



UNIVERSITY OF  
STIRLING

**EXPLAINING AND PREDICTING THE SINGLE  
CHANNEL VERSUS MULTI-CHANNEL  
CONSUMER: THE CASE OF AN EMBARRASSING  
PRODUCT**

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## **Abstract**

The fundamental purpose of this thesis was to determine how effective is the theory of planned behaviour (TPB) to predict and explain shopping for embarrassing products in single and multi-channel. This is important because multi-channel consumers buy more, the question is why (Neslin, Grewal et al. 2006). The question was answered by comparing consumer behaviour in three different channels: drugstore, internet and multi-channel.

The Theory of Planned Behaviour (TPB) has been successful to predict intentions for a wide variety of products and behaviours. However, little is known about how effective it is when the behaviour under study is influenced by the emotion of embarrassment. Similarly, the TPB is parsimonious and has a good predictive power; nevertheless, this thesis identified that the TPB could be more effective if it considered: (1) the role of positive and negative emotions (2) other determinants of choice like personality and demographics (3) variables that are useful to make marketing decisions like the synergistic effect of brands, retailers and channels (4) variables that explain consumer response like approach and avoidance.

To provide a comprehensive theoretical framework that is able to understand single and multi-channel, this thesis integrated the TPB within the Stimulus-Organism-Response (S-O-R) framework.

To evaluate the proposed model, the study used a context and target product that resonated with the theory: the purchase of Regaine (a hair loss product that is embarrassing to buy) in Boots (a well-known UK. multi-channel drugstore).

The embarrassing nature of Regaine created differences in the importance that variables play in each channel.

The results were analysed using partial least squares structural equation modelling (PLS-SEM) and the three shopping environments were compared using multi-group analysis (MGA).

The effectiveness of the TPB was improved. The variance explained ( $R^2$  to intention) was 73 percent for the drugstore, 67 percent for the internet and 54 percent for multi-channel. However, subjective norm (SN) was the only factor that achieved significance for the three shopping environments. Personality and demographic factors had a low but significant moderating effect on intention.

This thesis built on a series of contributions in different areas, such as the TPB, attitudes, subjective norm, perceived behavioural control, embarrassing products, multi-channel, marketing, emotions, personality and demographics.

Future research should expand this thesis to other embarrassing products, industries and social media settings.

**Key Words:** TPB, S-O-R, CBBRCE, Multi-channel, Single Channel, Brand Equity, Retailer Equity, Channel Equity, Embarrassment.

## **Dedication**

To Martina: When I started this journey, you were an eight-month old baby. Now you have grown into a splendid little girl.

## **Acknowledgements**

Thanks to my wife for sharing this journey with me. Even though we were far away from Colombia, you made a warm home. To my parents, you set me the example that led me here. Thanks also to my supervisors Dr Keri Davies and Dr Jonathan Elms for all their advice, autonomy and encouragement. Moreover, I would also thank to the institutions and people who funded my studies: Universidad Javeriana Cali, Colfuturo, Colciencias, and those who helped me get the funding.

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## **Author's Declaration**

This thesis is submitted in fulfilment of the requirements of the Degree of Doctor of Philosophy (by research) at the University of Stirling.

I declare that this document embodies the results of my own work and that it is composed by myself and has not been included in another thesis. Following normal academic conventions, I have made due acknowledgements of the work of others.

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## Definitions

Not all researchers share the same definitions for every concept. This section classifies concepts into four groups. A clear definition is provided to differentiate the concepts within each group.

**Group 1:** The first group of definitions is useful to differentiate between attitudes and emotions, affect and emotion, and emotions and anticipated emotions.

- **Attitudes:** Are defined as the enduring positive or negative feeling about some person, object, or issue (Kollmuss, Agyeman 2002). Attitudes are beliefs, which refer to the knowledge a person has about a person, object, or issue (Newhouse 1990). Attitudes are evaluative in nature and are directed towards an object.
- **Affect:** Is understood to be the most general term, implying a global state. In addition, emotion and mood are conceptualized as sub-states of affect (Batson, Shaw et al. 1992) (Bagozzi, Gopinath et al. 1999).
- **Emotion:** Bagozzi, Gopinath et al. (1999) defined emotion as the “mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed physically (e.g. in gestures, posture, facial features) and may result in specific actions to affirm or cope with the emotion” (p. 184)
- **Anticipated Emotions:** Are the emotions that a person expects to experience by achieving a sought after goal (Bagozzi, Pieters 1998).

These are not the emotions experienced while shopping, for example, but are the anticipated emotions that consumers weigh up when deciding whether to pursue a goal of shopping (Hunter 2006).

- **Positive Anticipated Emotions<sup>1</sup> or Positive Emotions (PE):** Are the self-predicted emotional consequences of achieving a sought after goal (Perugini, Bagozzi 2001) (Hunter 2006).
- **Negative Anticipated Emotions or Negative Emotions (NE):** Are defined as the negative feelings that might arise after a certain action or inaction (Pligt, De Vries 1998).

**Group 2:** The second group of definitions presents similarities and differences among concepts used in the Theory of Planned Behaviour. Intention is the same as behavioural intention, and behaviour is a function of beliefs.

- **Intention:** Is different from attitude. Represents the person's motivation or plan to carry out a behaviour (Eagly, Chaiken 1993).
- **Behavioural Intentions:** Is the degree to which a person has formulated conscious plans to perform or not perform some specified future behaviour (Warshaw, Davis 1985).
- **Behaviour:** In this thesis the behaviour is the act of shopping. It is a function of salient information, or beliefs, relevant to the behaviour (Ajzen 1991).

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<sup>1</sup> The term positive emotions is used in this thesis to refer to anticipated positive emotions and negative emotions to refer to anticipated negative emotions.

- **Beliefs:** Is salient information that people can hold about any given behaviour. People can attend only to a relatively small number of beliefs at any given moment (Miller 1956). Beliefs are considered determinants of a person's intention and actions.

**Group 3:** The third group helps to differentiate between personality and the “Big 5” Personality Traits.

- **Personality:** Is the person's characteristic pattern of behaviour, thoughts, and feelings (Crossley 2004). Personality is peculiar to the individual, it can provide stimuli to initiate and guide behaviour (Allport 1937).
- **The “Big 5”:** Is a general taxonomy of personality traits. The big 5 dimensions do not represent any theoretic perspective, but were derived from the language people used to describe themselves and others. John described the five personality traits as extraversion, agreeableness, conscientiousness, emotional stability and openness (John, Srivastava 1999).

**Group 4:** Presents definitions of concepts used in Marketing/Retailing that will be discussed in this thesis.

- **Consumer Behaviour:** Are the activities people undertake when obtaining, consuming, and disposing of products and services (Blackwell, Miniard et al. 2001).

- **Consumer versus Customer:** Generally, a **consumer** refers to individuals who buy for themselves or their family, whereas a **customer** can also mean the retailer or person who buys from the manufacturer, etc. The one who buys the product is called a customer and the one who uses the product is called a consumer.
- **Choice:** Are the “situations in which an individual has to perform one of N alternatives behaviours” (Jaccard 1981, p. 287).
- **Shopping:** Is defined as searching for, and sometimes buying, goods and services.
- **Store Image:** Is the individual’s evaluation of a number of salient store attributes. It has been measured in six dimensions: merchandise quality, merchandise, pricing, merchandise assortment, locational convenience, salesclerk service, service in general, the store atmosphere, and pleasantness of shopping (Hildebrandt 1988) (Mazursky, Jacoby 1986).
- **Store/Channel Patronage:** Is the consumer's selection of a shopping outlet/ channel (Haynes, Pipkin et al. 1994).
- **Retail Environment:** Is a social environment where the individual becomes involved in shopping (Prus, Dawson 1991).



# Chapter 1

## Introduction

### 1.1 Introduction

To shop for a product consumers have to make choices. They have to choose a brand, a retailer and a channel, or a combination of channels. A consumer who uses more than one channel was defined as a multi-channel shopper (Belvaux 2006). Multi-channel shoppers spend more, the unanswered question is why? (Neslin, Grewal et al. 2006). To answer the why question, an effective model is required. The model will compare consumer's perceptions towards one channel (i.e. the store or the internet) with the perceptions generated by using multi-channel. The differences between single and multi-channel will show what variable gains more importance or which becomes irrelevant for the consumer.

A theory that has been found useful to study consumer behaviour in a multi-channel context is the Theory Planned Behaviour (Ajzen 1985) (hereafter TPB) (Heinhuis, Vries 2009). Previous studies have successfully used the TPB to study multi-channel behaviour (Kim, Park 2005) (Keen, Wetzels et al. 2004), however, survey length has forced researchers to make sacrifices. For example, researchers have used student samples, conjoint analysis and selected a limited number of the TPB constructs. Other studies that have used the TPB to study multi-channel have used the intention to switch channels as the behavioural target (Pookulangara, Hawley et al. 2011). Channel switching is a valid consumer behavioural target. The study of switching allows researchers

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to explain why the consumer wants to switch from channel A to B, but they are unable to compare the beliefs behind the use of each channel.

One of the strengths of the TPB is its ability to capture the influence of social norms on intention. Arguably, this is needed in the retail area, where social presence has a high influence on consumer behaviour (Argo, Dahl et al. 2005). Social presence can ignite negative emotions like embarrassment. The TPB has been repeatedly used to study behaviours that could be embarrassing such as buying condoms (Katsanis 1994) or downloading music illegally (Morton, Koufteros 2008). TPB condom studies found that the channel influences the prediction of behaviour. For example, to obtain condoms from a clinic is different from buying them from a pharmacy (Fishbein, Middlestadt 2011). Channels satisfy the customer in different ways, and the differences are clearer when a consumer is shopping for an embarrassing product: the channel advantages or disadvantages become more prominent. The embarrassing product selected in this thesis to magnify the differences is a hair loss restorer called Regaine, a product in a category that has been previously classified as embarrassing (see Chapter 2 Section 2.4).

This thesis builds on the TPB, embedding it within an S-O-R framework. Variables suggested by the S-O-R framework are included in the proposed model such as positive and negative emotions, demographics, personality traits, customer based brand-retailer-channel equity (CBBRCE) and approach/avoidance. The CBBRCE element is important because the context also creates value for the brand (Keller, Lehmann 2006). The intention to shop is influenced by brands because they aid in the interpretation of information

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(Aaker 1991). Manufacturers can position their brands in relation to a retailer (Jara 2009) or a channel (Narus, Anderson 1988). A measurement that accounts for the interactions created by the context of brands, retailers and channels is a useful extension for the TPB.

This thesis uses as the object of study a retailer and a manufacturer brand in the UK (specifically Scotland). Despite the UK focus, the learning from this study has an international reach. Regaine is the world-leading manufacturer of hair loss products and Boots is a large drugstore retailer with transnational presence. The sample was collected in two urban cities with a population of over 20,000 inhabitants in Scotland (Stirling and Alloa). The chosen cities resemble many others worldwide where consumers are in contact with a local drugstore and have access to an internet connection. However, care must be taken in attempting to generalise the results of this study to other countries or larger cosmopolitan areas with a different health and beauty culture.

Moreover, the focus of this study is on male consumer behaviour. The results of this study should not be extrapolated to women, given that they could have different reactions towards the object of study. The shopping context is limited to the retailer Boots for practical reasons. The justification for selecting Boots resides in the large awareness that it has on the local community and its multi-channel capabilities (for further reasons for selecting Boots in this thesis, see section 2.3.1). The embarrassing product used in this research is also available in other countries. Alopecia is a common problem for men, and Regaine is a well-known product in many countries. This study is limited to Regaine because it is the indisputable leader in the hair loss category and has a large awareness

amongst the male population (Further reasons for selecting Regaine can be found in section 2.4.1).

## **1.2 Justification for the Research**

Although the TPB is one of the most respected and successful theories in consumer behaviour, there is room for improvement in terms of both predicting and understanding consumer behaviour, especially when the consumer is understood as a subject that is influenced by its surroundings and can have multiple responses that are valuable for marketers.

The TPB has minimized the importance of emotions and has included them as part of consumer attitudes. This could be because the consumer is not used to expressing themselves in terms of emotions. The consumer needs help to identify which are the emotions that they could experience under certain shopping situations. This thesis proposes methodology variations that bring back the value of emotions to the TPB. The TPB places large importance on intention as a measurement of consumer response. This minimizes the value that other variables have to measure consumer reactions. From a marketing perspective, it is important to understand how the consumer responds to brands, retailers and channels. This thesis attempts to provide answers to this need. Furthermore, personality and demographic variables have previously been connected to intention, but little is known about their importance in channels and embarrassing situations.

The loss in revenue for pharmaceutical companies and retailers that are unable to sell their products because the consumer is embarrassed to purchase them

is significant. A certain channel or combination of channels could offer the consumer a reduction of anticipated negative emotions that create tension and inhibit the purchase. Understanding how to eliminate negative emotions is, therefore, crucial for businesses.

### **1.3 Research Aim and Questions**

The overall aim of this thesis is:

***To determine how effective the TPB is in predicting and explaining shopping consumer behaviour for an embarrassing product, in the context of single channel versus multi-channel.***

The research aim is solved using the TPB. In this thesis, the TPB allows for comparison between behavioural intention in terms of attitudes (AT), subjective norm (SN) and perceived behavioural control (PBC).

In addition, this thesis investigates six research questions, these are as follows:

#### **Research Question 1:**

- Are the direct measurements of the TPB associated with a higher intention in the case of shopping for an embarrassing product using single or multiple channels?

#### **Research Question 2:**

- What beliefs are the most important when it comes to shopping for an embarrassing product using single or multi-channels?

**Research Question 3:**

- What is the role of emotions in the behaviour of single channel shoppers versus multi-channel shoppers?

**Research Question 4:**

- What is the predictive relevance of psychographic variables?

**Research Question 5:**

- What is the predictive relevance of demographic variables?

**Research Question 6:**

- What is the importance of CBBRCE in terms of the response that it can create from the consumer?

The research questions are represented in Figure 1 on p.8.

## **1.4 Context and Theoretical Background**

The increased use of the internet, catalogues and other channels had changed the way in which the consumer shops. A channel is a two-way interaction process between the customer and the firm. A consumer who uses more than one channel is defined as a multi-channel shopper (Belvaux 2006). However, companies have had problems implementing multi-channel solutions and researchers have identified a large number of knowledge gaps introduced by this new way of shopping. This thesis addressed multi-channel knowledge gaps such as brand loyalty, why multi-channel consumers buy more, how they make

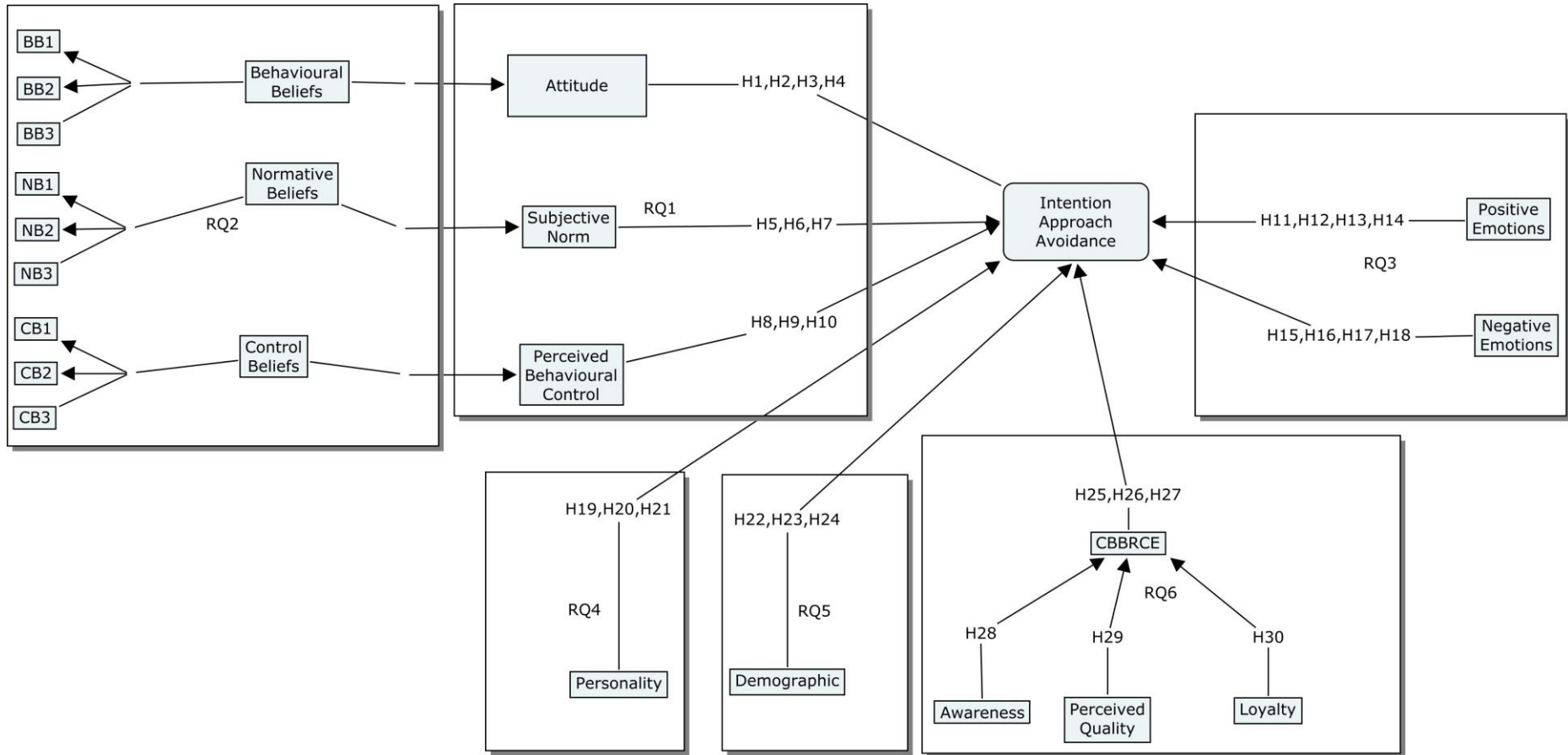
## [Chapter 1]

channel-firm decisions, the effect of embarrassment on multi-channel and the comparison of integrated and independent channels. This is in response to the fact that little is known about what drives consumers to be single or multi-channel (Schoenbachler, Gordon 2002). Usually, studies have developed concepts for single channels, but few have studied how they can be applied to multi-channels. The number of studies that have compared different channels is even smaller.

Although a multi-channel framework has been proposed, it has not been operationalised. The need for this research is continuously increasing because the percentage of multi-channel shoppers has increased substantially. In addition, a wide variety of studies point out that multi-channel shoppers spend more (Blattberg, Kim et al. 2008) and are more loyal (Doubleclick 2004).

A good example of a successful multi-channel retailer is Boots. Boots is a dominant player in the health and beauty sector in the UK (Mintel 2011). It was awarded the first place for its overall multi-channel experience (Chowney 2011). Boots operates two hair loss programmes. It has a long-held reputation for quality products (Burt, Davies et al. 2005) and has a large number of loyal customers.

Figure 1-Summary of Research Questions and Hypothesis





## [Chapter 1]

Boots has brand alliances with Regaine in the UK. Regaine is a market leader product used to treat hair loss. Regaine is used on the scalp, where it needs to be applied twice a day (Health Development Advice 2011). It is suggested for men aged 18 to 65 (McNeil Healthcare (UK) ). It is available over the counter. Some people consider it is an embarrassing product to purchase. It is also an expensive product, and this could make it a “reasoned” purchase. The fact that hair affects social perceptions (Alfonso, Richter-Appelt et al. 2005) makes it especially interesting to be analysed with the TPB. Chapter 2 justifies why Regaine could be classified as an embarrassing product and its use in this thesis.

Embarrassing products are those that people need and seek out, but do not discuss openly, and include personal hygiene products, birth control, or condoms (Katsanis 1994). Embarrassment occurs when individuals experience threats to their public self (Miller, Leary 1992). Embarrassment can also be experienced in private, when individuals imagine what others might think of them (Sabini, Garvey et al. 2001). Embarrassment is very powerful in regulating social behaviour; this includes shopping. However, it has been suggested that the internet creates an emotional relief for embarrassment (Wolfenbarger, Gilly 2000). There is also more research needed to understand men’s feelings, insecurities and desires (Crossley 2004). Embarrassment has been studied using the Theory of Planned Behaviour (TPB) in the case of counterfeit products (Penz, Stottinger 2005), breast-feeding (Khoury, Moazzem et al. 2005), de-shopping (King, Dennis 2003), music piracy (Morton, Koufteros

2008), mammography (Steele, Porche 2005), and coupons (Bagozzi, Baumgartner et al. 1992, Morton, Koufteros 2008).

Icek Ajzen introduced and developed the TPB in 1985. It has since achieved a considerable reputation for predicting and explaining human behaviour (Ajzen 1985) (Ajzen 2002). It predicts behaviour as a result of intentions. Additionally, intentions are explained as a consequence of attitudes, subjective norm and perceived behavioural control (Ajzen 1991). Attitudes (ATT) measure the consumer's positive or negative expectation about an outcome. Subjective norm (SN) refers to the pressure that society exerts on an individual (Ajzen, Driver 1992), and perceived behavioural control (PBC) reflects the perception of how easy or how difficult is for the person to execute certain behaviour. The effectiveness of the TPB has been underscored by several meta-analysis (Ajzen 1991) (Godin, Kok 1996) (Hausenblas, Carron et al. 1997) (Van den Putte 1991) (Armitage, Conner 2001) (Manning 2009). Nevertheless, the TPB has numerous constraints and limitations that leave room for conceptual and operational improvement. Compared to other theories, the TPB appeared to be particularly suitable to compare channels. The TPB is not tailored to a channel such as the internet. Ajzen opened the door to modifications of the TPB when he stated that it could be broadened and deepened (Ajzen 1991). Specifically, the TPB has been used to understand multi-channel situations in which the consumer is trying to use a product (Heinhuis, Vries 2009).

To expand the TPB, this thesis used the Stimulus-Organism-Response (S-O-R). The S-O-R framework comes from consumer behaviour models that have followed some form of an Input → Output design. These models have evolved

[Chapter 1]

into stimulus→ organism→ response frameworks (Woodworth 1958, Mehrabian, Russell 1974). This thesis explored how the S-O-R model can be applied to shopping. It is especially interested in the response component of the S-O-R model. Approach and avoidance have been found to be useful response variables to compare retail contexts (Hogg, Penz 2007).

The stimulus component of the S-O-R framework includes signs, symbols and artifacts as a stimulus (Williams, Dargel 2004). This could also correspond to the definition of brand. The value of brands has traditionally been captured through brand equity. Although there is no universal definition and measurement of brand equity, the models set out by Aaker (1991) (1996) and Keller (1993) have been widely used by academics and practitioners (see Appendix 3 for a list of studies that have used this variables). This thesis adopted Aakers' and Kellers' four dimensions (Brand Awareness, Brand Associations, Perceived Quality and Brand Loyalty) as a theoretical base to support the development of Customer Based Brand Retailer Channel Equity (CBBRCE). CBBRCE arises from the identification of disintegrated research efforts in the fields of Brand, Retailer and Channel Equity. Although these three types of equity have traditionally been separate entities, they could be unified into one concept that captures how the consumers see the brand, the retailer and the channel as a whole.

## **1.5 Potential Contributions to Knowledge**

In addressing the research aim and subsequent research questions articulated above, this thesis offers a number of potential theoretical contributions to

knowledge. First, an extension of the TPB to make it more appropriate for investigating the multi-channel context. In this thesis, this is achieved by integrating the TPB with the S-O-R framework. Second, the role of emotions could be examined in terms of their impact on consumers' evaluations of an embarrassing product. Indeed the extent and salience of embarrassment across channels is clarified in this thesis. Third, the moderating effects of demographics and personality traits on intention have scope for further examination. The potential of such are explored in this study. Fourth, the synergies created by the brand, the retailer and the channel could be captured. This thesis, through using the CBBRCE framework, enables a better understanding of how shopping for an embarrassing product can affect channel selection. Such insight is particularly timely as the continued growth of the use of the internet, combined with the sustained increase in the percentage of consumers that shop using multi-channels, creates an urgent need to understand why multi-channel shoppers buy more (Neslin, Grewal et al. 2006). In turn, manufacturers and retailers can use this knowledge to offer better products and services to their consumers.

## **1.6 Thesis Structure and Organisation**

In order to meet the overall aim of this research, this thesis is structured into a further five chapters. Chapter 2 provides a rationale for the context of this study. Here, an overview of the extant multi-channel literature is provided as a means to highlight its gaps. This is followed by background information about the retailer Boots. Then, the selection of the embarrassing product, Regaine, as the study object is justified.

## [Chapter 1]

A thorough and robust review of three areas of literature is then presented in Chapter 3. First, the TPB, its use and application in the social sciences, consumer behaviour research and retailing. Second, the S-O-R framework is introduced. Third, the CBBRCE model is described and its application in this thesis is discussed. Given the deductive nature of the research design, hypotheses are formulated throughout this chapter, ultimately leading to the construction of a conceptual model.<sup>2</sup>

Chapter 4 describes and discusses the methodological choices and decisions that were undertaken as part of this thesis. The chapter discusses the positivistic research philosophy underpinning the study, and the resulting confirmatory, deductive research design. The initial elicitation study that was conducted is discussed, which is followed by a description of the main quantitative phase of the empirical research, including a summary of the results of the pre-pilot and pilot study. The research method, mode of data analysis, as well as pragmatic and ethical considerations are also presented.

The findings of the main phase of the empirical study are presented in Chapter 5. A preliminary analysis of the data is described. This is followed by a two-step approach to test and evaluate the conceptual model presented in Chapter 3. Additionally the formative constructs are analysed, leading to a multi-group analysis as a means to compare any significant difference between channels. To conclude the findings chapter, an analysis of indirect variables and ranking questions is presented.

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<sup>2</sup> The literature review that was undertaken as part of this thesis included all relevant, published academic and non-academic research published up until the end of June 2012.

[Chapter 1]

In the final chapter, the findings presented in Chapter 5 are discussed, conclusions are drawn, implications and contributions to knowledge described, followed by a consideration of the limitations of the study and suggestions for future research.

## **Chapter 2**

### **Research Context**

#### **2.1 Introduction**

The purpose of this chapter is to outline the research context. The discussion begins with a description of the multi-channel concept. This leads to a review of the extant literature that has focused on multi-channel retailing, specifically, consumer behaviour in this environment. Here, the limitations of this corpus of research is highlighted signalling areas for future study. What follows is a justification of the selection of the multi-channel retailer that is the focus of this research (Boots) as well as the research object (Regaine). Once these have been established, a brief review and conceptualisation of unmentionable or embarrassing products is presented.

#### **2.2 Multi-channel**

A Channel is a two-way interactive process between the customer and the firm. In the process, the customer is not receiving information passively, but rather is interacting with the channel. The store, the web, the catalogue, the use of a sales force, a third party agency and a call centre are all examples of channels. Television advertising was not considered a channel for the purposes of this thesis. Sissors and Bumba (1996) defined television as a class of media, and media as any class of media such as newspapers, magazines, direct mail, radio, television, and billboards that are used to convey a message to the

public. The purpose of channels is to deliver entertainment or information, communicate marketing activities, facilitate the use of the products or services purchased or build relationships with customers. A marketing channel is a set of independent organisations performing all of the functions necessary to make a product available (Zhuang, Zhou 2004).

For a long time, retailers had offered customers the option to choose channels, especially stores that promote their products using catalogues (Schröder, Zaharia 2008). However, the concept of multi-channel was introduced only a few years ago. A consumer who, in the different stages of his decision-making process, uses more than one channel is defined as a multi-channel shopper (Belvaux 2006). On the other hand, a customer who uses only one channel in his shopping process is defined as single-channel consumer. The multi-channel shopper exists within a multi-channel distribution system. A multi-channel distribution system occurs when existing suppliers add new types of distribution channels to their supply network, in particular the internet channel (Gassenheimer, Hunter et al. 2007). Before the term multi-channel existed, researchers were focused on the study of channels as separate entities (Nicholson, Clarke et al. 2002). When bricks and clicks (Oinas 2002) rose, the interest shifted to multi-channel (Zettelmeyer 2000). The term multi-channel started to appear at conferences and on expert websites around the year 2000, when authors like Baiden (2000) and Levy (2000) introduced the concept of multi-channel marketing. Similarly, consulting firms like Price Waterhouse Coopers (Hyde 2001), McKinsey & Company (Yulinsky 2000) and retail trade associations like Shop.org (Graham 2001) produced specialised reports about



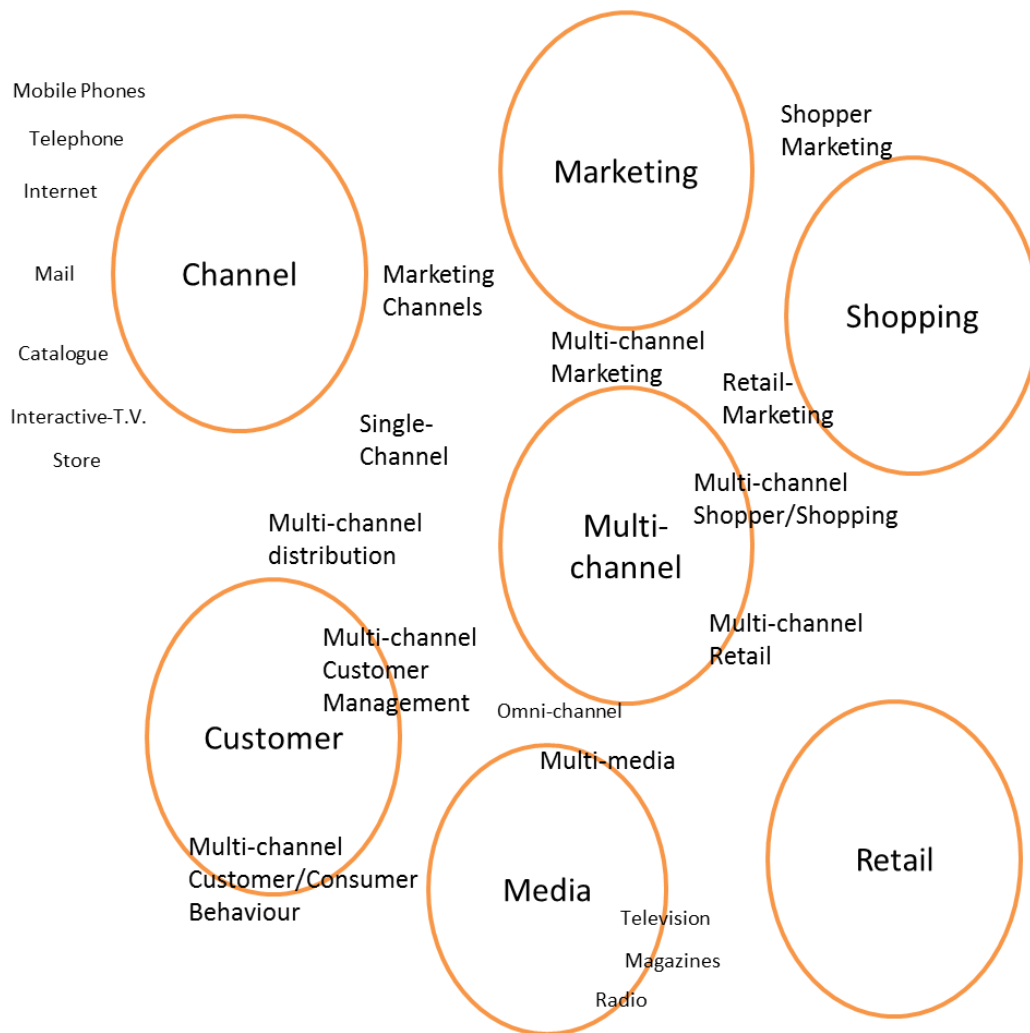
## [Chapter 2]

the topic. Nicholson first published the term multi-channel in academic journals, (2002). Multi-channel is still a relevant topic for both electronic retailers and brick and mortar merchants (The Economist 2013).

Figure 2 provides a graphical representation of concepts related to multi-channel that will be discussed on the following pages. Multi-channel is related to the science of shopping and retailing. Tauber (1972) found that consumers shop not only because they look for a product, but also as a consequence of other factors. Both shopping and multi-channel try to understand the multi-channel consumer. Shopping is influenced by marketing efforts that take place in a retail environment.

Multi-channel retail is a new marketing form integrating stores' retail with online retail (Zhang, Chen 2009). The multi-channel consumer is a subject of study for shopper marketing. Shopper marketing is "the planning and execution of all marketing activities that influence a shopper along, and beyond, the entire path-to-purchase, from the point at which the motivation to shop first emerges through to purchase, consumption, repurchase, and recommendation" (Shankar, Inman et al. 2011, p. 29).

Companies have had problems in implementing solutions for every channel because the amount of customers in each of these has not been robust enough to make a profit.



**Figure 2 -Concepts Related to Multi-channel.**

Furthermore, businesses that increased sales as a result of having more channels could stimulate competitors to follow, and hence, reduce its profits. On the other hand, successful firms are those that develop channels that give them a competitive advantage.

Management consultants had suggested the term Omni-channel or Omni-retail as the evolution of multi-channel. Omni-retailing is the connection between retailers and their consumers across multiple traditional and non-traditional 'channels'. These include physical store purchases, e-commerce and social

media, as well as through selling enabled smart devices like Smartphones and tablet PCs (Bodhani 2012). Although Omni-channel has opened avenues for new research, this thesis focused on multi-channel.

### **2.2.5 Multi-channel Knowledge Gaps**

Neslin, Grewal et al. (2006) defined five important challenges for multi-channel. The challenges are presented in Table 1 together with the main topics, research progress and research gaps addressed by this thesis.

This thesis addressed six gaps identified in the multi-channel literature. Firstly, it contributed to the evolution of brand loyalty concept. Secondly, it explained why multi-channel consumers buy more. Thirdly, it introduced new determinants of channel choice. Fourthly, it evaluated the channel-firm decisions holistically. Fifthly, it suggested the best channel alternative for embarrassing products and finally, it compared the characteristics of integrated versus independent channels.

Researchers had found that studies on multi-channel consumer behaviour were rather scarce (Dholakia, Kahn et al. 2010). More research was needed to understand the interaction effects of rational and emotional drivers, the influence of individual and environmental factors, and the use of multiple channels that influenced shopper decisions (Shankar, Inman et al. 2011). This thesis addressed these concerns and included emotional and rational drivers. It

**Table 1 - Multi-channel Challenges and Research Gaps**

Challenge	Topic	Research Progress (a)	Research Gap addressed by this study:
Data integration	Does integration pay off? What is an acceptable amount of integration? What data should be integrated? What activities benefit from integration?	** *  * **	
Understand consumer behaviour	Impact on brand loyalty? Does multi-channel grow sales?  What determines channel choice?  Are there channel segments? Do consumers decide by channel or firm?	***  ***  ****  **  *	Brand Loyalty was included in this study as an antecedent of CBBRCE. Answered why multi-channel grow sales. New elements like personality, emotions, PBC and CBBRCE were introduced. Purchase decision cannot be evaluated separately. Channel and firm were holistically tested.
Channel Evaluation	What is the contribution of an additional channel? What is the contribution of each channel? What channels synergize best with others?	***  *  **	
Allocating resources across channels	Which channels should the firm employ? How do we allocate marketing across channels? What determines equilibrium channel structure?	*  **  *	Channel employed for an embarrassing product was suggested.
Coordinating channel strategies	Should channels be independent or integrated? Which aspects should be integrated? Should prices be consistent across channels? How do we develop channel synergy? Use channels to segment of for different functions? How do we manage research shopping?	**  **  *  **  *  ***	Independent versus integrated channels were compared.

\*Amount of research progress made regarding each topic, ranging from one to potentially five stars.

\*Table based on Neslin, Grewal et al. (2006) p.109. Identified research gaps were added.

also introduced individual factors like personality traits and environmental factors like the retailers' and manufacturers' brand. It evaluated the attitudes towards multi-channel as a behavioural target. This is important given that consumers are starting to prefer a multi-channel approach (Dennis, Fenech et al. 2005).

### **2.2.2 Single Channel versus Multi-channel**

The multi-channel strategy could be simplified if businesses understood what drives consumers to a single channel or multiple channels (Schoenbachler, Gordon 2002). The advantages of multi-channel are widely recognized, but few retailers have captured the benefits. Some retailers implemented multi-channel with many deficiencies and this could mean the end of their businesses (Lightfoot 2003). The integration of physical and virtual channels has been limited. Only a small number of retailers offer online purchase. An example is how the implementation of channel integration measures such as in-store pick-up or in-store return of goods ordered online has been limited (Steinfeld 2004) (Müller-Lankenau, Wehmeyer et al. 2006). The difficulty in moving to a multi-channel strategy is magnified by the fact that little is known about what drives consumers to be single channel or multi-channel buyers. Businesses have to decide between using an unrefined multi-channel business model or remaining single channel and risk becoming obsolete (Schoenbachler, Gordon 2002).

Research has analysed how the consumer moves between the different channels and stages of the purchasing process (Balasubramanian, Raghunathan et al. 2005) (Dholakia, Zhao et al. 2005). The focus of multi-

## [Chapter 2]

channel studies has been on asking customers their reasons for switching from Channel A to Channel B (Reardon, McCorkle 2002). For example, perceived channel switching difficulty has been negatively related to satisfaction (Hsieh, Roan et al. 2012). Channel switching is particularly negative for retailers when consumers cross channel free-ride. Free-riding occurs when a customer uses one retailer's channel to obtain information or evaluate products and then switches to another retailer's channel to complete the purchase (Chiu, Hsieh et al. 2011).

Studies that develop concepts for a single channel are the norm. For example, to study the internet, researchers used measures like website design, webpage downloads or flow. Although these measures were and are still useful, they are limited in terms of comparing and contrasting channels. There is no detailed framework for understanding channel choice (Kim, Park et al. 2006). Schoenbachler and Gordon (2002) developed a framework for single versus multi-channel customers. However, Schoenbachlers' framework was never operationalized; probably the difficulty resided in the large number of intervening variables. Deeper knowledge is needed to answer the how, when, and why consumers choose channels (Kumar, Venkatesan 2005). Similarly, Seock and Norton (2007) called attention to the lack of academic literature that contains empirical research into the characteristics of the consumer and the factors associated with multi-channel purchasing.

Few models account for the multi-channel context; there are significant opportunities for relevant contributions in the area of multi-channel distribution (Agatz, Fleischmann et al. 2008). Research is needed to understand how

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shoppers respond to cross-channel marketing activity (Kwon, Lennon 2009), because the consumers' experiences with a retailer in one channel can affect their brand image in another channel (Kwon, Lennon 2009).

Multi-channel research has used retail transactions to understand consumers. However, there are limitations in using transactions to make inferences about the customers' characteristics and motivations (Dholakia, Zhao et al. 2005).

The percentage of shoppers that are multi-channel has increased throughout the years. Table 2 shows studies that have attempted to calculate the percentage of consumers who are multi-channel. The percentage of shoppers who are multi-channel has increased year upon year. Most of the studies that report the percentage of shoppers who are multi-channel are based in the US. or the UK.

**Table 2 - Percentage of Consumers who are Multi-channel**

<b>Author/Study</b>	<b>Percentage of Shoppers who are multi-channel</b>	<b>Country</b>	<b>Year</b>
(Shop.org. 2001)	34%	US.	2001
(Boa 2003).	60%	US.	2003
(Lebo 2004)	75%	US.	2004
(Ahlers 2006)	51%	US.	2004
(Mintel October 2007)	40%	UK.	2007
(Jones, Kim 2010)	56%	US.	2008
(Basu 2013)	87%	Worldwide	2013

### **2.2.3 Why Multi-channel shoppers spend more**

Studies have found that multi-channel shoppers spend more (Blattberg, Kim et al. 2008) (Cleary 2000) (Berman, Thelen 2004) (J.C. Williams Group n.d.) (Grewal, Levy et al. 2002) (Rosenbloom 2003) (Coelho, Easingwood et al. 2003) (McKinsey Quarterly n.d.) (Kushwaha, Shankar 2005) (Kumar, Venkatesan 2005) (Jandial, Ogawa et al. 2005) (Thomas, Sullivan 2005) (Neslin, Grewal et al. 2006) (Kushwaha, Shankar 2006) (Kushwaha 2007) (Ansari, Mela et al. 2008) (Jones, Kim 2010) (Neslin, Shankar 2009), the “unanswered question is Why?” (Neslin, Grewal et al. 2006, p.100).

The main problems studied by multi-channel researchers to date have evolved around channel choice and channel migration. Important studies in these two areas are summarized in Table 3. Channel choice is of interest in this thesis because the determinants of channel choice help to understand why multi-channel shoppers spend more.



