2 = .61^2 = .37$) of the variation in the levels of online shopping cart abandonment can be explained by one's intentions to abandon online purchases.

Procrastination Intention and Abandonment when Purchase intentions are positive

H5a: The intention-action gap is stimulated by the intention to postpone the purchase, i.e., when the intentions to purchase are positive, online procrastination positively influences abandonment.

In order to analyze this hypothesis, the following procedure was conducted: two groups were created by the means of a median split:

Group 1: people with low intentions to purchase, named as low_intentions;

Group2: people high intentions to purchase, named as high_intentions;

For consumers with low intentions, the correlation between intention to procrastinate ($M=3.91$, $SD= 1.43$) and intention to abandon the purchase (as a

consequence of the procrastination) ($M=1.52$, $SD= .5$) is moderate and positive ($r(112) = .31$, $p < .001$).

On the other hand, results for consumers with high intentions to purchase (H5a) showed the existence of a non significant correlation ($r(90) = .31$, $p > .001$) between intention to procrastination ($M=4.12$, $SD= 1.41$) and intention to abandon the purchase (as a consequence of the procrastination) ($M=1.72$, $SD= .45$).

Thus, it can be concluded that online procrastination influences abandonment for consumers with low intentions to purchase. However, when intentions to purchase are higher, procrastination is not likely to lead to the abandonment of the product. H5a is therefore rejected.

Procrastination Intention and Abandonment Rate

H5b: There is a positive relationship between procrastination and frequency of shopping cart abandonment – consumers who procrastinate the purchase, abandon the shopping cart more often.

H5b is rejected. The analysis (one sided correlation) showed a moderate negative correlation ($r(202) = - .53$, $p < .001$) between the average of intentions to procrastinate ($M=4.01$, $SD=1.42$) and abandonment frequency ($M=3.99$, $SD=1.44$). It is estimated that 28% ($r^2 = (- .53)^2 = .28$) of variations in the levels of abandonment frequency can be explained by the intentions to procrastinate.

4.3. Summary:

Table 2:

Hypothesis	Variables	Data Type	Statistical Test	Results	Conclusion
Attitudes and Internet Experience					
H1: Consumers with more internet experience are more likely to have positive attitudes towards online shopping.	Attitudes	Continuous	t-test	t(200) = 9.6 p < .001	Supported
	Internet Experience	Continuous			
H2a: There is a positive relationship between attitudes towards online shopping and intentions to purchase – higher levels of attitudes are related to higher levels of purchase intentions	Attitudes	Continuous	Correlation	r(202) = .75 p < .001	Supported
	Purchase Intention	Continuous			
H2b: There is a negative relationship between attitudes towards online shopping and intentions to abandon the online transaction – lower levels of attitudes are related to higher levels of abandonment intentions.	Attitudes	Continuous	Correlation	r(202) = -.34 p < .001	Supported
	Abandonment Intentions	Continuous			
Subjective Norms					
H3a: Consumers who believe their significant referents approve the use of internet for shopping are more likely to have more intentions to purchase – there is a positive relationship between subjective norms and intentions to purchase.	Subjective Norms	Continuous	Correlation	r(202) = .51 p < .001	Supported
	Purchase Intention	Continuous			
H3b: Consumers who believe their significant referents approve the use of internet for shopping are less likely to intent to abandon the online transaction.	Subjective Norms	Continuous	Correlation	r(202) = -.35 p < .001	Supported
	Abandonment Intentions	Continuous			
Behaviour Intentions					
H4: There is a positive relationship between intentions to abort and actual shopping cart abandonment	Abandonment Intentions	Continuous	Correlation	r(202) = .61 p < .001	Supported
	Abandonment Frequency	Continuous			
H5a: The intention-action gap is stimulated by the intention to postpone the purchase, i.e., when the intentions to purchase are positive, online procrastination positively influences abandonment.	Procrastination Intentions	Continuous	Correlation	r(90) = .31 p > .001	Rejected
	Abandonment Intentions (as consequence)	Dichotomous			
H5b: There is a positive relationship between procrastination and frequency of shopping cart abandonment – consumers who procrastinate the purchase, abandon the shopping cart more often.	Procrastination Intentions	Continuous	Correlation	r(202) = -.53 p < .001	Rejected
	Abandonment Frequency	Continuous			

Chapter 5 - Discussion

5.0. Introduction

This chapter presents the interpretation and discussion of the results obtained from the data analysis. Consistencies and discrepancies with the research hypothesis are described and compared with the literature. Finally, throughout the chapter, as well as summarized in the end, some advices and considerations will be given both to managers and scholars.

