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THE THEORY OF PLANNED BEHAVIOR AND TRUST IN THE RETAILING ENVIRONMENT:
THE CASE OF MOBILE GROCERY SHOPPING

JOSÉ MARIA OLIVEIRA MARTINS OOM DE SACADURA #14635

A Project carried out on the Master in Management Program, under the supervision of:

Luis Martinez

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Abstract

Mobile shopping has become a popular alternative approach for purchasing all type of goods around the world and it is considered a step ahead of the online shopping. Buying groceries is a crucial habit that must be carried out in order to fulfill the needs for households. Research on mobile grocery shopping is still in its early stages. Based on the theory of planned behavior and the consumer characteristic of trust in the grocery retailer, five hypotheses were developed with the purpose to investigate consumers' intentions to buy groceries by mobile. The data was collected through a survey from 186 consumers. Furthermore, the analysis of the data was done in SPSS through correlation matrix, descriptive variables and regression analysis. The results of the study suggest that attitude and subjective norms influence positively the intention to shop groceries by mobile. If grocery retailers decide to engage in the mobile sales channel, these findings can help them to understand what drives consumers to adopt the behavior of shopping groceries by mobile.

Keywords

Consumer behavior, theory of planned behavior, mobile grocery shopping, trust.

Table of Contents

- 1. Introduction** 4
- 2. Literature Review** 5
 - 2.1 Theory of Planned Behavior 6
 - 2.2 Intention 7
 - 2.3 Attitude 8
 - 2.4 Subjective Norms 9
 - 2.5 Perceived behavioral control 10
 - 2.6 Trust 11
- 3. Method** 13
 - 3.1 Participants, Design and Procedure 13
 - 3.2 Measures 13
- 4. Results** 14
 - 4.1 Correlation Analysis 14
 - 4.2 Hypotheses testing 15
- 5. Discussion** 16
 - 5.2. Limitations 19
- 6. Conclusions** 20
- 7. References** 21
- 8. Appendix - Survey** 24

1. Introduction

In the mid-twentieth century, it was predictable that a woman will be able to order some goods by using a tiny color television screen while sitting at her kitchen (Doddy & Davidson, 1967). Some of the early predictions about mobile shopping have just become real and now it is reaching the point beyond the imagination. The growth of computing capabilities, the development of flexible software architecture and automatic identification systems along with the enhancements in wireless and mobile technologies have led consumers and retailers to access data everywhere at any time (Pantano, 2014; Pantano & Viassone, 2015). According to Pantano and Priporas (2016) mobile retailing is a new type of consumer purchasing experience where the consumer buys with a smartphone and has the possibility to collect the purchases at home or at the store (i.e. pick-up boutique or collection point). On the other hand, online retailing can generally be defined as the selling of goods and services to consumers over the Internet. (Pantano & Priporas 2016).

The velocity of the adoption of smartphones, with 2.5 billion worldwide users estimated by the end of 2016, has put mobile at the top of the retail agenda. In a very short time, mobile has grown from a feature to the preferred form factor. Shoppers use their mobile phones more than any other device to visit a digital commerce site. The study “Key Dynamics That Impact Mobile Adoption” predicts that by the end of 2017, smartphones will account for more than 60% of digital traffic and shoppers will place more orders on smartphones than on any other device. According to the report the “Future of e-commerce in FMCG”, online grocery shopping is steadily growing across the world but, surprisingly, countries with mature economies such as the US and Germany, as well emerging markets including Brazil, don’t have a significant adoption of online grocery. Their online value share of market at June 2016 is respectively 1.4%, 1.2% and 0.1%. The worldwide leader is South Korea with 16.6%. In Europe, the UK is the leader with 6.9%, more specifically only 13% of households use mobile

devices for online grocery shopping. Finally, Portugal has an online value share of market of 1%. The study “Digital Economy in Portugal” forecasts for 2017 in Portugal that e-commerce (B2C) will value € 4.028 billion, representing 2.5% of GDP. In the same year, the online consumers will grow approximately to 3.5 million, a growth of 42% from 2012. In 2017 the average online spend per online consumer will be approximately € 1.100 per year. However, these values are far below what has been seen, for example, among British consumers, who will spend € 2.250. The Nielsen report “Mobile Shopping, Banking and Payment Survey” stated that among the Portuguese who choose to shop online, more than half say they use mobile devices to look for information about a product or to compare prices during the purchase. 42% use these devices to look for discount coupons or offers and 41% to make better buying decisions.