**Table 3 - Main Multi-channel Problems Researched**

<b>Channel Choice Studies</b>	(Kumar, Venkatesan 2005) (Cho, Workman 2011) (Albesa 2007) (Balasubramanian, Raghunathan et al. 2005) (Schoenbachler, Gordon 2002) (Kushwaha, Shankar 2008) (Montoya-Weiss, Voss et al. 2003)
<b>Channel Migration Studies</b>	(Ansari, Mela et al. 2008, Sullivan, Thomas 2004) (Gensler, Dekimpe et al. 2007) (Knox January 1, 2006) (Venkatesan, Kumar et al. 2007) (Venkatesan, Kumar et al. 2007, Verhoef, Neslin et al. 2007)

Neslin, Grewal et al. (2006) and Neslin and Shankar (2009) summarized the main challenges and issues in the multi-channel literature. Neslin identified five determinants of channel choice: (1) Marketing (promotions, catalogues and e-mails). (2) Channel attributes (Ease of use, price, after-sales, search convenience, search effort, information quality, information comparability, service, risk, purchase negotiability, effort, purchase speed, privacy, enjoyment, security, channel associations and assortment). (3) Social influence (people use the channel that similar people use). (4) Channel integration (store pick up or store locator). (5) Individual differences (internet experience, demographics and customer life cycle). (6) Situational factors ((physical setting (weather, crowding), social setting (shopping with friends), temporal issues (time of day, the urgency of the purchase), and task definition)). Although this list is comprehensive, important elements could still be included as determinants of channel choice (Neslin, Grewal et al. 2006).

Three advantages of having shoppers using several channels have been identified: (1) Multi-channel shoppers spent more money; (2) Multi-channel shoppers purchased more frequently and (3) Multi-channel shoppers were more profitable (Doubleclick 2004).

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However, there is mixed evidence on some issues. While some studies have found that multi-channel consumers purchase more items (Kushwaha, Shankar 2005), others had encountered that they bought less (Thomas, Sullivan 2005). Recent studies have questioned the value of multi-channel customers. Kushwaha and Shankar (2013) pointed out that multi-channel customers were valuable depending on the type of product purchased. On the other hand, for utilitarian products, single channel shoppers constituted the most valuable segment (Kushwaha, Shankar 2013). Multi-channel customers decrease their value because they shop for discounts before ordering (Ellis 2013).

Multi-channel shoppers have different utilitarian values that influence their channel utilization (Noble, Griffith et al. 2005). Although researchers have examined both utilitarian and hedonic values in single channel studies, little research has been undertaken on multi-channel behaviour (Noble, Griffith et al. 2005).

Multi-channel customers are more loyal (Doubleclick 2004). Loyalty has been related to the perceptions of a well-integrated multi-channel experience (Schramm-Klein, Wagner et al. 2011). Customers using three or more channels of communication with a company felt 66 percent more committed than those using a single channel (Wallace, Giese et al. 2004) (Madaleno, Wilson et al. 2007).

Multi-channel shoppers were less concerned about financial security issues while shopping (Crossley 2004). Multi-channel users combined the

independence of online shopping with the reduction of risks associated with buying products in the store (Zaharia 2005).

The consumer use of multi-channel varies greatly by category (Bhatnagar, Ghose 2004). For example, “book purchases may predominantly involve a single-channel, whereas shopping for consumer electronics may engage the customer in several channels, including the internet, catalogues, as well as the retail store” (Konuş, Verhoef et al. 2008, p.399). Similarly, Chiang, Zhang et al. (2006) found that in some categories ease of finding was more important (e.g. books) while it was post purchase service for others (e.g. flowers).

The multi-channel setting created the need for measures that captured this new reality. For example, in the study of services, multi-channel introduced a set of complexities that call for a broader conceptualization of service quality. Customer experience is formed across all moments of contact with the firm through several channels. This created the need to distinguish between virtual, physical, and integration quality (Sousa, Voss 2006). The need to understand quality in a separate manner does not mean that quality is contained to a certain channel. For example, research has found that perceived offline service quality influenced perceived online service quality (Yang, Lu et al. 2011).

Schoenbachler and Gordon (2002) proposed a conceptual framework to understand the drivers of channel choice. Schoenbachlers’ framework proposed perceived risk, past communication, customer motivation, and product category as drivers of multi-channel purchase behaviour (Schoenbachler, Gordon 2002). Black, Lockett et al. (2002) defined a multi-

channel framework for the financial services channels. The four categories selected for his research were: consumer characteristics (e.g. confidence and lifestyle); product characteristics (e.g. complexity and price); channel characteristics (e.g. personal contact and convenience), and organizational factors (e.g. size and longevity) (Black, Lockett et al. 2002).

Evidence has shown that demographic factors such as age, education, income, occupation and household size were predictors of internet use, online shopping, and catalogue shopping. This could imply that they could also influence single or multiple channel shopping behaviour (Peter J, Collins 2007). Nunes and Cespedes (2003) confirmed that people who shared demographic characteristics tend to shop in the same way, through the same limited channels. Multi-channel users were found to be younger, more educated, richer, and more likely to cross-buy products (Larivière, Aksoy et al. 2011). However, these characteristics may change as multi-channel becomes a more predominant way of shopping.

#### **2.2.4 Advantages and Challenges of Multi-Channel Customer Management**

The knowledge field that has been developed for the management of consumers using more than one channel is called “Multi-channel Customer Management” (MCM). MCM is “the design, deployment, and evaluation of channels to enhance customer value through effective customer acquisition, retention, and development” (Neslin, Grewal et al. 2006, p.95). Although some research existed in the management of multiple channels, no processes have been introduced into a common framework (Freitag, Wilde 2011).

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One of the advantages of MCM has been to achieve a higher efficiency in the use of channels. This means that a company becomes involved in multiple channels with the purpose of reducing costs. However, this strategy has resulted in lower customer satisfaction and value on some occasions (Neslin, Shankar 2009).

Businesses with a multi-channel strategy are better suited to cater to the consumer's channel preferences than businesses that focused on a single channel (Schoenbachler, Gordon 2002). Multi-channel retailers have advantages like more web traffic and assortment, yet are disadvantaged in terms of ease of search and conversion rate (Rao, Goldsby et al. 2009). Businesses that had a distribution system for two channels outperformed those with single-channel strategies in most cases (Khouja, Park et al. 2010).

The effects of interaction between channels can be both an advantage and a challenge. Gabisch and Gwebu (2011) found that multi-channel effects existed between virtual brand experiences and real-world purchasing decisions. Retailers' online marketing activities had offline effects on consumers' perceptual, attitudinal, and behavioural responses (Kwon, Lennon 2009). The benefits of a strong brand can benefit more than one channel.

The challenge for firms is to manage the consumer-channel interaction effectively, and create synergies among the channels that increase the company's revenues. Multi-channel managers should be able to launch a channel exclusive promotion without frustrating and jeopardizing sales to either channel (Seock, Norton 2007).

A good example of a successful **multi-channel** retailer is Boots. The Boots Company and the reasons why it was selected to illustrate the theory used in this thesis will be explained in section 2.3.

### **2.3 Boots**

Boots is part of Alliance Boots GmbH. Today, Boots operates in more than 20 countries (Mintel 2011). Boots is *the* dominant player in the health and beauty sector, with a UK. market share of 35.7 percent in 2009 (Mintel 2011). Thirty percent of the adult population in the UK. visit one of its stores in a week and 60 percent in a month (Burt, Davies et al. 2005).

Boots is a core part of British retailing and society. It is present on virtually every high street in the United Kingdom (Burt, Davies et al. 2005). Boots retail brand has a tremendous reputation for trust and service. Most UK. consumers would equate 'Boots' with Boots the Chemist shops (Burt, Davies et al. 2005).

The Boots offering is differentiated from its competitors by its "only at Boots" exclusive products such as Soap & Glory, No7, Boots Pharmaceuticals, Soltan, Botanics and 17 (Alliance Boots n.d.).

Boots has a high focus on patient/customer needs and service (Alliance Boots n.d.). Key elements of Boots' strategy are: investment in existing stores, expanding store portfolio and enhancing its online offering (Alliance Boots n.d.). Boots has gained competitiveness offering differentiated brands, expert customer service and using strategic partnerships (Alliance Boots n.d.).

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Alliance Boots could be adversely affected by changes in consumer spending levels, shopping habits and preferences, including attitudes towards the store and product brands (Alliance Boots n.d.). Boots has become more price-led in recent years in order to remain competitive with grocers and food discounters (Mintel 2011). The increase in income from the introduction of higher priced branded pharmaceuticals has been partially offset by the introduction of lower priced generic medicines (Alliance Boots n.d.).

The Boots Advantage Card loyalty scheme has 16.8 million users (defined as members who have used their card at least once in the last 12 months). It is one of the largest and most valued loyalty schemes in the UK. (Alliance Boots n.d.).

Boots launched the Treat Street partnership portal, an online shopping service that enables Boots Advantage Card customers to collect points when they shop online with around 60 well-known retail brands (Alliance Boots n.d.). The third party brands have been carefully chosen to resonate with the Boots customer.

Boots mobile site is a streamlined version of the retailer's website, which can be accessed from any web-enabled mobile device. The mobile site, launched in August 2011, has achieved a large number of visitors. Mobile is an increasingly important channel for Boots. Customers are using the mobile site to search store locations, browse products and make purchases by credit and debit card or PayPal (Williams 2011).

Boots was the first pharmacy group to start the home delivery of medicines. The Boots website is rich with advice, tips, gift ideas, product reviews, latest

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launches and news. Delivery is free on orders over £45, and a range of delivery options is available. The order online collect in-store service was introduced in 2008. According to Webcredible's 2011 Multi-channel Retail Report, Boots was awarded first place in the UK. for its overall multi-channel experience (Chowney 2011).

Boots WebMD is a consumer health and wellness information portal launched in 2009 in partnership with a leading US. healthcare portal (Alliance Boots n.d.). The Boots WebMD website offers UK. specific and GP reviewed health information.

Boots operates two programmes related to hair loss: the Boots Hair Retention Programme and the Male Hair Retention Service (Alliance Boots n.d.). Boots claims that 9 out of 10 men keep their hair with their hair retention programme. Two out of three men who stay on the programme for long-term treatment experience some re-growth of hair. The programme uses the expertise and experience of a registered pharmacist to recommend the most effective way for the customer to achieve clinically proven results. The customer receives treatment, support and advice for a charge of between £7.50 and £11.25 per week depending on the programme (Alliance Boots n.d.).

The hair retention service also known as Prescriptions Direct, enables the customer to access Propecia online. Propecia is a hair loss prescription treatment.

To search for Regaine on Boots.com, a shopper could search the beauty section, the men's section or search among the toiletries section. The Boots



website includes information like Regaine FAQs, Regaine Extra Strength Foam, how Regaine works, and what you can expect from Regaine, together with links to the Regaine Programme.

Boots is exploring partnerships with pure-play (only online) retailers allowing them to use Boots outlets as collection points. ASOS is the first such partner (Alliance Boots n.d.).

Boots opened an optimised warehouse, designed to speed up online orders. Boots considers multi-channel as a safeguard from a fall in demand in the high street stores where Boots has 2,699 shops (Link 2012).

### **2.3.1 Reasons why Boots was selected**

- (1) Boots has a long-held reputation for quality products, including its retailer brand, and high levels of advice from its staff (Burt, Davies et al. 2005). This facilitates the evaluation of attributes (Day 1972).
- (2) Boots is *the* dominant player in the health and beauty sector (Mintel 2011).
- (3) Boots runs a successful multi-channel operation. It has a transactional website, mobile site and offers multi-channel services like ordering online and collecting in store.
- (4) Boots has a brand alliance with Regaine.
- (5) Boots offers value-added hair loss programmes. This link creates synergies with Regaine.

(6) Boots has a large number of loyal customers.

Boots is the context selected for the embarrassing product used in this thesis: Regaine. A definition of Regaine and explanation of why it was selected for this thesis will be presented in Section 2.4.

## **2.4 Regaine and Hair loss**

Today, around 7.9 million men in the UK. experience hair loss (McNeil Healthcare (UK) n.d.). Therefore, it is not a surprise that men are interested in hair treatments and transplantation (Shrank 1989). There are several treatments for hair loss depending on how severe it is. A treatment called Regaine was selected as the subject of this study. Regaine is recommended for hereditary hair loss, also known as androgenic alopecia (AGA).

The treatment was introduced in 1988 in the US. under the name “Loniten”, a prostate medicine (Hair Solution n.d.). Patients noticed hair growth as a secondary effect. In 1995, the Food and Drug Administration (FDA) approved its sale as a hair loss product in pharmacies under the brand name of Rogaine (US.). The active ingredient was increased from 2 percent to 5 percent for faster results (Hair Solution n.d.).

Thirteen years later it was launched in the UK. as Regaine. Regaine for men was granted marketing authorization in 2001. Regaine for women was launched in 2005. Regaine foam extra strength 5 percent was introduced in 2010 (MHRA 2010). For some years, UK. customers had to purchase the imported version from the US., creating name confusion. Regaine cannot be prescribed on the

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NHS in the UK. (NHS Choices 2012). Currently, Regaine can only be sold in pharmacies. Regaine has unsuccessfully tried to gain permission to be sold in other retail environments. However, most big supermarkets have a pharmacy, or are associated with one. This is how the product is available to be sold by ASDA, Tesco, Amazon and Sainsbury's.

The only medications approved by the Food and Drug Administration (FDA) in the US. and the Medicines and Healthcare Products Regulatory Agency (MHRA) in the UK. for the treatment of hair loss are finasteride (Propecia) and minoxidil (Regaine) (Epstein 2003) (The Belgravia Centre n.d.). Regaine is a topical solution used as a twice-daily application. Regaine can be rubbed on or sprayed (Health Development Advice n.d.). Olsen, Whiting et al. (2007) state that 5 percent minoxidil topical foam is a safe and effective treatment for men with AGA. The effect of minoxidil improves if it is combined with finasteride (Khandpur, Suman et al. 2002). Regaine promises to work for four out of five men (Whitecreative n.d.), however, only one in ten men is satisfied (Shrank 1989) (Olsen, Weiner 1987). Men experience different results with Regaine. Around a fifth of men who try the product experience no visible change. If Regaine does not work after 16 weeks, the manufacturer recommends stopping its use. If the consumer stops using it, he will lose all the gained hair (Health Development Advice n.d.).

Regaine regular strength is suggested for men aged 18 to 49; the extra strength variant is effective for men aged 18 to 65 years. REGAINE® foam is intended for the younger market (McNeil Healthcare (UK) ).

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Masculinity affects help-seeking behaviour (Galdas, Cheater et al. 2005). This thesis proposes that the same social expectations that are preventing men from access to health services are important in hindering men from using a cosmetic-health product like Regaine. Regaine uses advertisements that enhance the masculine element of having hair. Regaine advertisements use men with hair on their heads (David, Greer 2001). Regaine advertising focuses on regaining confidence and attraction to women. Regaine implicitly communicates trust and credibility (Whitecreative n.d.). Regaine helps “get back what you have lost” (Holm, Evans 1996, p. 1629). Regaine’s 2012 television commercial ends with a tag that says that Regaine is available at Boots and other retailers. Linking the purchase of Regaine with Boots facilitates the purchase decision process and prevents the consumer from finding unwanted online reviews.

Regaine has developed a website on the internet that explains: What is hair loss; facts about Regaine; which places are recommended to buy the product; and the “Regaine programme”. This programme is an e-mail coach application that guides the customer along the product’s use process.

Hair plays an important role in determining self-image, social perceptions and psychosocial functioning (Alfonso, Richter-Appelt et al. 2005). Hair loss in men can be devastating to self-esteem, confidence, and body image (Downey May 2011 by Brian Randall, MD.). Men with greater hair loss are more concerned about getting older and have a greater dissatisfaction with their hair appearance than men with less hair loss. These effects decrease with age and are more pronounced in younger men (Girman, Rhodes et al. 1998).

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A European study found that less than 10 percent of men were pursuing treatment for hair loss and 75 percent had never pursued treatment. Men who experienced success in their hair loss treatment reported psycho-social benefits as a result, such as an increased self-esteem and personal attractiveness (Alfonso, Richter-Appelt et al. 2005). Nine out of ten British men accept a receding hairline in their early forties as an act of God, while Germans try to do something about it (Dr. Brian Kaplan 2004). New studies are needed in the UK, since attitudes towards hair loss may have changed.

Men who suffer alopecia follow multiple information-seeking actions and self-treatments prior to a consultation with a physician. Scottish men feel uneasy talking about their feelings towards health and wellbeing (Hughes 2011). Speaking or shopping for Regaine could trigger emotions that make men feel uncomfortable.

The name “Regaine” implies that it grows back hair. The reality is that it stops hair from falling. The lack of coherence between the name and the product benefit has been researched for a number of drugs that have names that allude to their indication or actions. Drugs often promise more than they can deliver (Holm, Evans 1996). The basic promise of Regaine is questionable given its low effective rate.

### **2.4.1 Reasons why Regaine was selected**

Regaine was selected for this thesis for the following reasons:

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- (1) Regaine is the market leader in hair loss products (Propeciasexualsideffects.com n.d.). This facilitates the evaluation of attributes (Day 1972).
- (2) Regaine is available over-the-counter from both high street drugstores and online pharmacies (Health Development Advice n.d.).
- (3) Embarrassment affects channel choice in the purchase of Regaine (Health Development Advice 2011).
- (4) Regaine is expensive (Wang, Salmon et al. 2004): One month's supply costs around £25. Regaine Extra Strength is even more expensive (Health Development Advice 2011). This makes it a "reasoned" purchase.
- (5) Hair affects social perceptions (Alfonso, Richter-Appelt et al. 2005). This variable could affect Subjective Norm (SN). SN is described in section 3.2.3.).
- (6) 58 percent of people use the internet to find health related information (Iverson, Howard et al. 2008). Regaine is a health-cosmetic product and men use the internet to search and purchase it.
- (7) Regaine has a brand alliance with a recognized multi-channel retailer: Boots.
- (8) Regaine is a product targeted mainly at men. Online shopping has tended to be dominated by male shoppers (Dennis, Morgan et al. 2010).

Although this trend is changing because women are increasingly being involved in online channels, this thesis expects male shoppers to be familiar with internet shopping.

Regaine is a hair loss product. A hair loss product that has been classified as Embarrassing.

*“Visiting the local pharmacy can be an embarrassing experience these days. Who wants to walk up to a cash register with a bottle of Rogaine, a pack of condoms and an assortment of wrinkle creams, particularly when Mildred from down the block might be lurking in aisle two?”* (Stone 1999, p.60)

A further explanation of what is embarrassment and how embarrassment affects shopping will be discussed in section 2.5.

## **2.5 Unmentionable or Embarrassing Products**

Unmentionable products are those considered offensive, embarrassing, harmful, socially unacceptable, or controversial to some significant segment of the population (Katsanis 1994). This thesis does not consider Regaine as a harmful or offensive product. It was classified as embarrassing. There are two types of unmentionable products: those that have a limited market and may be harmful, but are tolerated, such as cigarettes, alcohol, and guns and those that people need and seek out, but do not discuss openly, such as personal hygiene products, birth control, or condoms (Katsanis 1994). Regaine was classified in the second category. Unmentionable products have been a big challenge for marketers (Wilson, West 1981). Traditional marketing strategies do not apply to

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unmentionable products (Katsanis 1994). To market embarrassing products, Wilson and West (1981) proposed to use new channels to segment people who can accept unmentionables more easily or accelerate changes in attitudes.

According to Richins (1997), embarrassment was categorised under the consumption emotion of shame. However, accepted definitions of embarrassment and shame in psychology demonstrate that these emotions are and should be considered unique constructs. Although related, embarrassment is very different from shame in terms of triggers, phenomenology, action tendencies, coping, intensity and duration (Pounders 2011).

Goffman (1958) argued that embarrassment is an emotion resulting from a breakdown in everyday social encounters. Embarrassment occurs when unwanted events intervene. Embarrassment results in loss of composure and ability to participate in an encounter. An encounter such as the one described by Goffman can occur when a customer has to ask a sales clerk for Regaine.

Embarrassment “involves complex cognitive processes such as the evaluations of one’s behaviour from another’s perspective” (Keltner, Buswell 1997). Embarrassment is an emotion induced when a social transgression has been witnessed (or perceived to be witnessed) by others (Grace 2009). Grace (2007) found embarrassment to be manifested by emotional, physiological, and behavioural reactions, and its long-term consequences include both positive and negative behavioural intentions and word-of-mouth.

Embarrassment occurs when an individual experiences a threat to the public self in the presence of real or imagined audiences (Miller, Leary 1992).



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Embarrassment can also be experienced in private, when individuals imagine what others might think of them (Sabini, Garvey et al. 2001). Embarrassment can occur both in the store (when the shopper is in the presence of other shoppers) or online (when the shopper is alone but can imagine what others might think). This thesis will confirm if this is the case for Regaine across channels. Embarrassment is associated with feelings of exposure, awkwardness and chagrin (Pounders 2011). Embarrassment is an emotion that strikes quickly and automatically but lasts only a short time (Pounders 2011).

Keltner and Buswell (1997) described five theories of embarrassment, of which Tangney, Miller et al. (1996) validated two as the most representative: the Social Evaluation Theory and the Dramaturgic Theory. The Social Evaluation Theory contends that for an individual to be embarrassed, his or her self-esteem in the eyes of others is eroded. In contrast, the Dramaturgic theory model describes embarrassment to occur as a result of disruption of social performance, regardless of what an individual thinks of himself or herself (Pounders 2011). Both theories have been supported (Higuchi, Fukada 2002). Shopping for Regaine is a social performance act. Not purchasing it as a result of fear of losing others' esteem is consistent with the social evaluation theory of embarrassment.

Embarrassment is considered as playing a powerful role in regulating social behaviour. The possibility of being embarrassed seems to dictate and constrain a great deal of social behaviour; people will go to great lengths to avoid this emotion. What we do not do is based on our desire to avoid embarrassment (Miller, Leary 1992). If this is true, choosing a channel could represent an

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opportunity to avoid a threat. This action is congruent with the effect of approach/avoidance that will be presented in Chapter 3.

Examples of embarrassing products or concepts that have been studied are: hearing aids (Iacobucci, Calder et al. 2003); unmentionables (Wilson, West 1981), contraceptive and feminine hygiene advertisements (Rehman, Brooks 1987), coupon usage (Bonnici, Campbell et al. 1997), condoms and tampons (Dahl, Manchanda et al. 2001), salesperson performance (Verbeke, Bagozzi 2002) (Rehman, Brooks 1987), and service context (Grace 2009). Some of these studies were centred around embarrassment under social interaction, e.g. standing on a weight scale in front of the opposite sex or seeking medical assistance about an embarrassing disease (Geier, Rozin 2008) (Menees, Inadomi et al. 2005) (Van Boven, Loewenstein et al. 2005). If an individual is familiar with the purchase of an embarrassing product, he will be less influenced by the presence of others (Dahl, Manchanda et al. 2001) (Pounders 2011).

Embarrassment has an important effect on shopping. Customers who required extra-large sizes of clothes reported that they were often embarrassed to shop in the on-trend fashion stores (Ringwald, Parfitt 2011). Other buyers enjoyed the ability to visit upscale sites anonymously or stores where they might be embarrassed to shop offline, such as Victoria's Secret stores (Wolfenbarger, Gilly 2000). Using the internet channel creates an emotional relief for the embarrassment caused by the purchase of this branded underwear.

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Today, men feel less embarrassed about shopping for beauty products (Datta, Paramesh 2010). Retailers and manufacturers are aware of men's apprehension about being labelled feminine or gay, and train salespeople to provide an appropriate service to hesitant grooming products consumers (Zayer, Neier 2011). Due to Western influences, men's grooming products are used more predominantly in urban populations, compared with their rural counterparts (Nair 2007). Consequently, the sample of this thesis was selected from an urban population.

Male grooming products are usually designed and promoted on a functional, not an emotional level (Crossley 2004). More research is needed to understand men's feelings, insecurities and desires (Crossley 2004). Men consume grooming products to alter their body, body image and "self-identity". The nature of the purchase of grooming products has consequences for channel choice: 53.4 percent of males prefer to research and purchase grooming products from online vendors (Zayer, Coleman 2012).

How people search the web for solutions to their health problems is changing the way in which they seek advice on embarrassing issues. A fact that reflects this change is that men prefer to purchase erectile dysfunction medications anonymously or without a prescription (Berner, Plöger et al. 2007).

Research on embarrassing products can be a challenge. Data collection is difficult because respondents may consider the topic sensitive to discuss. On the other hand, marketing academics may find the topic unmentionable for the same reasons as the consumers they would study (Katsanis 1994).

## 2.6 Chapter Summary

The research context chapter introduced the concepts of channel and multi-channel. The importance of multi-channel and its origins were explained. The review showed that most of the extant literature on the multi-channel concept focused on channel choice and channel migration. The need for new multi-channel measurements, a multi-channel framework and the limitations of current studies were described. The review of multi-channel literature identified six gaps: Brand Loyalty; why multi-channel grows sales; determinants of choice; how consumers decide between channels; which channels should the firm employ for embarrassing products, and; single versus multi-channel. Retail image, loyalty, cost structure, assortment, web traffic and performance have all benefitted from the development of a multi-channel approach. However, it has presented challenges; when badly implemented or not integrated properly, a multi-channel approach could reduce profitability and loyalty.

Regaine, a hair loss treatment, was selected as the product to be studied in this thesis for its market leadership. This means that it is widely distributed and it has name recognition amongst consumers. Regaine could create embarrassment, is a reasoned purchase, affects social perceptions, is purchased online and has a channel alliance with a multi-channel retailer like Boots.

Boots was selected for this thesis because it has become one of the biggest multi-channel retailers in the UK. It has been trusted and recognized for its good service by customers. Regaine has been sold by Boots across a range of

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channels. Boots has provided added value through its Hair Retention service, the Hair Retention Program, WebMD, private label brands, partnerships with other retailers and its mobile site.

Unmentionable products have been traditionally difficult to market and they are not discussed openly by consumers. Embarrassment could influence social behaviour and many consumers will change their behaviour to avoid this negative emotion. Embarrassment has been studied using the Theory of Planned Behaviour (TPB). For example, the TPB has been used in the case of counterfeit products (Penz, Stottinger 2005), breast-feeding (Khoury, Moazzem et al. 2005), de-shopping (King, Dennis 2003), music piracy (Morton, Koufteros 2008), mammography (Steele, Porche 2005), and coupons (Bagozzi, Baumgartner et al. 1992, Morton, Koufteros 2008). Chapter 3 will provide an explanation of the Theory of Planned Behaviour and discuss in detail why it was selected for this thesis.

## **Chapter 3**

### **Literature Review and Conceptual Model**

#### **3.1 Introduction**

The previous chapter provided the context for this study. It examined and described the concept of multi-channels, provided background information and justification for the selection of the multi-channel retailer, Boots, as well as the research object, Regaine. The chapter concluded by signalling that the Theory of Planned Behaviour (TPB) could offer a useful theoretical base to further examine unmentionable or embarrassing products.

The purpose of this chapter is to provide the literature that contributes to the generation of the conceptual model that underpins this thesis. It begins with a thorough and comprehensive review of the TPB, its uses and applications in social scientific research. This is followed by a discussion of the Stimulus-Organism-Response (S-O-R) framework that is used to complement and extend the TPB. As a means to identify the links between brand, retailer and channel equity and its relevance, the CBBRCE concept is then introduced and integrated. Throughout this chapter hypotheses are formulated based upon the literature and then used to construct a conceptual model. The chapter concludes with a detailed description and illustration of the conceptual model that is ultimately tested in Chapter 5.

## **3.2 Theory of Planned Behaviour**

Attitudes were the cornerstone of behaviour prediction until the end of the 1960s. This changed in 1969, when Wicker raised several questions about the attitude-behaviour predictability (Wicker 1969). This change in paradigm motivated researchers to start looking for other variables that could explain behaviour.

A second pillar for behavioural prediction was volition. In 1920, Tolman introduced elements of volition when he illustrated how humans do not act merely on their instincts, but rather stop to think about their reactions to stimulus (Tolman 1920). Volition implies reason and motivation to choose among different alternatives (Fishbein, Ajzen 1975).

Building on these foundations, Icek Ajzen and Martin Fishbein developed the Theory of Reasoned Action (TRA) in 1975 (Fishbein, Ajzen 1975). The TRA was an improvement on previous attitude theories e.g. (Ajzen, Fishbein 1970, Atkinson 1964, Campbell 1963, Fishbein 1963). The main premise of the TRA is that intentions are followed by behaviour; the stronger the intentions, the stronger the behaviour (Ajzen 1991). The TRA contributed to attitude theory with the addition of subjective norms. However, the TRA had its limitations. It was effective only when the behaviour was volitional or had a high impact on society. Examples of high impact behaviours are abortion, smoking marijuana or voting for a certain candidate (Ajzen 1991). For behaviours with low impact on society like playing video games, losing weight, cheating, shoplifting and lying, the TRA performed poorly (Ajzen 1991).

### 3.2.1 Main TPB Concepts

In 1985, Icek Ajzen made a major contribution to the Theory of Reasoned Action (TRA) (Fishbein, Ajzen 1975): The Theory of Planned Behaviour (TPB) (Ajzen 1985).

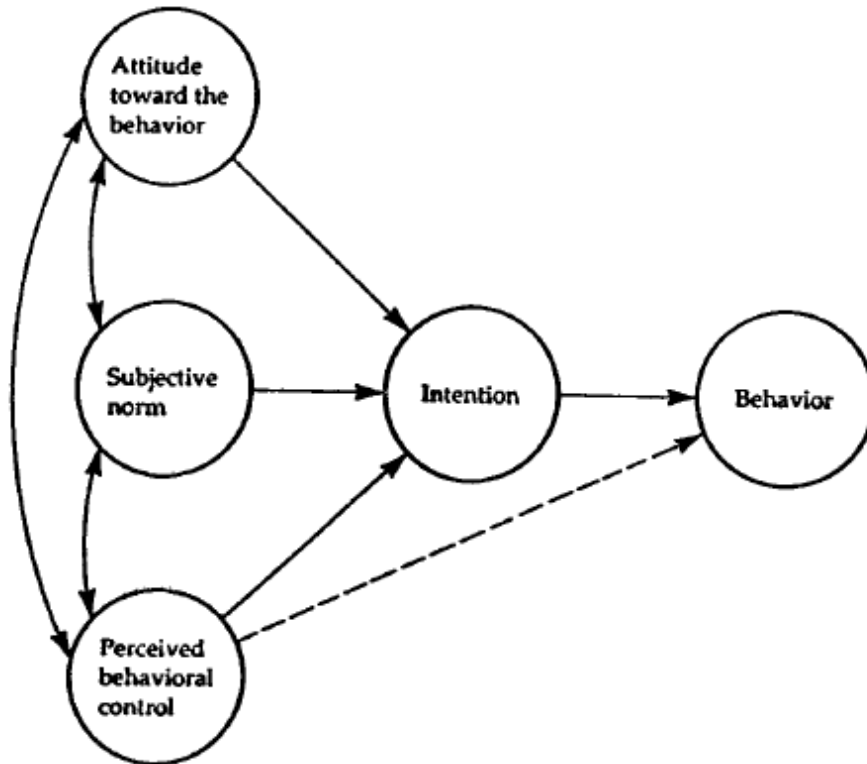


Figure 3 -Theory of Planned Behaviour

Source: (Ajzen 1991, p.182)

The main difference between the TRA (Fishbein, Ajzen 1975) and the TPB (Ajzen 1991) is that for the TPB, behaviour also depends on non-motivational factors such as time, money, skills, and cooperation with others (Ajzen 1985). The sum of these factors was called perceived behavioural control (PBC) (Ajzen 1985). PBC was the construct added by Ajzen to the TRA and is described in more detail in section 3.2.4.



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The TPB has achieved a considerable reputation for predicting and explaining human behaviour (Ajzen 1985) (Ajzen 2002). The TPB was used as the main theoretical framework of this thesis.

As seen in Figure 3, the TPB predicts behaviour as a result of intentions. Additionally, intentions were explained as a consequence of attitudes, subjective norm and perceived behavioural control (Ajzen 1991). From this theory, this thesis developed the following hypotheses:

Hypothesis 1a Attitude has a correlation with intention to shop for Regaine on Boots drugstore.  
Hypothesis 1b Attitude has a correlation with intention to shop for Regaine on Boots website.  
Hypothesis 1c Attitude has a correlation with intention to shop for Regaine on Boots multi-channel.  
Hypothesis 5a Subjective norm has a correlation with intention to shop for Regaine on Boots drugstore.  
Hypothesis 5b Subjective norm has a correlation with intention to shop for Regaine on Boots website.  
Hypothesis 5c Subjective norm has a correlation with intention to shop for Regaine on Boots multi-channel.  
Hypothesis 8a Perceived Behavioural Control has a correlation with intention to shop for Regaine on Boots drugstore.  
Hypothesis 8b Perceived Behavioural Control has a correlation with intention to shop for Regaine on Boots website.  
Hypothesis 8c Perceived Behavioural Control has a correlation with intention to shop for Regaine on Boots multi-channel.<sup>3</sup>

The TPB does not assume rationality, and it encompasses both deliberate and spontaneous decision-making. It is “reasoned” because people’s behaviours are assumed to follow a reasonable, consistent and often automatic fashion from their beliefs about performing the behaviour. Reasoned behaviour is unlikely when people face a familiar or an unimportant decision (Ajzen 2011).

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<sup>3</sup> The conceptual model representing the hypotheses described is presented in Figure 5, section 3.5. p. 86.

### **3.2.2 Behavioural Beliefs (BB) and attitude towards behaviour**

Attitudes develop from beliefs about objects or behaviours. Attitudes can be positive or negative. In the case of behaviours, attitudes give a positive or negative expectation of the outcome. The foundations of attitudes were explored using elicitation techniques that helped the thesis to determine what the salient beliefs were. The TRA showed that there is a positive correlation between salient beliefs and attitude (Fishbein, Ajzen 1975).

### **3.2.3 Subjective Norm**

Subjective Norm (SN) refers to the pressure that society exerts on an individual (Ajzen, Driver 1992). SN is composed of the beliefs that the individual has about what society's norms are. SN also depends on what is perceived to be the individual's behaviour by important referents like family, neighbours or co-workers. Another important component of SN is the motivation that the individual has to comply or act in accordance with others' opinions about what his behaviour should be (Ajzen, Fishbein 1980).

### **3.2.4 Perceived Behavioural Control**

Perceived behavioural control (PBC) originated in Atkinson's Theory of Achievement Motivation (Atkinson 1964). Atkinson (1964) introduced the concept of expectancy of success, which is the probability that an individual has of succeeding. Therefore, humans are motivated if they feel that there is a good probability that they will succeed or that they can control their success. This sense of control of success evolved into a sense of control in behaviour. PBC reflects the perception of how easy or how difficult it is for a person to execute

certain behaviour. PBC considers both internal and external factors. This contrasts with the concept of locus of control, in which an individual expects that outcomes depend on his behaviour no matter the context (Rotter 1966). The PBC concept is very similar to Perceived Self Efficacy (PSE) (Ajzen 2002). Bandura, Adams et al. (1977) (1980) found that behaviour is influenced by the confidence that a person has in his ability to perform or not a certain task: PSE.

### **3.2.5 The TPB Today**

Over the last years, many authors have benefited from the use of the TPB framework. The TPB has been used to predict organizational behaviour, job performance, turnover, withdrawal behaviours, political behaviour, voting participation and voting choice (Ajzen 2011). The TPB has been used in business and non-business related topics. Other examples are: cardiovascular problems (Krones, Keller et al. 2010), motivations to exercise (Kwan, Bryan 2010), educational technology (Lee, Cerreto F. A. 2010), pirated software (Liao, Lin et al. 2010), study (Liem, Bernardo 2010), job website use (Lin 2010), gambling (Martin, Usdan et al. 2010), participation in recycling programmes (Nigbur, Lyons et al. 2010), self-identity (Rise, J., Sheeran, P., Hukkelberg 2010), vaccination of children (Askelson, Campo et al. 2010), fruit consumption (de Bruijn 2010), drinking (Glassman, Braun et al. 2010), postpartum physical activities (Hales, Evenson et al. 2010), use of green hotels (Han, Kim 2010), fashion counterfeit (Kim 2010), cancer screening (Kim, Park et al. 2010), halal food (Alam, Sayuti 2011), and oral hygiene (Buunk-Werkhoven, Dijkstra et al. 2011).

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Several authors have supported the TPB, e.g. (Blue 1995) (Conner, Sparks 1996) (Godin, Valois et al. 1993) (Jonas, Doll 1996) (Manstead, Parker 1995) (Sparks 1994). Similarly, several TPB meta-analysis have documented its effectiveness (Ajzen 1991) (Godin, Kok 1996) (Hausenblas, Carron et al. 1997), (Van den Putte 1991) (Armitage, Conner 2001) (Manning 2009).

However, most of these meta-analysis have questionable limitations (Armitage, Conner 2001). For example Van den Putte (1991), reported that PBC explained 14 percent of the variance in intention and 4 percent of the variance in behaviour. However, the purpose of this analysis was the TRA and not the TPB. Another example is presented by Ajzen (1991) who reported a multiple correlation for PBC, SN and AB. Ajzen reported an  $R^2$  of 0.71 for intention and 0.51 for behaviour. This result would not be overshadowed if the data taken into consideration for this analysis was not limited to a few studies. Godin, Valois et al. (1993) found that PBC contributed with an additional 13 percent of prediction for intention and a 12 percent for behaviour. However, these results were for health related behaviours and therefore cannot be extrapolated to the whole population (Armitage, Conner 2001). A TPB meta-analysis on health-related behaviours (McEachan, Robin et al. 2011) found that physical activity and diet behaviours were better predicted, whilst HIV risk, safer sex and abstinence from drugs were poorly predicted. In addition, behaviours assessed in the short term and those assessed with self-reports were better predicted (McEachan, Robin et al. 2011).

### **3.2.6 The TPB: Constraints and Limitations**

The TPB has had several limitations including the relative importance of norms; the nature of the situation; how the behaviour is being reported; the control of internal or external factors; or the data collection context (Armitage, Conner 2001). Data collection context affects the relative importance of TPB variables, for example, normative beliefs become especially accessible when the data is collected in a bar compared to a library (Ajzen 2011) (Cooke, French 2011).

The predictive power of the TPB can vary across behaviour types and the nature of the situation (Ajzen 1991). There are individuals for whom the subjective norm is extremely important and therefore it becomes the most important predictor of behaviour (Trafimow, Finlay 1996). For other individuals, attitudes are the most important (Sparks, Hedderley et al. 1992). If the situation is achievable, the individual will be more motivated to engage in action (Bandura 1997). Similarly, an individual can be under the fake illusion that he is in control. This has been called Illusions of Control (Langer 1975). PBC can be affected by environmental factors (for example other people who smoke in your office) or personal factors (the level of craving for a cigarette) (Armitage, Conner 2001).

Most studies have ignored self-report bias (Armitage, Conner 2001). This could be a problem for the measurement of anti-social behaviours. Beck used a social desirability scale (Crowne, Marlowe 1964) to assess dishonest behaviour like cheating, shoplifting and lying (Beck, Ajzen 1991). Hessing, Elvers et al. (1988) found inconsistencies between the self-reported intention to pay taxes and the

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official documentation presented. Although shopping for Regaine is not a dishonest behaviour, it could be socially undesirable, affecting self-reports.

PBC has been criticized for being too general. It only reflects the external factors of control e.g. lack of money but not internal ones e.g. I am in control. To solve this situation, one approach has been to use the construct perceived difficulty (Chan, Fishbein 1993). However, this approach does not solve the original dilemma; it does not differentiate between internal and external factors (Armitage, Conner 2001).

Ajzen proposes that PBC could be interchangeable with the Self Efficacy construct, which is more concerned with the cognitive perception of control and internal factors (Ajzen 1991). This position is supported by de Vries Dijkstra et al (1988) and Dzewaltowski, Noble et al. (1990) but is criticized by Terry (1993) and Bandura (1986) (1992) (2010). Sheppard, Hartwick et al suggested that self-predictions (e.g. how likely is it that you perform behaviour X) should be included in the measurement of intention (1988). However, this factor is implicitly included in the PBC construct (Armitage, Conner 2001).

Subjective Norm has been found to be the weakest predictor of intentions (Sheppard, Hartwick et al. 1988), (Van den Putte 1991), (Godin, Kok 1996). (Sparks, Shepherd et al. 1995). However, Armitage and Conner (2001) attributed the negative results to the effect of context. SN did not capture the social influence generated by group membership (Terry, Hogg 1996, Terry, Hogg et al. 1999, White, Terry et al. 1994).

Trafimow distinguished between individuals driven by attitudes and individuals driven by subjective norm (Trafimow, Finlay 1996). SN could be divided into descriptive norm and moral norm (Beck, Ajzen 1991) (Conner, Sparks 1996).

Past behaviour should not be considered a causal factor in its own right (Ajzen 1987). Habit should be defined as a residue of experience. Habit leads to habitual rather than reasoned responses (Ajzen 1991).