5.1. Discussion of the Results

The results of the study yield the following implications:

Internet Experience and Attitudes

The research findings support the existence of a relationship between internet experience and attitudes towards online shopping (H1), being that consumers who auto-evaluated as experts have more favourable attitudes than those who auto-evaluated as beginners in terms of internet usage.

The current finding is in line with previous research which found that internet experience (usage and experience) predicted the use of internet shopping (Weber and Roehl, 1999; Bellman, Lohse and Johnson, 1999; Forsythe and Shi, 2003; Goldsmith and Goldsmith, 2002; Li, Kuo and Russell, 1999). Similarly, Cho (2004) demonstrated that average time spent per internet visit is related to positive attitude toward online shopping.

These findings demonstrate the importance of motivating consumers to spend more time online in order to build more favourable attitudes towards e-shopping. Managers can use this information to entice consumers to make their first online purchases, by reducing the perceived risks. Retailers may develop strategies that lead consumers into spending more time in their websites. However, in order to assess whether this strategy would increase online purchases, further research regarding the interaction between time spent in the website and purchase should be done.

Attitudes towards online shopping

The analysis of attitudes showed that significant results were obtained, proving that the different levels of attitudes towards online shopping have a significant influence on the intentions to purchase a product and on the intentions to abandon the product.

More specifically, attitudes are positively related to online purchase intentions (H2a), i.e. more favourable attitudes are related with higher intentions to purchase products over the internet. This finding is consistent with traditional attitude-behaviour models and supported by previous research that registered a positive association between attitudes toward online shopping and consumers' online shopping intentions (Shim et al, 2001; Eagly and Chaiken, 1993; Delafrooz, Paim and Khatibi, 2011; Ahn, Ryu, and Han, 2004; O'Cass and Fenech, 2003; Heijden, Verhagen and Creemers, 2003).

On the other side, attitudes interact negatively with the intentions to abandon the product (H2b), since the level of the variable "intentions to abandon the product" increased when the variable "attitudes towards online shopping" decreased. Thus, consumers who have more favourable attitudes towards online shopping are less likely to abandon internet purchases. These results are in line with the research by Cho (2004), who confirmed a significant negative relationship between attitude and the behavioural intention to abort the online transaction.

Subjective Norms and Behavioural Intentions

The statistical analysis showed the existence of a positive medium relationship between subjective norms and purchase intentions. Thus, consumers whose referent ones approve the use of the internet for shopping are more likely to intend to purchase the product (H3a) and less likely to abandon it (H3b). Nevertheless, the second relationship is weak, suggesting that other variables hold a higher explanatory power of the intentions to abandon the product.

This finding supports other previous researchers who demonstrated the existence of a link between subjective norms and online purchase intentions (H3a) (Limayem, Khalifa, and Frini, 2000; Hsu et al. 2006; Hansen, Jensen and Solgaard, 2004). No

relevant research to date has investigated the link between subjective norms and abandonment intentions (H3b).

Also, these findings are consistent with the Theory of Reasoned Action (Ajzen, 1985, 1991) which predicts subjective norms as determinants of behavioural intentions. However, the results are contradictory to the work of Bearden and Etzel (1982), who claimed a weak reference group influence for behaviours that are not readily visible to the public.

From the perspective of practitioners, this finding allows suggesting that online retailers should advertise on a wide-target basis including both the mass-media and word-of-mouth strategies, targeting the entire family, friends and those who use the internet, since consumers are likely to be influenced by their opinion. However, on tight budgets, internet retailers may want to consider investing in strategies that target an increase of consumers' attitudes, since this variable proved to better explain intentions to buy online.

Abandonment Intention and Abandonment

This hypothesis was tested through two scenario-based questions, where respondents were asked to imagine a specific situation and then asked how they would behave.

Results demonstrated the existence of a strong positive relationship between the intention to abandon the purchase and the frequency of online abandonment (H4). This result permits concluding that consumers who have more intentions to abort the online transactions are also more likely to abandon it more often. This research lacks the explanation for why this might happen.

The results are consistent with the Theory of Reasoned action, being that the intention to behave is highly correlated with the frequency of the actual behaviour. However, due to the nature of the method and instrument used, the abandonment of a certain purchase can be predicted by the intention to abandon that same purchase only on theoretical grounds, since the theory suggests that behavioural intention is the most influential predictor of behaviour.

In order to understand if the intention to abandon a certain product will lead to its abandonment, online experiments and netnographic studies should be conducted. Nonetheless, the results provide insights on the consumer purchase psychology and create an exploratory ground for further research to be done on this topic.