This study aims to adopt the theory of planned behavior and the consumer characteristic of trust in the grocery retailer to predict consumers’ intention to do their grocery shopping by mobile. In order to achieve the model and to build the respective hypotheses, a research through papers, articles and books was performed. Thereafter, a survey was conducted in order to test the hypotheses using the SPSS. Finally, the results are analyzed and discussed as well as the limitations are presented. The results of this study may contribute to understand the mobile grocery shoppers’ adoption behavior and provide suggestions for designing mobile grocery shopping that is compatible with consumer characteristics.

2. Literature Review

According to some studies, it is possible to use the theory of planned behavior to explain consumers’ behavior regarding online shopping, and more precisely the online grocery shopping (Hansen, 2008; Ahn, Ryu, & Han, 2004; George, 2004). The theory of planned behavior can measure consumers’ intentions to use Internet-related services

determined by attitude, subjective norm, as well as perceived behavioral control as an additional cause (Hansen, 2004). Trust has been supported in literature to have an impact on intention to do online shopping (Chen & Tan, 2004, Jarvenpaa et al., 2000, Pavlou & Fygenon, 2006, Ramus & Nielsen, 2005). Due to the similarities between the online and mobile context, it is of interest to deepen and narrow the literature concerning mobile grocery shopping. According to Pantano and Priporas (2016), future studies could employ quantitative methodologies and analyses as well as include investigations in other countries which are at a similar mobile retailing stage, such as Portugal. Consequently, it is possible to understand which drivers motivate consumers to adopt the consumer experience of mobile grocery shopping.

2.1 Theory of Planned Behavior

Ajzen (1991) developed the theory of planned behavior (TBP) which pretends to describe the influences and mechanisms behind actions performed deliberately. This theory is an improvement on the predictive power of the theory of reasoned action (TRA) by Fishbein and Ajzen (1975), since it includes a new factor named perceived behavioral control. Briefly, the TBP states that attitude toward behavior, subjective norms, and perceived behavioral control influence the intentions and behaviors of an individual. The model of TRA has been challenged by studies in order to examine its limitation and inadequacy, because some scholars are interested in situations in which the consumer doesn't have the total control to perform a behavior. According to Hansen (2004) the TBP, in contrast with TRA, provides the best fit to the data and explains the highest proportion of variation in online grocery buying intention.

Concluding, the TBP assumes that a person intention to perform a certain behavior is related with his estimation and evaluation of expected results, with his or her willingness to

comply with the opinions and perspectives of other individuals or groups about the behavior as well as his or her capabilities to control the behavior (Chen et al, 2007). Furthermore Ajzen (2002) states that the TBP has been described as one of the most effective and popular frameworks for the study of individuals' behavior.

2.2 Intention

According to Ajzen (1991) intentions are the motivational factors that influence behavior and are the immediate antecedents to behavior, meaning that “they are indications of how hard people are willing to try, of how much of an effort they are planning to exert in order to perform the behavior”. According to the TPB (Ajzen, 1988, 1991), intentions are the most dominant and direct factor to determine the decision to perform a specific behavior or not. Chen et al. (2007) stated that all the factors that may influence the actual behavior of an individual, are considered an indicator of the indirect influence of intentions on behavior. Further, Ajzen (1985) stated two conditions that must be fulfilled in order for the intention predict the behavior. Since intentions can change over time, the first condition to be met is that the measure of an intention must be made right before the behavior in question. The second condition states that the behavior must be of volitional control, meaning that the person that performs the behavior made a conscious decision to perform this behavior and that was not against his or her will. The decision to purchase groceries by mobile phone instead of in-store meets these two conditions. Even though behavior can be determined by intention, not all intended actions are performed since there are numerous internal and external influences, such as religious or cultural beliefs, that can lead the individual to not perform the behavior. The research model to study the mobile grocery shopping adoption is based in the TPB with extension of the consumer characteristic of trust in the grocery retailer. Finally, consumer intention is the formation of four variables: attitude (ATT), subjective norms (SN),

perceived behavioral control (PBC) and trust in the grocery retailer (TRT). Considering the four variables, the next hypothesis was formulated:

H1. Attitude, subjective norm, perceived behavioral control and trust in the grocery retailer influence consumers' intention to buy groceries by mobile.