### **3.2.7 Extending the TPB Model**

Ajzen opened the door to modifications of the TPB when he stated that it could be broadened and deepened (Ajzen 1991). This statement has favoured efforts to alter parts, include constructs or change the context of the TPB to enhance its predictive power and capabilities (Perugini, Bagozzi 2001). The TPB has been commonly extended. Extensions had been used to predict behaviours such as the use of condoms (Fazekas, Senn et al. 2001), the use of environmentally friendly modes of transportation (Haustein, Hunecke 2007), the use of online shopping (Hsu, Yen et al. 2006), regret in conservatism (Kaiser 2006), intention to play online games (Lee 2009), seek help for mental health problems (Mo, Mak 2009), electronic commerce adoption (Pavlou, Fygenson 2006), ethical decisions in public accounting (Buchan 2005), pedestrian road-crossing (Evans, Norman 2003), and marijuana use (Lac, Alvaro et al. 2009) among others. A selection of TPB extensions and the new variables introduced is provided in Table 4. Table 4 shows that extensions were closely related to

Table 4 - TPB Extensions

Author	Year	Study	New Variable Introduced
(Conner, Armitage 1998)	1998	Extending the theory of planned behaviour: A review and avenues for further research	Belief salience measures, past behaviour/habit, and PBC versus Self efficacy, moral norms, self-identity, and affective beliefs
(Fazekas, Senn et al. 2001)	2001	Predictors of intention to use condoms among university women: An application and extension of the theory of planned behaviour	Specific beliefs (Attitude towards Condoms)
(Evans, Norman 2003)	2003	Predicting adolescent pedestrians' road- crossing intentions: an application and extension of the theory of planned behaviour	Trust and technology adoption variables
(Buchan 2005)	2005	Ethical decision making in the public accounting profession: An extension of Ajzen's theory of planned behaviour	Moral sensitivity and ethical climate
(Haustein, Hunecke 2007, Kaiser 2006)	2006	A moral extension of the theory of planned behaviour: Norms and anticipated feelings of regret in conservationism	Anticipated feelings of moral regret
(Pavlou, Fygenson 2006)	2006	Understanding and predicting electronic commerce adoption: An extension of the theory of planned behaviour	Perceived usefulness; ease of use, trust and technology adoption.
(Haustein, Hunecke 2007)	2007	Reduced use of environmentally friendly modes of transportation caused by perceived mobility necessities: An extension of the theory of planned behaviour	Perceived mobility necessities (PMNs)
(Mo, Mak 2009)	2009	Help-seeking for mental health problems among Chinese: The application and extension of the theory of planned behaviour	Mental health
(Lac, Alvaro et al. 2009)	2009	Pathways from parental knowledge and warmth to adolescent marijuana use	Parental Knowledge Parental warmth



<b>Author</b>	<b>Year</b>	<b>Study</b>	<b>New Variable Introduced</b>
(Baker, White 2010)	2010	Predicting adolescents' use of social networking sites from an extended theory of planned behaviour perspective	Group norm and self esteem
(Hsu, Huang 2012)	2012	An Extension of the theory of planned behaviour model for tourists	Tourist motivation
(Masser, Bednall et al. 2012)	2012	Predicting the retention of first-time donors using an extended theory of planned behaviour	Self-identity as a donor
(Masser, Bednall et al. 2012)	2012	Predicting the retention of first-time donors using an extended theory of planned behaviour	Self-identity as a donor
(Masser, Bednall et al. 2012)	2012	Predicting the retention of first-time donors using an extended theory of planned behaviour	Self-identity as a donor
(Thomas, Upton 2013)	2013	Automatic and motivational predictors of children's physical activity: Integrating habit, the environment and the theory of planned behaviour	Habit, the environment
(Ajzen, Sheikh 2013)	2013	Action versus inaction: anticipated affect in the theory of planned behaviour	Anticipated affect

the research context. For example for the study of ethical decisions, the variable introduced was moral sensitivity. The extensions selected for this research took into consideration the context of channels and shopping.

In addition to AB, SN, PBC and domain-specific elements, investigators have typically invoked a variety of background factors (Ajzen 2011). Reflecting on years of TPB research, Ajzen provided a description of background factors. He classified them into individual, social and informational factors. A description of the background factors (Ajzen 2011) that are not part of the TPB but could be included in it are presented in Table 5.

**Table 5 - Background Factors**

<b>INDIVIDUAL</b>	<b>SOCIAL</b>	<b>INFORMATION</b>
Personality	Education	Knowledge
Mood, emotion	Age, gender	Media
Values, stereotypes	Income	Intervention
General attitudes	Religion	
Perceived risk	Race, ethnicity	
Past behaviour	Culture	

Table based on the description of Background Factors (Ajzen 2011).

Based on the recommendation of Ajzen (2011), this thesis included background factors such as personality, emotion, education, age, gender and income. The relationships that background factors have with intention are additionally supported by other studies. The first set of variables introduced is the demographic variables. A summary of supporting studies is presented in Table 6. Table 6 shows that demographic variables have been studied both independently and as a block. In some studies the variables act as moderators or mediators and in others they affect intention directly.

The studies cited in Table 6 provide support for the following hypotheses:

<p>Hypothesis 22a Demographics predicts intention to shop for Regaine on Boots drugstore.                  Hypothesis 22b Demographics predicts intention to shop for Regaine on Boots website.                  Hypothesis 22c Demographics predicts intention to shop for Regaine on Boots multi-channel.</p>
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Personality has also been related to intention. Although some studies have found that the effects of the Big 5 personality traits were small, they can

**Table 6 - Studies that have related demographic variables with intention**

<b>Path</b>	<b>Studies</b>
<b>Demographic variables</b>	
Demographic (BLOCK) → Intention	(Andrykowski, Beacham et al. 2006)
<b>Age</b>	
Age→Intention (MOD)* (A,SN,PBC).	(Venkatesh, Morris et al. 2003)
Age→Intention	(Holland, Hill 2007) (Anich, White 2009)
Age→ (I-B) (MOD) *	(Godin, Amireault et al. 2009) (Donath, Amir 2003) (Verbeke, Vackier 2005) (Godin, Amireault et al. 2009) (Agbonlahor ) (Nigg, Lippke et al. 2009) (Elliott, Armitage et al. 2003)
Age→Injunctive Norm	(Plotnikoff, Trinh et al. 2009)
Age→Behaviour(MED)*	(Høie, Moan et al. 2011)
Age→PBC	(Elliott, Armitage et al. 2003) (Chung, Park et al. 2010)
<b>Education</b>	
Education→Behaviour	(Verbeke, Vackier 2005) (Lane, Mathews et al. 1990)
Education→Intention	(Godin, Amireault et al. 2009) (Donath, Amir 2003) (Saphores, Nixon et al. 2006)
Education→PBC	(Walsh, Edwards et al. 2009) (Baker, Al-Gahtani et al. 2007)
Education→Self Efficacy (MED)*	(Abu-Shanab 2011)
<b>Income</b>	
Income→Behaviour	(Verbeke, Vackier 2005)
Income→ Intention	(Godin, Amireault et al. 2009) (Kim, Widdows et al. 2005) (Kim, Kim 2004)
<b>Marital status</b>	
Marital Status→Behaviour	(Lane, Mathews et al. 1990) (Donath, Amir 2003)
<b>Number of children</b>	
Number of children → Intention	(Kim, Kim 2004)
<b>Household composition</b>	
H. Composition→ Behaviour	(Fielding, Louis et al. 2010) (Collins, Ellickson 2004) (Ogilvie, Remple et al. 2008)
<b>Occupation</b>	
Occupation→ Intentions	(Morris, Venkatesh et al. 2005) (Morris, Venkatesh 2000) (Tonglet, Phillips et al. 2004)

\*MOD: The variable has been related as a Moderator MED: The variable has been related as a Mediator

influence the relative weights of the different predictors in the TPB (Ajzen 2011). More research is needed into how personality traits may impact on behaviour (Conner, Norman 2005). This thesis contributes to the studies that have made a link between personality and intention. Table 7 provides evidence of previous studies that have made some initial discoveries.

**Table 7 - Review of Studies that have related Personality with Intention**

<b>Personality Theory</b>	<b>Author of the Study</b>
Big 5 Personality → Intention	(Wang, Yang 2005) (Courneya, Bobick et al. 1999) (Rhodes, Courneya et al. 2002) (Gosling, Rentfrow et al. 2003) (Rhodes, Courneya et al. 2003)
Personality (conscientiousness) → Intentions	(Conner, Abraham 2001)
Implementation Intention, Commitment, and Conscientiousness → Behaviour	(Ajzen, Czasch et al. 2009)
Cognitive Style (Innovativeness) → Behaviour	(Doyle, Patel 2008)
Five Factor Personality Model → TPB Exercise Behaviour	(Courneya, Bobick et al. 1999)
Activity Trait → Intention and Behaviour	(Rhodes, Courneya et al. 2004)
Personality Traits (Big 5) → Intention	(Rivis, Sheeran et al. 2011)
Big 5 Personality traits as a moderator of TPB variables	(Hoyt, Rhodes et al. 2009)
The Collective Self (moderate) → TPB	(Trafimow, Finlay 1996)
State versus Action Orientation → TPB	(Norman, Sheeran et al. 2003)

The studies cited in Table 7 provide support for the following hypotheses:

<p>Hypothesis 19a Personality predicts intention to shop for Regaine on Boots drugstore.                  Hypothesis 19b Personality predicts intention to shop for Regaine on Boots website.                  Hypothesis 19c Personality predicts intention to shop for Regaine on Boots multi-channel.</p>
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One of the contributions of this thesis is to provide more evidence for the significance of anticipated affect. Emotions were included in this thesis because the consumer in any channel experiences them. This thesis explores the role of anticipated negative emotions like embarrassment. From a TPB perspective, anticipated regret and anticipated affect are part of attitudes (Ajzen, Sheikh 2013). However, the anticipated affect is not satisfactorily embodied in the TPB (Abraham, Sheeran 2003) (Buunk, Bakker et al. 1998), (Parker, Manstead et al. 1995) (Richard, Pligt et al. 1995) (Richard, van der Pligt et al. 1996) (Sheeran, Orbell 1999).

Anticipated affect can explain more variance than other TPB constructs (Sandberg, Conner 2008). A Meta-analysis study found that anticipated affect accounts for an additional 7 percent of the variance in intentions (Ajzen, Sheikh 2013). Keer, van den Putte et al. (2012) demonstrated that affect partially mediated the influence of attitude and perceived behavioural control on intention. Table 8 presents a list of studies that confirm the relationship between emotions and intentions. The large number of studies found, supports with solid foundations the creation of a link between these two constructs.

**Table 8 - Studies that have explored the relationship between Emotions and Intention**

Path	Studies
Emotions→ Intentions	(Bagozzi, Gopinath et al. 1999) (Chapman, Coups 2006) (Jiménez, Fuertes 2005) (Babin, Babin 1996) (Bigné, Mattila et al. 2008) (Jang, Namkung 2009) (Brown, Cron et al. 1997) (Mooradian, Olver 1997) (Bozinoff, Ghingold 1983) (Han, Back 2007) (Palmatier, Jarvis et al. 2009) (Ladhari 2009) (Wang 2009) (Chang 2010) (Wang, Tsai et al. 2012) (Moons, De Pelsmacker 2012) (Hedman, Tscherning 2010) (Fröhlich, Sellmann et al. 2012) (Carrera, Caballero et al. 2012)

The following hypotheses addressed the relationship between emotions and intention.

<p>Hypothesis 11a Positive Emotions have a correlation with intention to shop for Regaine on Boots drugstore.</p> <p>Hypothesis 11b Positive Emotions have a correlation with intention to shop for Regaine on Boots website.</p> <p>Hypothesis 11c Positive Emotions have a correlation with intention to shop for Regaine on Boots multi-channel.</p> <p>Hypothesis 15a Negative Emotions have a correlation with intention to shop for Regaine on Boots drugstore.</p> <p>Hypothesis 15b Negative Emotions have a correlation with intention to shop for Regaine on Boots website.</p> <p>Hypothesis 15c Negative Emotions have a correlation with intention to shop for Regaine on Boots multi-channel.</p>
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### 3.2.8 The TPB and Multi-channel Consumer Behaviour

Table 9 is useful in explaining why the TPB was selected as the main theory behind this thesis. Heinhuis and Vries (2009), present a thorough analysis about the main theories used in multi-channel. Theories were classified into three groups: trial and acceptance, choice of alternatives and continuous use. The decision under study has elements of trial and acceptance because the internet and multi-channel are relatively new and require that consumers try to use the channel. The “choice of alternative theories” tends to be good in

predicting but it falls short in explaining the reasons why. The “continuous use” theories are limited to technology channels and hence they are impractical to use when analysing the store.

The TPB was selected for this thesis because it helps to understand different channels and shopping. Table 10 shows a review of studies that have used either the TRA or the TPB as a framework for the study of multi-channel or channels. The information in the chart confirms the adaptability of the TPB, or at least some of its variables, to explain behaviour online, offline or in multi-channel situations.

**Table 9 - TPB and Multi-channel Behaviour**

<b>THEORY</b>	<b>FOCUS</b>	<b>UTILITY TO COMPARE CONSUMER BEHAVIOUR ACROSS CHANNELS</b>
<b>TRIAL AND ACCEPTANCE</b>		
Technology Acceptance Model (Davis 1989)	Use of information Systems	Useful for internet but not for the store
Theory of Reasoned Action (TRA) (Fishbein, Ajzen 1975)	Human behaviour in General	Useful but the behaviour under study is not volitional
Theory of Planned Behaviour (TPB)	Behaviour in situations in which the actor has no complete control	Useful for all channels
Innovation Diffusion Theory (IDT) (Rogers 1962)	Adoption of innovations in general	Useful for internet but not for the store
Task Technology Fit (TTF) (Goodhue, Thompson June 1995)	Use and success of the use of information systems in organizations	Useful for internet but not for the store
Information Richness, (Daft, Lengel 1986)	Use of different information channels for different situations in organizations	Useful for organisations but not for understanding the consumer
<b>CHOICE FROM ALTERNATIVES</b>		
Consideration set (evoked set) (Howard 1963)	Consumer choice of a Brand	Only a small part of the complex Theory of Buyer Behaviour
Switching behaviour, (Keaveney 1995) (Roos 1999)	Switching of consumers between service providers	Good to understand switching but cannot compare between channels
SERVQUAL (Parasuraman, Zeithaml et al. 1988)	Model for measuring service quality	Ignores variables besides quality
Multi attribute attitude (Fishbein 1963)	Consumer decision making model	Other elements besides attitudes are important
<b>CONTINUOUS USE</b>		
DeLone & McLean IS Success Model (DeLone, McLean 1992)	Success of an Information System	Useful for internet but not for the store
Expectancy Disconfirmation Theory (EDT) (Oliver 1980)	The continued use of product/services by consumers	The evaluated product was not used continuously

Table based on Heinhuis and Vries (2009, p. 50.)



**Table 10 - The use of TPB in channel and shopping studies**

<b>TPB-CHANNEL/SHOPPING STUDIES</b>		
<b>Study/ Author</b>	<b>Theory</b>	<b>Constructs</b>
Consumer behaviour in e-tourism (Steinbauer, Werthner 2007)	IDT Information Difussion TRA Reasoned Action TPB Planned Behaviour TAM Technology Acceptance	Attitude, involvement, self-efficacy, trust, evaluation of website, travel motivation, trip features, experience with e-commerce, internet affinity, e-tourism usage
Linking perceived electronic service quality and service loyalty on the dimensional level: An aspect of multi-channel services (Swaid 2007)	TAM SERVQUAL TRA	Service quality and service loyalty
Multi-channel customer management: Understanding the research-shopper phenomenon (Verhoef, Neslin et al. 2007).	TRA	Search/purchase attributes attractiveness choice Cross-channel synergies
An action strategy approach to examining shopping behaviour (Darden, Dorsch 1990).	TRA TPB Shopping Orientation	Action strategies
Reciprocal effects between multi-channel retailers' offline and online brand images (Kwon, Lennon 2009)	TRA Cognitive dissonance	Beliefs – attitudes - intention
An online pre-purchase intentions model: The role of intention to search (Shim, Eastlick et al. 2001)	TPB Pre-purchase consumer information search (Klein 1998)	Availability of a computer, computer skills, product knowledge, prior experience, attitude towards shopping, and social influence, information presentation format, information flow and media interactivity.
Predicting adolescents' use of social networking sites from an extended theory of planned behaviour perspective (Baker, White 2010)	TPB	Group norm Self-esteem (face-to-face versus e-mail)

### 3.2.9 Recommendations for future TPB studies

Although the TPB is not a new theory, the avenues for the development of this framework are wide. Table 11 shows a widespread range of variables suggested by TPB researchers that could be used in future extensions. The

limitations that researchers had observed when applying the theory led to a series of ideas for future studies. For example, future TPB studies should use longitudinal data, record past behaviour electronically, collect data electronically (Baker, White 2010), include media and product attributes, consider consumer characteristics, search conditions and site abandonment (Shim, Eastlick et al. 2001), include post-purchase experience, the quality of the website and consumer compatibility with online services (Bigné, Sanz et al. 2010), and collect data where the decision is made (Han, Kim 2010).

**Table 11 - New TPB variables**

<b>Author</b>	<b>New TPB Variable suggested</b>
(Fazio R. H. 1990, Fazio R.H 1986)	Habit, frequency of past behaviour, spontaneous decisions
(Bagozzi, Warshaw 1990)	Goal directed behaviours
(Fisher, Fisher 1992)	Knowledge/information
(Taylor, Baker 1994)	Service quality and customer satisfaction
(Conner, Armitage 1998)	Self-identity, belief salience measures, past behaviour/habit, self-efficacy, moral norms, affective beliefs and goal intentions
(Perugini, Bagozzi 2001)	Desires, anticipated emotions and goal directed behaviours
(Conner, Povey et al. 2003)	Attitudinal ambivalences
(Abraham, Sheeran 2003)	Anticipated regret
(Mcmillan, Conner 2003)	Normative sources.
(Hansen, Møller Jensen et al. 2004).	Involvement
(Han, Ryu 2006)	Personal characteristics
(Han, Ryu 2006, Oh, Hsu 2001)	Volitional degrees
(Han, Hsu et al. 2009)	Overall image, gender, and age
(Lee 2009)	Flow experience, perceived enjoyment, and interaction
(Han, Kim 2010)	Self-concept, value, and personal characteristics.
(Samuels 2012)	Personality
(Spink, Wilson et al. 2012)	Setting

To expand the TPB, this thesis used the Stimulus-Organism-Response. A definition of the S-O-R framework and why it was selected for this thesis will be discussed in section 3.3.

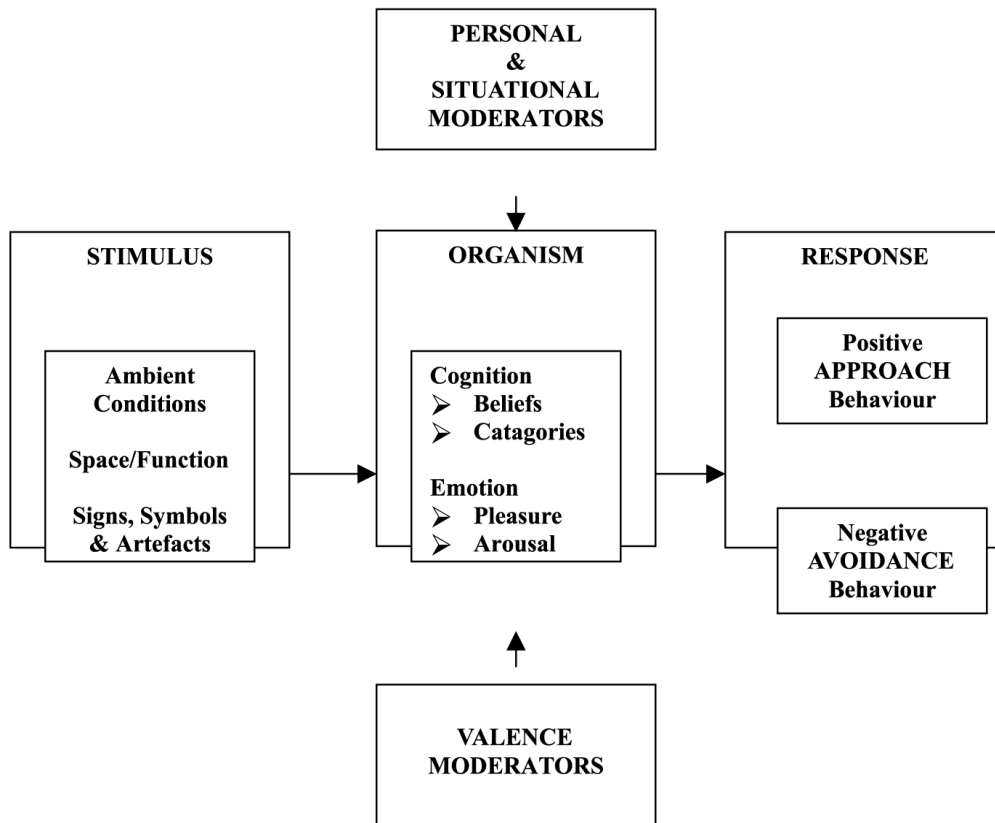
### **3.3 The Stimulus-Organism-Response (S-O-R) Framework**

Cognitive psychology can trace its roots back to Socrates, Aristotle and Descartes, but as a discipline, it emerged in the middle of the 21st century. The Stimulus-response theory originated in the work developed by Hebb (1949), and Hebb and Dondori (1966). Cognitive Psychology has developed concepts like perception, learning, memory, thinking, emotion and motivation (Sternberg 2009). Cognitive Psychology is especially important to analyse complex behaviours (Foxal 1993). Consumer Behaviour models to date have followed some form of an Input → Output (I→O) arrangement. The earliest models were based on microeconomics and had economic or financial inputs and spending or purchasing as outputs. These models assumed that consumers operate “rationally” and react to external stimuli (Jacoby 2002). In the mid-1960s, models influenced by psychology gave way to more sophisticated models of the type stimulus→organism→response or (S→O→R) models (Jacoby 2002). Woodworth developed the Stimulus-Organism-Response (S-O-R) concept, a functionalist approach to psychology (Woodworth 1918) (Woodworth 1958). One of these models evolution was the one developed in 1974 by Mehrabian and Russell. This model identified environmental variables like colour, heat, light and sound. The new scheme proposed that environmental stimuli are linked to behavioural responses like the emotional reaction to arousal, pleasure or dominance (Mehrabian, Russell 1974).

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Marketers, led by Kotler (1973), called this stimulus “atmospheres”. Researchers started to evaluate the response to changes in the atmosphere. Belk (1975) recognized these variables as “environmental” and explained their ability in behaviour prediction. The introduction of environmental variables was applauded later by Mehrabian and Russell but criticized for lacking parsimony and not being adapted to consumer research (Russell, Mehrabian 1976). An important mediator for consumer research presented was the variable information rate. The hypothesis was that environments that were more: novel, complex, intense, unfamiliar, improbable, changing, moving, or uncertain, had a high information rate (Russell, Mehrabian 1976). The S-O-R framework influenced the creation of a field of study called environmental psychology (Turley, Milliman 2000). Environmental psychology indicates that shoppers respond to atmospheric conditions with either approach or avoidance (Mehrabian, Russell 1974). This theory could be extrapolated to channels, for example, shoppers can respond positively to the stimulus in one channel and want to stay longer shopping in the store, surfing the web or shopping from a catalogue. Shoppers could also respond with avoidance, like spending less time on their shopping trips or eluding to talk to other shoppers. Eroglu Machleit et al. (2001) brought the atmosphere concept to the online domain. A contemporaneous representation of the S-O-R model is presented in Figure 4.

Figure 4 -Modern representation of the S-O-R Model



Source: Williams and Dargel (2004, p. 313.)

Figure 4 shows a clear division between stimulus, organism and response. Stimulus such as signs symbols and artefacts are equivalent to brands (CBBRCE) in this thesis. Cognition beliefs are equivalent to the three TPB variables. Emotion in terms of pleasure and arousal is equivalent to anticipated positive and negative emotions. Finally, the personal and situational moderators are equivalent to personality and demographic factors.

### 3.3.1 What are the limitations of the S→O→R model?

The S-O-R model is supposed to describe a fluid process influenced by multiple phenomena, however, it has been depicted as “rigid, static boxes linked with

lines and arrows". It is difficult to determine whether some constructs belong to the stimulus realm, the realm of the organism, or the realm of the response (Jacoby 2002, p. 52). Certain phenomena may be both stimuli and response (Howard, Sheth 1970). It is difficult to see how the models with arrows and boxes relate to newer models that try to depict the relations with wheels, dumb-bells and modified circles like those presented by Sheth, Mittal et al (1999). Finally, there could be no end to the number of boxes, arrows and circles that can be developed (Jacoby 2002).

### **3.3.2 How can the S-O-R Model be used with the TPB?**

Mummalaneni (2005) proposes that the S-O-R model should be expanded to a variety of virtual store contexts. This proposal could be expanded to online and offline channels. In future, experiments where the channel stimulus is modified could be very valuable to capture the effect on emotion and behaviour.

Approach and avoidance has been useful to explain and understand human behaviour (Townsend, Busemeyer 1989), comparing retail contexts (Hogg, Penz 2007), changing retail environments (Penz, Hogg 2007) and atmospherics (Dailey 2004).

Studies that suggest a link between study variables and approach/avoidance are presented in Table 12. The table shows that all of the variables in this thesis are supported by previous studies that make a connection with approach/avoidance.

**Table 12 - Studies that suggest a link between study variables and approach/avoidance**

<b>Study Variable</b>	<b>Equivalent Variable</b>	<b>Author who suggested link with approach/avoidance</b>
ATT	Attitudes  Hedonic Motivation	(Neumann, Hülsenbeck et al. 2004) (Ajzen 2012) (Arnold, Reynolds 2012)
SN	Behavioural Contagion	(Wheeler 1966)
PBC	Perceived Control	(Hui, Bateson 1991)
PERSONALITY	Personality	(Elliot, Thrash 2002, Elliot, Covington 2001) (Heimpel, Elliot et al. 2006)
Demographics	Age	(Moye, Giddings 2002, Moye 1998)
Emotions	Emotion  Emotional Expressions Emotional States Pleasure and Arousal	(Krieglmeyer, Deutsch et al. 2010) (Koo, Ju 2010) (Adams, Ambady et al. 2006)  (Kenhove, Desrumaux 1997) (Ridgway, Dawson et al. 1990)
CBBRCE	Marketing Stimuli Brand Avoidance  Store/ Store-salespeople	(Kwak, Kim et al. 2011) (Lee, Motion et al. 2009)  (Musgrove 2011)

The following hypotheses relate AB, SN, PBC, PE, NE, personality, demographics and CBBRCE with approach and avoidance.

<p>Hypothesis 2a Attitude has a correlation with Approach to shop for Regaine on Boots drugstore.  Hypothesis 2b Attitude has a correlation with Approach to shop for Regaine on Boots website.  Hypothesis 2c Attitude has a correlation with Approach to shop for Regaine on Boots multi-channel.  Hypothesis 3a Attitude has a correlation with Avoidance to shop for Regaine on Boots drugstore.  Hypothesis 3b Attitude has a correlation with Avoidance to shop for Regaine on Boots website.  Hypothesis 3c Attitude has a correlation with Avoidance to shop for Regaine on Boots multi-channel.  Hypothesis 6a Subjective Norm has a correlation with Approach to shop for Regaine on Boots drugstore.  Hypothesis 6b Subjective Norm has a correlation with Approach to shop for Regaine on Boots website.  Hypothesis 6c Subjective Norm has a correlation with Approach to shop for Regaine on Boots</p>
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multi-channel.

Hypothesis 7a Subjective Norm has a correlation with Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 7b Subjective Norm has a correlation with Avoidance to shop for Regaine on Boots website.

Hypothesis 7c Subjective Norm has a correlation with Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 9a Perceived Behavioural Control has a correlation with Approach to shop for Regaine on Boots drugstore.

Hypothesis 9b Perceived Behavioural Control has a correlation with Approach to shop for Regaine on Boots website.

Hypothesis 9c Perceived Behavioural Control has a correlation with Approach to shop for Regaine on Boots multi-channel.

Hypothesis 10a Perceived Behavioural Control has a correlation with Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 10b Perceived Behavioural Control has a correlation with Avoidance to shop for Regaine on Boots website.

Hypothesis 10c Perceived Behavioural Control has a correlation with Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 12a Positive Emotions have a correlation with Approach to shop for Regaine on Boots drugstore.

Hypothesis 12b Positive Emotions have a correlation with Approach to shop for Regaine on Boots website.

Hypothesis 12c Positive Emotions have a correlation with Approach to shop for Regaine on Boots multi-channel.

Hypothesis 13a Positive Emotions have a correlation with Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 13b Positive Emotions have a correlation with Avoidance to shop for Regaine on Boots website.

Hypothesis 13c Positive Emotions have a correlation with Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 16a Negative Emotions have a correlation with Approach to shop for Regaine on Boots drugstore.

Hypothesis 16b Negative Emotions have a correlation with Approach to shop for Regaine on Boots website.

Hypothesis 16c Negative Emotions have a correlation with Approach to shop for Regaine on Boots multi-channel.

Hypothesis 17a Negative Emotions have a correlation with Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 17b Negative Emotions have a correlation with Avoidance to shop for Regaine on Boots website.

Hypothesis 17c Positive Emotions have a correlation with Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 20a Personality predicts Approach to shop for Regaine on Boots drugstore.

Hypothesis 20b Personality predicts Approach to shop for Regaine on Boots website.

Hypothesis 20c Personality predicts Approach to shop for Regaine on Boots multi-channel.

Hypothesis 21a Personality predicts Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 21b Personality predicts Avoidance to shop for Regaine on Boots website.

Hypothesis 21c Personality predicts Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 23a Demographics predicts Approach to shop for Regaine on Boots drugstore.

Hypothesis 23b Demographics predicts Approach to shop for Regaine on Boots website.

Hypothesis 23c Demographics predicts Approach to shop for Regaine on Boots multi-channel.

Hypothesis 24a Demographics predicts Avoidance to shop for Regaine on Boots drugstore.

Hypothesis 24b Demographics predicts Avoidance to shop for Regaine on Boots website.

Hypothesis 24c Demographics predicts Avoidance to shop for Regaine on Boots multi-channel.

Hypothesis 26a CBBRCE has a correlation with Approach to shop for Regaine on Boots drugstore.

Hypothesis 26b CBBRCE has a correlation with Approach to shop for Regaine on Boots



website.  
Hypothesis 26c CBBRCE has a correlation with Approach to shop for Regaine on Boots multi-channel.  
Hypothesis 27a CBBRCE has a correlation with Avoidance to shop for Regaine on Boots drugstore.  
Hypothesis 27b CBBRCE has a correlation with Avoidance to shop for Regaine on Boots website.  
Hypothesis 27c CBBRCE have a correlation with Avoidance to shop for Regaine on Boots multi-channel.

The stimulus component of the S-O-R includes signs, symbols and artifacts as a stimulus (Williams, Dargel 2004). This could also correspond to the definition of brand. However, a new approach to brand equity is needed. An approach that captures the synergies created by brands, retailers and channels is Customer Based Brand-Retailer-Channel Equity (CBBRCE). An explanation of what CBBRCE is and why it was included in this thesis will be discussed in section 3.4.

### **3.4 Customer Based Brand-Retailer-Channel Equity (CBBRCE)**

Although there is no universal definition and measurement of brand equity, the models set out by of Aaker (1991) (1996) and Keller (1993) have been widely used by academics and practitioners. Aaker's framework has been widely accepted and empirically tested (Cobb-Walgreen, Ruble et al. 1995), (Yoo, Donthu 1997), (Motameni, Shahrokhi 1998), (Sinha, Pappu 1998), (Low, Lamb Jr 2000), (Prasad, Dev 2000) (Pappu, Quester et al. 2005). Table 13 shows a large number of studies that have used Aaker and Keller's dimensions and support the selection of these four variables in this thesis.

**Table 13 - Studies that have used Aaker and Keller's Brand Equity Dimensions**

<b>Author</b>	<b>Brand/Name Awareness</b>	<b>Brand/Retailer Associations (Image)</b>	<b>Perceived/Service Quality</b>	<b>Brand/Store Loyalty</b>
(Shocker, Weitz 1988)	No	Yes	No	Yes
(Aaker 1991)	Yes	Yes	Yes	Yes
(Keller 1993)	Yes	Yes	No	No
(Cobb-Walgren, Ruble et al. 1995)	Yes	Yes	Yes	Yes
(Sinha, Pappu 1998)	Yes	Yes	Yes	Yes
(Sinha, Leszczyc et al. 2000)	Yes	Yes	Yes	Yes
(Del Rio, Vazquez et al. 2001)	No	Yes	No	No
(Yoo, Donthu et al. 2000)	Yes (unified)		Yes	Yes
(Yoo, Donthu 2001)	Yes (unified)		Yes	Yes
(Washburn, Plank 2002)	Yes (unified)		Yes	Yes
(Arnett, Laverie et al. 2003)	Yes	Yes	Yes	Yes
(Netemeyer, Krishnan et al. 2004)	Yes	Yes	Yes	No
(Kim, Kim 2004)	Yes	Yes	Yes	Yes
(Pappu, Quester et al. 2005)	Yes	Yes	Yes	Yes
(Atilgan, Aksoy et al. 2005)	Yes	Yes	Yes	Yes
(Pappu, Quester 2006)	Yes	Yes	Yes	Yes
(Hananto 2006)	Yes	Yes	Yes	Yes
(Zeugner Roth,	Yes(unified)		Yes	Yes

Diamantopoulos et al. 2008)				
(Buil, de Chernatory et al. 2008)	Yes	Yes	Yes	Yes
(Jinfeng, Zhilong 2009)	Yes	Yes	Yes	Yes
(Ha 2009)		Yes	Yes	Yes
(Jara 2009)	Yes	Yes	Yes	No
(Chattopadhyay, Shivani et al. 2010)	Yes	Yes	Yes	No
(Wang, Hsu et al. 2011)	Yes	Yes	Yes	Yes
(Spry, Pappu et al. 2011)	Yes	Yes	Yes	Yes
(Juan Beristain, Zorrilla 2011)	Yes (Unified)		Yes	Yes
(Jara, Cliquet 2012)	Yes	Yes	Yes	Yes

Over the years, the “brand associations” dimension has been recognized as a core asset for building strong brand equity (Chen 2001) and has also been expanded to include organizational associations (Aaker 1996). Building on these developments, this research ascribes the retailer to brand and channel associations and merges them into other dimensions of brand equity. The first scale developed for brand equity based on Aaker’s theory was Yoo and Donthu (2001). Arnett, Laverie et al (2003) later extended this to the retailer domain as an index and Pappu and Quester (2006) used it as a scale. Yoo and Donthu’s study (2001) was selected as a frame for this research because it has proved to be able to parallel brand equity into other domains.

There are two approaches to measure brand equity: a direct and an indirect approach (Christodoulides, de Chernatony 2010). This thesis selected the indirect approach firstly, because it provides a more holistic view of the brand and secondly, because the direct approach has been shown to be conceptually and methodologically problematic (Christodoulides, de Chernatony 2010).

The concept of brand equity has incorporated different elements in time. The following list presents concepts that have been adopted by this research:

**Customer Based Brand Equity:** Brand Equity seen from the perspective of the customer (Keller 1993) (Blattberg, Deighton 1996) (Blattberg, Getz et al. 2001) (Rust, Lemon et al. 2004) (Leone, Rao et al. 2006).

**Relational Brand Equity:** Relationship intention and service brand equity (Berry 2000) (Kumar, Bohling et al. 2003).

**Co-branding Alliances and Networks:** Value from other brands and organizations (Rao, Ruekert 1994) (Simonin, Ruth 1998) (Washburn, Till et al. 2004).

**Online retail/service (ORS) brand equity** (Christodoulides, De Chernatony 2004).

**Multi-channel/Channel Migration Environment:** The evolution of branding in a multi-channel environment (Leone, Rao et al. 2006) (Ansari, Mela et al. 2008) (Keller 2010).

Research has highlighted that retailers and manufacturers can create synergies by working together (Narus, Anderson 1986); (Anderson, Narus 1990). Brodie, Glynn et al. (2002) attempted to articulate this collaborative effort using the term 'marketplace equity'. However, marketplace equity lacks the consumers' perspective since it is more financially driven. Others have portrayed how brand equity can be built and managed between manufacturers and retailers e.g. (Tran, Cox 2009) but these efforts have been in a business-to-business context.

Nevertheless, such research can aid manufacturers and retailers to consider to what extent their brand equity alliances are successful. For example, (Yoo, Donthu et al. (2000) incorporated elements of channel and store image into the measurement of brand equity as antecedents of Aaker's (1991) brand equity dimensions. Indeed, although extensive research has been conducted on the concept of brand equity (for a review, see Feldwick (1996) and Christodoulides and de Chernatony (2010)), the literature focussing on retailer equity is scarce (Tran 2006). Even less attention has been given to channel equity. A review of important studies in the separate areas of brand, retailer and channel equity is presented in Appendix 2. However, the resulting synergistic effects and interrelationship between branded products, retailers and channels remains underplayed.

### **3.4.1 Brand Equity**

Despite the proliferation of academic and commercial interest in the concept of brand equity, there remains little consensus concerning what it encompasses and, as such, how it should be measured (Vazquez, Río et al. 2002, Keller

2003). Brand associations/image, brand awareness, perceived quality and brand loyalty appear to be the most salient dimensions discussed in the extant literature. The author who has written more extensively about brand equity is Aaker (Ailawadi, Lehmann et al. 2003). Brand equity has been defined as “the marketing effects or outcomes that accrue to a product with its brand name compared to those that would accrue if the same product did not have the brand name”. (Aaker 1991, Dubin 1998, Farquhar 1989, Keller 2003). Whilst this definition does not explicitly recognize the interaction between brands, retailers and channels, it does have scope for expansion. Studies on brand equity follow either a financial perspective (Farquhar, Han et al. 1991) (Simon, Sullivan 1993) (Haigh 1999) or a consumer/customer-based perspective e.g. (Aaker 1991) (Keller 1993) (Yoo, Donthu 2001) (Vazquez, Río et al. 2002). The current research favours the latter as a means to conceptualise and measure brand-retailer-channel equity given its success and popularity as a tool to understand the components of brand equity within the extant literature.

### **3.4.2 Retailer Equity**

Retailer equity is defined by Arnett, Laverie et al. (2003) as a set of brand assets and liabilities linked to a store brand (e.g. Wal-Mart), its name and symbol, that adds to or subtracts from the perceived value of the store brand by its customers (or potential customers). The value of the manufacturer has been ignored in the definition of retailer equity. Research on retailer equity resonates with the literature on brand equity with respect to its diversity and lack of common ground. Most studies have focused on store image (see Jinfeng and Zhilong (2009)), perceived quality and brand awareness. Literature signals two

main approaches to examine retailer equity. The first one is to analyse retailer equity from the point of view of retail managers (Baldauf, Cravens et al. 2009, Baldauf, Cravens et al. 2003) (Baldauf, Cravens et al. 2003). The second is customer based, including the development of “Retailer Equity Indexes” (Arnett, Laverie et al. 2003, p. 161). This research advocates the latter. Recent findings from Jara (2009) indicate that the personality of the retail brand could be used by marketers to maximise the potential value of their brands and to position them on a larger set of associations. This thesis is also interested in the potential synergies that can be created by the brand-retailer interaction.

### **3.4.3 Channel Equity**

Channel equity can be defined as “the net present value of the current and future profits generated through a distribution channel” (Sullivan, Thomas 2004, p. 2). The few studies that focus on channel equity tend to emphasise a business-to-business view of channel relations, whereas channel equity concerns the effects of relational ties in inter-organisational exchanges (Davis, Mentzer 2008), e.g. channel’s equity with retailers (Bick 2009). Channel equity thus omits the role of the brand influencing the channel and vice versa (Jones 2005). Accordingly, channel equity is considered as a firm’s resource (Varadarajan, Yadav 2002) from which brands can benefit or be leveraged (Uggla 2004). Channels can also affect consumers’ perceptions of fairness and price (Choi, Mattila 2009). Benefits of channels are: lower costs, price premiums, competitive barriers, satisfied buyers, and the trial of brand and category extensions (Srivastava, Shervani et al. 1998). It has been suggested

that channel equity, together with brand equity and firm equity are antecedents of relationship intention (Kumar, Bohling et al. 2003).

#### **3.4.4 Defining Consumer based Brand-Retailer-Channel Equity (CBBRCE)**

In line with Aaker (1991), Consumer Based Brand-Retailer-Channel Equity (CBBRCE) is defined as a set of assets and liabilities created by the link among the brand, the retailer and the channel, its names and symbols that add to or subtract from the value provided by a product or service to its customers. CBBRCE requires the perception of value from the consumer's perspective. The consumer evaluates the value generated by the combination of brand, retailer and channel.

Aaker's brand equity model (1991) is extended to create CBBRCE for the following reasons: (1) it provides a consumer focussed perspective to brand equity; (2) it contains the loyalty dimension, which has been proven to be an important measure for examining the brand-retailer association; (3) it has been widely accepted and implemented by both branding and retailing academics; (4) it has been successfully operationalized; (5) it has an explicit link with purchase intention; (6) it is simple and parsimonious and (7) it is accurate to represent the memory/cognitive associations formed by consumers.

A large number of researchers have used the four main brand equity dimensions. A review is presented in Appendix 3. Incorporating elements of brand, retailer and channel to Aaker's four main brand equity dimensions results in the following definitions:



***Brand-Retailer-Channel Perceived quality*** is defined as the perception of the overall quality or superiority of a brand-retailer-channel with respect to its intended purpose relative to alternatives (Aaker 1991).