Note that the methodology used to test this hypothesis takes the economic view of decision making, where future behaviour is predicted with data of past behaviour (Manski, 1990). This procedure is also used in previous studies that aimed to measure e-shopping intention and behaviour (Chen, Gillenson and Sherrell, 2002).

This method is not without controversy, though. Cao and Mokhtarian (2005) argue that, by inverting the time precedence between intention and actual behaviour, this procedure violates temporal consistency, causing the authors to put in doubt its validity.

Due to the inconsistency among the authors, this research adopted the economic perspective while addressing this hypothesis but it was not disregarded the potential flaws associated with this.

Procrastination Intention and Abandonment when Purchase intentions are positive

The correlation between procrastinate intention and abandonment is not relevant, thus, it cannot be assumed that when the intentions to purchase are positive, online procrastination will influence abandonment (H5a). Literature has not yet assessed this construct, whereby it is suggested that further studies should explore this topic, in order to assess which other variables might influence abandonment when the intention to purchase is positive.

However, results suggest that online procrastination influences abandonment for consumers with low intentions to purchase the product. Therefore, when it is not possible for the manager to predict consumers' purchase intentions, it is advised to always avoid procrastination, creating incentives for consumers to purchase the product in the same online session, as well as to remind customers about the products on hold in the online cart, motivating them to return and finalize the purchase.

Procrastination Intention and Abandonment Rate

The evidence of this study suggests a moderate negative correlation between intentions to procrastinate and abandonment frequency, leading to the rejection of a positive correlation between the variables (H5b). Thus, against what was predicted, consumers who delay their purchases are associated with a lower frequency of online shopping abandonment. These results are contrary with previous research (Mzoughi et al., 2007) and further research would be needed to understand which factors might influence this relationship.

Nevertheless, it is suggested that retailers should not count purchase procrastination as abandonment, since it is expected that most consumers who delay the purchase, come back to finalize it. This study does not allow understanding if consumers who postpone the purchase return to finalize it in the same website, or if they finalize the purchase in competing e-stores. Thus, it is advised that retailers should remind the consumers about their abandoned shopping cart and develop strategies that encourage the customer to finalize the purchase within the same website.

5.2. Further Managerial and Academic Implications

These insights can be used by researchers who aim at developing the insights provided by the present research, in order to increase the understanding on this subject.

Alongside, retailers might benefit from these findings and use them when developing marketing campaigns that encourage the customer to spend more time on the internet, in order to feel more comfortable with this channel and increase his/her knowledge and expertise. This might instigate new sales and decrease the abandonment of the e-shopping cart.

Chapter 6 - Limitations and Implications for Further Research

6.0. Introduction

Despite its strengths, this study contains several limitations and areas that are not within its scope, and therefore have not been covered. Hence, it is suggested that further examination and additional research are required.

6.1. Limitations

Several limitations of this study must be taken into consideration when interpreting its results.

Firstly, the nature of the sample allowed the investigation of the variables associated with online shopping cart abandonment in a multinational context. However, the population is not representative of any geographic area or segment of population in particular and therefore the analysis disregards the existence of cultural differences.

Secondly, data was collected at one point in time and via the same instrument (questionnaire). This brings several limitations to this study:

- Longitudinal variables could not be assessed. For instance, how the intention to procrastinate leads to the abandonment of the e-shopping cart, had to be assessed over the same period of time, unlike in real life, where the consumer has time to consider whether or not to return to the e-store and finalize the transaction;

- Past and hypothetical behaviours were collected on a self-report and post-hoc rationalization basis. Perhaps future research could obtain consumers' actual behaviour through a real time data collection, for example click-stream, experiments or netnography, and using more than one instrumentation, in order to avoid the common method variance (Straub, Limayem and Karahanna, 1995), thus increasing the accuracy of the results;

- Causality can only be inferred through the theory and most of the results had to be supported by correlational analysis. Correlational analysis offers a good

understanding regarding how certain variables affect e-shopping behaviour. This provides the study with an explanation, rather than just a description of the observed behaviour. However, such analysis does not allow the researcher to account for the influences of other factors on the dependent variable. For example, it is not possible to determine whether attitudes or subjective norms have a higher weight in predicting purchase or abandonment intentions;

Forth, in this study, and as most of the past studies, it was not included the hypothesis that consumers who abandon the shopping might turn to the physical store to buy the product, thus using the shopping cart as an organizational or search tool. Thus, future research should try to exclude consumers who demonstrate this behaviour, since, despite the abandonment of the shopping cart, the company makes the sale.