2.3 Attitude

According to Azjen (1985), an attitude toward a behavior is considered a positive or negative estimation or evaluation of doing that behavior, and it is determined by outcome beliefs, i.e. a person's beliefs about the expected outcome of a given behavior. Ajzen goes further and differentiates two types of attitudes: attitudes toward objects and attitudes toward behaviors. According to this division, the present study considers attitude toward the behavior of performing mobile grocery shopping. Thus, an individual's attitude toward mobile grocery shopping is defined as the individual's favorable or unfavorable evaluation of using the mobile sales channel (i.e. smartphone) to purchase products from a retailer. In order to measure a person's attitude towards a behavior, it is common to use scaling models. It is a person's decision whether the behavior is positive or negative that will define his or her attitude towards behavior. Truong (2009) has shown that consumer attitudes are the most important predictor of the behavioral intentions to shop online. Additionally, Thompson et al. (1994) in his study of (offline) food choice found a positive relationship between attitude and behavioral intention. More specifically related with the grocery industry, Hansen (2004) concluded that consumers' attitude toward online grocery shopping was the strongest predictor of online grocery buying intentions. Finally in the mobile shopping context, Yang (2012) found that attitude toward adopting mobile shopping composed with two perceptions (i.e., perceived usefulness and perceived enjoyment) was a strong predictor of intention to adopt mobile shopping. This study proposes that attitude toward adopting mobile shopping

will have a positive effect on intention to adopt mobile grocery shopping. The following hypothesis was considered:

H2. Attitude toward mobile grocery shopping will positively influence consumers' intention to adopt mobile grocery shopping.

2.4 Subjective Norms

According to Ajzen (1991) subjective norm is a function of normative beliefs, which represents a person's perception of whether significant references such as family member or friends support or don't support a certain behavior. It is the influence of social pressure that is observed by the individual to do or not to do a certain behavior. This variable is assessed by questioning the individuals to evaluate how likely it is that most people who are important to them would agree or disagree with them to perform a behavior. In the case of mobile grocery shopping, it is expectable that a number of consumers may have a limited experience and knowledge of doing their grocery shopping with a smartphone, therefore may be more willing to buy groceries with a smartphone if they perceive their family members and close friends approve this type of shopping. Previous studies for technology-based services (e.g. social learning systems or a computing resource center) state that subjective norm is a good predictor of the services adoption (Sykes et al., 2009, Taylor & Todd, 1995b). According to Kulviwat et al.(2009), consumer adoption of technology is influenced by socialization forces associated with the desire to follow referent group norms, thus subjective norm tends to direct group members' behavior (Kim et al., 2011). Further, consumers tend to recommend a service to others when they are satisfied with the service (Fan et al., 2005), therefore referent group's suggestions are reliable sources influencing consumer adoption decisions. Since mobile grocery shopping is presented in a technology-mediated environment and connected via personalized mobile devices, consumers may be reluctant about adopting mobile grocery

shopping and may show a strong tendency to rely on significant others' opinions in making the decision to do this behavior. Given all these references regarding subjective norms, the correspondent hypothesis is:

H3. Subjective norms about mobile grocery shopping will positively influence consumers' intention to adopt mobile grocery shopping.