***Brand-Retailer-Channel Customer loyalty*** is defined as consumers' deeply held commitment to re-buy or re-patronise a preferred brand-retailer-channel consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behaviour (Dietz 1997).

***Brand-Retailer-Channel Awareness/Associations*** is defined as the ability to recognize or recall that a brand is sold by a certain retailer and is part or member of a specific channel (Aaker 1991).

In addition to these three dimensions, three other dimensions are included as antecedents of CBBRCE: Positive emotions, negative emotions and brand attitude. The reasons for including these three variables are presented in the following paragraphs.

***Positive anticipated Brand-Retailer-Channel emotions*** are the self-predicted positive emotional consequences of shopping for a brand in a particular retailer-channel (Perugini, Bagozzi 2001) (Hunter 2006).

***Negative anticipated Brand-Retailer-Channel emotions*** are defined as the self-predicted negative feelings that might arise during shopping for a brand in a particular retailer and channel (Pligt, De Vries 1998).

There has been considerable growth in the study of the role played by affect in marketing in the past 15 years (Erevelles 1998). However, how affect

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influences brand equity needs to be further studied (Erevelles 1998). Neurological findings suggest that emotion plays a role in its own right (Hansen, Christensen et al. 2006). For example, recent research has found that activations of the pallidum are associated with positive emotions. On the other hand, activations of the insula are associated with negative emotions for weak and unfamiliar brands. This research suggested that consumers use experienced emotions rather than declarative information to evaluate brands. As a result, brand experiences should be considered a key driver of brand equity (Esch, Möll et al. 2012).

Emotions may measure a part of brand equity not determined by factors such as price, availability or quality (Hansen, Christensen et al. 2006).

Consumers are able to give attributes to brands when they evaluate them (Keller 1993) (Keller, Lehmann 2006). However, when consumers are in this process, they also use their emotions (Schwarz 2004) (Damasio 2005) (Izard 2009) (Esch, Möll et al. 2012). Perceived experiences of stakeholders and their emotions have consequences for firms' reputations (MacMillan, Money et al. 2005).

Researchers have started to find a link between positive emotions and brand equity (Nowak, Thach et al. 2006). New approaches to equity like brand love (Batra, Ahuvia et al. 2012) include positive emotional connection, positive overall attitude valence, and anticipated separation distress (Batra, Ahuvia et al. 2012). Positive emotions may influence evaluations via simple decision heuristics, whereas negative emotions may motivate detailed analysis of the

event (Murry Jr, Dacin 1996). Negative emotions have been found to play a mediating role in the brand evaluation formation process (Chang 2001).

**Brand-Retailer-Channel Brand Attitude** is defined as consumers' overall evaluation of a brand-retailer-channel – whether good or bad (Mischel, Olson 1981). The Brand attitude concept is a development of Fishbeins' attitude theory (Mischel, Olson 1981). The attitude construct is equivalent to Brand-Retailer-Channel Brand Attitude in this thesis. Although this thesis measures the brand awareness/associations construct, the awareness/associations construct is more directed towards the measurement of the ability that the consumer has to recognize and recall the brand-retailer-channel, rather than an evaluation of whether the brand-retailer-channel is good or bad. The Brand Associations dimension could be much broader. Brand associations have three interrelated concepts: brand image, perceived quality and brand attitude (Low, Lamb Jr 2000). Brand associations results in images and attitudes that influence brand equity (Faircloth, Capella et al. 2001).

Customer-based brand equity studies have previously established a connection with brand attitude (Washburn, Till et al. 2004) (Park, MacInnis et al. 2010) (Rafi, Ahsan et al. 2011).

The hypotheses for the antecedents of CBBRCE and its connection with Intention are presented below:

Hypothesis 25a CBBRCE has a correlation with intention to shop for Regaine on Boots drugstore. Hypothesis 25b CBBRCE has a correlation with intention to shop for Regaine on Boots website. Hypothesis 25c CBBRCE has a correlation with intention to shop for Regaine on Boots multi-channel. Hypothesis 28a Awareness has a correlation with CBBRCE to shop for Regaine on Boots
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drugstore.  
Hypothesis 28b Awareness has a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 28c Awareness has a correlation with CBBRCE to shop for Regaine on Boots multi-channel.  
Hypothesis 29a Quality has a correlation with CBBRCE to shop for Regaine on Boots drugstore.  
Hypothesis 29b Quality has a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 29c Quality has a correlation with CBBRCE to shop for Regaine on Boots multi-channel.  
Hypothesis 30a Loyalty has a correlation with CBBRCE to shop for Regaine on Boots drugstore.  
Hypothesis 30b Loyalty has a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 30c Loyalty has a correlation with CBBRCE to shop for Regaine on Boots multi-channel.  
Hypothesis 4a Brand Attitude has a correlation with CBBRCE to shop for Regaine on Boots drugstore.  
Hypothesis 4b Brand Attitude has a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 4c Brand Attitude has a correlation with CBBRCE to shop for Regaine on Boots multi-channel.  
Hypothesis 14a Positive Emotions have a correlation with CBBRCE to shop for Regaine on Boots drugstore.  
Hypothesis 14b Positive Emotions have a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 14c Positive Emotions have a correlation with CBBRCE to shop for Regaine on Boots multi-channel.  
Hypothesis 18a Negative Emotions have a correlation with CBBRCE to shop for Regaine on Boots drugstore.  
Hypothesis 18b Negative Emotions have a correlation with CBBRCE to shop for Regaine on Boots website.  
Hypothesis 18c Negative Emotions have a correlation with CBBRCE to shop for Regaine on Boots multi-channel.

### **3.4.5 CBBRCE and the Holistic Consumer**

From the perspective of how consumers analyse information, this thesis relies on the information integration theory. This theory proposes that consumers take information from a number of sources to make an overall judgment (Anderson 1976).

The “spill over” effect created by Brand-Retailer-Channel can be explained with the Attitude-transfer model. This model suggests that when an extension fits with the brand, a consumer's attitude toward the brand will transfer to her

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attitude towards the extension (Aaker, Keller 1990). This thesis proposes that this “transfer effect” can also occur from brands to retailers to channels.

This study follows a cognitive approach to the study of the consumer mind. It is rooted in Associative Network Theories, concerned with the organization of human semantic memory (Collins, Loftus 1975) (Chen 2010) (Till, Baack et al. 2011).

To be able to rate the attitudes towards a brand-retailer-channel, this study uses verbal stimuli to represent consumer judgments (Holbrook, Moore 1981). The use of verbal stimuli promotes analytical and in-depth evaluation of choice alternatives (Tversky 1977). Verbal stimulus forces the consumer to add pros and cons to determine the highest value (Chen 2010). This research works under the assumption that decision makers are “rationally bounded” (Simon 1972). Rationality is expected, as “consumers need to find out about brands, channels and place before buying a product” (Janakiraman, Niraj 2011, p. 894). Consumers develop choice criteria before making a purchase decision (Yasin, Noor et al. 2007)

The Gestalt Theory confirms that consumers think in a configural/holistic/additive way (Holbrook, Moore 1981). However, the Gestalt is criticized for being descriptive rather than explanatory (Hilligsoe 2009) and therefore not used for this study.

### **3.5 Conceptual Framework**

A conceptual framework that represents determinants of channel choice was developed for this study. It is graphically presented in Figure 5. The TPB variables are represented in red. The background factors are represented in yellow and CBBRCE is represented in green. The hypotheses are represented with letters a, b and c to indicate that each hypothesis will be evaluated in three channels (drugstore, internet and multi-channel).

#### **Specification of the Research Model**

The evaluated model comprises two observed manifest/exogenous predictor variables (demographics and personality); five observed latent/endogenous predictor variables (personality, perceived norm, perceived behavioural control, positive emotions and negative emotions) and three observed latent/endogenous dependent variables (intention, approach and avoidance).

This model is based on the previous empirical and theoretical research on Ajzen's TPB. This model expanded Ajzen's work by adding two background factors that are particularly relevant to the evaluated context (personality and demographics). The TPB is extended with the inclusion of positive and negative emotions and CBBRCE. The figure illustrates the research model interdependencies of the hypotheses.

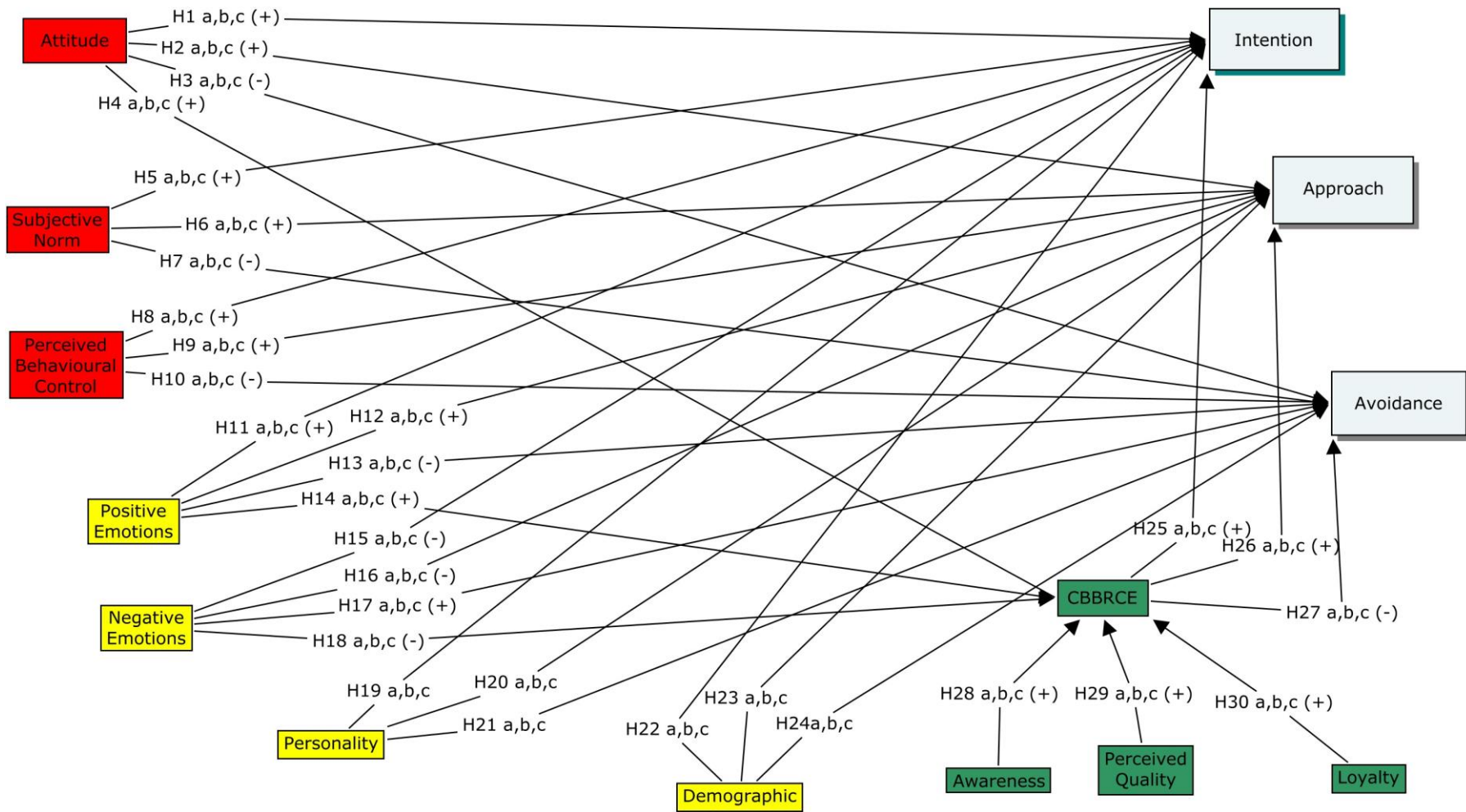


Figure 5 -Conceptual Model

### **3.6 Chapter Summary**

This chapter reviewed and discussed relevant theories that were used to construct the conceptual model underpinning this thesis. The literature search showed that there is a tradition to tailor consumer behaviour models/theories for each evaluated channel. A theory that adjusted to different channels was needed for this thesis. The TPB met these requirements, with the additional benefit of having the power of answering the why questions in which other models fall short. Two areas where the TPB could be extended were identified: background factors and CBBRCE. A review of marketing literature identified that similar to the TPB, brand, channel and retailer equity tried to predict intention. A combination of these concepts gave birth to the concept of CBBRCE. A complement for the TPB was found in the S-O-R framework. The S-O-R provided a structure in which both the TPB and CBBRCE could be embedded. The S-O-R framework could increase the explanations that the TPB can give to behaviour. The hypotheses were presented after each theoretical element. Finally, the conceptual model was introduced. The purpose of Chapter 4 is to explain how the concepts presented in this chapter were measured and operationalized.



## **Chapter 4**

### **Methodology**

#### **4.1 Introduction**

The previous chapter reviewed and synthesised three theoretical domains of research. First, the TPB model, its uses and applications in social scientific research. Second, the S-O-R framework. Third, the CBBRCE model. Throughout this chapter, hypotheses were formulated that led to the presentation of a conceptual model.

The purpose of this chapter is to describe the methodological decisions that were undertaken as part of this thesis. In terms of organisation, this chapter is structured into nine main sections. The chapter starts by explaining and contrasting the disciplines and branches of consumer behaviour involved in this thesis. The selection of the research philosophy underpinning this thesis is then justified, followed by a discussion of the positivistic research paradigm and the choice of a quantitative-focused methodology in the second section. In the third section, the purpose and scope of the research design, and the cross-sectional nature of the study is presented.

In the fourth section, the methodological considerations of the elicitation study are revised. The sample, sampling frame, and population are defined. Sampling size and measurement issues are also discussed. To finalise the section, the

elicitation study results are presented. Section five explains the methodological considerations of the quantitative study. The data collection instrument and procedures, along with population, sample, and sample size issues are discussed. Explanations are provided as to why the main measurement scales were selected. Sections six and seven present the results of the pre-pilot and pilot study correspondingly. Section eight defends the selection of Partial Least Squares instead of a Covariance Based approach and the choice of the software Smart PLS for data analysis. The chapter ends with a discussion of ethical issues. A conceptual map is used to summarise the concepts and flow of the chapter (see Figure 6 p.91).

## **4.2 Philosophical considerations**

### **4.2.1 Disciplinary Origin and Consumer Behaviour approaches**

This research used a combination of two disciplines: marketing and psychology. The concept of CBBRCE had its origin in the discipline of marketing, particularly in the area of branding. The TPB had its origin in psychology, specifically the area of cognitive psychology. The S-O-R framework, the structure that encompasses both the TPB and CBBRCE, is based on environmental psychology. Environmental psychology emphasises the role of context in human functioning (Bonnes, Bonaiuto et al. 2002). The S-O-R is based on theories of learning, motivation, perception and social behaviour. The TPB is grounded in theories of attitudes such as learning theory, expectancy-value theory, consistency theory, attribution theory and social cognitive theory.

## [Chapter 4]

There are different approaches to explain consumer behaviour: the economic man, the psychodynamic tradition, the behaviourist approach, the cognitive approach and the humanistic approach (Bray 2008). The economic man approach states that the consumer is able to rate alternatives and select a course of action (Schiffman, Kanuk 2007). The psychodynamic tradition was developed by Sigmund Freud, who theorised that behaviour is subject to instinctive forces (Freud 1915). Behaviourists such as Watson and Rayner (1920) took a different approach, they hypothesised that behaviour is mostly influenced by external events. Researchers such as Pavlov, Watson and Skinner also developed this approach. The cognitive approach understands the consumer as an information processor (Ribeaux, Poppleton 1978). It challenged the view that environmental variables had a strong influence on behaviour. However, it accepts that environmental variables should be considered in the analysis. The cognitive approach originated with Plato and Aristotle. It developed into frameworks like the Stimulus-Organism-Response (Mehrabian, Russell 1974). The cognitive approach is especially appropriate for the examination of ethical purchasing behaviour or behaviours where there is complexity, requiring extensive intra-personal evaluation. Cognitive based analytical models or “grand models” provide a large number of factors that influence behaviour. An example of such large models is the Theory of Buyer Behaviour (Howard 1969) and the S-O-R framework (Mehrabian, Russell 1974). These models are useful to provide an understanding of the consumer but are difficult to operationalise. Also based on a cognitive approach are operational or prescriptive models such as the TRA (Fishbein, Ajzen 1975)

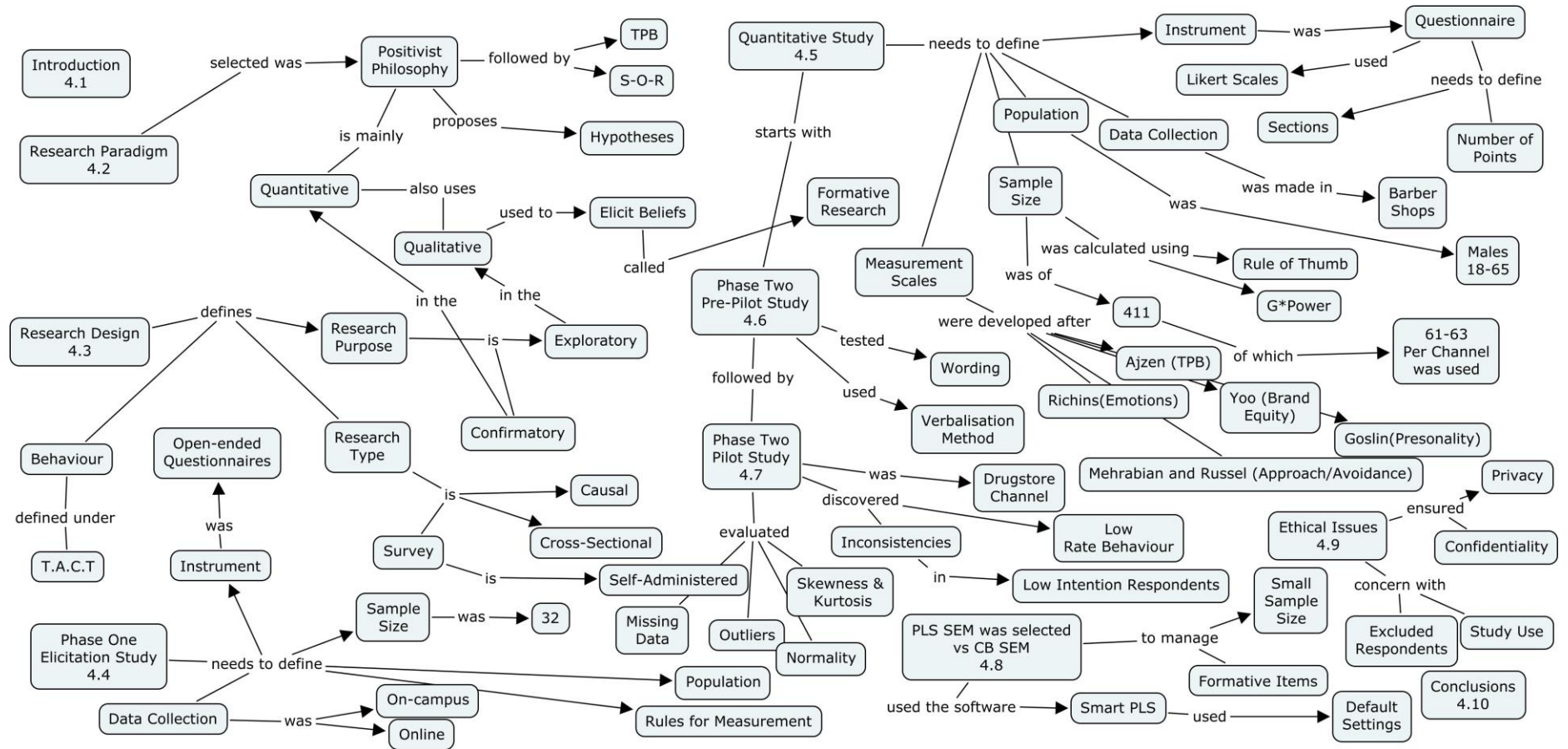


Figure 6 -Conceptual Map of Chapter 4.

and the TPB (Ajzen 1991). Evolutions of the cognitive approach were the humanistic models including the Theory of Trying (Bagozzi, Warshaw 1990) (Bagozzi, Gurhan-Canli et al. 2002) that explains that consumers have behavioural goals rather than behavioural intentions. Humanists added past behaviour, emotions and desire as a step previous to intention (Perugini, Bagozzi 2001). However, humanist models are complex and require sophisticated data gathering techniques (Leone, Perugini et al. 2004).

#### **4.2.2 Research Paradigm**

Although many researchers do not state explicitly to which research paradigm they belong or have adhered to, it is important to understand research philosophy because it can clarify how to design research (Easterby-Smith, Thorpe et al. 2008) and how to collect data (Saunders, Lewis et al. 2011). According to Saunders, Lewis et al. (2011), there are four main research philosophies in business research: Positivism, Realism, Interpretivism and Pragmatism. Table 14 p.94. shows the main positions of each philosophy according to its ontology, epistemology, axiology and data collection techniques used.

Both the TRA and the TPB are located within positivist social psychology (Smith 1999). The S-O-R framework also follows a positivist paradigm approach (Aubert-Gamet 1997). Positive philosophy aims to follow the principles of natural scientific research by testing theories through experiments to probe whether the theory is true or false (Kolakowski 1993). Positivism supports the idea of a single reality that is independent of human perception (Easterby-

Smith, Thorpe et al. 2008). Hypotheses are developed from theory (Kolakowski 1993). Positivists follow a deductive method of research. Deductions come in the form of cause-effect relations. For example, Stimulus A causes Response B. This philosophy resonates with the S-O-R framework described in Section 3.3. Positivism can also answer the 'why' question by making inferences about the causal factors of phenomena. Positivism can be used to predict human behaviour. However, using a positivist approach in the social sciences can be difficult, given the great complexity of the human mind.

Interpretivists or humanists focus more on the individual and the uniqueness of a situation. Their analysis is based on interpretation rather than explanation (Easterby-Smith, Thorpe et al. 2008). The interpretive paradigm uses qualitative information. Contrary to such, authors of a positivist theory such as Ajzen, states that his main goal is to understand human behaviour and not merely to predict it (Ajzen 1988). Understanding why corresponds to an interpretive approach more than a positivist approach. However, answering the why question is not exclusive to interpretivism. An analysis of the TPB's concept of intention and its operational definition indicates that a paradigmatic adjustment is needed (Smith 1999). The TPB is primarily quantitative, but it includes a qualitative study that is subject to content analysis. However, Lacity and Janson

**Table 14 - Comparison of four research philosophies in management research**

	<b>Positivism</b>	<b>Realism</b>	<b>Interpretivism</b>	<b>Pragmatism</b>
<b>Ontology:</b> the researcher's view of the nature of reality	External, objective and independent of social actors	Is objective, Exists independently of human thoughts and beliefs or knowledge of their existence (realist), but is interpreted through social conditioning (critical realist)	Socially constructed, subjective, may change, multiple	External, multiple, view chosen to best enable answering of research question
<b>Epistemology:</b> the researcher's view regarding what constitutes acceptable knowledge	Only observable phenomena can provide credible data, facts. Focus on causality and law like generalisations, reducing phenomena to simplest elements	Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations (direct realism). Alternatively, phenomena create sensations, which are open to misinterpretation (critical realism). Focus on explaining within a context or contexts	Subjective meanings and social phenomena. Focus upon the details of situation, a reality behind these details, subjective meanings motivating actions	Either of both observable phenomena and subjective meanings can provide acceptable knowledge dependent upon the research question. Focus on practical applied research, integrating different perspectives to help interpret the data
<b>Axiology:</b> the researcher's view of the role of values in research	Research is undertaken in a value-free way. The researcher is independent of the data and maintains an objective stance	Research is value laden; the researcher is biased by worldviews, cultural experiences and upbringing. These will impact on the research	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective	Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view
<b>Data collection techniques most often used</b>	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth investigations, qualitative	Mixed or multiple method designs, quantitative and qualitative

Source: Saunders, Lewis et al. (2011, p.124)

(1994) suggest that content analysis is a positivist approach to analysing qualitative data.

From an ontological perspective (the nature of reality), this study followed a positivist philosophy. This thesis intends to understand a single reality and confirm or reject hypotheses about it. From an epistemological point of view, the relationship between the researcher and the object of the research, the thesis followed a positivist approach. It strives to maximise impartiality and objectivity. The data were collected by instruments that had been previously tested for reliability and validity. From an axiological standpoint (values), the approach was positivist because the research intended to be unbiased. Although the philosophy behind the methodology was positivist, it also had pragmatic orientation. It combined qualitative and quantitative data, however, its methodology was predominantly quantitative. Most of the research was quantitative and deductive in nature since the thesis tested a well-established theory like the TPB.

### **4.2.3 Quantitative versus Qualitative**

The positivism philosophy typically follows quantitative research methods. Quantitative methods focus on the measurement of the constructs under study (Easterby-Smith, Thorpe et al. 2008). Quantitative methods discover patterns in data (Babbie 2012) and undertake rigorous statistical tests (Saunders, Lewis et al. 2011). Although this research took advantage of the synergies that are created between qualitative and quantitative studies, it should not be considered a mixed methods study. A true mixed methods study would



integrate quantitative and qualitative research; however, this is not the case for this thesis. In this case, the qualitative research was only used for its accuracy in eliciting beliefs. Two different data collection techniques (literature search and written open-ended questionnaires) were used during the qualitative phase. This thesis used a combination of methods in the qualitative study because it reduced the risk of ignoring important beliefs. The standard methods developed over the years to be used with the TPB are predominately quantitative in nature. The only part of these methods that requires qualitative research is the elicitation of readily accessible behavioural, normative, and control beliefs (Ajzen 1991). The elicitation or qualitative study is also referred to as formative research. Formative research is described as a multidisciplinary approach to defining and gathering information about the target population (Higgins, O'Reilly et al. 1996). A quantitative approach was selected for this thesis because it adequately responded to the research question. The research question was defined in terms of the effectiveness that the TPB had in predicting and explaining multi-channel versus single channel behaviour. The quantitative approach allowed the comparison of the differences between channels.

## **4.3 Research Design**

### **4.3.1 Research Purpose**

The first part of this thesis was exploratory in nature. During the exploratory phase, the purpose of the study was to identify the most important beliefs. The second phase of the study was confirmatory or causal. The purpose of the second phase, the quantitative study, was to confirm the study hypotheses

based on the relationships described by both the TPB model and the selected variables from the S-O-R framework.

### **4.3.2 Research Type**

This thesis followed a causal, cross-sectional, non-experimental, survey design. It used a self-administered data collection instrument. To test the causal relationship of the hypotheses proposed in Chapter 3, two research methodologies were considered: surveys and experiments. Most of the evaluations of the TPB have been based on correlations. Very few studies had followed an experimental design (Sniehotta 2009). The experimental design is more appropriate to evaluate behavioural change. However, the focus of this study was not to change behaviour, therefore, a survey design was deemed the most appropriate. This thesis followed a causal design because the relationships proposed in its hypotheses were based on solid consumer behaviour theories. The survey instrument facilitated the quantitative measurement of responses in a simple paper and pen format. A self-administered data collection instrument was selected because it provided the advantage of being simple to administer and inexpensive to use (McDaniel, Gates 2010). Self-administered questionnaires are also useful when there is a captive audience. Barbershop customers provided the captive audience that served to provide the respondents for this research. A longitudinal study could have given this thesis further insight into the stability of the determinants of intention but given the limited resources, a cross-sectional design was chosen. A cross-sectional design was selected as a consequence of the positivist approach used in this thesis (Saunders, Lewis et al. 2011). To select the

appropriate research design, this thesis reviewed and compared the methodology used by authors who studied multi-channel, retail formats and the TPB in choice situations (see Appendix 1). Most multi-channel and retail format academics used their own conceptual framework (borrowed concepts from different theories). Academics who used the TPB to study choice-related situations relied on student samples. Literature on retail formats was included because authors in this field have to compare more than one format, which is similar to the requirement that this thesis has to compare channels.

### **4.3.3 Definition of the behaviour under study**

A TPB study begins with the definition of the behaviour under study. The behaviour must be defined in terms of target, action, context and time (TACT) elements (Ajzen 2011). Table 15 shows how the TACT elements were defined for this thesis.

Once the TACT elements were established for the thesis, the behaviour was defined. The behaviour was defined as “Shopping for Regaine in a Boots Drugstore” for the first context; “Shopping for Regaine from a Boots Website” for the second context and “Shopping for Regaine in Boots using multi-channel” for the third context.

**Table 15 - Behaviour definition in terms of Target, Action, Context and Time**

<b>Target</b>	Branded Product: Regaine
<b>Action</b>	The action of interest in this thesis was shopping. It would be interesting to know the differences between search and purchase phases in the purchase process. However, this thesis understood the action of shopping as a whole instead of considering it as two different behaviours. Two behaviours would have required two different studies. Bonfield (1974) integrated different elements into one target behaviour. He studied the purchase and use of brand X.
<b>Context</b>	The objective of this study was to understand and compare the differences in consumer behaviour in different shopping contexts. This thesis analysed behaviour for three contexts: - Boots Drugstore - Boots Website - Boots Multi-channel
<b>Time</b>	The TPB explains ongoing behaviour. For example: “Exercising for at least 20 minutes, three times per week, for the next three months”.(Ajzen 2002, p. 2) The time element does not represent a concern for this research since the purchase of the product occurs when the product is needed. The customer will purchase from the brand, channel and retailer when the product is required. The lack of time does not mean that the theory loses its predictive qualities. The purchase frequency of Regaine is irregular. It depends on the amount of stock purchased. Therefore, the time element was not defined in this thesis.

The behaviour was designed to meet the principles of specificity, generality and compatibility (Ajzen 2002); it was defined in terms of the same elements for AB, SN and PBC.

#### **4.4 Phase One: Elicitation Study**

The TPB does not provide researchers with a standardized scale to measure the main constructs, instead, it suggests that an elicitation study is performed. Elicitation procedures are recommended when using the TPB to establish the cognitive foundation of the population's salient beliefs (Conner, Sparks 1996). The beliefs obtained from the elicitation study were used in a second phase, the quantitative study, as the main way in which to measure the relationships

between the theory constructs. The particularities of the context provided by each channel made beliefs elicited to be different. The elicitation study helped to validate the constructs and made them fit with the specificities of the behaviour and the population of interest. The methodology used in the elicitation study was qualitative.

#### **4.4.1 Qualitative Instrument Data Collection**

Three different open-ended questionnaires, one for each channel, were developed for the elicitation study. The qualitative questionnaires used can be found in Appendix 4.

#### **4.4.2 Procedure for Data Collection**

This thesis followed two different approaches to the data collection: online and on-campus. One group of respondents was contacted on the University of Stirling campus. A second group was contacted using an online instrument. Although the online method provided advantages in terms of having a wider diversity of respondents, it was difficult to find respondents who completed the online survey.

#### **4.4.3 Population**

The target population for the elicitation study was made up of male individuals aged between 18 to 65 years old who lived in the UK.

#### **4.4.4 Sample and Sampling Frame**

A convenience sample was used for the elicitation study. The sample included men from different age groups and occupations. Staff, students and visitors to

the University of Stirling were asked to answer the questionnaire. There was no sampling frame as there is no list of Regaine users. Any man is susceptible to lose his hair, therefore, any man was considered as a potential customer of Regaine.

#### **4.4.5 Sample Size**

In all, 32 men participated in the elicitation study, 10-11 for each Shopping Environment (SE). Given that the sample size for the elicitation study was slightly below that recommended by Francis, Eccles et al. (2004), a literature review about the advantages and disadvantages of each retail environment was performed to complement the findings (see Appendix 5). However, even small samples have been shown to be sufficient to elicit those beliefs that characterize a large population (Grunert, Bech-Larsen 2005) (Griffin, Hauser 1993). The elicited beliefs proved to be a good representation of the literature findings, and no additions were required.

#### **4.4.6 Measurement**

“In spite of the importance accorded to salient beliefs by the TRA/TPB, the elicitation stage has received little research attention” (Sutton, French et al. 2003, p. 234). For example, the respondents to both the quantitative and qualitative studies should come from the same population.

In order to identify the final set of salient beliefs in the qualitative study, Ajzen and Fishbein (1980) suggested the following three rules:

- (1) Include the ten or twelve most frequently mentioned beliefs;*

- (2) *Include those beliefs that exceed a particular frequency, for example, include all beliefs mentioned by at least twenty percent of the sample;*
- (3) *Choose as many beliefs as necessary to account for a certain percentage (e.g. 75 percent) of all beliefs mentioned.*

Not all researchers adopt all of these rules. In this research, given the sample size limitation, all of these rules were however adopted. Beliefs raised by more than 15 percent of respondents were included (Hyde, White 2009). In addition to this rule, as many beliefs necessary to account for 75 percent of the beliefs mentioned were chosen.

Salient beliefs are not only the first belief that come to mind but also the first two or three (Fazio, Powell et al. 1989) (Fazio, Williams 1986). Salient beliefs are those that first come to mind when respondents are asked open-ended questions such as *'What do you think would be the advantages for you of performing behaviour X?'*. They are also referred to as accessible beliefs (Ajzen, Fishbein 2000) (Higgins, O'Reilly et al. 1996). Researchers have made a distinction between instrumental and affective components of attitudes on the TPB (Ajzen, Driver 1991) (Ajzen, Timko 1986) (Lowe, Eves et al. 2002) (Godin 1987) (Parker, Manstead et al. 1995) (Valois, Desharnais et al. 1988). However, only two of these studies employed different questions to try to elicit different kinds of behavioural beliefs (Ajzen, Driver 1991) (Parker, Manstead et al. 1995). This thesis used the traditional measurement of beliefs using questions that refer to the advantages and disadvantages of the behaviour. However, there are disadvantages of using this method. As pointed out by Parker, Manstead et al. (1995), questions that refer to "advantages" and

“disadvantages” are likely to elicit instrumental beliefs (e.g. *‘Driving very fast increases the likelihood of having an accident’*) rather than affective beliefs (e.g. “Driving very fast is exciting”) (Parker, Manstead et al. 1995) (Sutton, French et al. 2003, p. 237). To solve the problem, this thesis used the emotions list that Richins (1997) used to capture positive and negative affective beliefs. The list of emotions used can be found in Appendix 6. If the traditional approach was to be used, emotional beliefs could have been omitted. Richins (1997) developed the list of emotions used. Richins addressed the issue of finding an appropriate way to measure emotions. Richins identified an appropriate set of consumption emotion descriptors: the consumption emotions set (CES). Richins’ list provided a stimulus that helped respondents to identify their salient emotions. In the elicitation study, one question was added specifically to elicit positive emotions and another question targeted negative emotions associated with the behaviour. The questions used can be found in Appendix 4. The modal emotions were then selected for quantitative analysis.

#### **4.4.7 Elicitation Study Results**

The results of the elicitation study are presented in Table 16. The outcome of the elicitation study showed that the same positive emotions and negative emotions were elicited for the three channels. Similarly, the identified individuals or groups that create motivation to comply were alike. The outcome expectations and control beliefs were, however, very different and responded to the particularities of each channel.



Table 16 - Elicitation Study Results

	<b>Drugstore elicited beliefs</b>	<b>Internet elicited beliefs</b>	<b>Multi-channel elicited beliefs</b>
<b>Positive emotions</b>	Optimism, No emotions, Contentment.	Optimism, No emotions, Contentment.	Optimism, No emotions, Contentment.
<b>Negative emotions</b>	Embarrassed, nervous, tense, discontent.	Embarrassed, nervous, tense, discontent.	Embarrassed, nervous, tense, discontent.
<b>Outcome Expectations (Advantage)</b>	Easy Close Rapid	Convenient Inexpensive Rapid Anonymous	Convenience Flexibility/Choice Compare
<b>Outcome Expectations (Disadvantage)</b>	Quality concerns High price	Safety Delivery Problems Personal Advice	Limited to a Channel Different prices/channel
<b>Motivation to Comply</b>	Parents/family Wife/partner Pharmacist	Friends Wife/partner Peers	Parents/Family Wife/partner Peers
<b>Control Beliefs</b>	Exhibited Walking distance Embarrassed Good customer service	Shopping costs Stock Store locator Internet access	Fast delivery Service Product information Impartial Reviews Internet connection

## 4.5 Phase Two: Quantitative Study

Since the TPB is the backbone of this thesis, it also served as the main referent for the quantitative methodology. The TPB has a well-defined methodology process that is described in detail by Ajzen (2002) and Francis, Eccles et al. (2004).

### 4.5.1 Instrument of Data Collection

The questionnaire was self-administered. A complete copy of the three questionnaires used is provided in Appendix 7 along with the stimulus used to

aid consumers that were not aware of Regaine. Instructions on how to read and answer the questions were developed for the interviewees. The interviewer was present during the survey to answer any questions which arose. Although it is desirable to have a short questionnaire TPB questionnaires are generally long and difficult to understand (Darker, French 2009). Hence it was important to structure and simplify the questionnaire to make it more user friendly.

The questionnaire was structured into six sections. The first section explained the nature of the survey and reminded the respondent that they were not selected for any reason in particular (for example being bald or needing Regaine). To encourage responses, participants who answered the survey participated in a raffle to win £100 worth of amazon.com vouchers. As a further incentive, a chocolate was also given to every participant who answered the survey.

The second section of the questionnaire asked the respondent to self-classify according to their knowledge/use of Regaine. Although this variable was not part of the conceptual model, it was included as a means to have control over an aspect that could influence the results. Important definitions were introduced to make sure that all participants understood what was meant by words, such as, 'Shop' and 'Multi-channel'.

The third section evaluated emotions. Emotions were measured using as anchors 1 = *'Not at all'* and 7 = *'Very much'*. This scale evaluated the degree to which the emotion would be present when shopping for Regaine.

The evaluation of outcome expectations was the purpose of section four. Outcome expectations used as anchors 1= *'Extremely Undesirable'* and 7= *'Extremely Desirable'*.

In the fifth section, consumers were asked to rank channels according to their preference. Response scales were unipolar (1 to 7) or bipolar (-3 to +3), depending on whether the concept to be measured was unidirectional (e.g. Probability) or bidirectional (e.g. Evaluation). Brand equity items were evaluated using five-point Likert scales. The scales were anchored from 1 = "strongly disagree" to 5 = "strongly agree". (Yoo, Donthu 1997). Likert scales were used in this thesis. Likert scales were developed as a technique for the measurement of attitudes (Likert 1932). The constructs used in this thesis derive from attitudes, hence, the use of Likert's scale was appropriate. There has been discussion as to whether Likert scales are interval or ordinal (Newman 2005). This thesis adopts Likert scales because they are interval scales. The data was assumed to be scaled at intervals (Madsen 1989). This thesis used a seven-point scale for most of the questionnaire except for the measurement of Equity, where a five-point scale was used. Both seven and five point scales are able to provide a distinction in the evaluated categories. Although the seven item scales tend to be more reliable (Churchill, Iacobucci 2009), this thesis kept the five-point scale to measure equity to provide uniformity and continuity to the scale developed by Yoo and Donthu (1997). The Ten-Item Personality Inventory (TIPI), uses the common stem, *'I see myself as'*. Each item was rated on a 7-point scale. Anchors ranged from 1= strongly disagree to 7= strongly agree (Gosling, Rentfrow et al. 2003). The majority of the survey retained

seven-point scales to avoid the fact that changes were likely to distract respondents from the task at hand. Both seven and five point scales are equally suitable for PLS SEM analysis.

The demographic questions were placed in the last section of the questionnaire. A second disclaimer reinforcing the commitment to privacy and confidentiality was displayed before this section. The questionnaire wording, structure and order followed the recommendations provided by the TPB (Ajzen 2002). Emotions were introduced in the first section of the questionnaire. CBBBRCE and approach/avoidance questions were included at the end of the questionnaire. Although the questionnaire had more than one element (brand, retailer and channel), these elements became merged as one concept, therefore, there was no double-barrelled question effect.

#### **4.5.2 Procedure for Data Collection**

Data was collected from two barbershops. Every customer who had to wait for a haircut was approached to answer the survey. The data for the internet channel and multi-channel was collected between the months of September and November 2012. During this time, the researcher remained on site for eight hours per day to access the men waiting to have their hair cut. The data was collected from Mondays to Saturdays. Data collection on Saturdays was important because this was the busiest day for the barbers and this created a waiting queue. A small percentage of respondents returned to the barbershop after three or four weeks, however, these men were not asked to repeat the survey.

### **4.5.3 Population**

The research population was defined as men aged between 18 to 65 years who lived in the UK.

### **4.5.4 Sample and Sampling Frame**

The research sample was selected from a group of men aged between 18 to 65 years who lived in or around two urban cities with a population of more than 20,000 inhabitants in Scotland. The cities chosen were Stirling and Alloa. There was no sampling frame for this thesis; there is no list of men who use Regaine. Any man is susceptible to lose his hair, therefore, all men were considered as a potential Regaine user. A natural sample was selected for this thesis. The reasons why a natural sample was selected instead of a segmented sample can be found in Appendix 8.