Fifth, the theoretical model itself imposes some constraints to the analysis:

- First, the model stops at the adoption level and does not capture other important factors that explain and predict consumer behaviour. This research tried to incorporate “abandonment frequency” in order to overcome this limitation;

- Second, the model does not incorporate all the relevant variables necessary to explain e-shopping cart abandonment, whereby some important constructs cannot be identified. Hence, future research should extend the study to cover other groups of consumers and add additional constructs to the model;

- Third, the model only measures volitional behaviours. Its explanatory scope excludes a wide range of behaviours such as those that are spontaneous, impulsive, habitual, the result of cravings, or simply scripted or mindless (Bentler and Speckart, 1979; Langer, 1989). Such behaviours are excluded because their performance might not be voluntary or because engaging in the behaviours might not involve a conscious decision on the part of the actor (Hale, Householder and Greene, 2003).

- Finally, stated intentions often differ from true intentions, leading to a gap between intention to behave and performance of that behaviour. The present study did not succeed in identifying which constructs affect this gap, whereby future research should try to incorporate different variables in the model to access which ones are relevant in explaining and predicting the intention behaviour discrepancy.

6.2. Further Considerations for Future Research

First of all, for the purpose this study, it was considered that consumers purchase ‘mixed goods’ in an online context, thus ignoring the effect of product categories in determining shopping cart abandonment. Future research should investigate whether the results can be generalized to different product categories. Thus, it is suggested that future research includes both high involvement vs. low involvement goods, or search vs. experience goods, in order to assess how other variables are influenced, especially the online shopping carts abandonment variable. It would also be interesting to study whether the intention-action gap varies across different product categories.

It is encouraged that other exogenous variables are included in future research, such as culture, clusters of countries, household income and personality traits or even type of website. By doing so, researchers can explore whether the patterns uncovered in this study are exhibited by internet shoppers.

Second, it is taken into account how past internet experience influences attitudes, but not how past internet purchase experience influences the future behaviour. Cho (2004, p. 835) reported that “*consumers who had at least one prior purchasing experience from the Internet are indeed less likely to abort intended online transactions*”. This result could be examined in the light of the new findings provided by the present research.

Third, the results showed a strong correlation between the intentions to abandon e-carts and the frequency of online abandonment. Therefore, it becomes essential to examine which factors affect the formation of attitudes and subjective norms.

Finally, this study accounts only for abandonment when the consumer is in control of this behaviour. Further research may access how the results vary for impulsive vs. planned shopping.

Chapter 7 - Conclusion

This research provided insights into the concepts of shopping cart abandonment, focusing on the customers' side of this issue, since most studies evolve around the retailers' characteristics. The consumer psychological factors that may influence the abandonment of the e-cart were analyzed, based on the Theory of Reasoned Action. The variables Attitudes and Subjective Norms – the fundamentals of the theory – were assessed in order to understand how these constructs connect with the intentions to behave in a certain way – towards the finalization vs. abortion of the online transaction. Other variables - internet experience and procrastination - were added to the model in an attempt to increase its explanatory power, as well as to account for one of its weaknesses: not explaining why the customer does not always behave as he intends to – creating a discrepancy between intention and behaviour.

It was concluded that both attitudes and subjective norms are important factors to consider when addressing online behaviour intentions. Attitudes showed a stronger correlation with behaviour intentions - to finalize and to abort the transaction. Internet experience proved to highly correlate with attitudes towards online shopping, allowing the interpretation that consumer who surf on the internet have more favourable attitudes towards this channel, thereby indirectly influencing their intentions to buy online and discouraging the abandonment behaviour. Additionally, this research proposed that the purchase intention-action gap can be in part explained by the intention to procrastinate. In turn, this intention is suggested to be reduced for higher levels of internet experience. However, this constructs showed to have a poor explanatory power of the intention-behaviour gap.

Finally, this study aims to raise attention for the issue of e-shopping cart abandonment. It also aims to provide an initial understanding of the factors that influence this behaviour. Researchers are encouraged to enrich these findings, in order to provide ground for generalization as well as to answer some of the questions that were left open and some of the assumptions that were left un-tested.

Chapter 8 – Bibliography

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Chapter 9 - Appendices

9.1. Appendix A

Questionnaire: Understanding Purchase Behaviour

Hello

You are invited to participate in our survey.

It will take approximately 10 minutes to complete the questionnaire. Your survey responses will be strictly confidential and data will be reported only in the aggregate. If you have questions at any time about the survey or the procedures, you may contact barbara.casanova.f@gmail.com.

Thank you very much for your time and support.

PLEASE NOTE: You will find monitoring questions throughout the survey. Those are to make sure you are reading the questions and answering them carefully. In case you fail these questions you will NOT receive your payment.