2.5 Perceived behavioral control

According to Ajzen (2002) perceived behavioral control is the perception that an individual has regarding the ease or difficulty to perform a behavior. Additionally, perceived behavioral control represents the degree of control over the performance of the behavior and not the likelihood of a behavioral outcome. If there are two persons with the same level of intention to engage in a behavior, the one with more confidence in his or her abilities is more likely to perform the behavior than the one who has uncertainties and reservations (Ajzen, 1991). Perceptions of resources or expertise to use the technology, the technology facilitating conditions, and the person's capacity to perform the behavior easily are considered in this variable (Thompson et al., 1994; Taylor and Todd, 1995a, b). If a consumer perceives that has skills or abilities to deal with technology, he or she perceives the control that he or she has in the behavior and the perceptions will further increase consumer confidence about the outcome (Bateson and Hui, 1987). In contrast, when a consumer perceives a lack of control in using technology, this prevents him or her from accepting the new technology (Hoffman et al., 1999). Sometimes it is not an easy task to do mobile shopping. There could be obstacles and difficulties even in the context of search goods (i.e. goods for which a major part of the perceived relevant attributes can be evaluated prior to buying). According to Shim et al., (2001), it is very important to consider that online shopping requires skills, opportunities as well as the appropriate resources, therefore this type of behavior doesn't occur just because

the consumers decides to do so. Due to the similarities between the online and mobile circumstances, we can take the same conclusions for the consumers who purchase with a mobile device. This study proposes that perceived behavioral control will have a positive effect on intention to adopt mobile grocery shopping. Consequently, the next hypothesis is examined:

H4. Perceived behavioral control in mobile grocery shopping will positively influence consumers' intention to adopt mobile grocery shopping.

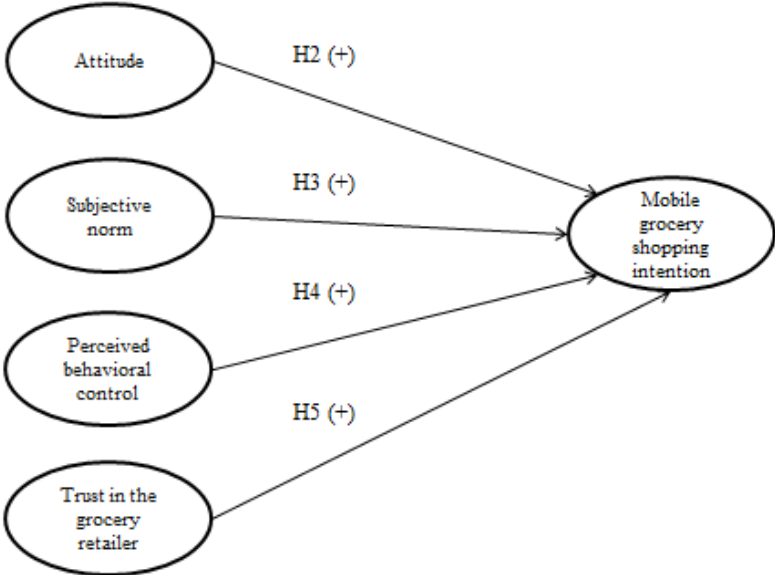
2.6 Trust

Pavlou and Fygenon (2006) defined trust as the belief that the trustee will act in a cooperative manner to fulfill the trustor's expectations without exploiting its vulnerabilities. Additionally, according to McKnight et al., (2002) trust is the belief that allows consumers to willingly become vulnerable to web vendors after having taken the vendor's characteristics into consideration. These definitions imply that trust in both the web vendor and online technologies underlie consumers' beliefs about the safety of shopping online. According to McKnight et al., (2002) trust in the mobile retailer comprises two aspects. On the one hand, there are the trusting beliefs: Competence, integrity, and benevolence. Competence is related with the ability to do what the consumer needs. Integrity is related with honesty and promise keeping. Finally benevolence is the motivation to act in the consumer's interests. On the other hand, there is the trusting intention that is related to the consumers' willingness to engage in a business relationship with mobile retailers by providing personal information, following the grocery retailer's advice, or making purchases and transferring money directly via smartphone. In order to place trust in a TBP-based model, trust must be defined with respect to a behavior through a specified target, action, context and time frame (Ajzen, 2002). In this study, the target of trust is the grocery retailer, the action is shopping, the context is the

mobile environment, and the time frame is the window of time during which, consumers are making their decisions. According to Pavlou and Fygenon (2006), trust enables favorable expectations that a web vendor will accomplish its promises and no harmful outcomes will occur if a consumer engages in the behavior. According to Michael Groß (2016), trust in the mobile retailer, particularly in the marketplace, motivates mobile shopping acceptance. Mobile retailer trust not only facilitates consumers' intention to continue to use mobile shopping, but also helps to reduce uncertainty when consumers might face while shopping via their smartphones. Therefore trust decreases uncertainty and risk that consumers normally face in the mobile shopping context (risk absorption function), and it motivates consumers to re-engage in mobile shopping activities (complexity reduction function). Finally, the last hypothesis is developed:

H5. Trust in the grocery retailer will positively influence consumers' intention to adopt mobile grocery shopping.