### **4.5.5 Sample Size**

The selection of a small sample size was influenced by the limitations imposed by time and financial constraints. The sample size was selected considering the trade-offs between statistical validity and practical limitations (Worthington, Whittaker 2006). 411 survey questionnaires were collected. The sample was classified into three groups: drugstore, internet and multi-channel. Problems with data consistency forced the removal of respondents with a very low intention (see section 4.7.1). The usable sample consisted of 63 respondents from the drugstore, 62 from the internet and 61 from multi-channel. Table 17 illustrates the thesis sample size.

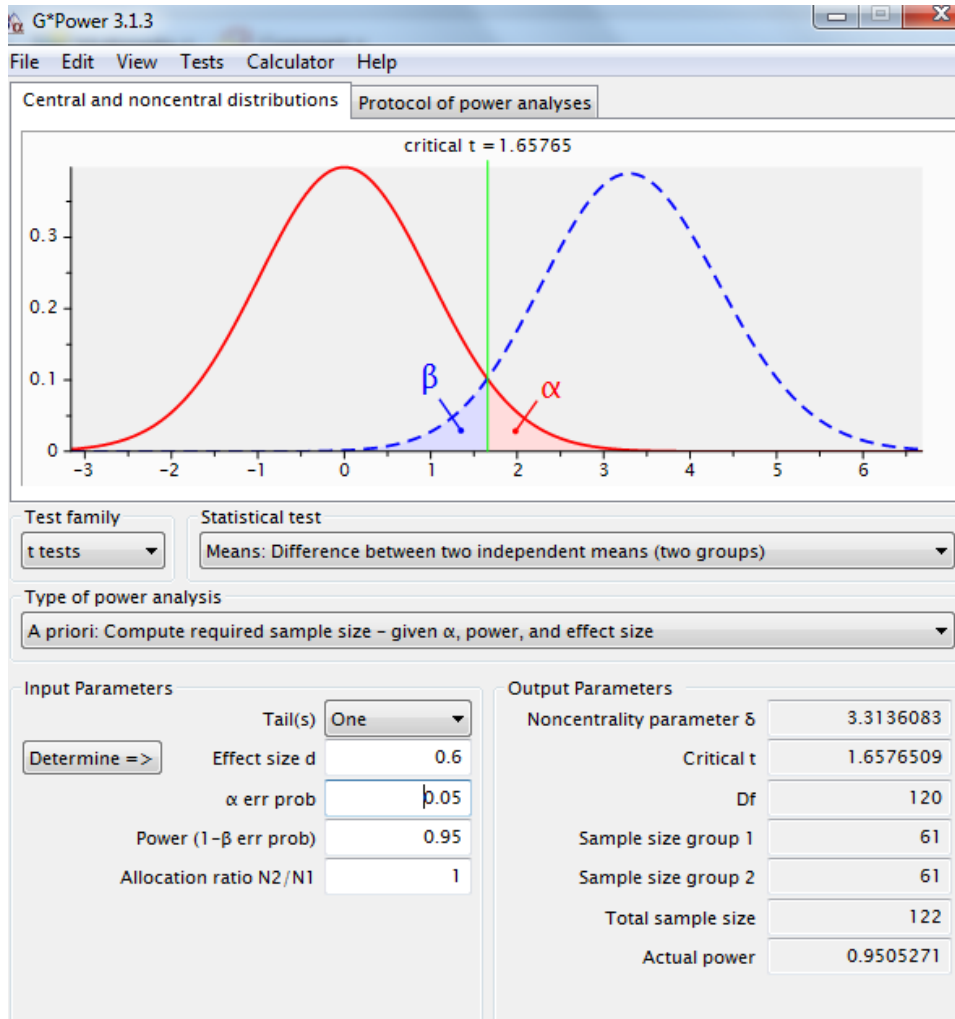
**Table 17 - Sample Size by Retail Environment before and after items were removed**

	<b>Drugstore</b>	<b>Internet</b>	<b>Multi-channel</b>	<b>Total Sample</b>
Initial Sample	132	146	133	411
Sample after items marked with a very low intention were removed	63	62	61	183

The recommended sample size was calculated using the software G-Power 3.1 (Faul, Erdfelder et al. 2007). The software output suggested a sample of 61 respondents. This number corresponded to an effect size of 0.6,  $\alpha$  error of 0.05 and Power of 0.95. Figure 7 illustrates the use of G-Power software.

Chin (1997) suggests as a strong rule of thumb that sample size for PLS studies should be: (1) Ten times the scale with the largest number of formative indicators (reflective indicators can be ignored), or (2) Ten times the largest number of structural paths directed at a particular construct. A weak rule of thumb would be to use a multiplier of five. An example of the use of the weak rule of thumb can be illustrated using a study from Wold (1989). Wold analysed

Figure 7 -G\*Power Sample Size Calculator



27 variables using two latent constructs with a data set consisting of ten cases (Chin 1997). According to the strong rule of thumb, this thesis should have a sample of 80 cases because there are eight structural paths directed at intention. Using the weak rule of thumb, the minimum would be 40 cases. The rule of thumb method has been both praised and criticised, and use of common sense is recommended. It is important that researchers using PLS consider the characteristics of the data and the model (Marcoulides, Saunders 2006).

#### **4.5.6 Measurement**

##### **Selection of intention measurements:**

There are three methods available to measure intention: intention performance, generalised intention and intention simulation. A description of the three methods is presented by Francis, Eccles et al. (2004). The interest of this thesis is about intention in general, therefore, the method of generalised intention was selected. The items used were: *'I expect'*; *'I want'*; and *'I intend'*. Consistency for the use of these items has been supported in the literature (Armitage, Conner 2001).

##### **Selection of attitude direct measurements:**

“Investigators often mistakenly assume that direct measures of the theory’s constructs are obtained by asking a few arbitrarily selected questions, or by adapting items used in previous studies.” (Ajzen 2002, p. 4). To avoid this common mistake in the selection of attitudes, this thesis followed a process in order to decide which items should be included. Using this process, attitudes were not selected or adapted from a single study, rather a careful evaluation of the research context was performed. From the original list of 76 attitudes developed by Osgood (1957) (see Appendix 9 for the complete list), only items that made sense in the context of shopping for Regaine in Boots were selected. In addition, three groups of attitudes were considered: Evaluation, Potency and Activity (Osgood, Suci et al. 1957) (Ajzen 2002). At least one item from each group was part of the selected attributes. Furthermore, the thesis incorporated items that represented both pleasure and arousal. The work of Osgood, Suci et



al. (1957) was used by Mehrabian and Russell (1974) to create the measures of pleasure, arousal and dominance (PAD). However, over the years, the dominance dimension has been omitted after recommendations made by Russel and Pratt (1980) and in retail settings by Donovan and Rossiter (1982), therefore, only pleasure and arousal items were selected for this thesis. A list of items that served as a framework from which pleasure and arousal items were selected is presented in Appendix 10.

As a precaution, this thesis included instrumental and experimental items. Two instrumental components (value/benefit) and two experimental (pleasant/enjoy) were incorporated. This division into instrumental or affective items is similar to the hedonic and utilitarian measurement of attitude (Babin, Darden et al. 1994). The list used to select instrumental and affective items can be found in Appendix 11. This thesis also included one item that captured overall evaluation (good-bad). Table 18 presents the items that were finally selected for this study and the reasons why they were included.

#### **Selection of subjective norm direct measurements:**

The direct measures of subjective norm include questions that refer to the opinion that important people (from the point of view of the respondent) have about the behaviour. The items selected for the direct measurement of subjective norm were: *'Most people who are important...'*; *'Most people who suffer hair loss...'*; *'It is expected by others...'* and *'Most people whose opinions I value...'*.

**Table 18 - Direct Measurement Attitude Items included in the pilot study**

<b>Attitude Item</b>	<b>Osgood</b>	<b>Mehrabian and Russel</b>	<b>Reasons for Including this Item</b>
(1) Good-Bad	Yes		Instrumental Overall Evaluation
(2) Foolish-Wise	Yes		Instrumental
(3) Changeable-Stable	Yes		Stability
(4) Public-Private	Yes		Relationship between Public/Private and embarrassment
(5) Calm-Excited	Yes	Yes	Arousal
(6) Unpleasant-Pleasant	No	Yes	Pleasure Experiential
(7) Unenjoyable-Enjoyable	No		Experiential
(8) Constrained-Free	Yes		Potency
(9) Useless-Useful	Yes		Instrumental
(10) Complex-Simple	Yes		Activity Allows to compare the simplicity-complexity of multi-channel versus internet and store

### **Selection of PBC direct measurements**

Items that measure both self efficacy and controllability were included in the study.

To measure self-efficacy, the following items were included:

*- I am confident that if I wanted to, I could purchase Regaine from Boots using only the website*

To measure controllability (feeling of control) the following items were included:

*- Whether or not I purchase Regaine from Boots website is completely up to me*  
*- The decision to purchase Regaine from the Boots website is beyond my control*

### **Selection of Behaviour measurements**

This thesis was unable to measure actual behaviour, therefore, relying on self-report was acceptable. Self-report is widely recognised as a valuable methodology in social research and reasonably strong correlations can be found between self-reported and more objective measures of behaviour (Åberg, Larsen et al. 1997) (de Waard, Rooijers 1994) (West, French et al. 1993). Self-report of behaviour was measured by asking: *During the last six months, how many bottles of Regaine have you purchased from Boots using \_\_\_\_\_?*

### **Selection of Brand-Retailer Equity measurements:**

The measurement of CBBRCE followed the item structure developed by Yoo and Donthu (2001). Yoo used a modified version of brand loyalty items based on Beatty and Kahle (1988). Brand awareness items were adapted from Srull (1984), Alba and Hutchinson (1987) and Rossiter and Percy (1987), and Perceived Quality items were constructed following Dodds, Monroe et al. (1991).

The list of items used to evaluate CBBRCE and its antecedents is presented in Table 19. The items correspond to an example from the internet channel.

**Table 19 - Items used to evaluate CBBRCE**

<b>Loyalty Items:</b>
I consider myself to be loyal to Regaine in Boots web page
Regaine in Boots webpage would be my first choice.
I will not buy other brands if Regaine is available at Boots web page
<b>Quality Items:</b>
The expected quality of Regaine on Boots web page is extremely high.
The likelihood that Regaine purchased in Boots web page has all its therapeutic properties is very high.
<b>Awareness/Associations Items</b>
I can recognize Regaine in Boots website among other competing brands, retailers and channels.
I am aware that Regaine is sold on Boots web page
If I think about a Package/Bottle of Regaine in Boots web page, it comes to my mind quickly.
I can quickly recall the symbol or logo of Regaine
I can quickly recall the symbol or logo of Boots
I have difficulty in imagining Regaine in Boots web page in my mind.
<b>CBBRCE Items</b>
It makes sense to buy Regaine in Boots web page instead of any other brand-retailer-channel, even if they are the same.
Even if another brand-retailer-channel has the same features as Regaine in Boots web page, I would prefer to buy Regaine in Boots webpage.
If there is another brand-retailer-channel as good as Regaine in Boots web page, I prefer to buy Regaine in Boots webpage.
If another brand-retailer-channel is not different from Regaine in Boots Internet Web page in any way, it seems smarter to shop for Regaine in Boots webpage.

**Selection of Psychographic measurements:**

Questionnaire length was a limitation for this thesis. In consequence, a decision had to be made between using a brief measure of the Big 5 personality dimensions and using no measure at all. The “Big 5” 10 item personality inventory (TIPI) was used. TIPI is an instrument that has reached adequate levels in terms of reliability and validity (Gosling, Rentfrow et al. 2003).

The questions used to measure emotions were:

- *To what extent would you feel optimism if you shop for Regaine from the Boots website?*
- *To what extent would you feel no emotion if you shop for Regaine from the Boots website?*
- *To what extent would you feel contentment if you shop for Regaine from the Boots website?*
- *To what extent would you feel embarrassed if you shop for Regaine from the Boots website?*
- *To what extent would you feel nervous if you shop for Regaine from the Boots website?*
- *To what extent would you feel tense if you shop for Regaine from the Boots website?*
- *To what extent would you feel discontent if you shop for Regaine from the Boots website?*

**Selection of Approach/Avoidance measurements:**

Meharabian and Russell developed some general dimensions to measure approach and avoidance called behavioural measures (Russell, Mehrabian 1978). The Mehrabian and Russell items that were adapted for this research are presented in Table 20, using the internet as an example. The following statement preceded the questions: *‘Imagine that you are now looking at Regaine on the Boots website, imagine your mood while shopping there. Now evaluate the following according to how you feel in this situation’.*

**Table 20 - Measures for Approach and Avoidance**

<b>Measures for Approach:</b>
I like spending time in the website
I enjoy exploring around the website
I feel friendly to chat/post comments to other internet users about it.
<b>Measures for Avoidance</b>
I feel I want to leave the website quickly
I would avoid looking around or exploring other products on the website
I would avoid chatting or posting comments to other people

[Chapter 4]

Table 21 presents a summary of the study constructs, the source used to select the scale, the number of items in each scale and its type.

**Table 21 - Scales of Measurement used for Study Constructs**

<b>Construct</b>	<b>Source</b>	<b>No. of Items</b>	<b>Scale</b>
Attitudes	(Ajzen 1991)(Francis, Eccles et al. 2004) (Osgood, Suci et al. 1957) (Mehrabian, Russell 1974)	10	Likert
Subjective Norm	(Ajzen 1991) (Francis, Eccles et al. 2004)	4	Likert
PBC	(Ajzen 1991) (Francis, Eccles et al. 2004)	3	Likert
Intention	(Ajzen 1991) (Francis, Eccles et al. 2004)	3	Likert
Behaviour	(Ajzen 1991) (Francis, Eccles et al. 2004)	1	Ordinal
Emotions	(Richins 1997) (Reynolds, Folse et al. 2006)	7	Likert
Ten Item Personality	(Gosling, Rentfrow et al. 2003)	10	Likert
Awareness/Associations	(Yoo, Donthu 2001) (Srull 1984) (Alba, Hutchinson 1987) (Rossiter, Percy 1987)	4	Likert
Loyalty	(Yoo, Donthu 2001) (Beatty, Kahle 1988)	3	Likert
Quality	(Yoo, Donthu 2001) (Dodds, Monroe et al. 1991)	2	Likert
CBBRCE	(Yoo, Donthu 2001)	4	Likert
Approach/Avoidance	(Russell, Mehrabian 1978)	6	Likert

#### **4.6 Phase Two: Pre-pilot Study Results**

The aim of the pre-pilot study was to refine the accuracy of the questionnaire items. The wording of the questions was tested, the sequence, layout and familiarity were evaluated and the questionnaire completion time was measured (Veal, Ticehurst 2005). To achieve this aim, cognitive interviewing techniques (Schwarz, Sudman 1996) were conducted. During these interviews, the interviewees were required to verbalize their thoughts (thoughts that would normally be silent) following the procedures developed by Ericcson and Simon

(1993). In addition to the verbalization of thoughts, respondents were asked to explain their feelings and issues about the survey, following the TPB recommendations developed by Francis, Eccles et al. (2004). The questions asked were:

- Are any items ambiguous or difficult to answer?*
- *Does the questionnaire feel too repetitive?*
  - *Does it feel too long?*
  - *Does it feel too superficial?*
  - *Are there any annoying features in the wording or formatting?*
  - *Are there inconsistent responses that might indicate that changes in response endpoints are problematic for respondents who complete the questionnaire quickly?*

To establish 'face validity' 5 surveys were tested for each channel, 15 University of Stirling PhD students and staff answered the questionnaire.

The following issues were identified during the pre-pilot study:

### **Forced Opinion**

Some participants expressed the view that they were confused because they were forced to give their opinion about a topic that they have not considered before, as they had not suffered from hair loss. Although this thesis shared this concern with the participants, it is common that respondents do not have ready-made opinions or answers to report when responding to surveys (Krosnick 1988). Using only participants who have considered using Regaine could improve the quality of the responses but this would place a large restriction in term of access to respondents.



### **Never/I don't know**

Some participants expressed the view that they would like to have the '*never/I do not know*' response option. However, this option was not adopted because it is not recommended for TPB questionnaires.

### **Additional Disclaimer**

Some participants expressed the view that they would feel safer if an additional disclaimer regarding the safety of their privacy information was included. This suggestion was adopted by this thesis.

### **Is beyond my control**

The interviewees showed difficulty in understanding the perceived behavioural item '*Purchasing Regaine from Boots is beyond my control*'.

### **Definition of Shopping and Multi-channel**

Confusion was presented as to what is defined as shopping and what is multi-channel. To alleviate this weakness, definitions of these important terms were included in the final version of the survey.

### **Positive/ Negative endpoints**

Mixing positive and negative endpoints is a common practice designed to minimise the risk of 'response set'. However, this practice caused confusion amongst the respondents. McColl (2001) argues that mixing items could be counterproductive. Francis suggests that the item mix decision is a matter of

judgement; different types of samples may respond differently to mixed or unmixed endpoints (Francis, Eccles et al. 2004). Taking the previous points into consideration it was decided to eliminate mixed end points.

## **4.7 Phase Two: Pilot study results (Drugstore)**

Taking into consideration that a minimum of 100 surveys would be required to conduct an adequate statistical analysis, the drugstore channel served as a pilot study. Data for this channel was collected during the month of June 2012. The respondents included in the elicitation study described in section 4.4. were not allowed to participate in the pilot study. This decision was taken to avoid any source of bias. The pilot study was useful to identify issues that could affect the normal execution of the main study. The following issues were detected during the pilot study.

### **4.7.1 Inconsistent data from respondents with very low Intention**

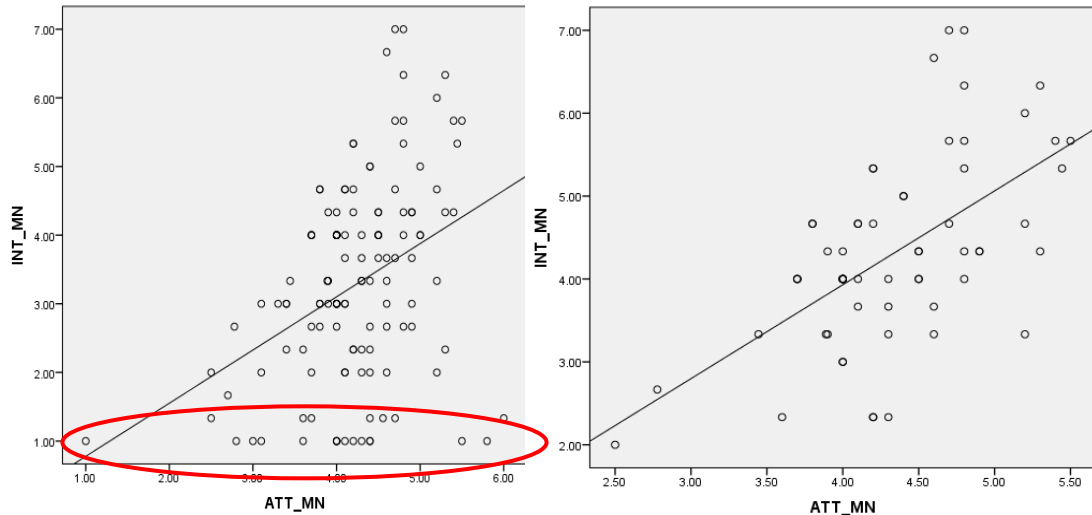
The initial analysis of the sample showed that the attitude of respondents with very low intention (those who marked intention with 1 in any of the three intention items) exhibited a very large variability. The problem described was present in 63 of the 132 surveys collected. A linear regression between attitudes and intention showed that individuals with very low intention substantially decreased the predictability of the study.

Figure 8 shows the linear regression of intention versus attitudes before and after removing users who rated intention with number one. The  $R^2$  from the linear regression improved significantly, from 0.14 to 0.34.

Figure 8 -Linear Regression of Intention versus Attitudes (Drugstore)

BEFORE:  $R^2$  Linear = 0.142

AFTER:  $R^2$  Linear = 0.342



Other TRA researchers have had similar problems. Ten percent of Kijisanayotins' sample was from subjects who declared very low intention but reported a high degree of information technology use. The low intention-high use result is in conflict with the Theory of Reasoned Action (TRA) where intention is supposed to have a positive effect on behaviour (Kijisanayotin, Pannarunothai et al. 2009).

#### 4.7.2 Very low response rate for Behaviour

The number of men in the sample who had used Regaine was very low. Only two percent of the pilot study sample had used Regaine. This thesis acknowledges the importance of the link between intention and behaviour in the TPB. However, the low response rate created the need to centre the efforts on intention and leave the purpose of explaining the intention-behaviour relation as an area to be explored by researchers in the future.

### 4.7.3 Missing Data and Treatment

It is very difficult to find a survey that does not have missing data (Zikmund, Carr et al. 2012). According to Tabachnick and Fidell (2001), missing data is one of the most common problems in data analysis process. SPSS v. 19 was used to evaluate problems related to missing data. This thesis used the missing value analysis (MVA) command. Appendix 12 shows the results of the percentage of data missing for each item. The items with missing values above ten percent are highlighted.

Two items (PN1 and PCF2) present a high percentage of missing data for the drugstore. The explanation for this is that these two questions were located on the top of the second and third pages of the questionnaire. When some of the respondents turned the page, the paper clip covered the question and prevented them from answering it. To prevent a repeat of this situation, the questionnaires used for the internet and multi-channel were not attached with a paper clip.

Other items that presented high levels of missing values were the ranking questions. To clarify the question, better descriptors were included. The word **EACH** was highlighted in bold and capitalised to emphasise that the respondents should rank each channel. The question about the number of children respondents had, received a high number of missing values. It is probable that respondents who did not have children left the question blank. Surveys with large numbers of missing data, or with the same item response on the Likert scale, were excluded before coding procedures.

#### **4.7.4 Outliers Examination and Data Normality**

Outliers can affect the PLS analysis because PLS is based on regressions and regressions are affected by outliers. PLS does not have tools to analyse outliers, therefore, outliers were examined using SPSS via QQ-Plots.

Normality was tested for the data. Violating normality could lead to an underestimation of fit indices. A graphical approach to evaluate normality was performed using QQ plots. Q-Q plots are graphical representations of observed and expected values. Appendix 16 shows the Q-Q plot for the main variables. The Q-Q plots showed that the data followed a straight diagonal line. Very few points were off the diagonal, therefore the data did not required an additional transformation process.

#### **4.7.5 Data Skewness and Kurtosis**

Compared with CBSEM, PLS is robust against skewness and kurtosis (Cassel, Hackl et al. 1999) (Reinartz, Haenlein et al. 2009). This thesis introduced skewness and kurtosis indicators in order to have a better understanding of the data characteristics. Indicators of skewness and kurtosis helped to understand the “symmetry” and "peakedness" of the distribution. The value for kurtosis should be under 1, however, values from 1 to 10 are considered moderate. This thesis also considered that a negative or positive value could reflect the nature of the construct being measured. For example, in this thesis mobile channel rank is expected to be skewed left. Many respondents do not use their mobile phones for shopping.

All the variables of the three evaluated channels were found to be within the normal range of skewness and kurtosis (i.e.  $< \pm 2.58$ , C.I.) (Hair, Wolfinbarger et al. 2008). Skewness and kurtosis results are shown in Table 22.

**Table 22 - Skewness and Kurtosis pilot study (Drugstore)**

	DRUGSTORE											
	ATT	PN	PBC	POSEMO	NEGEMO	CBBRE	AWA	QUAL	LOY	APPR	AVOID	INT
<b>Skewness</b>	-0.31	0.14	0.25	-0.29	0.48	0.49	1.87	-0.27	0.12	0.38	0.03	0.32
<b>Kurtosis</b>	0.78	0.53	-0.02	-1.03	-1.26	2.19	7.75	0.32	-0.23	-0.43	-0.46	0.05

Skewness and kurtosis were also analysed at an item level. Item level skewness and kurtosis statistics for the drugstore channel can be found in Appendix 13. The item level skewness and kurtosis were also in the normal range.

#### **4.7.6 Homoscedasticity**

PLS derives from the Multiple Regression theory and hence shares some of the requirements of homoscedasticity. This means that the dependent variable displays an equal variance across a number of independent variables. Residual plots were inspected graphically to evaluate the homoscedasticity of the data. Although Levene's test is regularly used to test for Homoscedasticity (Hair, Wolfinbarger et al. 2008), this test was not performed because this thesis did not perform an analysis of different groups (i.e. male/female). This thesis had more than one independent variable. This created a limitation in the use of scatter-plots. Scatter-plots do not consider the interaction that other independent variables have on the model. The residual plots for the main latent variables in relation to intention showed normal results. The graphs showing the residual plots for the main variables are presented in Appendix 14.

#### **4.7.7 Multicollinearity**

The pilot study met the minimum requirement for VIF (less than 5), and tolerance (more than 0.20) (Hair, Ringle et al. 2011) as presented in Appendix 15.

#### **4.7.8 Non-Response Bias**

Refusal to respond to the survey can decrease the sample size, which in turn distorts the validity of the sample in representing the whole population. The data collection technique for this thesis was the face-to-face method. This method does not have the disadvantages of non-response that other methods have, for example a mail survey. Ten respondents refused to answer the survey. Of those, four interviewees (elderly respondents) could not answer the survey because they did not carry their reading glasses.

#### **4.7.9 TPB Extension**

The  $R^2$  achieved by this thesis on intention is compared with the one that would have been achieved if only the TPB constructs had been used. Table 23 illustrates the comparison. The increase in variance explained was significant. There were 14 percentage points of difference between them.

**Table 23 - R<sup>2</sup> TPB only versus TPB+ Extension**

	<b>TPB only</b>	<b>TPB+extension</b>	<b>Difference</b>
<b>Drugstore</b>	0.59	0.73	0.14

The difference was even higher if the results were compared with other TPB meta-analysis studies. Godin and Kok (1996) revealed that TPB variables accounted for 41percent of the variance in intentions; the figure was 39 percent according to Armitage and Conner (2001). The variance explained on intention in the present model was higher than the one achieved by previous TPB studies.

#### **4.7.10 Internal and External Validity**

The pilot study evaluated the stability and the quality of the data. The tests that confirm reliability and validity are presented in Chapter 5. The pilot study also served to validate and determine which of the direct measurements tested should be used in the final study. Of the ten attitude direct measurement items evaluated, four were identified with low reliability: (Good-Bad), (Calm-Excited), (Unenjoyable-Enjoyable) and (Constrained-Free). The previously mentioned items were removed from the survey.

#### **4.8 Rationale for selecting SEM with PLS approach compared to CBSEM approach**

The following section discusses the rationale for using PLS instead of CBSEM. Two important reasons influenced the selection of a PLS SEM approach instead of a CB approach. The first reason was that PLS can model either formative or reflective relationships between latent variables. CBSEM can typically model only reflective indicators. The second reason concerned sample



size. PLS minimal sample size recommendation ranges from 30 to 100 cases while CB minimum range starts with 200 cases (Chin 2010). Therefore, for a thesis with a sample size of 60 cases, as in this study, the PLS approach was more than adequate. Table 24 shows the differences and similarities between the two approaches (PLS and CBSEM). For most of the criteria, both methods were applicable for this thesis. However, the two previously mentioned reasons inclined the balance towards PLS.

**Table 24 - Reasons for selecting PLS versus CBSEM**

<b>Criterion</b>	<b>PLS</b>	<b>CBSEM</b>	<b>This thesis</b>
Objective	Prediction oriented	Parameter oriented	Both approaches could work for this study.
Approach	Variance based	Covariance based	Both approaches could work for this study.
Assumptions	Predictor specification (non-parametric)	Typically multivariate normal distribution and independent observations (parametric)	Both approaches could work for this study.
Epistemic relationship between LVs and its measures	Can be modelled in either formative or reflective mode	Typically only with reflective indicators	This study includes reflective and formative constructs. PLS is more adequate. (Diamantopoulos, Winklhofer 2001)
Sample size	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations range from 30 to 100 cases.	Estimation should be based on a power analysis of the specific model. Minimal recommendations range from 200 to 800.	This study has a small sample size, making PLS more adequate.

Source: Based on Chin (2010)

#### 4.8.1 Smart PLS 2.0

The software used to represent and test this model was Smart PLS 2.0 M3 (Ringle, Wende et al. 2005). The software default settings were selected. The initial value for each of the outer weights was set to one (Henseler 2010); the

path weighting scheme was used (Henseler 2010); the stop criterion was fixed to  $10^{-5}$  and the maximum number of iterations was 300 (Wold 1982) (Ringle, Wende et al. 2005). The PLS algorithm manages missing values. It was indicated to the software that the data contained missing values. Number -99 was defined as a sentinel to identify them. The data set was then validated to check for any errors in the procedure. The missing value algorithm used case wise replacement because this is the recommended option when the data contains missing values.

#### **4.9 Ethical considerations**

Prior to the data collection phase of this thesis a detailed planned methodology was submitted to and ultimately approved by the University of Stirling's Ethics Committee. Throughout the duration of the study all relevant procedures and principles outlined in the University guidelines were adhered to as a matter of course. All data was managed, organised and kept safe in line with the principles of the Data Protection Act 1996. Participants gave their informed consent once fully briefed on the broad aims and objectives of the study. They were all made aware of their obligations and the obligations of the researcher. Also it was made clear to the respondents that they were free to decline to answer any of the questions. Respondents were also assured that their confidentiality and data privacy was the highest priority for the researcher. It was also made explicit to the respondents that they were able to withdraw from completing the survey or the qualitative questionnaires at any time.

Ethical questions arose from the use of a pharmaceutical product in this thesis. For example, could this thesis be used for 'evil' means? Could pharmaceutical companies or pharmacy retailers use this research to manipulate the needs and desires of men? Men genuinely suffer as a consequence of hair loss, and Regaine is ethically providing a solution as far as the researcher is aware. Pharmaceutical companies are providing the consumer with a solution to their need. However, during this research it was found that pharmaceutical companies are ethically questionable in terms of how they use the scientific results of their studies, in terms of the overpromise in benefits and effectiveness of the product and in the marketing of the product's name.

The exclusion of the surveys that had a 1 in intention could be considered ethically questionable, given that the respondents thought they were participating in the research. However, including them would have negatively affected the data analysis, therefore, they indirectly contributed to the success of this study.

#### **4.10 Chapter Summary**

The methodology for this thesis builds on the approach utilised by the TPB. The TPB methodology has evolved after years of trial and error improvements. This chapter justified and explained the use of a quantitative focused methodology a valid way in which to answer the research questions proposed in this thesis. The quantitative nature of this thesis corresponds to the positivist paradigm. Although this thesis is primarily quantitative in its approach, it also required a qualitative phase. The qualitative phase was used to elicit consumer beliefs

about the behaviour. The main advantage of mixing quantitative and qualitative research was that the qualitative phase (formative research) provided the most adequate beliefs in terms of target, action and context for the selected population. The qualitative methodology was modified to include the measurement of emotions. The modifications introduced in the methodology were explained. The most important beliefs and emotions discovered in the qualitative phase were used to construct the quantitative questionnaire. Embarrassment was among the negative emotions elicited in the qualitative study. The research was divided into phases; phase one, the elicitation study (qualitative) and phase two, the quantitative study. Both qualitative and quantitative phases were described in terms of population, sample and sample size. The results of the pre-pilot and pilot of phase two were introduced. In the pre-pilot study, participants were asked to verbalize their thoughts. Following the pre-pilot study, concept definitions were introduced and item modifications were made to the questionnaire. The pilot study was vital to assess the reliability of the TPB direct measurements prior to the construction of the final questionnaire. The pilot study showed a significant improvement, 14 percent in prediction over previous TPB studies. The reasons for selecting a PLS analysis approach instead of a CBSEM were presented. The main reasons were that PLS responds better to small sample sizes and formative measurement designs. Smart PLS was the software used for the quantitative phase. The software settings were described. Finally, the ethical issues considered in this thesis were discussed. The results of the quantitative study (phase two) will be presented in chapter 5.

## **Chapter 5**

### **Findings**

#### **5.1 Introduction**

The methodological approach that was adopted in this thesis was described and justified in Chapter 4. The purpose of this chapter is to present the empirical findings collected as part of the thesis in order to test the research model presented in Chapter 3. In terms of organisation, this chapter is structured into seven sections. The first section begins with a preliminary analysis of the data. Here, the data was inspected to analyse non-response, consistency problems, the demographic profile of the respondents, means and standard deviations, outliers, missing data, skewness and kurtosis, homoscedasticity and multicollinearity. The second section develops the two-step approach that Chin (2010) recommended for PLS and SEM analysis. This involves the evaluation of the outer model as the first step (indicators) and the validation of the inner model as the second step (latent variables). As formative constructs cannot be analysed in the same way as their reflective counterparts, these were analysed and presented at the end of this section. The formative indicator analysis presents VIF, tolerance and significance statistics that confirm the reliability and validity of the data. The third section analyses demographic and personality constructs. It explains how the demographic and personality items were selected and what magnitude these factors have to moderate TPB on intention. The fourth section undertakes a Multiple Group

Analysis (MGA) to determine if there are significant differences between the evaluated groups. The fifth section discusses if a Finite Mixture (FIMIX) response based segmentation is a viable option for the data collected. The sixth section presents an analysis of the indirect measures of the TPB. Indirect variables are essential to understand the customer and provide the why answers that this thesis pursues, an objective achieved using a discriminant analysis. Finally, the seventh section analyses the influence that ranking of channels and discrete choice between channels questions have on the response variables. To conclude, a summary of the chapter findings is presented.

## **5.2 Preliminary Data Analysis**

### **5.2.1 Survey Response/Non-Response Analysis**

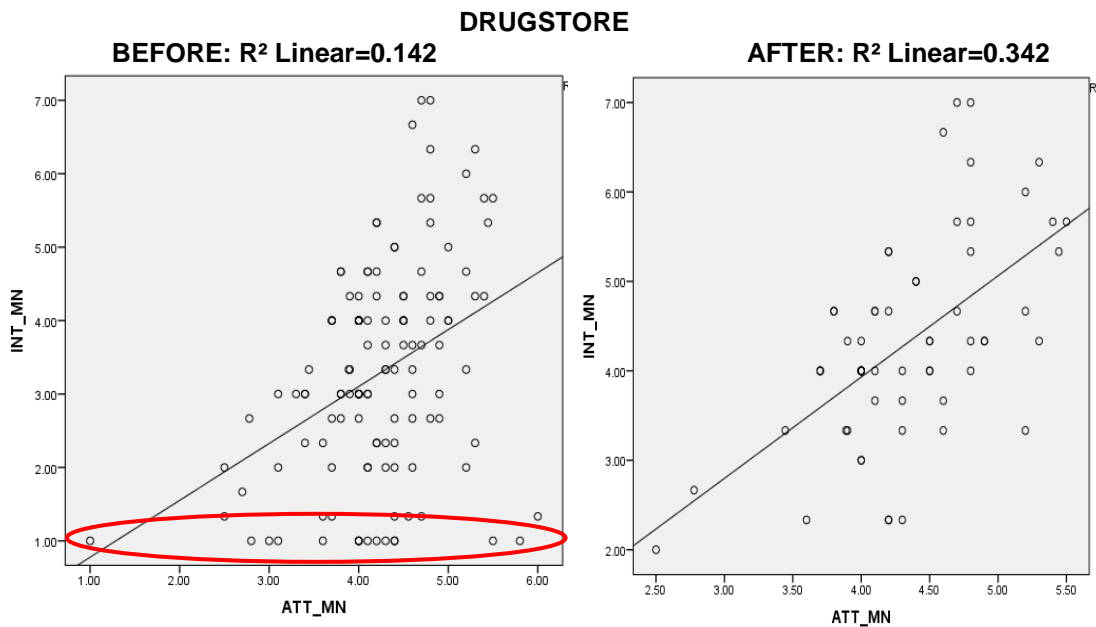
The respondents took on average between ten and 20 minutes to answer the questionnaire. Consistent with the results of the pilot study, 20 respondents were unwilling or unable to answer the survey. Furthermore, four respondents refused to answer the survey after realising the questions were related to Regaine. More research is needed to understand why this rejection occurs. It can be hypothesised that the negative reaction is a psychological defence mechanism used by respondents to avoid embarrassment or to protect themselves against negative feelings generated by hair loss and related issues.

### **5.2.2 Inconsistent data from respondents with very low Intention**

Consistent with the pilot study results, the attitude of respondents with very low intention (marked intention with 1 in any of the three intention items) exhibited a

very large variability on the internet and multi-channel. Figure 9 illustrates how the linear regression of intention versus attitudes improves significantly after removing users who rated intention with one (very low). The  $R^2$  improved significantly, from 0.14 to 0.34 in the case of the drugstore (see Figure 9), from 0.20 to 0.34 in the case of the internet (Figure 10) and from 0.12 to 0.26 in the case of multi-channel (Figure 11).

**Figure 9 -Linear Regression of Intention versus Attitudes (Drugstore)**



**Figure 10 -Linear Regression of Intention versus Attitudes (Internet)**

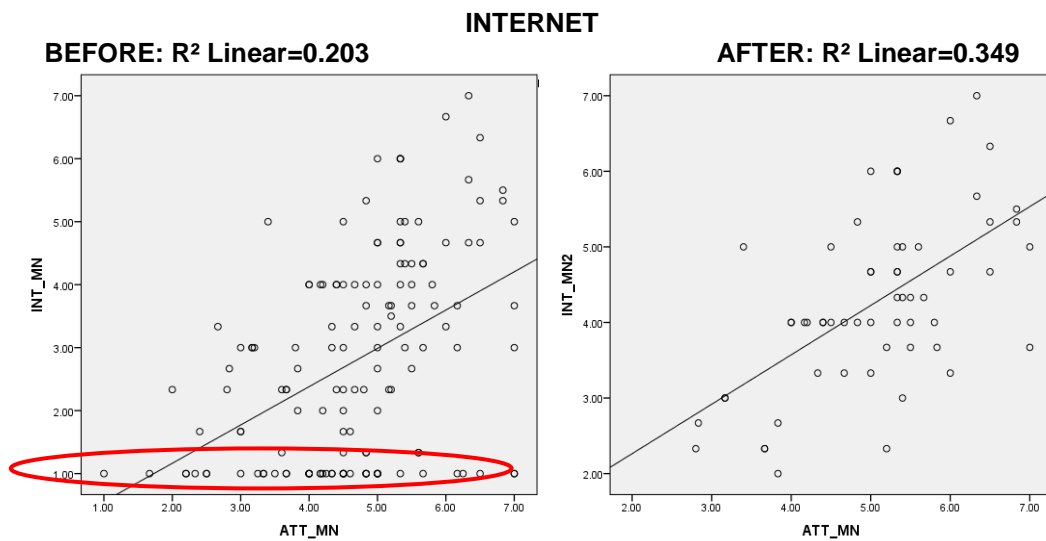
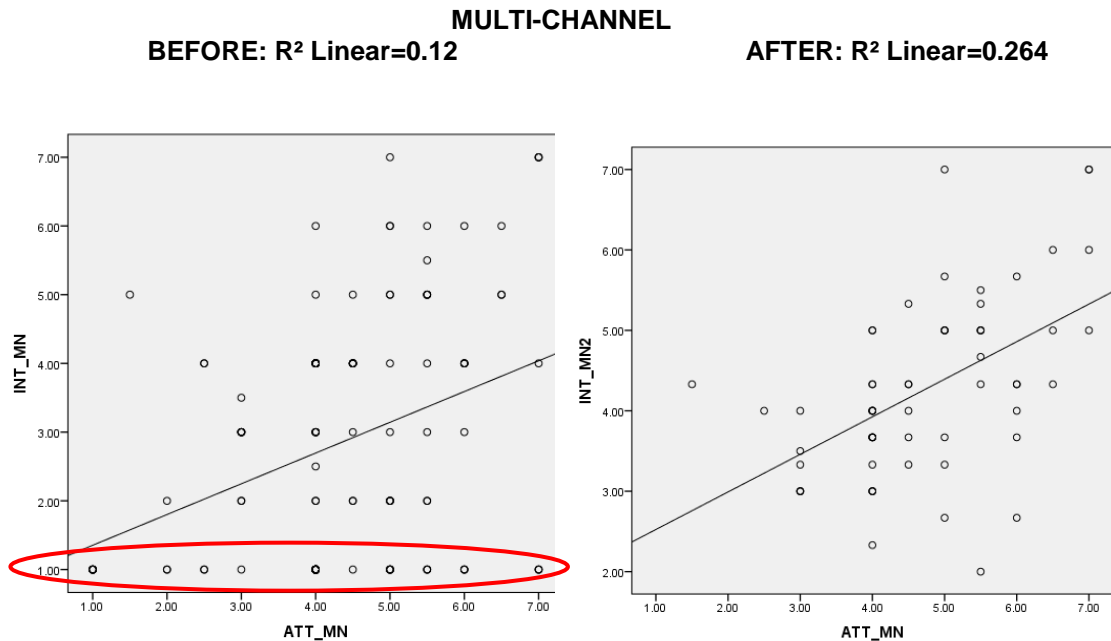


Figure 11 -Linear Regression of Intention versus Attitudes (Multi-channel)



Eliminating the respondents with very low intention significantly improved the quality of the data. Consequently, the answers from very low intention users were not included in this study.