Q1. Have you ever purchased in a: (Select all options that apply)

	Yes (1)	No (2)
Street Markets (1)		
Online stores (e.g. Amazon) (2)		
Magazine catalogs (e.g. La Redoute) (3)		
Door-to-door sales (e.g. Vacuum Cleaners) (4)		
Brick and Mortar stores (common physical stores, e.g. Zara) (5)		
Trade Shows (exhibition and demonstration of products) (6)		
Radio and/or TV sales(with a number to call for information) (7)		

If Online stores (e.g. Amazon)... Is Selected No (2), Then Skip To End of Survey

Q2. What do you think about using the Internet for personal shopping?

	1	2	3	4	5	6	7	
Very Bad								Very Good (1)
Very Foolish								Very Wise (2)
Very Unattractive								Very Attractive (3)
Very Unpleasant								Very Pleasant (4)
Very Un-enjoyable (5)								Very Enjoyable (5)

Q3. To which degree do you agree/disagree with the following statements?

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree or Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
1. Shopping online is common among my friends (1)							
2. The popular press has a positive review towards online shopping (2)							
3. The mass media has influenced me to try online shopping (3)							
4. People whose opinions I value would approve that I used the Internet to purchase (4)							
5. People who influence my behaviour would think that I should use the Internet to purchase (5)							
6. It is expected from me that I use the Internet to purchase (6)							
7. People who are important to me would agree if I used the Internet to purchase (7)							

Q4. To which degree do you agree/disagree with the following statements?

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree or Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
1. I intend to use an online store to do my shopping (1)							
2. I intend to use an online store whenever appropriate to do shopping (2)							
3. I intend to continue to use an online store in the future (3)							
4. This statement is for monitoring purposes. Please leave it in blank (4)							
5. I intend to purchase product from an online store (5)							
6. I would consider purchasing a product from an online store (6)							

Q5. To which degree do you agree/disagree with the following statements?

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree or Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
1. When the decision to buy is made, I don't wait any more (1)							
2. When I have a purchase intention, I usually buy rapidly (2)							
3. I am one of those people who spend more time than others to choose between one brand and another (3)							
4. I lose a lot of time to weigh the various attributes of a product before making a final purchase decision (4)							

Q6. Imagine that you need to buy new clothing for the upcoming season. You decided to shop for it over the Internet. You have delayed the purchase some time, until you compared prices and checked out several styles. But now, you cannot delay it any more. So, in such situation, you:

	Yes (1)	No (2)
1. Purchase impulsively a piece of clothing online (1)		
2. Buy a piece of clothing from the online store (2)		
3. Abandon the intended purchase (3)		
4. Ask for the opinion of other people (friends, family...) (4)		

Q7. You need to buy new jeans for the upcoming season. You decided to shop for it over the Internet. You visited several websites and checked out several styles. After some searching, you found the jeans that you are looking for. You read the price and details, and all the descriptions sound good. So you put it in the shopping cart and you are contemplating the purchase of it over the Internet. In such a situation, how likely would you be to exit the retail site without completing a transaction or abandon the shopping cart just before checkout?

	1 (1)	2 (2)	3(3)	4(4)	5(5)	6(6)	7(7)	
Very Unlikely								Very Likely (1)
Not at all								Definitely (2)
Not Possible								Possible (3)
Uncertain								Certain (4)
Not Existent								Existent (5)
Not Probable								Probable (6)

Q8. Please answer the following questions:

	Never (1)	Almost Never (2)	Rarely (3)	Sometimes (4)	Often (5)	Almost Always (6)	Always (7)
1. How often do you leave items in your online shopping cart without buying them? (1)							
2. How often do you place an item in the online shopping cart, but do not buy it during the same Internet session? (2)							
3. How often do you close the web page, or log off the Internet before you buy the item(s) in your online shopping cart? (3)							
4. How often do you abandon your online shopping cart? (4)							

Q9. On Average, how many hours do you spend online per week?

- 0h to 5h (1)
- 6h to 10h (2)
- 11h to 20h (3)
- 21h to 30h (4)
- more than 31h (5)

Q10. On average, how much do you spend on online purchases per year?

- €1 to €25 (1)
- €26 to €50 (2)
- €51 to €75 (3)
- €76 to €100 (4)
- €101 to €200 (5)
- €201 to €300 (6)
- €301 to €400 (7)
- €401 to €500 (8)
- More than €500 (9)

Q11. What are your main reasons for shopping online?

- Convenience (1)
- Product/Service not available offline (2)
- Better Price (3)
- Curiosity (4)
- Other (5) _____

Q12. Which products or services have you purchased online?