Fig. 1 Research Model



3. Method

3.1 Participants, Design and Procedure

In order to test the hypotheses, to meet the literature and the research previously mentioned, the first step was to design a survey in the Google Forms. About 152 people responded to the survey either by Facebook or email. In addition, 34 surveys on paper were delivered and received back from people near supermarkets in the zone of Oeiras. Totally, 186 surveys were valid to be analyzed. Since the questions of the survey were initially in English, and in order to be consistent in the translation of the questionnaire, the survey was first translated to Portuguese and then translated back to English, with the aim to ensure the preciseness of the translation. All the respondents were Portuguese, therefore the Portuguese version was chosen to be delivered. The word “mobile” has been adapted for “smartphone” in order to facilitate the understanding of the Portuguese respondents that are more familiar with this expression. The next step was to insert the responses in SPSS in order to make a statistical analysis. 66.1% of the participants were female and the age interval with more participation was from 18-23 years old with 35.5% of the responses, followed by the age interval of 24-30 years old with 30.6% and finally the age of above 45 years old with 24.7%.

3.2 Measures

Each measured construct used for the conceptual model depicted in Fig. 1 consisted of several items that were adapted from previous literature to ensure content validity. The scale used was a 7-point Likert –type scale anchored by 1 =strongly disagree and 7 = strongly agree. The scale items were adapted to measure the theory of planned behavior model as well as trust in the grocery retailer in the context of mobile grocery shopping. Three items on subjective norm (e.g. “People who influence my behavior think that I should use mobile shopping to buy groceries”), (Venkatesh et al. 2003); three items on perceived behavioral

control (e.g. “I have an internet-enabled mobile phone to access grocery shopping sites/apps via mobile phone.”), (Ajzen, 1991; Taylor and Todd, 1995a); four items on attitude (e.g. “I am favorable toward mobile shopping of groceries.”), (Nysveen et al., 2005); three items on behavioral intention to use mobile grocery shopping (e.g. “In the future, I intend to shop more with my smartphone than I do today”), (Lee et al., 2002; Pavlou and Chai, 2002); and six items on trust in the grocery retailer (e.g. “Based on my experience with grocery vendors in the past I think that the vendor is honest”), (Gefen et al., 2003; Groß, 2015).

In order to evaluate the reliability of the measurement items, it is essential to determine that the measures represent the constructs. The cronbach’s alpha is an appropriate calculation to measure internal consistency, since it provides an estimate for the reliability based on the indicator intercorrelations (Henseler et al., 2009). Alpha coefficients range from 0 to 1, where higher coefficients indicate higher reliability. The accepted value of Cronbach’s alpha is 0.70, whereas a value below 0.6 indicates a lack of reliability (Nunnally et al., 1967). All constructs present alpha coefficients higher than 0.70 (i.e. alpha for ATT=0.939; SN=0.860; TRT=0.917, INT=0.949) except for perceived behavioral control (PBC) with 0.562. This alpha value would still be insufficient if one item of the scale was deleted. Therefore this value demonstrates that there is no significance within the items that together represent the variable PBC.