### 5.2.3 Analysis of Behaviour

Consistent with the pilot study results, the number of men who had used Regaine was very low in the internet and multi-channel samples. This result confirmed that this study should focus on intention, approach and avoidance. The connection between intention and behaviour would require performing a booster sample of Regaine users. For financial reasons this was beyond the reach of this thesis. The consequences of such limitation are discussed in Chapter 6.



#### **5.2.4 Demographic Profile**

The demographic characteristics of men who visited the barbershops were diverse. Consequently, there was a large variety of men of different ages, incomes, and educational levels amongst the respondents. The demographic profile is presented in Table 25. The questionnaire included a self-classification question that evaluated the degree of familiarity and use that respondents had with Regaine. Large sample proportions (49 to 62 percent were aware of Regaine), however, large percentages (35 to 44 percent had never heard about the product). Regaine did not achieve the high levels of awareness that were expected. Approximately half of the sample knew about the Regaine brand. This occurred despite the fact that it is a brand regularly advertised on national television and online (Mae, Smith 14.02.2011).

There were no customers who used Regaine in either the drugstore or the internet samples, and only 2 percent in the multi-channel context. The low use rate made it impossible for this thesis to corroborate the link between intention and behaviour as suggested by the TPB (see Figure 3, p.47).

Also reported in Table 25, the drugstore channel sample evidenced the lowest level of self-reported channel use (50 percent). Surprisingly, the proportion of self-reported multi-channel use (65.4 percent) was slightly higher than the percentage that had used the internet (59.6 percent). The percentage of men with a low educational level in the multi-channel sample was slightly larger than in other channels. The multi-channel sample had an educational level (high school or less) of 41.4 percent compared with 27-30 percent in other channels.

Multi-channel also had the highest percentage of men who were married (54.2 percent) in comparison with 42-47 percent in the other two contexts. The percentages obtained in the working status question were similar for all the three samples. For example, 50 percent of men from the drugstore sample reported that they were working full time, compared to 64.8 percent from the internet sample and 55.4 percent from the multi-channel sample. The income level was similar in all three samples. For example, the percentage of men with income levels of £30,000 to £49,999 was 27.1 percent from the drugstore sample, 22.2 percent from the internet sample and 30.4 percent from the multi-channel sample. The number of children respondents had was similar in all three samples: 56.5 percent in the drugstore sample, 63.2 percent in the internet sample and 44.2 percent in the multi-channel sample. The sample was divided mainly between men who lived alone (24 to 26 percent) and those who lived with a partner (24 to 32 percent).

### **5.3 Data Main descriptive Statistics**

Table 26 presents a summary of the main descriptive statistics for each of the evaluated constructs in each channel. The constructs used in this thesis had a varied number of items. The construct with the biggest number of items was attitudes (six items in the drugstore). All the constructs had at least two items, with the exception of the demographic and personality items, which had only one. The constructs' mean ranged from 2.6 to 4.7 in the drugstore, from 2.17 to 5.07 on the internet and from 2.7 to 4.7 in multi-channel. The items with lower means were loyalty which ranged from 2.6 to 2.71 (most of the respondents were not loyal to Regaine-Boots-Channel) and negative emotions which ranged

**Table 25 - Demographic Profile**

	Drugstore	Internet	Multichannel
<b>Self classification</b>			
Unaware	35.7	44.9	39.2
Aware	62.5	49.0	56.9
Using 1-15w			
Using>16 w			2.0
Used in the past	1.8	6.1	2.0
<b>Channel Familiarity</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Uses Channel	50.0	59.6	65.4
Do not uses Channel	50.0	40.4	34.6
<b>Marital Status</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Married/ living with a partner	42.9	47.4	54.2
Widowed		1.8	1.7
Divorced	3.2	3.5	
Separated	3.2	1.8	
Single/ Never married	50.8	45.6	44.1
<b>Academic Qualifications</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
High school or less	27.1	30.8	41.4
Some college	27.1	26.9	24.1
Bachelors degree	20.3	15.4	12.1
Graduate or professional degree	25.4	26.9	22.4
<b>Working Status</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Not working	1.7	5.6	3.6
Part-time (> 20 hrs/week)	18.3	5.6	10.7
3/4 time (20 – 31 hrs/week)			1.8
Full time (32 – 40hrs/week)	50.0	64.8	55.4
Self Employed	11.7	9.3	8.9
Student	13.3	11.1	17.9
Employee	5.0	3.7	
Retired			1.8
Other			
<b>Income</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Less than £9,999	23.7	14.8	14.3
£10,000-£29,999	27.1	55.6	37.5
£30,000-£49,999	27.1	22.2	30.4
£50,000-£69,999	10.2	5.6	10.7
£70,000-£89,999	5.1	1.9	1.8
£90,000 and more	6.8	.0	5.4
<b>Number of Children</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
0	56.5	63.2	44.2
1	23.9	10.5	23.3
2	13.0	18.4	18.6
3	4.3	7.9	14.0
4	2.2		
5			
<b>Household Composition</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Living Alone	24.1	26.8	25.0
Living with Partner	24.1	32.1	19.6
Living with children		1.8	7.1
Living with partner and children	25.9	28.6	32.1
Living with parents	25.9	10.7	16.1
<b>Age</b>	<b>Drugstore</b>	<b>Internet</b>	<b>Multichannel</b>
Average	31	32	31

**Table 26 - Descriptive Statistics for each construct:**

Construct	DRUGSTORE			INTERNET			MULTI-CHANNEL		
	Number of Items	Mean	Standard Deviation	Number of Items	Mean	Standard Deviation	Number of Items	Mean	Standard Deviation
Attitude	6	4.33	.60	4	5.07	1.04	4	4.73	1.21
Perceived Norm	2	4.13	1.10	2	4.11	1.16	2	3.95	.83
PBC	2	4.79	.88	2	4.75	1.23	2	4.20	.88
Positive Emotions	3	4.25	1.92	3	4.10	2.16	2	4.55	1.55
Negative Emotions	4	3.37	2.35	4	2.17	1.63	4	2.59	1.48
Demographics	1	81.00	10.61	1	80.00	10.50	1	4.18	1.36
Personality	1	3.02	1.42	1	3.02	1.67	1	4.76	1.29
CBBRCE	2	3.09	.73	4	2.95	.95	3	3.06	.81
Awareness	4	3.19	.79	4	3.08	.72	4	3.09	.75
Quality	2	3.30	1.00	2	3.05	.93	2	3.22	.95
Loyalty	2	2.62	1.01	2	2.49	.92	2	2.71	.86
Intention	3	4.32	1.14	3	4.27	1.15	3	4.32	1.22
Approach	3	3.04	1.37	2	4.26	1.06	3	4.14	1.28
Avoidance	3	3.63	1.53	2	3.39	1.20	3	3.08	1.23

**Note:** Demographic items are date of birth in the drugstore (80=1980) and internet, and working status in the case of multi-channel. Personality items are conventional (drugstore), extroverted (internet) and careless (multi-channel).

from 2.17 to 3.37. Most respondents were not embarrassed/nervous/tense about shopping for Regaine, however, the negative emotions mean was higher in the drugstore (3.37) compared with the internet (2.17) or multi-channel

(2.59). The highest mean for a construct was PBC, which ranged from 4.2 to 4.7. This response could imply that consumers did not find control issues while shopping for Regaine. In general, terms, the means of the constructs were similar in the three channels. The demographic statistics show that the average age of respondents was 32-33 years old. The intention to shop for Regaine was in the mid-point of the scale; means ranged from 4.2 to 4.3.

The standard deviations ranged from 0.6 to 2.3 in the drugstore to 0.7 to 2.1 on the internet and 0.7 to 1.5 in multi-channel. The highest standard deviation was found in negative emotions in the drugstore (2.35). This means that shopping for Regaine in the drugstore was very embarrassing for some consumers, but not for others. A high standard deviation was also reported for the construct positive emotions on the internet. This means that some respondents felt optimistic or content about purchasing Regaine from the Boots website, while others were not.

### **5.3.1 Outliers and Data Normality**

Although PLS does not require data normality, Q-Q Plots were used to evaluate how the data was distributed on an item-level. The dots in the Q-Q plots represented the differences between observed and expected values. If the points within the graph cluster around a straight diagonal line, the variable is

normally distributed. A visual inspection of the graphs permitted the researcher to evaluate the normal distribution of the values. All the dots clustered around the regression line, therefore, the data was normally distributed and no further transformation process was required. The Q-Q plots are presented in Appendix 16. Q-Q plots also allowed the data to be checked for outliers. Although outliers are not important from a statistical modelling perspective, they could have the ability to affect the dataset structure and parameters. To keep or remove outliers is still a topic of discussion in the world of statistics (Chandola, Banerjee et al. 2009). Decisions about outliers are complex. How outliers affect the reliability of Likert-scale measurements is rarely studied (Liu, Wu et al. 2010). However, this thesis concurs with Turhan who suggests it is necessary to assess their existence in order to take action if needed (Turhan 2012). Although some outliers were present, the outliers identified were different for each variable. Outliers were found at random in different questions and questionnaires. This thesis assumed that outliers were inherent in the variability of the data. In this case, outliers should be retained (Grubbs 1969). In consequence, outliers were not excluded from the analysis.

### **5.3.2 Missing Data and Treatment**

The survey instrument was modified based on the pilot study results. As a result, the missing value percentage obtained in the subsequent surveys (internet and multi-channel) was significantly reduced. The pilot study results suggested that some missing values occurred because the questionnaire was presented to the respondents clipped under a clip pad. To solve this issue, the internet questionnaire was provided to the respondents unclipped. Of the total

number of data points, the missing data percentage was under five. However, some cases of missing values persisted for the first question of the second page (PN1 had a missing value of 14.8 percent). This problem was solved for the multi-channel survey by lowering the margin at the top of the page. In this way, the question was easy to see even if the respondents clipped the survey. Even though the ranking questions were modified to improve their clarity, ranking questions continued to show the highest number of missing values. The questions about behaviour “*How many bottles of Regaine have you purchased?*” and “*How many children do you have?*” presented high numbers of missing values; apparently a small percentage of respondents assumed that not answering these questions implied an answer of zero. Missing values also occurred in the self-classification question. The nature of the product studied could have made it embarrassing for the respondents to self-classify themselves as Regaine users. Missing data tables can be found in Appendix 17.

Questionnaires with a large proportion of answers missing or survey questions with the same answer for every item were removed. The maximum likelihood (ML) imputation method was used to handle missing values in Smart PLS.

### **5.3.3 Data Skewness and Kurtosis**

Although Cassel, Hackl et al. (1999) and Reinartz, Haenlein et al. (2009) demonstrated that PLS is robust against skewness and kurtosis, their respective indicators are presented in order to have a better understanding of the data characteristics. Indicators of skewness and kurtosis helped this thesis

to understand the “symmetry” and “peakedness” of the distribution. The value for kurtosis should be below one, however, values from 1 to 10 are considered moderate (Holmes-Smith, Coote et al. 2004). A negative or positive value can also be understood as a response to the nature of the construct being measured. Skewness and kurtosis statistics are presented in Table 27.

All the variables in the three evaluated channels were found to be within the normal range of skewness and kurtosis (i.e.  $< \pm 2.58$ , C.I.) (Hair, Wolfinbarger et al. 2008). An exception was awareness in the drugstore (7.75 in kurtosis) and negative emotions on the internet (2.64 in kurtosis). Nonetheless, these two variables were under the 10 value limit. Awareness was skewed to the left because most of the respondents had a low awareness about the product. The high kurtosis of awareness is explained by the high number of respondents rating it with the same scale number (between two and four). Negative emotions were skewed to the left on the internet. In this channel, a large proportion of respondents did not consider that shopping online was something embarrassing, or that it generated nervousness or tension.

**Table 27 - Skewness and Kurtosis**

	DRUGSTORE											
	ATT	PN	PBC	POSEMO	NEGEMO	CBBRE	AWA	QUAL	LOY	APPR	AVOID	INT
<b>Skewness</b>	-0.31	0.14	0.25	-0.29	0.48	0.49	1.87	-0.27	0.12	0.38	0.03	0.32
<b>Kurtosis</b>	0.78	0.53	-0.02	-1.03	-1.26	2.19	7.75	0.32	-0.23	-0.43	-0.46	0.05
	INTERNET											
	ATT	PN	PBC	POSEMO	NEGEMO	CBBRE	AWA	QUAL	LOY	APPR	AVOID	INT
<b>Skewness</b>	-0.23	0.36	-0.38	0.44	1.70	0.10	-0.09	0.05	0.04	0.16	-0.01	0.16
<b>Kurtosis</b>	-0.34	0.05	0.32	-0.27	2.64	-0.34	-0.36	0.23	-0.76	-0.02	-0.65	-0.29
	MULTICHANNEL											
	ATT	PN	PBC	POSEMO	NEGEMO	CBBRE	AWA	QUAL	LOY	APPR	AVOID	INT
<b>Skewness</b>	-0.03	-0.06	-0.72	0.31	0.73	0.23	0.14	0.01	-0.19	-0.24	0.25	0.47
<b>Kurtosis</b>	-0.21	-0.16	0.11	1.00	-0.27	0.17	-0.42	-0.09	0.15	0.76	-0.21	-0.02



### **5.3.4 Homoscedasticity**

PLS derives from the Multiple Regression Theory and hence shares some of its requirements of homoscedasticity. This means that the dependent variable displays an equal variance across a number of independent variables.

Residual plots were inspected graphically to evaluate homoscedasticity. The researcher tried to find any pattern created by the dots above or below the axis line. The absence of patterns indicates the data is homoscedastic (Gupta 2000) (see Residual Plots in Appendix 18). Although Levene's test is usually used to test homoscedasticity, this test was not performed because this thesis did not carry out an analysis of different groups (i.e. male/female).

Although scatter-plots are a good tool to determine homoscedasticity, their use was limited. The model used in this thesis had more than one independent variable, and scatter-plots do not take into account the interaction that multiple independent variables have with each other. The residual plots analysed for the main latent variables showed no signs of heteroscedasticity.

### **5.3.5 Multicollinearity**

Even though PLS is more robust against multicollinearity, it is not exempt from multicollinearity problems. To test for multicollinearity, the latent variable scores generated by the PLS algorithm were analysed using SPSS. SPSS uses tolerance and variance inflation factor (VIF) statistics to test collinearity. The analysis of VIF and tolerance showed no signs of multicollinearity problems. AT, PN, PBC, POSEMO, NEGEMO and CBBRCE were tested for multicollinearity as shown in Appendix 15.

The minimum requirement for VIF is that it should be less than 5, and tolerance should be more than 0.20 (Hair, Ringle et al. 2011). All of the variables met the minimum requirements. The highest level of VIF registered in this study was by ATT (4.12) which is still under the 5 level.

### **5.3.6 An Exploratory Approach to the Results**

There are two approaches in order to obtain the measurement results of the model: exploratory and confirmatory. The main approach of this thesis is confirmatory. However, a short analysis of the exploratory approach results is presented to compare and contrast the findings. In this approach, the researcher draws all the possible structural links among the constructs. The Weighting Scheme in the Smart PLS software was set to perform a Factor analysis (Chin 2010). This setting instructed the software to ignore the directionality of the arrows and perform pairwise correlations to establish the inner weights. The exploratory approach helped to determine which were the strongest constructs in each channel.

An analysis of the drugstore paths significances showed that attitudes, negative emotions and subjective norm influenced intention. The importance of negative emotions was preponderant in the drugstore; the importance of negative emotions in other channels was null. Negative emotions influenced not only intention, but also approach and avoidance. Positive emotions also influenced approach. This result confirms embarrassment theories that explain how emotional the face-to-face interaction can be. The feelings of embarrassment in the drugstore setting affected the consumers' responses.

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In the case of the internet, the only significant influence on intentions was attitude. Attitudes influenced awareness, and CBBRCE. CBBRCE was also important to generate approach and avoidance. Personality was able to influence approach.

In multi-channel, two constructs created most of the significant relationships: attitudes and awareness. Attitudes were the only factor influencing intention. Furthermore, attitudes affected approach, CBBRCE, loyalty, negative emotions, PN, positive emotions and quality. Awareness influenced CBBRCE, loyalty and quality.

The exploratory approach previously described should not be confused with the performance of an exploratory factor analysis (EFA). With the development of second generation structural equations modelling tools such as PLS, some researchers have argued that there is no need to purify the measurements with EFA (MacCallum, Austin 2000) (Straub, Boudreau et al. 2004). However, there is no clear resolution about whether a measurement error should be modelled and accounted for or simply eliminated (Gefen, Straub 2005). In line with this argument, EFA was not performed in this thesis. EFA identifies the structure of variables and generates new constructs (Stevens 1996). EFA is recommended when the constructs under study are relatively new. EFA is used in the initial stages of scale development. All the scales used in this thesis have been previously tested. In this thesis, the factor structure of the variables was pre-defined. Sample size also limited the use of EFA in this thesis. With a small sample size errors of inference can easily occur, particularly with techniques such as EFA (Osborne, Costello 2004).

## **5.4 Main Analysis**

### **5.4.1 Step One: Measurement Model Evaluation (Outer Model)**

The first step of the two-step analysis involves the evaluation of the measurement model or the outer model. The purpose of this stage is to determine the reliability and validity of the measurement model.

#### **5.4.1.1 Confirmatory Factor Analysis Results**

A Confirmatory Factor Analysis (CFA) is used to test a particular structural equation model. CFA evaluates measurement consistency and the construct relationships. A CFA is an adequate tool for this thesis because all the hypothesised paths were based on previous studies and scales that have been previously tested. CFA was the first step to evaluate the measurement model. The CFA was performed using the Smart PLS software (Ringle, Wende et al. 2005). The CFA confirmed the reliability and validity of the reflective scales.

A graphic representation of the drugstore conceptual model is presented in Figure 12, the internet conceptual model in Figure 13 and the multi-channel conceptual model in Figure 14. It illustrates the inner and outer model relationships. The figure represents the indicators and latent variables that were finally used in the study. A complete list of the indicators tested can be found in Appendix 19. CBBRCE was defined as a formative construct rather than a reflective one. The reason is that awareness, quality and loyalty do not always occur in a simultaneous manner.

After the model was constructed, the first step was to estimate the outer loadings. This process is also known as the measurement of the (outer) model. The Smart PLS settings were defined as referred to in Section 4.8.1.

Loadings were evaluated in order to assess the outer model. Standardised indicator loadings should be greater than or equal to 0.7. In exploratory studies, loadings of 0.40 are acceptable (Hulland 1999). Table 28 shows the indicators dropped from each sample because they did not achieve a 0.7 loading. Although some of the indicators eliminated were different for each channel, some were common to all. The LOY1 item '*I considered myself to be loyal to Regaine*' did not achieve the required loading. Considering that there were no Regaine users, all the respondents should have answered with a very low number, consistent with the other loyalty indicators. In the case of the recollection of Boots' logo (AWA5), many respondents were familiar with it, however, their answers lacked consistency with other awareness indicators. AWA6 used a negative statement '*I have difficulty*' and this could have confused respondents.

Figure 12 -Graphical representation of the Conceptual model: Drugstore

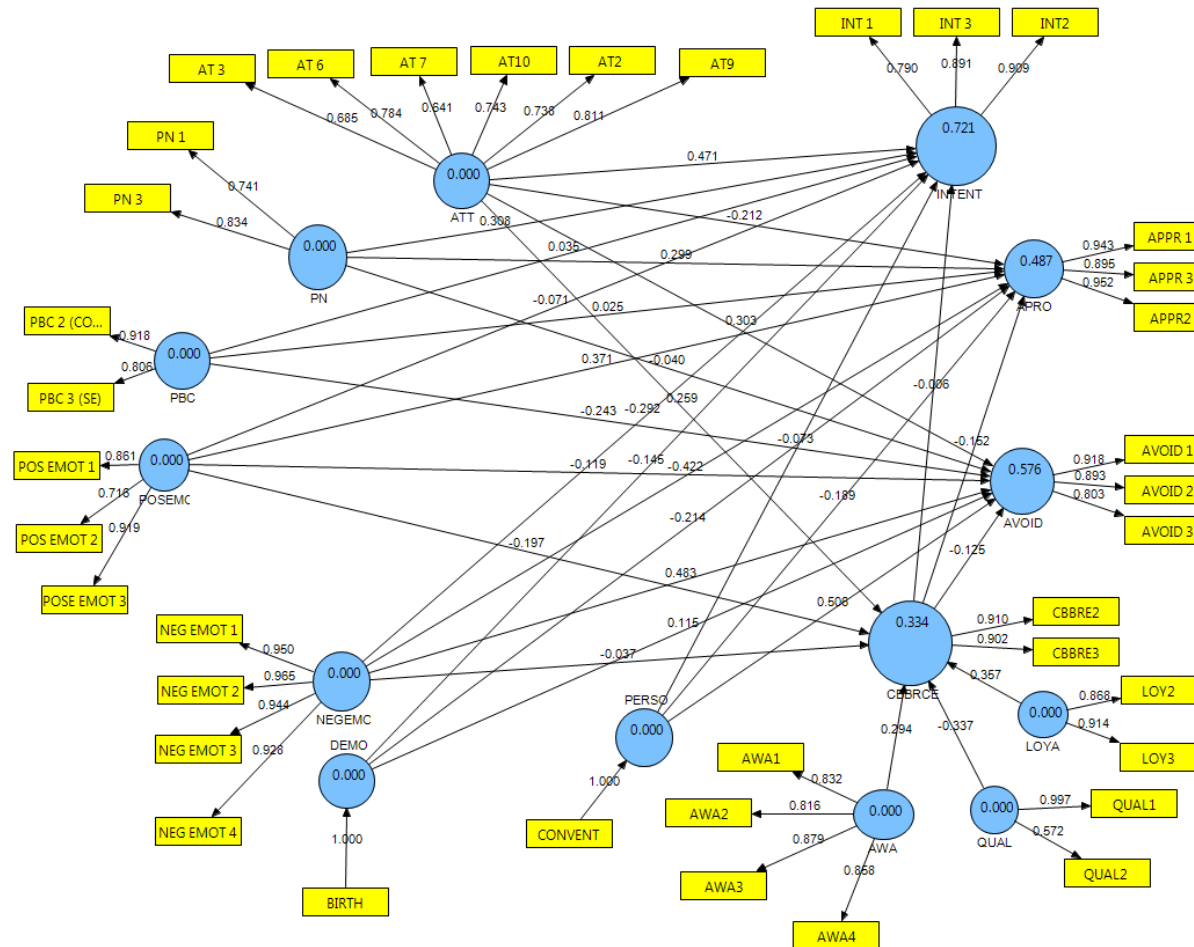


Figure 13 -Graphical representation of the Conceptual model: Internet

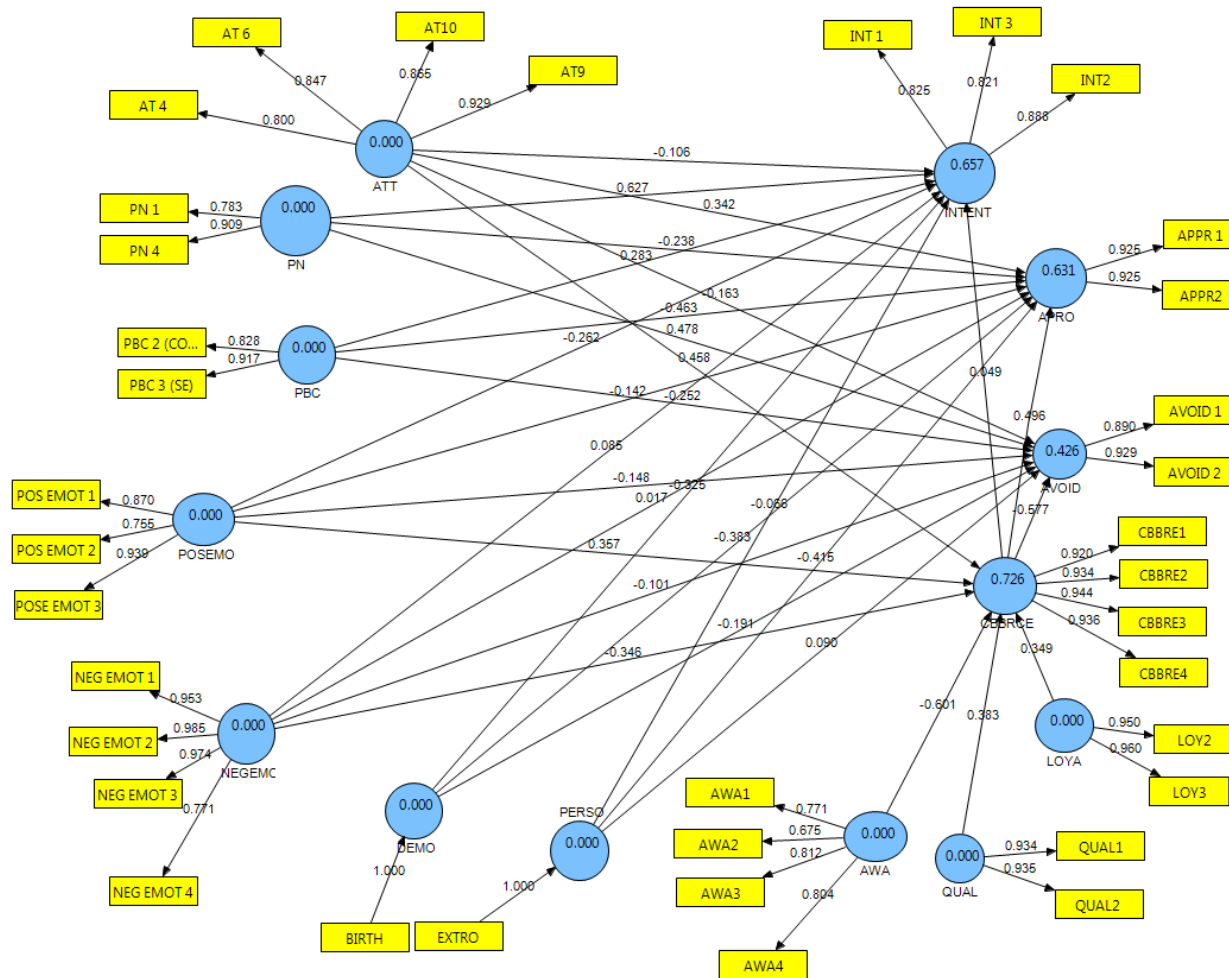
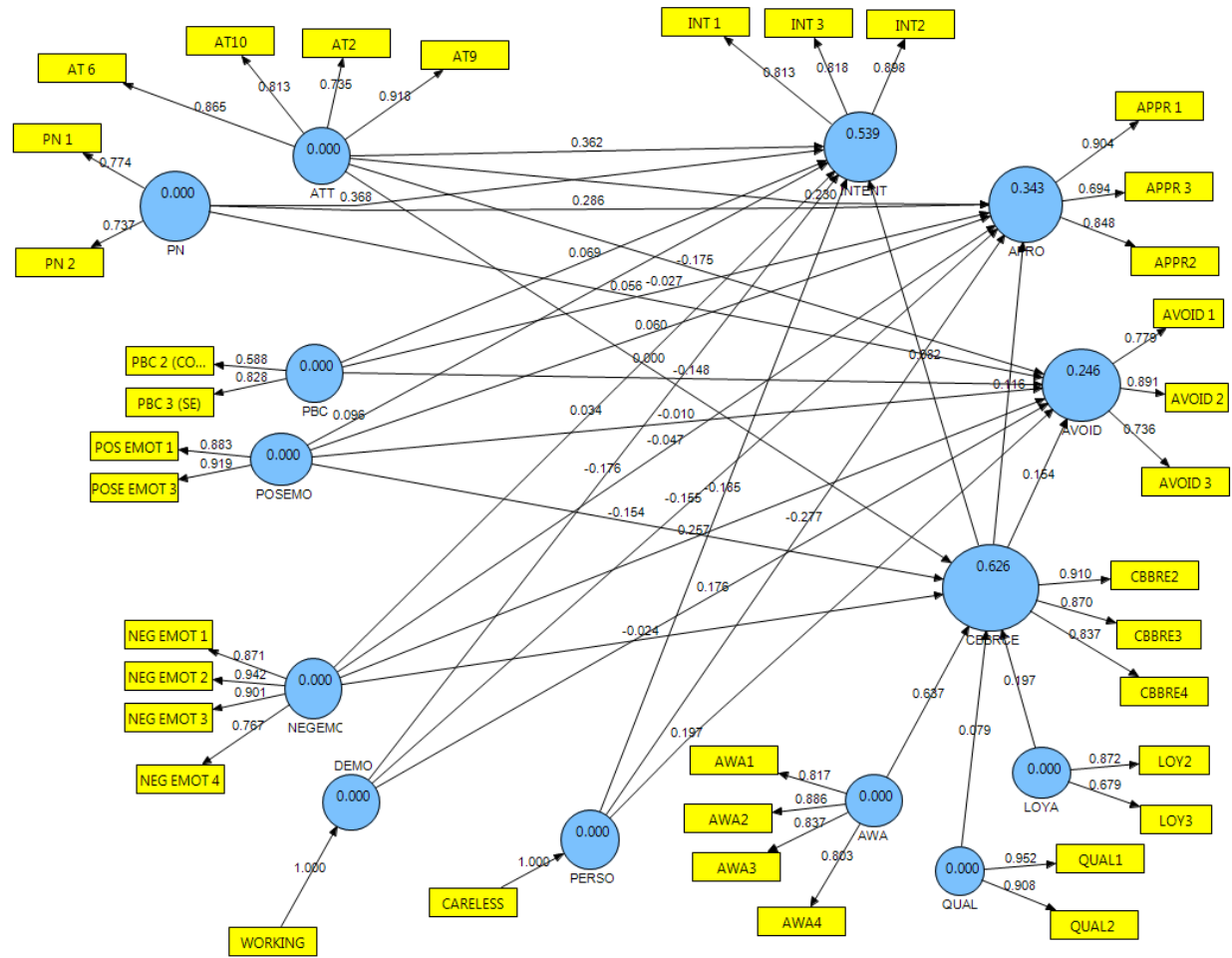


Figure 14 -Graphical representation of the Conceptual model: Multi-channel





**Table 28 - Indicators eliminated because their loading was smaller than 0.7**

	<b>DRUGSTORE</b>	<b>INTERNET</b>	<b>MULTICHANNEL</b>
	<b>Indicator</b>	<b>Indicator</b>	<b>Indicator</b>
1	AT1	AT2	AT3
2	AT4	AT3	AT4
3	AT5	PN2	PN3
4	AT8	PN3	POSEMOT2
5	PN2	APPRO3	
6	PN4	AVOID 3	PN4
7	PBC1	PBC1	PBC1
8	CBBRCE1		CBBRCE1
9	CBBRCE4		
10	AWA5	AWA5	AWA5
11	AWA6	AWA6	AWA6
12	LOY1	LOY1	LOY1

Table 29 presents the loadings and quality indicators for the drugstore. The loadings obtained by the model are all above the 0.7 level suggested, with the exception of ATT7 and QUAL2. ATT7 achieved a 0.64 loading. This is close to the desired 0.7. QUAL2 had a 0.57 loading. It was kept because quality is a two-item construct. Eliminating a quality indicator would make it a single item construct. Composite reliability ranged from 0.77 to 0.97 and was above the 0.7 level for all items. The above data indicates that constructs were well built and that represented the construct.

Table 30 presents the quality criteria for the internet. The loadings, AVE and CR were all above the minimum levels except for AWA2 (0.68 loading). The CR ranged from 0.84 to 0.96. The internet channel presented the best quality indicators amongst the three evaluated channels.

Table 31 presents the quality indicators for multi-channel. The loadings were all above the 0.7 level suggested, with the exception of PBC2, which had a 0.59

loading. PBC2 was kept because retaining it permitted comparisons of PBC amongst the three channels. The composite reliability ranged from 0.67 to 0.93 and was above the 0.7 level for all items except PBC2. The AVE ranged from 0.52 to 0.87. AVE was above the minimum acceptable value of 0.5 for all channels. PBC in multi-channel was the only construct that had low levels of composite reliability. This was in part the result of the respondents' difficulty to understand what the statement "*Whether or not I shop for Regaine from the Boots website is completely up to me*" meant.

#### **5.4.1.2 Model Validation**

Prior to hypothesis testing, the researcher must evaluate the validity of the measurement model. Convergent and discriminant validity were assessed to validate the model.

#### **5.4.1.3 Convergent Validity**

Convergent validity is defined as the extent to which blocks of items strongly agree (i.e. converge) in their representation of the underlying construct they were created to measure. This can be evaluated looking at how high the loadings are and checking their similarities. The narrower the range, the greater convergent validity achieved (Chin 2010). Most of the loadings in this thesis ranged from 0.7 to 0.9, showing an adequate level of convergent validity.

**Table 29 - Loadings, Weights, Composite Reliability and Average Variance Extracted (Drugstore)**

<b>DRUGSTORE</b>					
Construct	Item	Loading	Weight	CR	AVE
Attitude	Att2 Foolish/ Wise	0.74		0.88	0.54
	Att3 Changeable/Stable	0.69			
	Att6 Unpleasant/Pleasant	0.78			
	Att7 Unenjoyable/Enjoyable	0.64			
	Att9 Useless/Useful	0.81			
	Att10 Complex/ Simple	0.74			
PN	PN1 (Important for me)	0.74		0.77	0.62
	PN3 (Is expected by others)	0.83			
PBC	PBC2 (Up to me)	0.92		0.85	0.75
	PBC3 (If I wanted)	0.81			
Positive Emotions	Pos.Emot 1 (Optimism)	0.86		0.87	0.70
	Pos.Emot 2 (No Emotion)	0.72			
	Pos.Emot 3(Contentment)	0.92			
Negative Emotions	Neg. Emot 1(Embarrassed)	0.95		0.97	0.90
	Neg. Emot 2(Nervous)	0.96			
	Neg. Emot 3(Tense)	0.94			
	Neg. Emot 4(Discontent)	0.93			
Demographics	Birth		1.00		
Personality	Conventional		1.00		
CBBRCE	CBBRCE2	0.91		0.90	0.82
	CBBRCE3	0.90			
Awareness	AWA1	0.83		0.91	0.72
	AWA2	0.82			
	AWA3	0.88			
	AWA4	0.86			
Quality	QUAL1	1.00		0.78	0.66
	QUAL2	0.57			
Loyalty	LOY2	0.87		0.89	0.79
	LOY3	0.91			
Approach	Appr1 (Like spending time)	0.94		0.95	0.87
	Appr2(Exploring)	0.95			
	Appr3 (Talk to strangers)	0.89			
Avoidance	Avoid 1 (Leave quickly)	0.92		0.91	0.76
	Avoid 2 (Avoid exploring)	0.89			
	Avoid 3 (Avoid talking)	0.80			
Intention	Int 1 (I expect)	0.79		0.90	0.75
	Int 2 (I want)	0.91			
	Int 3 (I intend)	0.89			

**Table 30 - Loadings, Weights, Composite Reliability and Average Variance Extracted (Internet)**

INTERNET					
Construct	Item	Loading	Weight	CR	AVE
Attitude	Att4 Public/Private	0.80		0.92	0.74
	Att6 Unpleasant/Pleasant	0.85			
	Att9 Useless/Useful	0.93			
	Att10 Complex/ Simple	0.87			
PN	PN1 (people who are important to me)		0.78	0.84	0.72
	PN4 (people whose opinions I value)		0.91		
PBC	PBC2 (Completely up to me)	0.83		0.87	0.76
	PBC3 ( If I wanted)	0.92			
Positive Emotions	Pos.Emot 1 (Optimism)	0.87		0.89	0.74
	Pos.Emot 2 (No Emotion)	0.76			
	Pos.Emot 3(Contentment)	0.94			
Negative Emotions	Neg. Emot 1(Embarrassed)	0.95		0.96	0.86
	Neg. Emot 2(Nervous)	0.98			
	Neg. Emot 3(Tense)	0.97			
	Neg. Emot 4(Discontent)	0.77			
Demographics	Birth		1.00		
Personality	Extroverted		1.00		
CBBRCE	CBBRCE1	0.92		0.96	0.87
	CBBRCE2	0.93			
	CBBRCE3	0.94			
	CBBRCE4	0.94			
Awareness	AWA1	0.77		0.85	0.59
	AWA2	0.68			
	AWA3	0.81			
	AWA4	0.80			
Quality	QUAL1	0.93		0.93	0.87
	QUAL2	0.94			
Loyalty	LOY2	0.95		0.95	0.91
	LOY3	0.96			
Approach	Appr1 (spending time)	0.92		0.92	0.86
	Appr2(Exploring)	0.92			
Avoidance	Avoid 1 (Leave quickly)	0.89		0.91	0.83
	Avoid 2 (Avoid exploring)	0.93			
Intention	Int 1 (I expect)	0.82		0.88	0.71
	Int 2 (I want)	0.89			
	Int 3 (I intend)	0.82			

**Table 31 - Loadings, Weights, Composite Reliability and Average Variance Extracted (Multi-Channel)**

MULTICHANNEL					
Construct	Item	Loading	Weight	CR	AVE
Attitude	Att2 Foolish/Wise	0.74		0.90	0.70
	Att6 Unpleasant/Pleasant	0.87			
	Att9 Useless/Useful	0.92			
	Att10 Complex/ Simple	0.81			
PN	PN1 (people who are important to me)	0.77		0.73	0.84
	PN2 (most/suffer of hairloss)	0.74			
PBC	PBC2 (Completely up to me)	0.59		0.67	0.52
	PBC3 ( If I wanted)	0.83			
Positive Emotions	Pos.Emot 1 (Optimism)	0.88		0.90	0.81
	Pos.Emot 3(Contentment)	0.92			
Negative Emotions	Neg. Emot 1(Embarrassed)	0.87		0.93	0.76
	Neg. Emot 2(Nervous)	0.94			
	Neg. Emot 3(Tense)	0.90			
	Neg. Emot 4(Discontent)	0.77			
Demographics	Working		1.00		
Personality	Careless		1.00		
CBBRCE	CBBRCE2	0.91		0.91	0.76
	CBBRCE3	0.87			
	CBBRCE4	0.84			
Awareness	AWA1	0.82		0.90	0.70
	AWA2	0.89			
	AWA3	0.84			
	AWA4	0.80			
Quality	QUAL1	0.95		0.93	0.87
	QUAL2	0.91			
Loyalty	LOY2	0.87		0.76	0.61
	LOY3	0.68			
Approach	Appr1 (spending time)	0.90		0.86	0.67
	Appr2(Exploring)	0.85			
	Appr3 (talk/chat)	0.69			
Avoidance	Avoid 1 (Leave quickly)	0.78		0.85	0.65
	Avoid 2 (Avoid exploring)	0.89			
	Avoid 3 (talking/chatting)	0.74			
Intention	Int 1 (I expect)	0.81		0.88	0.71
	Int 2 (I want)	0.90			
	Int 3 (I intend)	0.82			

Convergent validity is shown when each of the measurement items loads with a significant t-value on its latent construct (Outer loadings). Typically, the p-value of this t-value should be significant at least with a 0.05 alpha (Gefen, Straub

2005). The t-statistics for the outer loadings of this thesis were all found to be highly significant. The t-values ranged from a low of 2.6 to a high value of 100 in the drugstore; from a low of 3 to a high value of 72 on the internet; and from a low of 2.07 to a high value of 68 in the multi-channel. The only item not significant at the highest level of significance was PBC2 (t-value of 2.07), however, PBC2 was significant at the 95 percent C.L. Both the loadings versus cross-loadings and the high t-values achieved by the outer loadings in this thesis contributed to assure the high convergent validity.

#### **5.4.2 Discriminant Validity**

This thesis analysed validity using different quality indicators. Composite reliability, average variance extracted and loadings were evaluated. The interpretation of these measures is explained in the following paragraphs.

**Composite reliability (CR)**: CR was developed by Werts, Lin, and Jöreskog (Fornell, Larcker 1981, Werts, Linn et al. 1974). Composite reliability is a measure of internal consistency. Composite reliability should exceed or equal the threshold of 0.7 (Nunnally 1978). In exploratory research, a CR of 0.6 is considered acceptable (Bagozzi, Yi 1988).

**Cronbach Alpha**: This study deliberately does not present Cronbach Alpha indicators (Bagozzi, Yi 1988). Coefficient alpha can over or underestimate scale reliability at the population level (Raykov 1998). Cronbach Alpha assumes that all indicators are equally reliable. In contrast, composite reliability does not make this assumption, making it more suitable for PLS. PLS prioritizes indicators according to their individual reliability (Hair, Sarstedt et al. 2012).

Cronbach Alpha's assumptions are, however, unlikely to hold in practice and result in bias (Green, Yang 2009). SEM estimates of reliability are more informative than coefficient alpha and allow for an empirical evaluation of the assumptions underlying them (Yang, Green 2011). Hence, CR was preferred over Cronbach Alpha since it considered the loadings while calculating the indicators (Ma, Agarwal 2007).

**Average Variance Extracted (AVE)**: AVE is a measure of discriminant validity. It measures the degree to which two measures of the same concepts are correlated. The minimum value for AVE value should be above 0.5 (Fornell, Larcker 1981) (Bagozzi, Yi 1988). Values for AVE above 0.5 indicate that more than 50 percent of the variation is explained by the set of manifest variables selected for the construct (Chin, Newsted 1999). Acceptable levels of convergent validity are presented in Tables 29, 30 and 31. The only exception was the item PBC2 in multi-channel, with a CR of 0.67 percent. However, this item was kept provided it was very close to the 0.7 limit and was required to compare PBC across channels.