- Food and beverage (1)
- Clothing/Accessory/Shoes (2)
- Toys (3)
- Computer/Electronics/Software (4)
- Book/DVD/CD (5)
- Other (6) _____

Q13. Why do you use the Internet?

- Information search on products and services (1)
- Communications (e.g., e-mailing, chat room) (2)
- Work/business (3)
- Banking-related activities (4)
- Paying bills (5)
- Education purpose (e.g., research for knowledge) (6)
- Entertainment (e.g., games, music) (7)
- Other (8) _____

Q14. In terms of internet experience, do you consider yourself:

	1 (1)	2 (2)	3(3)	4(4)	5(5)	6(6)	7(7)	
A Beginner								An Expert (1)

Q15. Gender

- Male (1)
- Female (2)

Q16. Age

- Less than 18 (1)
- 18 to 24 (2)
- 25 to 29 (3)
- 30 to 34 (4)
- 35 to 39 (5)
- 40 to 44 (6)
- 45 to 50 (7)
- More than 50 (8)

Q17. Nationality

Q18. Education Level

- Did not complete secondary school (1)
- Completed secondary school (2)
- Completed trade training (3)
- Completed undergraduate degree (4)
- Completed postgraduate degree (5)

Q19. Current Occupation

- Business owner (1)
- Manager/administrator (2)
- Teacher/lecturer (3)
- Self-employed/professional (4)
- Government, or military worker (5)
- Sales, clerical, or service worker (6)
- Machine operator, or trade worker (7)
- Student (8)
- Retired (9)
- Other (10) _____

Q20. Yearly Gross Income

- O Less than €16, 000 (1)
- O €16,000 to €29,999 (2)
- O €30,000 to €49,999 (3)
- O €50,000 to €79,999 (4)
- O More than €80,000 (5)

Thank you for your participation!

9.2 Appendix B

Reliability Tests

1. Attitudes towards online shopping

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,851	,833	5

2. Subjective norms towards online shopping

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,856	,856	7

3. Behaviour Intention - Online Purchase Intention

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,852	,865	5

4. Behaviour Intention - Online Procrastination Intention

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,774	,774	4

5. Behaviour Intention - Online Purchase abandonment

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,928	,928	6

6. Actual Behaviour – Purchase abandonment (rate)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,884	,884	4

9.3. Appendix C

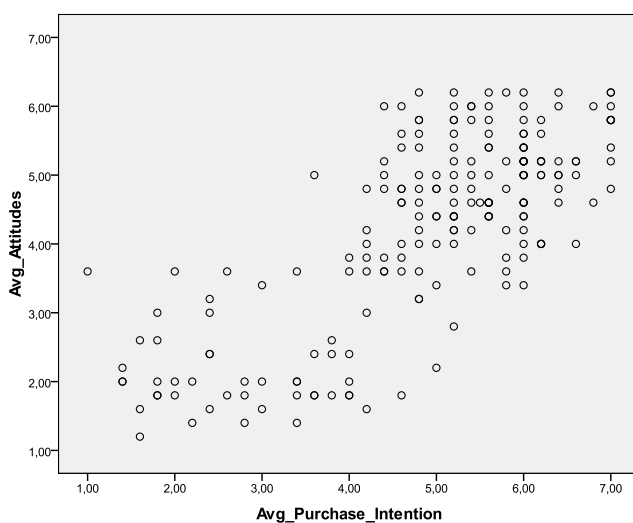
Hypothesis 1

Group Statistics					
VAR00001	N	Mean	Std. Deviation	Std. Error Mean	
VAR00002 expert	101	4,9960	,81583	,08118	
VAR00002 beginners	101	3,4515	1,39475	,13878	

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
VAR00002	Equal variances assumed	49,323	,000	9,607	200	,000	1,54455	,16078	1,22751	1,86160
	Equal variances not assumed			9,607	161,258	,000	1,54455	,16078	1,22705	1,86206

Scatter plots and Correlation Tables

Hypothesis 2a:



Descriptive Statistics

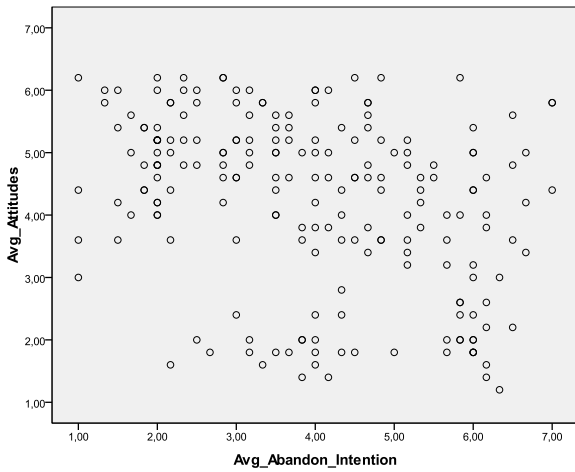
	Mean	Std. Deviation	N
Avg_Attitudes	4,2238	1,37780	202
Avg_Purchase_Intention	4,8668	1,43639	202