4. Results

4.1 Correlation Analysis

A Pearson correlation matrix was calculated in order to observe the existence of relationships among the variables. This provides a further explanation about influencing variables. According to Pallant (2013), the correlation matrix is used to exhibit the strengths and direction of a linear relationship between two variables. The next table shows the results:

Table 1 Pearson Correlation Analysis

	ATT	SN	PBC	TRT	INT
ATT	1				
SN	0.576**	1			
PBC	0.295**	0.117	1		
TRT	0.249**	0.264**	0.261**	1	
INT	0.833**	0.588**	0.260**	0,293**	1

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

All the correlations are significant at 1% level, two-tailed. The results have an accuracy to be correct of 99%. The only exception is the correlation between PBC and SN. The last row shows the correlations between the independent variables (ATT, SN, PBC and TRT) and the dependent variable (INT). All the results are positive, this means, for example, if the respondent has a positive attitude towards mobile grocery shopping, his intention to shop groceries by mobile will be higher.

4.2 Hypotheses testing

A linear regression analysis was used to observe the relationship between the dependent variable (INT) and the independent variables (ATT, SN, PBC and TRT). Therefore it is possible to investigate the validity and the statistical significance of the hypothesis listed above (H1, H2, H3, H4 and H5). According to the standardized R-squared value, it is possible to state that the four independent variables (ATT, SN, PBC and TRT) explain 71.6% of the variation of the intention of buying groceries by mobile. The value for the adjusted R-squared was 71.0%. Generally, the higher the R-squared, the better the model fits the data.

According to the ANOVA results, the model is good since the value of F is large and the p-value for the test is lower than 0.01. As a result, H1 is confirmed since there is statistical significance between intention to buy groceries by mobile and the other four variables. Next, it is presented two tables with the descriptive statistics and the values of the coefficients of the regression:

Table 2 Descriptive statistics for constructs

	N	Minimum	Maximum	Average	SD
ATT	186	1	7	5.169	1.430
SN	186	1	7	3.459	1.703
PBC	186	1	7	6.066	0.933
TRT	186	1	7	5.330	1.012
INT	186	1	7	4.827	1.848

Table 3 Coefficients and significance levels

	Standardized beta coefficient	T	Sig.
1 (Constant)		-2.510	0.013
ATT	0.724	14.291	0.000
SN	0.151	3.064	0.003
PBC	0.014	0.331	0.741
TRT	0.070	1.679	0.095

The regression coefficients and t-tests indicate a significant relationship for the variables ATT and SN, meaning that these variables are significant predictors of intention to shop groceries by mobile, since the significant value is below 1%. The standardized beta coefficient represents the change in the dependent variable (INT), from a unit change in each independent variable. A unit change in the variable ATT and SN will result in an increase of, respectively, 0.724 and 0.151 in the intention of mobile grocery shopping. We conclude that H2 and H3 are verified. The variables PBC and TRT showed a significant value above 1%, meaning that they are not a good predictor for the dependent variable. Therefore H4 and H5 are not verified.

5. Discussion

The purpose of this study was to investigate factors which affect the intention to shop groceries by mobile. In this regard, providing a conceptual framework, the effect of some factors including, attitude, subjective norms, perceived behavioral control and trust in the

grocery retailer were investigated. The first hypothesis presented within this study (H1) was verified, this means that the variables mentioned above influence consumers' intention to buy groceries by mobile, in accordance with previous literature on the online shopping (Hansen, 2008; George, 2004; Ramus & Nielsen 2005; Hansen, 2006) as well as in the mobile shopping (Yang, 2012). Nevertheless, there are some considerations and conclusions to withdraw from the use of the theory of planned behavior with trust in the grocery retailer as an additional factor. Even though all the variables from the theory of planned behavior showed a positive result, not all were statistically significant, meaning that it could be possible to have negative influence on intention to buy groceries by mobile. As it was previously mentioned, the theory of planned behavior states that if attitudes, subjective norms and perceived behavioral control are positive, their influence on intentions should also be positive.