**Loadings**: The recommended value for loadings is that they are above 0.7 (Mattson 1982) and no less than 0.4 (Churchill Jr 1979). Chin suggests that items should not be deleted if lower than 0.7 when other questions measuring the same construct have high reliability (Chin 1998). The quality indicators mentioned above are only applicable to LVs (Latent variables) with reflective indicators. Quality is determined in a different way for formative items. Magnitude and significance of weight indicates the importance of their contribution to an associated latent variable (Duarte, Raposo 2010).

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Discriminant validity was analysed following the recommendations provided by Chin (2010) for PLS report writing. This thesis compared the square root of the AVE (the correlation of each variable with itself) and the correlation between the reflective constructs with each other in Tables 32, 33 and 34. In each case, the square root of the AVE (diagonal elements) should be greater than off-diagonal elements in the same row and column (Chin 1998) (Grégoire, Fisher 2006). All constructs of each of the three environments analysed were strongly correlated with their own measures, more than with any of the other constructs. The results suggested that the thesis achieved good discriminant validity. Table 32 presents the inter-construct correlation results for the drugstore. The correlation of each variable with itself in the drugstore ranged from 0.74 to 0.93. Table 33 presents the inter-construct correlation results for the internet. The correlation of each variable with itself on the internet ranged from 0.77 to 0.96. Table 34 presents the inter-construct correlation results for multi-channel. The correlation of each variable with itself in multi-channel ranged from 0.71 to 0.93.

**Table 32 - Drugstore Inter-construct correlations**

	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPRO	<b>0.93</b>											
ATT	0.00	<b>0.74</b>										
AVOID	-0.38	-0.18	<b>0.87</b>									
AWA	-0.01	0.32	-0.24	<b>0.85</b>								
CBBRCE	-0.22	0.34	-0.13	0.35	<b>0.91</b>							
INTENT	0.10	0.69	-0.29	0.40	0.25	<b>0.86</b>						
LOYA	-0.12	0.46	0.18	0.17	0.32	0.35	<b>0.89</b>					
NEGEMO	-0.38	-0.29	0.56	-0.26	-0.21	-0.56	0.01	<b>0.95</b>				
PBC	-0.13	0.54	-0.13	0.26	0.15	0.30	0.12	0.04	<b>0.86</b>			
PN	0.26	0.44	-0.06	0.20	0.13	0.58	0.37	-0.19	0.23	<b>0.79</b>		
POSEMO	0.25	-0.01	0.06	-0.03	-0.23	-0.19	0.12	0.30	-0.02	-0.01	<b>0.84</b>	
QUAL	0.06	0.57	0.25	0.31	0.07	0.55	0.55	-0.12	0.40	0.37	0.16	<b>0.81</b>



**Table 33 - Internet Inter-construct correlations**

	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPRO	<b>0.92</b>											
ATT	0.22	<b>0.86</b>										
AVOID	-0.14	-0.27	<b>0.91</b>									
AWA	0.19	0.48	-0.32	<b>0.77</b>								
CBBRCE	0.26	0.51	-0.45	0.30	<b>0.93</b>							
INTENT	0.11	0.53	0.24	0.15	0.29	<b>0.85</b>						
LOYA	0.33	0.30	-0.13	0.68	0.45	0.26	<b>0.96</b>					
NEGEMO	0.13	0.04	-0.02	-0.13	-0.39	-0.04	-0.19	<b>0.92</b>				
PBC	-0.25	0.59	-0.33	0.25	0.28	0.44	0.10	-0.03	<b>0.87</b>			
PN	0.22	0.73	-0.04	0.32	0.58	0.66	0.22	-0.30	0.37	<b>0.85</b>		
POSEMO	0.04	0.47	-0.34	0.47	0.58	0.05	0.27	-0.14	0.22	0.39	<b>0.86</b>	
QUAL	-0.06	0.21	-0.60	0.61	0.46	-0.13	0.55	-0.06	0.35	0.01	0.38	<b>0.93</b>

**Table 34 - Multi-Channel Inter-construct correlations**

	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPRO	<b>0.82</b>											
ATT	0.36	<b>0.82</b>										
AVOID	-0.15	-0.07	<b>0.80</b>									
AWA	0.18	0.38	0.22	<b>0.83</b>								
CBBRCE	0.15	0.25	0.20	0.76	<b>0.86</b>							
INTENT	0.35	0.54	-0.05	0.43	0.17	<b>0.83</b>						
LOYA	0.29	0.51	0.17	0.60	0.56	0.49	<b>0.78</b>					
NEGEMO	-0.11	-0.26	0.36	0.14	0.14	-0.09	0.01	<b>0.87</b>				
PBC	0.06	0.02	-0.26	-0.12	-0.01	0.21	0.00	-0.03	<b>0.71</b>			
PN	0.46	0.56	-0.01	0.52	0.18	0.65	0.44	-0.08	0.06	<b>0.75</b>		
POSEMO	0.29	0.58	-0.07	0.27	0.13	0.46	0.45	-0.21	0.00	0.48	<b>0.90</b>	
QUAL	0.24	0.56	0.22	0.66	0.55	0.44	0.80	0.03	-0.03	0.45	0.53	<b>0.93</b>

Discriminant validity was also evaluated at the item level. The procedure used to evaluate discriminant validity at the item level was to compare the loadings of the item with its own construct versus its cross-loadings with other variables. In the drugstore, all the items loaded strongly, as can be seen from Table 35, with only two exceptions. Firstly, AT 7→AT with a 0.64 loading, had a slightly higher cross-loading with INT3 (0.65), however, this small difference should not present a major problem for the model. Secondly, Qual2→QUAL with a 0.57 loading had a higher cross-loading with Loy2 (0.69) and Int1 (0.66). Quality only had two indicators, hence it was not removed.

On the internet, as presented in Table 37, all items had high item inter-correlations. The only exception was AWA2→AWA, with a correlation of 0.67.

AWA2 had a higher correlation with LOY2 (0.70), however, it was a small difference and the item was retained.

For multi-channel, as presented in Table 38, all items had high correlation loadings with each other. This assured excellent discriminant validity in the multi-channel study. The inter-item correlations ranged from 0.61 to 0.94.

### **5.4.3 Step Two: Structural Model Evaluation (Inner Model)**

At this point, the suitability of the outer measures has been established. It is therefore now necessary to provide evidence of the inner model fit. This thesis proposed a model that contained 14 variables. The PLS algorithm was able to calculate an estimate  $R^2$  for the four dependent variables. The strength of the theoretical model was established by two factors: the  $R^2$  and the significance of the structural paths. In the following paragraphs, the results for these two crucial aspects of the model evaluation are presented. The  $R^2$  was calculated using the PLS algorithm with 300 iterations. The significances were calculated using the bootstrap approach with 5000 re-samples. Chin (1998) and (Falk, Miller 1992) suggested that the variance explained ( $R^2$ ) should be greater than 0.1. All of the  $R^2$ s for the three channels achieved high variance explained scores. All were above the 0.1 recommended levels. The  $R^2$  statistics are shown in Table 36.

It is difficult to compare the variance explained of the TPB variables with this

Table 35 - Item level inter-correlations (Drugstore)

	DRUGSTORE											
	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPR 1	<b>0.9427</b>	-0.0419	-0.2928	0.0194	-0.1801	0.0097	-0.083	-0.3115	-0.1559	0.1354	0.3002	0.0417
APPR 3	<b>0.8948</b>	0.078	-0.4219	-0.006	-0.1675	0.2001	-0.0502	-0.4096	-0.0357	0.4231	0.1437	0.0751
APPR2	<b>0.9522</b>	-0.045	-0.3304	-0.0292	-0.271	0.05	-0.2031	-0.346	-0.1628	0.1593	0.2716	0.0379
AT 3	-0.0596	<b>0.6853</b>	-0.0287	0.0713	-0.0429	0.3891	0.1201	-0.0679	0.6142	0.2045	0.1369	0.4094
AT 6	0.1483	<b>0.7837</b>	-0.1221	0.1555	0.2343	0.5353	0.4437	-0.3507	0.2614	0.2144	-0.1063	0.3859
AT 7	0.1657	<b>0.641</b>	-0.3231	0.3955	0.4367	0.5976	0.4164	-0.4199	0.0304	0.5041	-0.0855	0.2628
AT10	-0.323	<b>0.7429</b>	0.057	0.2511	0.2705	0.3942	0.3681	0.0351	0.5941	0.3181	0.0251	0.4496
AT2	-0.0988	<b>0.7377</b>	-0.0645	0.3166	0.1998	0.5147	0.2339	-0.0566	0.7134	0.2696	-0.028	0.5472
AT9	-0.0043	<b>0.8113</b>	-0.1452	0.071	0.1916	0.4735	0.3179	-0.1948	0.4274	0.3095	0.1106	0.5108
AVOID 1	-0.3797	-0.1659	<b>0.9184</b>	-0.3375	-0.1147	-0.2891	0.3076	0.6273	-0.0325	-0.011	0.0908	0.2532
AVOID 2	-0.2414	-0.243	<b>0.8933</b>	-0.2349	-0.2687	-0.3083	0.0802	0.4436	-0.1784	-0.1921	0.0274	0.1419
AVOID 3	-0.3518	-0.0617	<b>0.803</b>	-0.043	0.0491	-0.1572	0.0562	0.3743	-0.1607	0.0328	0.0198	0.2614
AWA1	0.0464	0.3322	-0.4542	<b>0.8318</b>	0.3006	0.4608	0.0235	-0.3307	0.2951	0.1296	-0.108	0.253
AWA2	-0.1151	0.4867	-0.1187	<b>0.816</b>	0.199	0.4648	0.2966	-0.2873	0.2838	0.2035	-0.0841	0.3837
AWA3	-0.0586	0.1831	0.0588	<b>0.8791</b>	0.3221	0.2339	0.195	-0.0299	0.2325	0.2373	-0.0903	0.3304
AWA4	0.0679	0.1665	-0.2987	<b>0.8582</b>	0.328	0.2474	0.1257	-0.2728	0.102	0.1151	0.1582	0.1294
CBBRE2	-0.17	0.373	-0.2156	0.2854	<b>0.9103</b>	0.2142	0.2443	-0.2916	0.0922	0.0987	-0.2531	0.0637
CBBRE3	-0.2319	0.2382	-0.0067	0.3491	<b>0.9023</b>	0.2332	0.3343	-0.0781	0.1897	0.1415	-0.1654	0.0631
INT 1	-0.1918	0.5828	0.0529	0.4667	0.3049	<b>0.7901</b>	0.3625	-0.2484	0.3415	0.4515	-0.1605	<b>0.6694</b>
INT 3	0.1974	<b>0.6582</b>	-0.2697	0.271	0.2492	<b>0.891</b>	0.4101	-0.5283	0.0983	0.5214	-0.0582	0.4577
INT2	0.1684	0.5516	-0.4553	0.3322	0.115	<b>0.9087</b>	0.1539	-0.6277	0.3647	0.5194	-0.2669	0.356
LOY2	-0.1812	0.631	0.2558	0.2504	0.2526	0.4748	<b>0.8675</b>	-0.0213	0.2748	0.4076	0.2445	<b>0.6969</b>
LOY3	-0.0454	0.2351	0.0889	0.0782	0.3099	0.1781	<b>0.9142</b>	0.0326	-0.0216	0.2756	-0.0084	0.3256
NEG EMOT 1	-0.272	-0.2848	0.4856	-0.349	-0.2581	-0.5847	-0.097	<b>0.9497</b>	0.0823	-0.2369	0.2638	-0.1308
NEG EMOT 2	-0.3191	-0.2808	0.4965	-0.3547	-0.205	-0.5898	-0.0217	<b>0.9646</b>	0.0769	-0.2187	0.3363	-0.1655
NEG EMOT 3	-0.3934	-0.2991	0.5292	-0.1649	-0.2169	-0.4735	0.0143	<b>0.9445</b>	0.0168	-0.0862	0.293	-0.1229
NEG EMOT 4	-0.4628	-0.2261	0.6152	-0.1291	-0.1079	-0.4869	0.131	<b>0.9276</b>	-0.0324	-0.1677	0.2586	-0.022
PBC 2 (CONTROL)	-0.2107	0.4918	-0.0178	0.2227	0.1857	0.3178	0.1436	0.068	<b>0.9184</b>	0.3218	-0.1068	0.3901
PBC 3 (SE)	0.0426	0.4325	-0.264	0.2324	0.0588	0.1766	0.0572	-0.0217	<b>0.8056</b>	0.019	0.1111	0.2976
PN 1	0.1386	0.3292	0.0177	0.0984	-0.1479	0.4355	0.3065	0.0835	0.2384	<b>0.7414</b>	0.0041	0.2778
PN 3	0.2644	0.3678	-0.0994	0.2052	0.312	0.4746	0.2894	-0.3391	0.1356	<b>0.8345</b>	-0.017	0.3011
POS EMOT 1	0.2645	0.0937	-0.0202	0.0103	-0.0886	-0.0815	0.1942	0.1565	0.0164	-0.0353	<b>0.861</b>	0.2069
POS EMOT 2	0.0727	-0.0244	0.1831	-0.0019	-0.1361	-0.2363	0.0935	0.3827	-0.0087	-0.0786	<b>0.7163</b>	0.0217
POSE EMOT 3	0.2741	-0.0664	0.0052	-0.056	-0.2989	-0.1544	0.0462	0.2405	-0.0467	0.0524	<b>0.9188</b>	0.1616
QUAL1	0.0806	0.577	0.2544	0.3075	0.0652	0.5417	0.5655	-0.1229	0.3965	0.3732	0.1765	<b>0.9968</b>
QUAL2	0.2849	0.4298	0.1535	0.1774	-0.0064	0.2744	0.4797	-0.1493	0.1643	0.289	0.2717	<b>0.5716</b>

study because meta-analysis results have been varied. Godin, Valois et al. (1993) reported a 0.41. Hausenblas, Carron et al. (1997) found results between 0.4 to 0.6. Armitage and Conner (2001) concluded it was 0.39, but one of the latest studies by McEachan, Robin et al. (2011) only found evidence of  $R^2$  to be between 0.15 and 0.23. Results achieved by this thesis' model in terms of variance explained are superior to most of the existing TPB studies to date.

The significance of the hypothesis tested was evaluated using the bootstrap approach, which helped to estimate the precision of the PLS estimates (Efron 1981) (Henseler, Ringle et al. 2009) (Chin 2010). N samples are created in order to obtain N estimates for each parameter in the PLS model. This thesis used 5000 re-samples in the PLS bootstrap estimates. This number responds to the recommendation made by Hair, Ringle et al. (2011). In any case, the number of bootstrap samples must be greater than the number of valid observations (more than 63 in this study).

**Table 36 - Variance Explained**

	<b>Drugstore</b>	<b>Internet</b>	<b>Multi-channel</b>
	<b>R Square</b>	<b>R Square</b>	<b>R Square</b>
APPRO	0.49	0.63	0.34
AVOID	0.58	0.43	0.25
CBBRCE	0.33	0.73	0.63
INTENT	0.72	0.66	0.54

During the bootstrap procedure, the setting for sign change option is defined as "individual sign changes" following the advice of Henseler, Ringle et al. (2009). This setting is important because the standard error of estimates increases

**Table 37 - Item level inter-correlations (Internet)**

	INTERNET											
	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPR 1	<b>0.9248</b>	0.1409	-0.1785	0.173	0.2909	0.0744	0.3204	0.0708	-0.3677	0.2343	0.0099	0.0167
APPR2	<b>0.9248</b>	0.2723	-0.0754	0.1692	0.1926	0.1315	0.2866	0.1761	-0.1013	0.1637	0.0731	-0.1304
AT 4	0.3485	<b>0.8001</b>	0.0243	0.2008	0.3437	0.5759	0.0702	0.1082	0.2892	0.7042	0.3613	-0.1994
AT 6	-0.0552	<b>0.8465</b>	-0.288	0.4968	0.4583	0.438	0.3678	-0.0197	0.715	0.5978	0.3997	0.4429
AT10	0.2231	<b>0.8651</b>	-0.2559	0.3516	0.2295	0.3327	0.1421	0.1577	0.5256	0.475	0.3312	0.0261
AT9	0.2409	<b>0.9285</b>	-0.3895	0.5515	0.6255	0.4579	0.401	-0.0434	0.5213	0.6918	0.4999	0.3668
AVOID 1	-0.1654	-0.3805	<b>0.8901</b>	-0.4399	-0.5016	0.0661	-0.261	0.2964	-0.4158	-0.2606	-0.3359	-0.5738
AVOID 2	-0.0923	-0.144	<b>0.9286</b>	-0.1753	-0.3299	0.3376	0.0039	-0.2686	-0.199	0.1538	-0.2905	-0.5174
AWA1	-0.2534	0.4621	-0.425	<b>0.7711</b>	0.2833	0.0377	0.487	0.0657	0.534	0.139	0.4982	0.7629
AWA2	0.1267	0.4934	-0.274	<b>0.675</b>	0.0842	0.0688	0.3708	0.3523	0.3468	0.2043	0.146	0.528
AWA3	0.562	0.2815	-0.1345	<b>0.8121</b>	0.2548	0.172	0.5801	-0.1662	-0.1595	0.3699	0.2691	0.2744
AWA4	0.1828	0.3202	-0.1532	<b>0.8036</b>	0.2087	0.1772	0.6005	-0.4354	0.1075	0.259	0.4063	0.3063
CBBRE1	0.2688	0.4628	-0.3568	0.236	<b>0.92</b>	0.3537	0.3639	-0.3579	0.0899	0.6654	0.5267	0.3114
CBBRE2	0.2556	0.4772	-0.3915	0.2359	<b>0.9341</b>	0.288	0.4662	-0.2892	0.4179	0.4958	0.4658	0.4858
CBBRE3	0.1126	0.5153	-0.4021	0.3863	<b>0.9435</b>	0.2566	0.4975	-0.4017	0.3956	0.5281	0.5713	0.4769
CBBRE4	0.3334	0.4522	-0.5101	0.2682	<b>0.9365</b>	0.1799	0.356	-0.3944	0.1553	0.4698	0.5938	0.4372
INT 1	-0.0768	0.4926	0.1839	-0.0321	0.3238	<b>0.8247</b>	0.0393	0.0508	0.4443	0.597	0.2659	-0.1759
INT 3	0.2928	0.4296	0.1503	0.1374	0.2765	<b>0.8207</b>	0.3117	-0.0438	0.2998	0.5739	-0.1742	-0.0903
INT2	0.0304	0.4255	0.2716	0.2657	0.1234	<b>0.8882</b>	0.2901	-0.112	0.3801	0.5096	0.0864	-0.0602
LOY2	0.3719	0.343	-0.0801	<b>0.707</b>	0.4048	0.3235	<b>0.9501</b>	-0.0727	0.147	0.2309	0.2622	0.5342
LOY3	0.2615	0.2428	-0.1567	0.5997	0.4532	0.1837	<b>0.9604</b>	-0.2863	0.0526	0.1884	0.2521	0.5088
NEG EMOT 1	0.2355	0.0719	0.0701	-0.1452	-0.3957	0.0108	-0.2642	<b>0.953</b>	-0.1117	-0.227	-0.1246	-0.1573
NEG EMOT 2	0.0843	0.0649	0.0251	-0.1456	-0.3999	-0.0195	-0.2334	<b>0.9847</b>	-0.0259	-0.2391	-0.092	-0.0833
NEG EMOT 3	0.0178	0.0935	-0.0203	-0.099	-0.3766	0.0047	-0.1912	<b>0.9745</b>	0.0415	-0.2342	-0.0555	-0.0236
NEG EMOT 4	0.1421	-0.1084	-0.1958	-0.0811	-0.2295	-0.2028	0.0322	<b>0.7714</b>	0.0288	-0.4947	-0.2784	0.1124
PBC 2 (CONTROL)	-0.313	0.5234	-0.1463	-0.0116	0.1328	0.2995	-0.1962	-0.0273	<b>0.828</b>	0.3035	0.0844	0.1294
PBC 3 (SE)	-0.159	0.5167	-0.3856	0.3846	0.3333	0.4481	0.2931	-0.0202	<b>0.9166</b>	0.3389	0.2671	0.4344
PN 1	-0.0616	0.4792	-0.1518	0.26	0.4854	0.5002	0.1825	-0.5534	0.3546	<b>0.7827</b>	0.1991	0.1292
PN 4	0.35	0.7257	0.0513	0.2775	0.4996	0.6166	0.1903	-0.0655	0.2903	<b>0.9085</b>	0.4234	-0.0684
POSEMOT 1	0.164	0.5061	-0.1856	0.4182	0.5676	0.251	0.3814	-0.2169	0.216	0.5482	<b>0.8702</b>	0.154
POSEMOT 2	-0.0089	0.3767	-0.4009	0.4441	0.1735	-0.1046	0.0654	0.231	0.1607	-0.0221	<b>0.7553</b>	0.3751
POSEMOT 3	-0.0467	0.3533	-0.3475	0.3936	0.6156	-0.0562	0.1905	-0.2106	0.1819	0.3354	<b>0.9388</b>	0.4729
QUAL1	-0.1401	0.05	-0.5602	0.585	0.4277	-0.2319	0.4687	-0.2202	0.2833	-0.0609	0.3254	<b>0.934</b>
QUAL2	0.0245	0.3396	-0.5531	0.5495	0.4315	-0.0065	0.5496	0.1124	0.3695	0.0841	0.3884	<b>0.9352</b>

**Table 38 - Item level inter-correlations (Multi-channel)**

	MULTICHANNEL											
	APPRO	ATT	AVOID	AWA	CBBRCE	INTENT	LOYA	NEGEMO	PBC	PN	POSEMO	QUAL
APPR 1	<b>0.9017</b>	0.1658	-0.1024	0.2724	0.3567	0.1258	0.2729	-0.0227	-0.0296	0.235	0.1961	0.1782
APPR 3	<b>0.6473</b>	-0.0269	-0.2894	0.05	0.2402	-0.2212	0.1858	0.0452	-0.1611	0.1303	-0.0497	0.0829
APPR2	<b>0.8013</b>	0.1926	0.0369	0.2303	0.283	0.2806	0.246	0.0885	-0.0536	0.136	0.2432	0.0304
AT 6	0.0212	<b>0.8938</b>	-0.0973	0.447	0.4838	0.4373	0.3428	-0.1597	0.6621	0.338	0.2863	0.4503
AT10	0.1958	<b>0.7316</b>	-0.1456	0.4493	0.3228	0.2013	0.217	0.0142	0.6655	0.2127	0.1788	0.2297
AT2	-0.0111	<b>0.6112</b>	0.1802	0.272	0.0942	0.66	0.3096	0.2333	0.1945	0.2836	0.062	0.0947
AT9	0.2407	<b>0.9145</b>	-0.2077	0.4181	0.5561	0.4085	0.3522	-0.1523	0.514	0.4324	0.3195	0.3729
AVOID 1	-0.0547	-0.2395	<b>0.6059</b>	-0.3283	-0.4011	-0.0372	-0.1846	0.3042	-0.3225	-0.2461	-0.2769	-0.4291
AVOID 2	-0.0982	-0.1467	<b>0.9166</b>	-0.241	-0.2919	0.1557	-0.0519	-0.1649	-0.1667	0.2303	-0.1275	-0.5749
AVOID 3	-0.1871	0.0984	<b>0.7679</b>	0.0325	-0.1779	0.3228	-0.1533	0.0324	0.243	0.1885	0.0478	-0.1142
AWA1	0.0319	0.4737	-0.1991	<b>0.8317</b>	0.4251	0.3096	0.604	0.1123	0.3535	0.1398	0.2215	0.7509
AWA2	0.2007	0.5334	-0.2543	<b>0.7424</b>	0.2762	0.1085	0.4428	0.2492	0.3397	-0.0387	0.1291	0.571
AWA3	0.3298	0.2821	-0.1597	<b>0.774</b>	0.3118	0.2077	0.5971	-0.1592	-0.0912	0.2391	0.1369	0.3971
AWA4	0.231	0.2754	-0.0385	<b>0.7871</b>	0.3667	0.3089	0.6938	-0.2737	0.047	0.2479	0.3906	0.413
CBBRE2	0.3184	0.4583	-0.3161	0.4234	<b>0.9464</b>	0.403	0.5701	-0.2433	0.321	0.2969	0.4667	0.5253
CBBRE3	0.2977	0.5425	-0.3138	0.5281	<b>0.9486</b>	0.357	0.6028	-0.3519	0.3371	0.3362	0.5218	0.5643
CBBRE4	0.4282	0.3122	-0.2923	0.2624	<b>0.8519</b>	0.0835	0.3113	-0.3529	0.2471	0.4874	0.594	0.4041
INT 1	-0.0241	0.4445	0.1779	0.1518	0.3225	<b>0.8833</b>	0.3494	0.0925	0.1881	0.5137	0.2464	0.0235
INT 3	0.2415	0.4941	0.1241	0.2985	0.3162	<b>0.8758</b>	0.5118	-0.0416	0.188	0.466	-0.095	0.1265
INT2	-0.0224	0.4856	0.2921	0.3769	0.1931	<b>0.8882</b>	0.4828	-0.0053	0.146	0.4311	0.0547	0.1436
LOY2	0.2979	0.4471	-0.0776	0.7195	0.4972	0.5598	<b>0.9279</b>	-0.0795	0.115	0.3198	0.1888	0.511
LOY3	0.2622	0.2857	-0.1716	0.6849	0.5253	0.3949	<b>0.9357</b>	-0.1801	-0.0191	0.3085	0.1648	0.4967
NEG EMOT 1	0.0753	-0.0358	0.0537	-0.0681	-0.3558	0.041	-0.1583	<b>0.9447</b>	-0.2093	-0.2738	-0.2315	-0.2039
NEG EMOT 2	0.0158	-0.0123	0.0012	0.0126	-0.3331	0.0868	-0.1187	<b>0.977</b>	-0.1387	-0.2703	-0.1946	-0.0884
NEG EMOT 3	-0.0062	0.0127	0.0226	-0.02	-0.3305	-0.0048	-0.1951	<b>0.9364</b>	-0.0895	-0.2553	-0.127	-0.0622
NEG EMOT 4	0.1089	-0.1859	-0.2172	-0.0377	-0.207	-0.1084	-0.0087	<b>0.7921</b>	-0.1943	-0.4388	-0.34	-0.0527
PBC 2 (CONTROL)	-0.1638	0.5527	0.0104	0.0133	0.1914	0.1753	-0.1297	-0.1582	<b>0.9052</b>	0.2248	0.1277	0.2003
PBC 3 (SE)	-0.0144	0.5814	-0.1375	0.3877	0.4126	0.1797	0.2359	-0.1444	<b>0.8838</b>	0.2927	0.2506	0.4891
PN 1	-0.0426	0.4321	-0.0497	0.2141	0.3705	0.4492	0.2399	-0.4925	0.1616	<b>0.6561</b>	0.1928	0.1373
PN 2	0.3102	0.2282	0.2508	0.1031	0.2567	0.3748	0.2685	-0.0668	0.26	<b>0.8372</b>	0.2279	0.1701
POS EMOT 1	0.2537	0.3316	-0.0239	0.2886	0.4995	0.2948	0.2337	-0.2842	0.2577	0.4137	<b>0.8951</b>	0.1725
POSE EMOT 3	0.0154	0.1414	-0.1937	0.2097	0.4943	-0.2173	0.0823	-0.1031	0.0892	0.0394	<b>0.8431</b>	0.2755
QUAL1	0.0431	0.2406	-0.5069	0.6473	0.484	0.1177	0.5756	-0.1747	0.1837	0.0454	0.1363	<b>0.9136</b>
QUAL2	0.1783	0.4506	-0.3875	0.6251	0.5218	0.0884	0.4247	-0.0464	0.499	0.3221	0.3196	<b>0.9262</b>

dramatically without any real meaning if the sign changes are not properly taken into account (Tenenhaus, Vinzi et al. 2005). The setting for the number of bootstrap cases is equal to the number of valid observations (Hair, Ringle et al. 2011). Hence, the number of cases was set at 63 in the drugstore, 62 on the internet and 61 in multi-channel.

To calculate the significance of the t-values, a two-tailed test was used. The levels of significance of the t-values used were:

- 90% significance t-value = 1.64
- 95% significance t-value = 1.96
- 99% significance t-value = 2.58

### **Analysis of Significances and Coefficients**

Table 39 presents the coefficients and significances of the evaluated paths.

**Cross Channel Findings:** Two paths were significant in the three channels: Awareness→CBBRCE and PN→Intention. Awareness→CBBRCE achieved t-statistics of 2.6 (drugstore) 3.5 (internet) and 6.0 (multi-channel). However, the coefficients of AW→CBBRCE did not share the same sign across channels. The coefficient was positive in the drugstore (0.29) and in the multi-channel (0.64) but negative on the internet (-0.60). This could mean that even though respondents had low awareness of the Boots website, they believed it had a high equity. This finding is in line with authors who have suggested that offline brand equity is transferable to online settings (Rafiq, Fulford 2005).

SN had a medium to high positive significance on intention across the three channels. SN had coefficients of 0.31 in the drugstore, 0.63 on the internet and 0.37 in multi-channel. SN had t-statistics of 3.03 in the drugstore, 2.92 on the internet and 2.3 in multi-channel. The consistency of this result across channels strengthens the relevance of SN in the TPB.

**Table 39 - Path coefficients and their significances**

Path	DRUGSTORE			INTERNET			MULTICHANNEL		
	Coefficient	T Statistics	Sig.	Coefficient	T Statistics	Sig.	Coefficient	T Statistics	Sig.
<b>CBBRCE</b>									
ATT -> CBBRCE	0.259	1.5101		0.46	3.2404	***	0.00	0.004	
POSEMO -> CBBRCE	-0.1974	1.559		0.36	3.0915	***	-0.15	1.2854	
NEGEMO -> CBBRCE	-0.0373	0.3423		-0.35	2.0424	**	-0.02	0.3031	
AWA -> CBBRCE	0.29	2.673	***	-0.60	3.5441	***	0.64	6.0538	***
QUAL -> CBBRCE	-0.34	1.4484		0.38	2.2508	**	0.08	0.5812	
LOYA -> CBBRCE	0.36	1.9013	*	0.35	1.962	**	0.20	1.3076	
<b>APPROACH</b>									
ATT -> APRO	-0.21	1.079		0.34	2.1019	**	0.23	1.2328	
PN -> APRO	0.30	1.8838	*	-0.24	1.5329		0.29	1.9146	*
PBC -> APRO	0.02	0.1821		-0.46	3.4807	***	-0.03	0.1268	
POSEMO -> APRO	0.37	3.0366	***	-0.14	1.1718		0.06	0.3167	
NEGEMO -> APRO	-0.42	3.4842	***	0.02	0.142		-0.05	0.2952	
DEMO -> APRO	-0.21	1.6747	*	-0.38	3.8412	***	-0.16	1.358	
PERSO -> APRO	-0.19	1.4416		-0.42	3.1994	***	-0.28	1.9026	*
CBBRCE -> APRO	-0.15	1.2603		0.50	4.3001	***	0.12	0.6564	
<b>AVOIDANCE</b>									
ATT -> AVOID	0.30	1.9708	**	-0.16	0.6947		-0.18	0.8269	
PN -> AVOID	-0.04	0.3055		0.48	2.2478	**	0.06	0.2691	
PBC -> AVOID	-0.24	1.8813	*	-0.25	1.5949		-0.15	0.8091	
POSEMO -> AVOID	-0.12	0.9002		-0.15	0.7298		-0.01	0.0525	
NEGEMO -> AVOID	0.48	4.0343	***	-0.10	0.522		0.26	1.688	*
DEMO -> AVOID	0.12	1.1517		-0.19	2.1028	**	0.18	1.1522	
PERSO -> AVOID	0.51	4.9234	***	0.09	0.5238		0.20	1.0641	
CBBRCE -> AVOID	-0.12	0.8864		-0.58	5.2559	***	0.15	0.8716	
<b>INTENTION</b>									
ATT -> INTENT	0.47	3.7527	***	-0.11	0.6082		0.36	2.1001	**
PN -> INTENT	0.31	3.0341	***	0.63	2.9226	***	0.37	2.3504	**
PBC -> INTENT	0.04	0.3654		0.28	2.3571	**	0.07	0.4438	
POSEMO -> INTENT	-0.07	0.8292		-0.26	1.7439	*	0.10	0.6799	
NEGEMO -> INTENT	-0.29	3.2465	***	0.09	0.5872		0.03	0.3088	
DEMO -> INTENT	-0.14	1.8987	*	-0.33	3.8637	***	-0.18	1.3065	
PERSO -> INTENT	-0.07	0.6969		-0.07	0.4595		-0.18	1.6784	*
CBBRCE -> INTENT	-0.01	0.064		0.05	0.295		0.08	0.728	

Note: \*\*\* p< 0.01 \*\*p <0.05 \* p <0.1

**CBBRCE:** In the drugstore and multi-channel very few variables explained CBBRCE. On the other hand, all the evaluated variables explained CBBRCE on



the internet. Even though awareness had a negative effect on equity on the internet (-0.60 Coef.), for this channel positive values were transferred via attitudes (0.4), positive emotions (0.36), the capacity of reducing negative emotions (-0.35), quality (0.38) and loyalty (0.35). In contrast, only a few of the multi-channel and drugstore variables that explain CBBRCE were significant, with the exception of awareness. Loyalty had positive coefficients in the channels where it was found significant (drugstore and internet).

**APPROACH:** PBC had a high and negative significance to approach on the internet (-0.46 Coef.). PBC was insignificant on approach for the other two channels. Customers felt no control issues in the drugstore or multi-channel. This means that customers felt insecure on the internet. The lack of confidence in the internet reduces the approach they have towards this channel. Positive emotions (0.37 Coef.) and negative emotions (-0.42 Coef.), affected approach in the drugstore, however, they were not relevant in the other two channels. Emotions were found important to make consumers approach the drugstore.

Demographics (age) and personality (extroversion) factors had a high significance on approach to the internet. In multi-channel, a careless personality trait had a negative coefficient. This means that men self-considered careful are the ones who spend more time using multi-channel. Older respondents would, however, spend less time on the internet.

CBBRCE led to approach only on the internet. CBBRCE had the strongest positive coefficient to approach (0.5). Positive emotions had positive

coefficients and negative emotions had negative coefficients when they were found significant on approach.

**AVOIDANCE:** Negative emotions had very high t-values and positive coefficient in the drugstore (0.48 Coef. and t-value of 3.03\*\*\*). This result explains the role that negative emotions have in making men avoid the drugstore. However, they were completely insignificant on the internet. This finding fits the embarrassing theories that pointed out that embarrassment is a face-to-face phenomenon. Personality had a positive coefficient on avoidance (0.51 Coef.) and (4.9\*\*\* significance). Men who portray themselves as calm have a personality style which is similar to introverts (Kunze, Cope et al. 1991). This would make them avoid talking to others or exploring the drugstore, especially while shopping for a product like Regaine.

Negative emotions had positive coefficients on avoidance (0.48 Coef.) and (4.03\*\*\* t-statistic significance). High negative emotions created a larger avoidance to stay in the channel. This was particularly significant in the drugstore. CBBRCE had a negative coefficient on avoidance (-0.58 Coef.) and (5.25\*\*\* t-statistic significance). The greater the equity, the less avoidance to remain in the channel as it occurs with significance on the internet. Demographics had a negative coefficient on avoidance on the internet: -0.19 coefficient and a 2.10\*\* t-statistic significance. The younger the consumer, the less they wanted to avoid the internet.

**INTENTION:** More than half of TPB variables were able to explain variance on intention in the three evaluated channels. However, PBC was only significant

on the internet: 0.28 coefficient and 2.35\*\*t-statistic significance. CBBRCE was not significant as a predictor of intention in any of the three channels. The demographic variable age was significant for the prediction of intention on the internet (-0.33 Coef.) and (3.86\*\*\* t-statistic significance). This means that younger men do not want to shop for Regaine on the internet. Negative emotions had a significant impact on the intention to shop in the drugstore (-0.29 Coef.) and (3.24\*\*\* t-statistic significance), but not in other channels. The greater the negative emotions the less likely men would want to shop for Regaine in the drugstore.

The coefficients of AT, SN, and PBC were positive when significant relationships were found. In the drugstore, attitude was strongly associated with intention. A 0.47 coefficient and a 3.75\*\*\* significance confirmed this. The importance of attitude is also relevant in multi-channel (0.36 Coef.) and (2.10\*\* t-statistic significance), however, attitudes become irrelevant on the internet, where PBC and PN become preponderant.

### **Predictive Relevance: Blindfolding**

In addition to the  $R^2$  and t-statistics, the predictive sample reuse technique (blindfolding) developed by Stone (1974) and Geisser (1975) was used. The sample reuse technique has been said to fit hand in glove with PLS (Wold 1982).

PLS uses the blindfolding procedure to calculate the predictive measure of a block of variables. To select the prediction variable, Smart PLS has a selection box; the latent variable to be calculated should be selected. The software

settings required to define an omission distance number. Wold recommends that it should be a prime integer between the number of indicators  $K$  and the number of cases  $N$  (Wold 1982).

In the case of the drugstore, the number of observations was a multiple of the omission distance. Hence, seven could not be used (set as default) as the omission distance number. This thesis used the omission distance number 13 in the drugstore. For the internet and multi-channel, the omission distance number used was seven.

There are different types of predictive relevance. This thesis was interested in the relative impact of the structural model for each dependent latent variable. This thesis used the following equation to calculate the relative predictive relevance:

**Equation 1 - $q^2$ : Relative Impact of the structural model**

$$q^2 = [Q^2(\text{included}) - Q^2(\text{excluded})] / 1 - Q^2(\text{included})$$

Source: (Chin 2010, Chin 1998)

The values for the relative predictive relevance ( $q^2$ ) achieved in this thesis can be found in Table 40.  $q^2$  parallels the measurement of  $f^2$ . The values of 0.02, 0.15, and 0.35 (weak, medium, or large effect respectively) were used to interpret the results.

The following analysis of relative predictive relevance is based on the results shown in table 40.

**CBBRCE:** For the three contexts, all of the variables that measure CBBRCE were significant. The only exception was negative emotions. Negative emotions lacked predictive relevance on CBBRCE in the drugstore and in multi-channel. CBBRCE was a relevant variable to predict avoidance on the internet (0.16). PN also had a medium predictive relevance on avoidance on the internet (0.10).

**APPROACH:** PBC had a medium relative predictive relevance on approach for the internet channel (0.14). Positive emotions were predicted in the drugstore (0.15) but not on the internet (0.01) or using multi-channel (-0.06). Both positive and negative emotions had a medium predictive relevance on approach on the drugstore. CBBRCE had a medium predictive relevance on approach for the internet (0.16).

**AVOIDANCE:** Negative emotions had a medium-high relative predictive relevance on avoidance (0.20) in the drugstore. However, negative emotions were insignificant in other channels.

**INTENTION:** Attitude had a medium to high relative predictive relevance on intentions for the drugstore and multi-channel (0.15) but was insignificant for the internet. PN had a medium to high predictive relevance across the three channels. PBC had a small-medium predictive relevance on the internet (0.08) but was not relevant for the drugstore (0.01). Negative emotions had a small to medium predictive relevance on intention in the drugstore (0.07) but were irrelevant in other channels. CBBRCE and positive emotions had no predictive relevance for intention across channels.

Table 40 - Relative Predictive Relevance

PATH	Drugstore	Internet	Multichannel
<b>CBBRCE</b>	<b>q2</b>	<b>q2</b>	<b>q2</b>
ATT -> CBBRCE	0.05	0.28	0.05
POSEMO -> CBBRCE	0.04	0.18	0.20
NEGEMO -> CBBRCE	0.00	0.18	0.03
AWA -> CBBRCE	0.45	0.18	0.23
QUAL -> CBBRCE	0.11	0.16	0.11
LOYA -> CBBRCE	0.11	0.10	0.13
<b>APPROACH</b>			
ATT -> APRO	0.00	0.06	0.02
PN -> APRO	0.08	0.02	-0.01
PBC -> APRO	-0.02	0.14	0.10
POSEMO -> APRO	0.15	0.01	-0.06
NEGEMO -> APRO	0.14	-0.02	0.01
CBBRCE -> APRO	0.06	0.16	0.01
<b>AVOIDANCE</b>			
ATT -> AVOID	0.06	0.01	-0.02
PN -> AVOID	0.00	0.10	0.05
PBC -> AVOID	0.05	0.05	-0.03
POSEMO -> AVOID	0.02	0.02	-0.05
NEGEMO -> AVOID	0.20	0.00	-0.01
CBBRCE -> AVOID	0.05	0.16	0.07
<b>INTENTION</b>			
ATT -> INTENT	0.15	0.00	0.12
PN -> INTENT	0.11	0.15	0.16
PBC -> INTENT	-0.01	0.08	0.04
POSEMO -> INTENT	0.01	0.03	0.02
NEGEMO -> INTENT	0.07	0.00	0.03
CBBRCE -> INTENT	0.00	-0.02	0.01

**Effect Size:**

To evaluate the model, the researcher also checked the effect size. Effect size is the level of impact that the independent variable had on the dependent variable. The effect size determines whether an independent latent variable has a weak, medium or large effect within the model structure (Henseler, Ringle et

al. 2009). The effect size  $f^2$  was calculated using the formula presented in Equation 2.