Correlations

		Avg_Attitudes	Avg_Purchase_Intention
Avg_Attitudes	Pearson Correlation	1	,754**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Purchase_Intention	Pearson Correlation	,754**	1
	Sig. (1-tailed)	,000	
	N	202	202

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 2b:



Descriptive Statistics

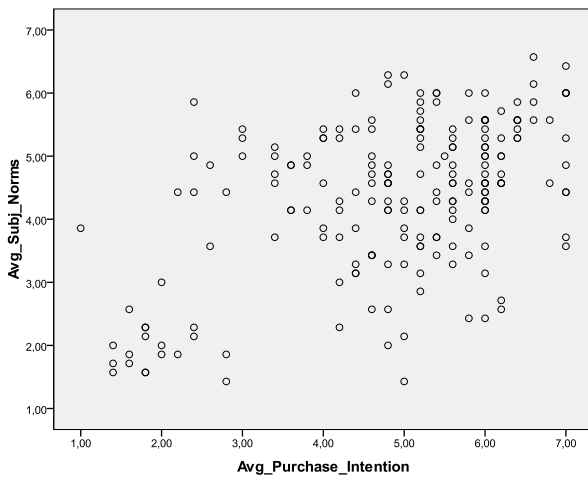
	Mean	Std. Deviation	N
Avg_Attitudes	4,2238	1,37780	202
Avg_Abandon_Intention	3,9513	1,57043	202

Correlations

		Avg_Attitudes	Avg_Abandon_Intention
Avg_Attitudes	Pearson Correlation	1	-,338**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Abandon_Intention	Pearson Correlation	-,338**	1
	Sig. (1-tailed)	,000	
	N	202	202

** . Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 3a:



Descriptive Statistics

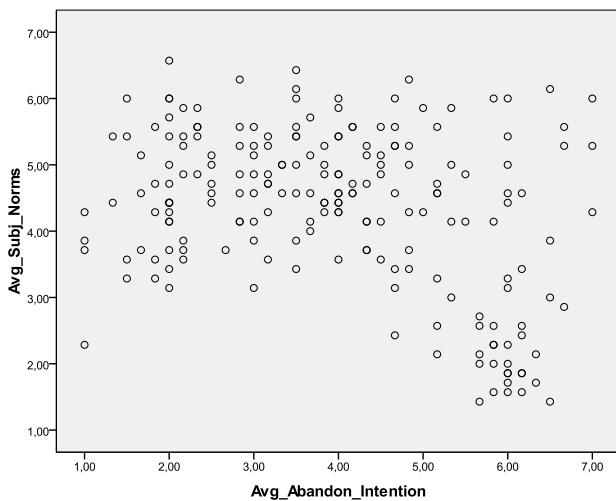
	Mean	Std. Deviation	N
Avg_Subj_Norms	4,3487	1,21092	202
Avg_Purchase_Intention	4,8668	1,43639	202

Correlations

		Avg_Subj_Norms	Avg_Purchase_Intention
Avg_Subj_Norms	Pearson Correlation	1	,512**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Purchase_Intention	Pearson Correlation	,512**	1
	Sig. (1-tailed)	,000	
	N	202	202

** . Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 3b:



Descriptive Statistics

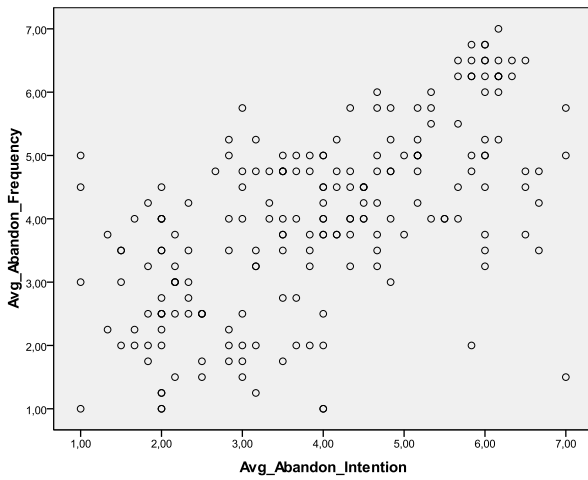
	Mean	Std. Deviation	N
Avg_Subj_Norms	4,3487	1,21092	202
Avg_Abandon_Intention	3,9513	1,57043	202