H4 tested if positive perceived behavioral control have a positive influence on intentions. The results demonstrate that there was no influence on intentions to do mobile grocery shopping ($\text{sig.}=0.741>0.01$; $\text{Beta}=0.014$). Firstly, the reliability of the set of scale or test items for perceived behavioral control, measured with the Cronbach alpha, showed a coefficient of 0.562. This means that the items don't have shared covariance and probably don't measure the same underlying concept. Some authors question the consistency of the theory of planned behavior and how it can fit to study a usual behavior such as grocery shopping. For example, Verplanken and Aarts (1999) argued that since a common behavior doesn't implicate a significant effort to process thought and to search for information, the theoretical framework created by Ajzen and Fishbein is considered weak and has large flaws in predicting these types of behaviors. Nevertheless, this is still under discussion since other studies states that the model is highly suited for testing and predicting the intentions to buy groceries online (Hansen et al., 2004). Nowadays, everyone has easy access to a smartphone

and has the necessary knowledge to use it to perform certain behaviors, as it can be observed in the results of the average of the responses for this variable (Mean=6.066) with the lowest standard deviation (SD=0.933). The fact that consumers think they can control the transaction, have the knowledge and ability to buy groceries by mobile, feel comfortable and perceive easy buying of groceries by mobile without anyone's help, has no impact in their intention to buy groceries by mobile.

H2 examined if attitude has a positive influence on intention to buy groceries by mobile. The conclusion is that attitude has a strong positive influence on intentions (sig. $\approx 0.000 < 0.01$; Beta=0.724). Previous studies also shown that consumer attitudes are the best predictor of the behavioral intentions not only to purchase goods online but also to purchase by mobile (Choi & Geistfeld, 2004; George 2004; Yang 2012, Hansen et al., 2004). These results highlight the importance of attitude in order to adopt mobile grocery shopping as a habit, leading to easier adoption of mobile grocery shopping in the future.

The purpose of H3 was to determine if subjective norms have a positive influence on intention to shop groceries by mobile. The results showed that subjective norms have a significant influence on intentions to perform the behavior of adopting mobile grocery shopping (sig. $= 0.003 < 0.01$; Beta=0.151). Since mobile grocery shopping involves the use of technology (i.e. smartphones), the importance of subjective norms may be related to the phase of implementation of the technology. According to Taylor and Todd (1995a), subjective norms have been found to be more important in the initial stages of implementation when users have only limited direct experience. Therefore, due to the innovative characteristics of the mobile shopping channel, the opinion of friends and family members has an impact and influences the decision to adopt mobile grocery shopping. Some studies in the online and mobile context indicate the significance of the causal relation between subjective norms and behavioral intentions (Yang 2012; Hansen et al., 2004; Sykes et al., 2009). However, other

studies do not support the relationship between subjective norms and purchase intentions (George, 2004; Pavlou and Fygenson, 2006). According to Conner and Armitage (1998), one of the explanations that generate the diverse results in literature regarding the role of subjective norms, is the failure to consider all of the relevant social causes. For example, virtual communities where customers can share experiences or recommendations about shopping from online or mobile stores and product reviews are gaining popularity, as well as the relevance of word-of-mouth by these virtual communities, are subjects that need to be considered in order to determine its role on the subjective norm.

Finally, H5 investigated if trust in the grocery retailer has a positive influence on intentions. It was found that there was no influence on intentions to adopt mobile grocery shopping (sig.= 0.095>0.01; Beta=0.070). Even though the impact of trust on intention toward online shopping has been empirically supported in literature (Pavlou and Fygenson, 2006, Groß, 2016), this study does not provide any evidence to support that trust in the grocery retailer positively impacts intention. Since the participants have shopping experience and may not had have bad experiences from their past shopping activities, as it can be observed in the results of the average of the responses for this variable (Mean=5.330) with the second lowest standard deviation from all the variables (SD=1.012), they don't give much significance to this variable. Probably many may believe that their levels of honesty, trustworthy or customer service may be the same in the mobile channel as it is in a physical store. As a result, trust in the grocery retailer is not significant to decide to adopt the mobile channel to purchase groceries.

5.2. Limitations

This study demanded more time to be completed with more quality and precision, not only to perform a deeper research in the subject as well as to increase the number of the

participants in the survey. The majority of the participants were Portuguese. Using a larger sample and with more variety in the demographic variables, the results would also be significant to other nationalities.

Another important restriction to mention is related with the limited number of pages and the formatting. If it was possible to write more pages, it would be interesting to investigate in a deeper way the theory of planned behavior, by extending it with the inclusion of new variables and factors to determine the adoption of mobile grocery shopping. It is recommended that the SPSS analysis is performed by statistical experts, not only to ensure the quality of the results as well as to encompass and explore other statistical models and tools.