Correlations

		Avg_Subj_Norms	Avg_Abandon_Intention
Avg_Subj_Norms	Pearson Correlation	1	-,349**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Abandon_Intention	Pearson Correlation	-,349**	1
	Sig. (1-tailed)	,000	
	N	202	202

** . Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 4:



Descriptive Statistics

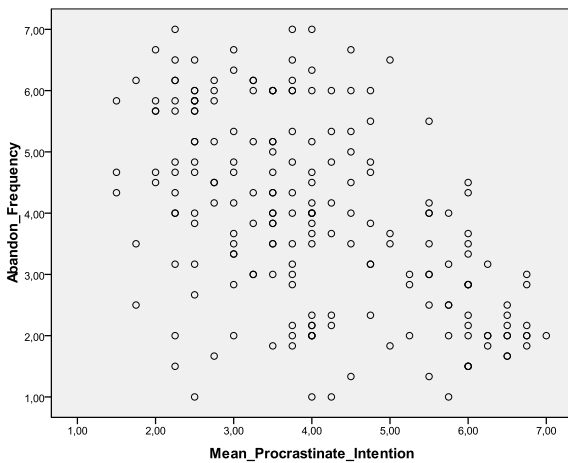
	Mean	Std. Deviation	N
Avg_Abandon_Frequency	3,9963	1,44434	202
Avg_Abandon_Intention	3,9513	1,57043	202

Correlations

		Avg_Abandon_Frequency	Avg_Abandon_Intention
Avg_Abandon_Frequency	Pearson Correlation	1	,612**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Abandon_Intention	Pearson Correlation	,612**	1
	Sig. (1-tailed)	,000	
	N	202	202

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 5a:



Statistics

Avg Purchase Intention

N	Valid	202
	Missing	0
Median		5,2000

COMPUTE Low_Intention=Avg_Purchase_Intention <= 5.2.
EXECUTE.

COMPUTE High_Intention=Avg_Purchase_Intention > 5.2.
EXECUTE.

Descriptive Statistics

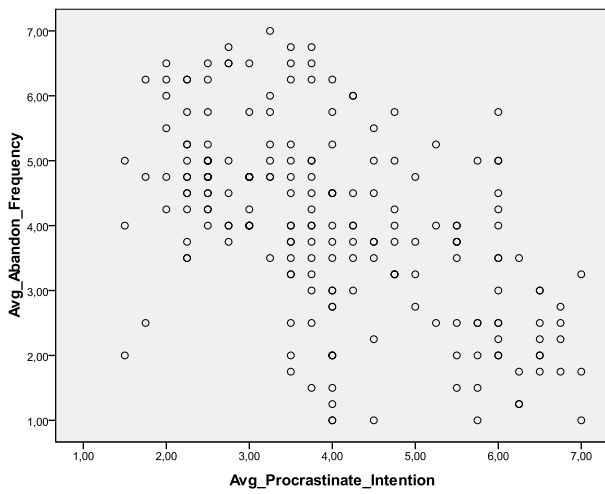
Low_Intention		Mean	Std. Deviation	N
,00	Procrastinate_Intention	4,1167	1,41233	90
	Abandonm_Conseq_Procast	1,7222	,45041	90
1,00	Procrastinate_Intention	3,9196	1,42501	112
	Abandonm_Conseq_Procast	1,5179	,50193	112

Correlations

		Procrastinate_Intention	Abandonm_Conseq_Procast
,00	Procrastinate_Intention	Pearson Correlation	1
		Sig. (2-tailed)	,131
		N	90
	Abandonm_Conseq_Procast	Pearson Correlation	,131
		Sig. (2-tailed)	,218
		N	90
1,00	Procrastinate_Intention	Pearson Correlation	1
		Sig. (2-tailed)	,307**
		N	112
	Abandonm_Conseq_Procast	Pearson Correlation	,307**
		Sig. (2-tailed)	,001
		N	112

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 5b:



Descriptive Statistics

	Mean	Std. Deviation	N
Avg_Abandon_Frequency	3,9963	1,44434	202
Avg_Procrastinate_Intention	4,0074	1,41924	202

Correlations

		Avg_Abandon_Frequency	Avg_Procrastinate_Intention
Avg_Abandon_Frequency	Pearson Correlation	1	-,531**
	Sig. (1-tailed)		,000
	N	202	202
Avg_Procrastinate_Intention	Pearson Correlation	-,531**	1
	Sig. (1-tailed)	,000	
	N	202	202

** . Correlation is significant at the 0.01 level (1-tailed).