Additionally, classification and attributes of products might influence the decision to choose from which sales channel to perform the purchase. Therefore, if the categorization of the grocery products into perishable or durable was present in the survey, the results for adopting mobile grocery shopping might have been different and also more accurate for both categories. Moreover, the concept of mobile grocery shopping is practically non-existent in Portugal. Since most of the participants have never shopped groceries by mobile, the study has focused only on knowing the formation of intention towards mobile shopping of groceries. In the future, with a developed mobile sales channel by grocery retailers, it will be important to take this topic back when there is more possibility to shop groceries with a smartphone. The results would have more accuracy that the intention will lead to the execution of this behavior.

6. Conclusions

The mobile concept is revolutionizing our daily shopping routines in such a way that nowadays a mobile service solution exists for everything, including grocery shopping. The Portuguese mobile context is starting to have considerable proportions. Therefore grocery

retailers should take that into account in order to predict the future consumer. Attitudes and subjective norms will positively influence the intention to buy groceries by mobile, meaning that if grocery retailers decide to engage in the mobile channel, they should concentrate their efforts to build a positive attitude in their customers as well as to create a positive environment among family members and close friends of potential customers to adopt this mobile channel. Although trust in the grocery retailer didn't show a significant statistical result to influence positively the intention to buy groceries by mobile, grocery retailers must strive to continue the positive results regarding competence, integrity, and benevolence.

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8. Appendix - Survey

Mobile Grocery Shopping

This questionnaire is to gather information in order to support a management thesis of Nova SBE. The participants and their responses will remain anonymous and all the information collected will be used only for the purpose of this thesis.

The questionnaire lasts approximately 3 minutes

Thank you for your participation

1. Sex

- Male
- Female

2. Age

- <18
- 18-23
- 24-30
- 30-35
- 35-45
- >45

Consider the following sentences and give an answer to your level of agreement

1. Shopping groceries by mobile phone is a good idea.

-

1. Strongly disagree

7. Strongly agree

2. I am favorable toward mobile shopping of groceries.

-

1. Strongly disagree

7. Strongly agree

3. Shopping by mobile phone is a wise idea.

-

1. Strongly disagree

7. Strongly agree

4. I am positive about mobile shopping of groceries.

-

1. Strongly disagree

7. Strongly agree

5. People who influence my behavior think that I should use mobile shopping to buy groceries.

-

1. Strongly disagree

7. Strongly agree

6. I would shop groceries by mobile phone because of the proportion of my friends who do mobile shopping of groceries.

-

1. Strongly disagree

7. Strongly agree

7. People who are important to me think that I should use mobile shopping to buy groceries.

-

1. Strongly disagree

7. Strongly agree

8. Given the resources, opportunities and knowledge it takes to use mobile shopping to buy groceries, it would be easy for me to use the system.

1. Strongly disagree

7. Strongly agree

9. I have an internet-enabled mobile phone to access grocery shopping sites/apps via mobile phone.

1. Strongly disagree

7. Strongly agree

10. I have the knowledge necessary for mobile shopping of groceries

1. Strongly disagree

7. Strongly agree

11. Given the chance, I intend to shop groceries by mobile phone.

1. Strongly disagree

7. Strongly agree

12. In the future, I intend to shop more with my smartphone than I do today

1. Strongly disagree

7. Strongly agree

13. I expect my mobile shopping of groceries to continue in the future.

1. Strongly disagree

7. Strongly agree

14. Based on my experience with grocery vendors in the past (e.g. Pingo Doce, Continente, Jumbo, Minipreço etc.) I think the vendor...

14.1...is honest

1. Strongly disagree

7. Strongly agree

14.2...is trustworthy

1. Strongly disagree

7. Strongly agree

14.3... provides good customer service

1. Strongly disagree

7. Strongly agree

14.4... keeps their promises and commitments

1. Strongly disagree

7. Strongly agree

14.5... cares about their customers and takes their concerns seriously

1. Strongly disagree

7. Strongly agree

14.6... keeps customer' interests in mind

1. Strongly disagree

7. Strongly agree

Thank you very much for your participation