**Equation 2 - $f^2$  Effect Size**

$$f^2 = [R^2(\text{included}) - R^2(\text{excluded})] / 1 - R^2(\text{included})$$

Source: Chin (2010 p.675)

This formula is not an automatic function. The user must decide what to do when complete model structures are excluded. An  $f^2$  of 0.02, 0.15, and 0.35 represent a small, medium, and large effect respectively (Cohen 1988). The following analysis of the effect size is based on the results shown in Table 41.

**CBBRCE:** All the variables that explain CBBRCE on the internet had a very high effect size. On the other hand, most of the CBBRCE variables presented low effects on multi-channel. Awareness was the only variable that had a consistently high effect size across channels (0.13 drugstore, 0.48 internet and 0.52 multi-channel). Loyalty had a medium effect on the drugstore (0.12), and a medium/high effect on the internet (0.22) but a small/insignificant effect on multi-channel (0.03).

**APPROACH:** PBC had a high effect on approach on the internet (0.31) but no effect on other channels. Positive (0.21) and negative emotions (0.22) had high effect sizes on approach. CBBRCE had a high effect on approach on the internet (0.30).

**AVOIDANCE:** Negative emotions had a high effect on avoidance (0.36) in the drugstore but no effect on the other channels. The effect of attitudes on avoidance was high in the drugstore (0.21) but insignificant in other channels. CBBRCE had a high effect on avoidance in the drugstore (0.58) and on the internet (0.26).

**INTENTION:** PN had a consistently high effect on intention across channels (0.25 drugstore, 0.31 internet and 0.16 in multi-channel). PBC had a high/medium effect on Intention only on the internet (0.12) but not in on the other channels. Negative emotions had a high effect on intention in the drugstore (0.20) but not on other channels.

### **Goodness of Fit**

The Goodness of Fit (GoF) is a measurement that tries to consider the overall model performance. It considers both the measurement and structural model and the prediction capabilities of the model. However, there is no global criterion optimized in PLS, therefore, there were no criteria to evaluate the overall model (Henseler, Ringle et al. 2009). One of the latest studies about GoF on PLS, evaluated the GoF with simulated data, and found that GoF and GoF relative were not suitable for model validation. However, the GoF can be useful to assess how well a PLS path model can explain different sets of data (Henseler, Sarstedt 2012), hence, GoF is presented to compare the three contexts. The result was used to decide in which context (dataset) the proposed model worked best.



Table 41 - Effect sizes

LATENT VARIABLE	DRUGSTORE	INTERNET	MULTICHANNEL
CBBRCE	<b>f2</b>	<b>f2</b>	<b>f2</b>
ATT -> CBBRCE	0.06	0.50	0.00
POSEMO -> CBBRCE	0.05	0.30	0.04
NEGEMO -> CBBRCE	0.00	0.40	0.00
AWA -> CBBRCE	0.13	0.48	0.52
QUAL -> CBBRCE	0.09	0.30	0.01
LOYA -> CBBRCE	0.12	0.22	0.03
APPROACH			
ATT -> APRO	0.04	0.08	0.04
PN -> APRO	0.13	0.04	0.07
PBC -> APRO	0.00	0.31	0.00
POSEMO -> APRO	0.21	0.03	0.00
NEGEMO -> APRO	0.22	0.00	0.00
CBBRCE -> APRO	0.04	0.30	0.02
AVOIDANCE			
ATT -> AVOID	0.21	0.01	0.02
PN -> AVOID	0.00	0.12	0.01
PBC -> AVOID	0.08	0.06	0.00
POSEMO -> AVOID	0.03	0.02	0.00
NEGEMO -> AVOID	0.36	0.01	0.03
CBBRCE -> AVOID	0.58	0.26	0.03
INTENTION			
ATT -> INTENT	0.29	0.01	0.13
PN -> INTENT	0.25	0.31	0.16
PBC -> INTENT	0.00	0.12	0.01
POSEMO -> INTENT	0.01	0.11	0.01
NEGEMO -> INTENT	0.20	0.01	0.00
DEMO -> INTENT	0.05	0.01	0.01

Tenenhaus, Amato et al. (2004) and Tenenhaus, Vinzi et al. (2005) developed the GoF measure. The GoF is the geometric mean of the average commonality and the average  $R^2$ . The average commonality is computed as a weighted average of the different communities with the number of manifest variables or indicators of every construct as weights.

An acceptable level of goodness of fit can vary, depending on the research context. However, Wetzels, Odekerken-Schroder et al. (2009) suggested 0.10 as a small GOF, 0.25 as a medium GOF, and 0.36 as a large GOF.

The indicator of Goodness of Fit is presented in Table 42. The result of 0.69 in the drugstore, 0.68 on the internet and 0.50 in multi-channel suggested that the data sets in the context of the drugstore and the internet worked better than in the multi-channel. In general, terms the GoF was large for the three evaluated channels.

**Table 42 - GOF for the three contexts**

	<b>DRUGSTORE</b>		<b>INTERNET</b>		<b>MULTICHANNEL</b>	
	<b>AVE</b>	<b>R Square</b>	<b>AVE</b>	<b>R Square</b>	<b>AVE</b>	<b>R Square</b>
APPRO	0.87	0.49	0.86	0.63	0.67	0.34
AVOID	0.76	0.58	0.83	0.43	0.65	0.25
INTENT	0.75	0.72	0.71	0.66	0.71	0.54
AVERAGE	0.79	0.59	0.80	0.57	0.68	0.38
	<b>AVE*R2</b>	<b>GOF</b>	<b>AVE*R2</b>	<b>GOF</b>	<b>AVE*R2</b>	<b>GOF</b>
	0.47	0.69	0.46	0.68	0.25	0.50

## **5.5 Analysis of Formative Construct (CBBRCE)**

Formative indicators are not expected to correlate with one another, therefore traditional measures of validity are not appropriate (Chin 1998). Evidence of nomological or external validity could not be provided for formative items in this thesis, therefore, the weights significance and multicollinearity test are presented. Chin (1998) suggests evaluating the VIF and condition index to assess multicollinearity and the significance of the weights. The VIF should be less than 5, the tolerance more than 0.20, and the condition index less than 30 (Hair, Ringle et al. 2011). The VIF was less than 5 and tolerance was more than 0.2 in all channels. Multicollinearity for CBBRCE is presented in Appendix 15. The condition index for CBBRCE was under 30 for all channels. Collinearity can be detected when high VIF indicates that there are some redundant items and that they should be removed.

Table 43 presents the significance of the only formative construct in the model (CBBRCE). Standard errors were low, considering the small sample size. All the t-statistics were significant for the internet channel, however, the level of significance was not achieved in the drugstore or multi-channel, with the exception of awareness.

Table 43 - CBBRCE significance and standard errors

	DRUGSTORE			INTERNET			MULTICHANNEL		
	Coefficient	Standard Error	T Statistics	Coefficient	Standard Error	T Statistics	Coefficient	Standard Error	T Statistics
ATT -> CBBRCE	0.259	0.171	1.514	0.458	0.144	3.191	0.001	0.117	0.004
NEGEMO -> CBBRCE	-0.037	0.113	0.330	-0.346	0.169	2.048	-0.024	0.082	0.293
POSEMO -> CBBRCE	-0.197	0.128	1.545	0.357	0.110	3.237	-0.154	0.115	1.333
AWA -> CBBRCE	0.294	0.112	2.627	-0.601	0.157	3.830	0.637	0.103	6.203
QUAL -> CBBRCE	-0.338	0.235	1.436	0.383	0.165	2.316	0.079	0.143	0.555
LOYA -> CBBRCE	0.357	0.189	1.892	0.349	0.177	1.968	0.197	0.151	1.311

## **5.6 Demographic and Personality Items Selection**

The literature mentioned in Table 6 (p.58) (demographic factors) and Table 7 (p.59) (personality factors) provided evidence of a relationship between these concepts and intention. However, given that this is the first channel/multi-channel study performed for an embarrassing product such as Regaine, it was unclear which personality trait or demographic variable was the most relevant to include in the model. Including the seven demographic factors or the ten personality items created multi-collinearity problems. To avoid this undesirable result, this thesis followed an iterative process in which the significances of the items were calculated. The weakest link was eliminated until only one item remained. Of the seven demographic factors, (academic, birth, children, household, income, marital status and working status), the items with the highest significance in the drugstore and on the internet were age and in the case of multi-channel was working status. Of the ten-item personality inventory, the item with highest significance in the drugstore was conventional, on the internet was extroverted and in multi-channel was careless/careful.

Although a large part of this thesis followed a confirmatory approach, the selection of the demographic and psychographic variables followed an exploratory approach. This approach is useful to generate new theory and fits the PLS data modelling capabilities. PLS is a useful tool for adjusting the measurement model to the data. This approach is consistent with the use of PLS recommended by Chin. Chin points out that the researcher should establish a baseline model where theory and measures have been previously

tested, then develop on that model by adding new measures and structural-paths (Chin 2010).

## **5.7 Testing Moderating Effects**

A moderator is a qualitative or quantitative variable that affects the direction or strength of the relationship between an independent variable and a dependent variable (Baron, Kenny 1986). In this section, personality and demographic variables were tested as variables that affect the direction/ strength of intention. Demographics and personality were selected given the evidence found in the literature that suggests their moderating role on TPB variables, as presented in Table 6 p.58 and Table 7 p.59. However, it is important to clarify that the moderating effects analysis is additional to the hypotheses proposed in the conceptual model presented previously in this thesis.

In general, there are two common approaches to estimating moderating effects with regression-like techniques. These are the product term approach and the group comparison approach (Henseler, Fassott 2010). The group comparison approach was not recommended for this study because it is suboptimal for continuous moderating variables (Henseler, Fassott 2010). The product term comparison approach is not recommended for models with formative variables, however, when all formative interacting variables are measured by single indicators, the researcher can choose either the product indicator approach or the two-stage approach (Henseler, Fassott 2010).

Rigdon also recommends using the product term approach when both of the interacting variables are continuous (Vinzi, Chin et al. 2010) (Rigdon,

Schumacker et al. 1998) (Rigdon, Ringle et al. 2010). This was the case for this thesis.

To determine the significance of moderating effects, the bootstrapping method is recommended (Chin 2010). Moderating effects ( $f^2$ ) can also be calculated to determine if the moderating effect is weak, moderate or strong (Henseler, Fassott 2010). Even a small interaction effect can be meaningful under extreme moderation conditions. If the resulting beta changes are meaningful, then it is important to consider these conditions (Chin, Marcolin et al. 2003).

Table 44 presents the moderating effects that personality and demographic factors have on TPB variables in their path to intention. The analysis of Table 44 shows that the effect that personality and demographic variables had on intention was small or insignificant. When personality is moderating PN and PBC, the effect is small (0.04), and when demographic is moderating, the effect is very small or insignificant (0.03 on attitudes and 0 on PN). The t-statistic of the new paths (created by the interaction between the moderator and the TPB variable) was insignificant in all cases. Some changes were detected in the bootstrapping analysis, making some paths gain or lose significance. However, the changes were not substantial. For example, when personality was moderating, the attitude to intention path became insignificant (t-statistic decreased from 3.3 to 1.92). However, PBC to avoidance became significant (1.7 to 2.09).

## 5.8 Steps to examine differences between groups using Multi-group analysis (MGA)

The existing research has traditionally been based on assessments made between different sets of consumers (Degeratu, Rangaswamy et al. 2000) (Danaher, Wilson et al. 2003) (Andrews, Currim 2004). This study, although using different sets of consumers, had a unified set of questions that made the comparison between the different samples more acceptable. Multi-group PLS analysis has been used before, for example, to evaluate the different use of information system services between Germans and Americans (Chin, Dibbern 2010).

This thesis used Henseler's (2012) parametric approach to MGA. Smart PLS provided the bootstrapping sample that was required for the MGA, but the calculation of the significant differences was executed in an Excel spreadsheet. Henseler (2012) provided the spreadsheet specifically designed for this purpose. The spreadsheet contained the formula proposed by Dibbern and Chin (2005) that calculated the differences in the paths between groups (see Equation 3).

**Equation 3 -Formula to calculate the difference in paths between groups**

$$t = \frac{Path_{sample\_1} - Path_{sample\_2}}{\left[ \sqrt{\frac{(m-1)^2}{(m+n-2)} * S.E.^2_{sample1} + \frac{(n-1)^2}{(m+n-2)} * S.E.^2_{sample2}} \right] * \left[ \sqrt{\frac{1}{m} + \frac{1}{n}} \right]}$$

Source: Dibbern and Chin (2005)



**Table 44 - Moderating effects that personality and demographic factors had on intention**

	Without Moderation		Per-Att		Per-PN		Per-PBC		Demo-Attitude		Demo-PN		Demo-PBC	
	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic	Coefficient	T-statistic
ATT -> APPRO	-0.2124	1.0617	-0.2124	1.1929	-0.2121	1.0934	-0.2124	1.1032	-0.2125	1.1231	-0.2124	1.1977	-0.2124	1.0383
ATT -> AVOID	0.3028	1.9361	0.3027	1.8754	0.3026	1.9326	0.3027	2.0012	0.3027	2.007	0.3028	1.8924	0.3027	1.9438
ATT -> CBBRCE	0.259	1.5915	0.259	1.5217	0.2589	1.5354	0.259	1.7094	0.259	1.654	0.259	1.6225	0.259	1.6283
ATT -> INTENT	0.4707	3.3939	0.4495	1.9238	0.4459	3.4725	0.4689	3.6089	2.3966	2.1718	0.4748	3.7909	0.4752	3.5482
AWA -> CBBRCE	0.2939	2.943	0.2939	2.8834	0.2939	2.6811	0.2939	2.8899	0.2938	2.6871	0.2939	2.4822	0.2939	2.3338
CBBRCE -> APPRO	-0.1521	1.1858	-0.1521	1.2091	-0.152	1.2491	-0.152	1.2048	-0.152	1.3231	-0.1521	1.5122	-0.152	1.211
CBBRCE -> AVOID	-0.1247	0.952	-0.1247	0.9046	-0.1247	0.8258	-0.1247	0.8796	-0.1248	0.8946	-0.1247	0.9532	-0.1247	0.9935
CBBRCE -> INTENT	-0.0062	0.0644	-0.0057	0.054	0.0223	0.1871	0.0382	0.3606	0.0308	0.2768	-0.0046	0.0505	0.0051	0.0479
DEMO -> APPRO	-0.2138	1.5759	-0.2138	1.6717	-0.2139	1.6782	-0.2138	1.5009	-0.2137	1.5765	-0.2138	1.5952	-0.2138	1.4981
DEMO -> AVOID	0.1152	1.0773	0.1152	1.043	0.115	1.1186	0.1152	1.1113	0.1153	1.0907	0.1152	1.1394	0.1152	1.0231
DEMO -> INTENT	-0.1449	1.8821	-0.1432	1.6586	-0.1378	1.6081	-0.1864	2.0739	1.225	1.7055	-0.3153	0.5792	0.0828	0.2127
LOYA -> CBBRCE	0.3569	1.986	0.3569	1.9202	0.3568	1.8342	0.3569	1.9541	0.3569	2.1248	0.3569	2.0267	0.3569	1.8287
NEGEMO -> APPRO	-0.4221	3.0817	-0.4221	3.285	-0.4221	3.5963	-0.4221	3.5733	-0.422	3.2411	-0.4221	3.3721	-0.4221	3.5577
NEGEMO -> AVOID	0.4828	4.235	0.4828	4.3959	0.4828	3.7495	0.4828	3.9019	0.4827	4.1038	0.4828	4.2665	0.4828	3.7631
NEGEMO -> CBBRCE	-0.0373	0.345	-0.0373	0.3411	-0.0372	0.305	-0.0373	0.3555	-0.0373	0.3299	-0.0373	0.3276	-0.0373	0.3468
NEGEMO -> INTENT	-0.2916	2.9928	-0.296	2.6442	-0.3299	3.218	-0.2586	2.6492	-0.339	3.4615	-0.2887	3.1158	-0.2815	3.1097
PBC -> APPRO	0.0248	0.1831	0.0248	0.1709	0.0248	0.1561	0.0248	0.1785	0.0248	0.1637	0.0248	0.1673	0.0248	0.1615
PBC -> AVOID	-0.2434	1.744	-0.2434	2.0956	-0.2432	1.8613	-0.2434	2.0693	-0.2435	1.8181	-0.2435	1.8622	-0.2434	1.8784
PBC -> INTENT	0.0354	0.3525	0.0304	0.253	0.0298	0.24	0.2979	1.4592	-0.0385	0.3208	0.0342	0.291	0.379	0.5557
PERSO -> APPRO	-0.1895	1.3487	-0.1895	1.3641	-0.1894	1.437	-0.1895	1.3157	-0.1896	1.3068	-0.1895	1.4464	-0.1895	1.3825
PERSO -> AVOID	0.5055	4.6343	0.5055	5.5118	0.5053	4.5694	0.5056	4.8327	0.5056	4.8996	0.5056	4.7397	0.5055	4.6994
PERSO -> INTENT	-0.0734	0.706	-0.1396	0.263	-0.0797	0.1157	0.51	1.2649	-0.1057	1.05	-0.0733	0.7035	-0.0747	0.6878
PN -> APPRO	0.299	1.8718	0.299	1.8676	0.2988	1.89	0.299	1.9069	0.299	2.0761	0.299	1.9644	0.299	1.9011
PN -> AVOID	-0.0399	0.3155	-0.0399	0.3145	-0.0401	0.3382	-0.0399	0.3173	-0.0398	0.3339	-0.0399	0.3192	-0.0399	0.3385
PN -> INTENT	0.3079	2.7699	0.3105	2.7041	0.3286	0.8587	0.2806	2.6343	0.3047	2.7711	-0.0755	0.0624	0.3213	3.0108
POSEMO -> APPRO	0.3708	3.5312	0.3708	3.0709	0.3708	2.835	0.3708	2.999	0.3708	2.7863	0.3708	3.4271	0.3708	3.0983
POSEMO -> AVOID	-0.1188	0.9962	-0.1188	0.9032	-0.1188	0.8967	-0.1189	0.9652	-0.119	0.9209	-0.1189	0.928	-0.1189	0.8584
POSEMO -> CBBRCE	-0.1974	1.6424	-0.1974	1.5535	-0.1975	1.3774	-0.1974	1.6401	-0.1974	1.579	-0.1974	1.8786	-0.1974	1.508
POSEMO -> INTENT	-0.0713	0.8319	-0.0703	0.7759	-0.0593	0.5815	-0.0426	0.5212	-0.0305	0.3591	-0.0737	0.8944	-0.07	0.7966
QUAL -> CBBRCE	-0.3375	1.5305	-0.3375	1.4658	-0.3373	1.321	-0.3375	1.4606	-0.3375	1.5371	-0.3375	1.4684	-0.3375	1.4222
			R2	0.721	R2	0.721	R2	0.721	R2	0.721	R2	0.721	R2	0.721
			R2 w/Mod.	0.721	R2 w/Mod.	0.733	R2 w/Mod.	0.732	R2 w/Mod.	0.75	R2 w/Mod.	0.721	R2 w/Mod.	0.722
			Difference	0	Difference	0.012	Difference	0.011	Difference	0.029	Difference	0.000	Difference	0.001
			1-Included	0.279	1-Included	0.267	1-Included	0.279	1-Included	0.971	1-Included	1	1-Included	0.999
			Effect Size	0	Effect Size	0.04	Effect Size	0.04	Effect Size	0.03	Effect Size	0	Effect Size	0.00

## [Chapter 5]

The proposed procedure used estimated the re-sampling in a parametric sense via t-tests. The standard errors for the structural paths provided by smart PLS were used in the re-sampling output, and then calculated using Excel. The t-test was used to calculate the difference in paths between groups (Dibbern, Chin 2005) (Chin 2000). This approach is recommended when the two samples are not too non-normal and/or the two variances are not too different from one another (Chin 2000).

This thesis followed the recommendations of Henseler. The setting (no sign changes) was selected for the reasons previously discussed. The bootstrap was performed for 5000 samples.

Table 45 presents the results of the MG comparison. The results of group comparison showed that the modelled path between awareness and equity was statistically different for the three groups. This difference is understandable, given that awareness had a negative coefficient on the internet and positive on the two other channels. Awareness created equity in both drugstore and multi-channel but not on the internet. Apparently, for the customer it was easier to imagine a Boots drugstore or Boots multi-channel than a Boots website. Another plausible explanation is that customers have had negative experiences with the Boots website. In this case, the negative experience gave them an awareness of the Boots website and hence affected equity. Respondents who are not motivated, unfamiliar or do not know the object evaluated can use a simple impression to guide their rating of attributes (Cooper 1981). The lack of knowledge about Boots' website could have affected the evaluation of equity.

Fourteen significant differences were found in the group comparison between the drugstore and the internet. On the other hand, statistically, the drugstore was similar to multi-channel. Only awareness and negative emotions had a statistically significant difference. The term multi-channel could be too complex to analyse or become familiarised with and the respondents' brains opt for eliminating it. Negative emotions are the key differentiator between the three channels because they have a negative coefficient on the drugstore and positive coefficient on the other two channels. Negative emotions like embarrassment or nervousness decrease the intention to shop in the drugstore. However, it has no effect on the internet or multi-channel. Furthermore, there were differences in the way that negative emotions affected intention (2.05), approach (2.60) and avoidance (2.76) in the drugstore as compared to the internet.

Other constructs created differences between the drugstore and the internet. Some of the differences were seen in the dependent variables approach and avoidance. Attitudes, CBBRCE, demographics, perceived norm, and positive emotions created differences between these two channels.

Table 45 - MG Comparison (Three Channels)

PATH	INTERNET vs MULTICHANNEL		DRUGSTORE VS INTERNET		DRUGSTORE VS MULTICHANNEL	
	Coefficient Difference	T Statistic	Coefficient Difference	T Statistic	Coefficient Difference	T Statistic
ATT -> APPRO	0.11	0.46	0.55	2.18	0.44	1.74
ATT -> AVOID	0.01	0.04	0.47	1.52	0.48	1.83
ATT -> CBBRCE	0.46	2.51	0.20	0.90	0.26	1.28
ATT -> INTENT	0.47	1.83	0.58	2.40	0.11	0.51
AWA -> CBBRCE	1.24	6.79	0.90	4.58	0.34	2.28
CBBRCE -> APPRO	0.38	1.86	0.65	3.95	0.27	1.28
CBBRCE -> AVOID	0.73	3.62	0.45	2.57	0.28	1.28
CBBRCE -> INTENT	0.03	0.17	0.06	0.27	0.09	0.59
DEMO -> APPRO	0.23	1.44	0.17	1.05	0.06	0.33
DEMO -> AVOID	0.37	2.12	0.31	2.25	0.06	0.34
DEMO -> INTENT	0.15	0.93	0.18	1.55	0.03	0.19
LOYA -> CBBRCE	0.15	0.66	0.01	0.03	0.16	0.67
NEGEMO -> APPRO	0.06	0.33	0.44	2.60	0.38	1.91
NEGEMO -> AVOID	0.36	1.60	0.58	2.76	0.23	1.14
NEGEMO -> CBBRCE	0.32	1.79	0.31	1.49	0.01	0.10
NEGEMO -> INTENT	0.05	0.28	0.38	2.05	0.33	2.29
PBC -> APPRO	0.44	1.68	0.49	2.39	0.05	0.20
PBC -> AVOID	0.10	0.42	0.01	0.04	0.10	0.43
PBC -> INTENT	0.21	1.14	0.25	1.49	0.03	0.19
PERSO -> APPRO	0.14	0.70	0.23	1.18	0.09	0.43
PERSO -> AVOID	0.11	0.46	0.42	2.26	0.31	1.45
PERSO -> INTENT	0.12	0.66	0.01	0.04	0.11	0.73
PN -> APPRO	0.52	2.39	0.54	2.45	0.01	0.06
PN -> AVOID	0.42	1.47	0.52	2.08	0.10	0.40
PN -> INTENT	0.26	0.94	0.32	1.19	0.06	0.32
POSEMO -> APPRO	0.20	0.88	0.51	2.84	0.31	1.36
POSEMO -> AVOID	0.14	0.53	0.03	0.12	0.11	0.48
POSEMO -> CBBRCE	0.51	3.21	0.55	3.33	0.04	0.26
POSEMO -> INTENT	0.36	1.76	0.19	1.02	0.17	1.06
QUAL -> CBBRCE	0.30	1.41	0.72	2.57	0.42	1.56

## 5.9 FIMIX Segmentation

Traditional cluster analysis techniques cannot account for heterogeneity in the relationships between latent variables (Sarstedt, Ringle 2010). Sarstedt, Schwaiger et al. (2009) showed that an aggregate analysis could be seriously misleading when there are significant differences between segment-specific parameter estimates. As Muthén (1989) demonstrated, if heterogeneity is not handled properly, SEM analysis can be seriously distorted. More evidence of this can be found in Ringle, Wende et al. (2010) and Sarstedt (2008). To analyse data heterogeneity, Hahn, Johnson et al. (2002) introduced the finite FIMIX-PLS method. FIMIX combines the strengths of the PLS path modelling method with the advantages of Maximum Likelihood estimations. This model assumes that the data originate from several sub-populations or segments (McLachlan, Peel 2000). However, running a FIMIX-PLS often produces results that are improper for reasonable analyses, for example, a value that is higher than one or becomes negative. Such results might indicate that the heterogeneity in the structural model cannot be segmented using FIMIX. It is also important to check the values of entropy statistic (EN) range from 0 to 1. An EN of more than 0.5 permits an unambiguous segmentation (Ringle, Sarstedt et al. 2010). However, even if the EN is within the adequate levels, the researcher must also look to other indices like the Akaike information criterion (AIC), Bayesian Information Criterion (BIC) and consistent Akaike information criterion (CAIC). All of these must be analysed together in order to make a decision.

The small sample size of this thesis made it inappropriate for the reliability of the data. The quality indicators for the three channels are presented in Table 46. Table 46 presents the number of segments that could be calculated with the data.

The results in terms of AIC, BIC and CAIC indicators presented in Table 46 were poor. Additionally, the study's low sample size created uncertainty about the reliability of the FIMIX results, hence, FIMIX segmentation was not pursued by this study.

**Table 46 - FIMIX Segmentation quality indicators**

Index	Drugstore			Internet	Multichannel	
	Number of Segments			Number of Segments	Number of Segments	
	2	3	4	2	2	3
<b>AIC</b>	327.1	248.1	-3077.2	126.4	428.4	369.0
<b>BIC</b>	430.4	403.7	-2869.2	195.1	550.0	552.2
<b>CAIC</b>	432.4	406.8	-2865.0	198.5	551.6	554.6
<b>EN</b>	0.9	1.0	1.0	1.0	1.0	1.0

## 5.10 Discriminant Analysis

### 5.10.5 Direct and Indirect Measures correlation

To aid the goal of understanding what influences intention, indirect TPB measurements are critical. The indirect measurements are the beliefs that originate from AT, SN and PBC. The correlation between direct and indirect measures of the same construct helped to confirm the validity of the direct measures. A high correlation is normally expected. To measure the correlation between direct and indirect variables, directly measured scores acted as the dependent variable and the sum of the weighted behavioural beliefs were the predictor variable. To determine the beliefs with the greatest influence on

intention, intention was dichotomised into low and high intenders. Since the very low intenders (respondents who marked 1 in intention) were removed from the sample, low intenders were defined as those who marked 2, 3 and 4 on intention and high intenders were those who marked it with 5, 6 or 7. Table 47 shows the high and significant correlations across the three channels for attitude. These were 0.31 for the drugstore, 0.60 for the internet and 0.63 for multi-channel. However, the results for PN and PBC were lower than expected.

**Table 47 - Correlations between direct and indirect measurements**

	Drugstore	Internet	Multi-channel
Attitude	0.31*	0.6**	0.63**
PN	0.19	0.22	0.27*
PBC	-0.5	0.26*	N/A

\*Correlation is significant at the 0.05 level

\*\*Correlation is significant at the 0.01 level 2 tail test.

### 5.10.6 Discriminant Analysis: Relative importance of drugstore predictors

The structure matrix table indicates the relative importance of the predictors and shows the correlations of each variable with each discriminate function. The structure matrix presents factor loadings, which are similar to factor analysis. 0.30 is seen as the cut-off between important and less important variables. Table 48 shows the items with a correlation higher than 0.3. Easy and close are the two most important factors in the drugstore. The test of equality of means shows that from these items, the only one with a significant value (0.005) is the factor “easy”.

**Table 48 - Beliefs with a high loading to intention (Drugstore)**

<b>Belief</b>	<b>Factor Loading</b>
Easy	0.72
Close	0.66
No Quality Concerns	0.56
Fastest	0.55
Only a little more expensive	0.47

Easy to shop is one of the key variables of retail success (Grewal, Krishnan et al. 2010). The first and second most important variables, easy and close, are related. If a store is close, it will be easy to stop and purchase Regaine. Closeness reduces the efforts that the consumer makes to shop and hence facilitates the purchase. Further research is needed to understand what makes the store easy to shop. Easy could refer to the store layout, if it is easy to park, easy to find the product, spacious, easy to pay, easy to compare choices, easy to use technology, or easy to identify. More questions arise because of this finding. For example, this new research is needed to understand what the consumer is thinking when he refers to '*Easy to shop*'. The fourth element found in the structure matrix (fastest) can also be related with how easy it is to go into the store and come out with the product in your hands. This finding resonates with other studies that have found that men shop faster than women (Davies, Bell 1991).

#### **5.10.7 Discriminant Analysis: Relative importance of internet predictors**

Structural Matrix results indicated that wife/partner/girlfriend was the only factor with a loading greater than 0.3. Similarly, the test of equality of group means showed that the wife/partner/girlfriend was the only factor with a 0.03 significance on the internet.



The husband-wife influence on consumer purchase decisions has been studied in marketing (Davis 1971). However, little is understood with regard to the nature of and influences on consumer purchases during online marketing exchanges. Significant relationships exist between subjective norms and purchase intention in online marketing (Zhang, Prybutok et al. 2007).

#### **5.10.8 Discriminant Analysis: Relative importance of Multi-channel predictors**

The standardized canonical discriminant function shows that convenience (0.7) and flexibility (0.65) have high coefficients as well as parents (0.54) and wife/partner (0.54). The test of equality means shows that convenience (0.002) and choice flexibility (0.004) were the only significant items. The findings of this thesis are consistent with multi-channel literature. Multi-channel convenience is one of the key measures of click-and-mortar business model performance (Lu 2004) and one of the main benefits of having a multi-channel operation (Pentina, Pelton et al. 2009). Multi-channel consumers are rewarded with flexibility and functionality to search and compare (Duffy 2004).

**Table 49 - Discriminant Analysis Results (Multi-channel)**

<b>Belief</b>	<b>Factor Loading</b>
Convenient	0.70
Choice/Flexibility	0.65
Wife/Partner	0.54
Parents	0.54
Family	0.47
Able to Compare	0.42
Acknowledge price differences	0.26
Limited to one channel	0.22

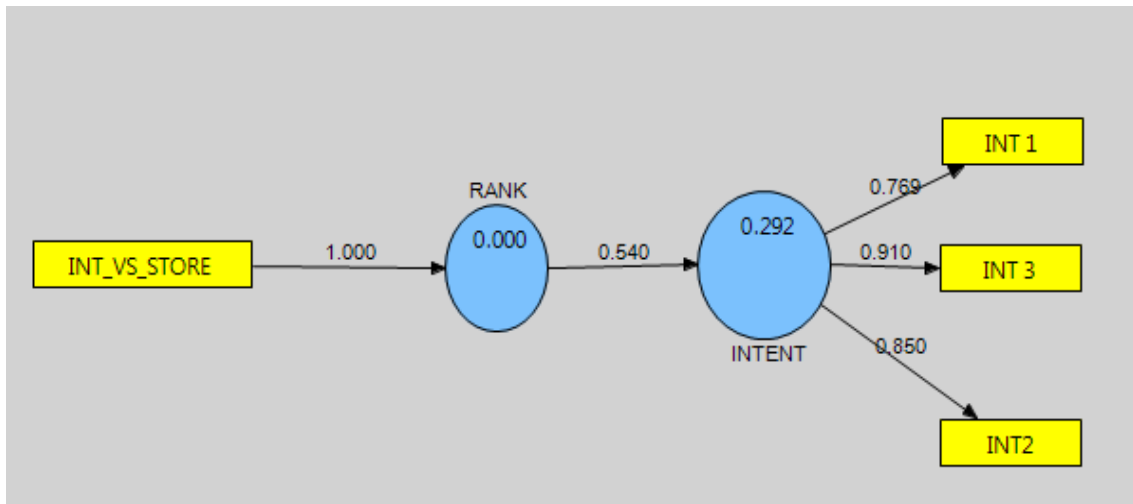
### **5.11 Ranking Data**

Ajzen and Fishbein proposed a complementary hypothesis to the theory of reasoned action (TRA) based on decision theory. Their interest was in predicting behavioural intentions in a choice situation. When respondents consider all the possible alternatives of behaviour, they are more accurate than when they consider only one behavioural target (Ajzen, Fishbein 1969). This thesis explores how ranking of channels and dichotomous channel choice could improve shopping predictions. Respondents ranked channel(s) to indicate their preference in a dichotomous choice question. Ordinal or dichotomous variables can be used in a PLS as long as there is a large set to represent the continuous latent variable (Chin, Marcolin et al. 2003) (Temme, Kreis et al. 2006).

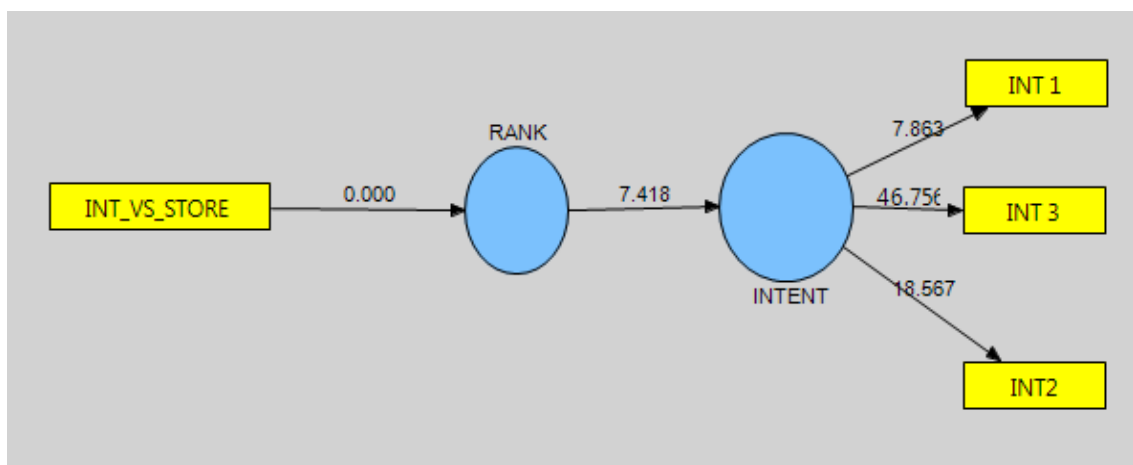
Ranking questions were tested to evaluate their coefficients and significance on intention using an exploratory approach to data analysis. One by one, the variables were removed, leaving only the most significant. In the case of the drugstore (see Figure 15), the internet versus store was the question that achieved the best results. A variance explained of 0.29, and a coefficient of 0.54 suggests that respondents who have a clear preference for the store have

a higher intention to buy from it. In the drugstore, the relationship between the ranking question and intention achieved high significance (t-statistic of 7.4) as can be seen in Figure 16.

**Figure 15 -Drugstore Factor Loadings**



**Figure 16 -Drugstore Bootstrapping Results (Significances)**



In the case of the internet, although there were three questions that combined achieved high variance explained (0.22), none of these were shown to have a significant path to intention.

Figure 17 -Internet Factor Loadings

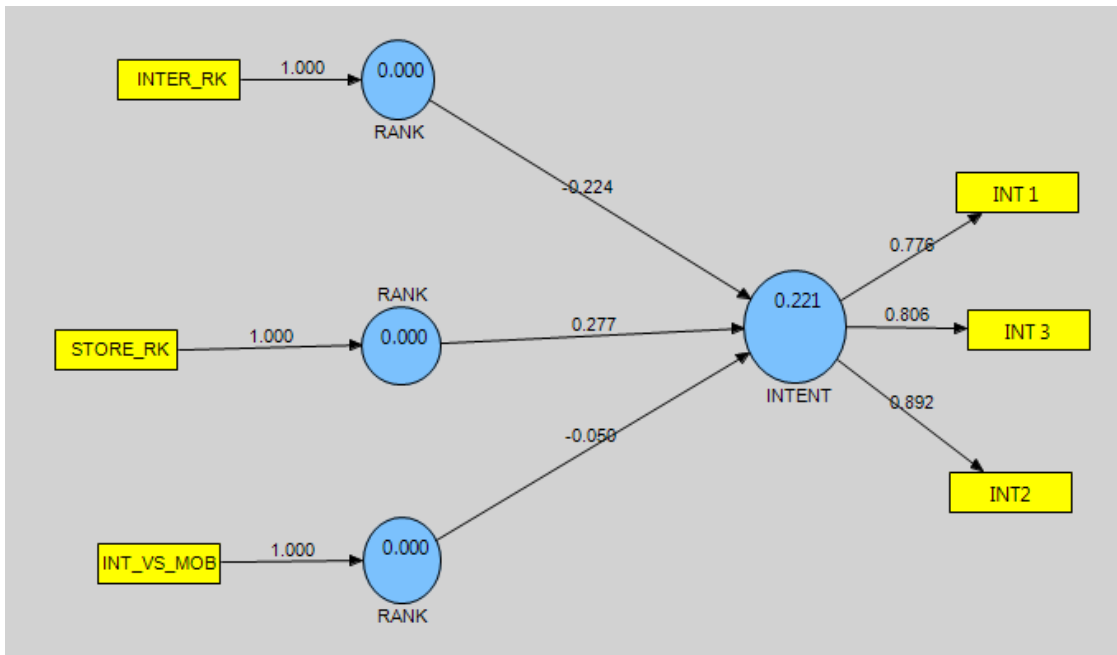
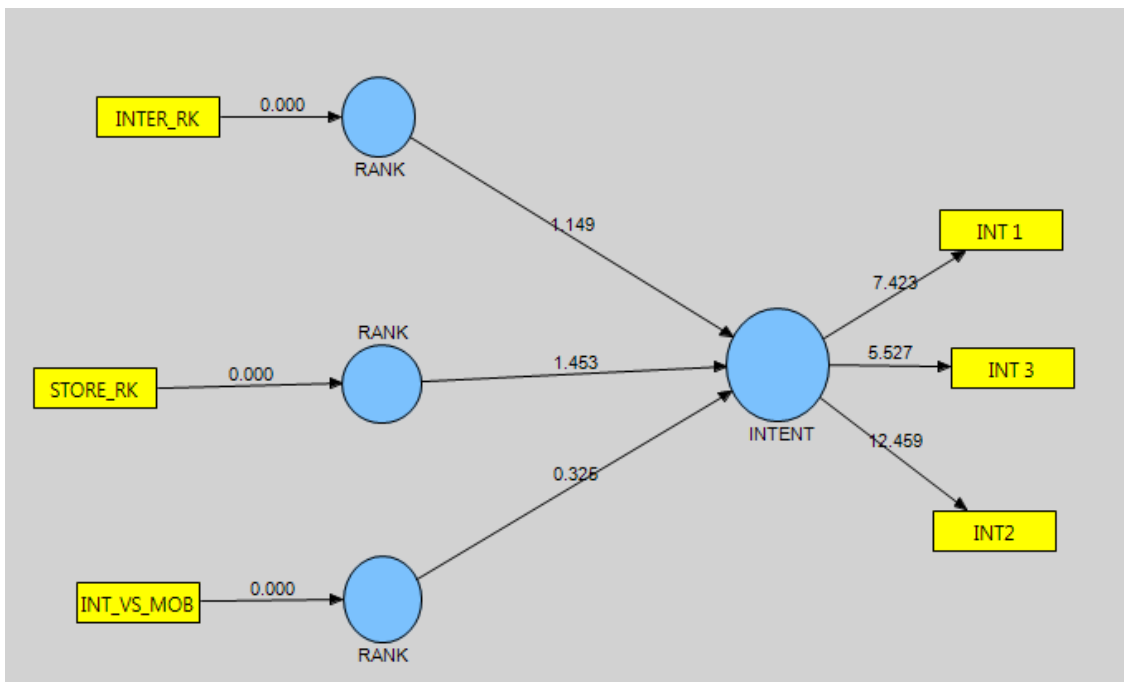


Figure 18 -Internet Bootstrapping Results (Significances)



In multi-channel, the 'One channel versus multi-channel' dichotomous question was able to explain variance for both intention (0.247) and approach (0.268). These two paths were also significant at the highest level, with t-values of 6.6 (ranking to intention) and 7.05 (ranking to approach).

Figure 19 -Multi-channel Factor Loadings

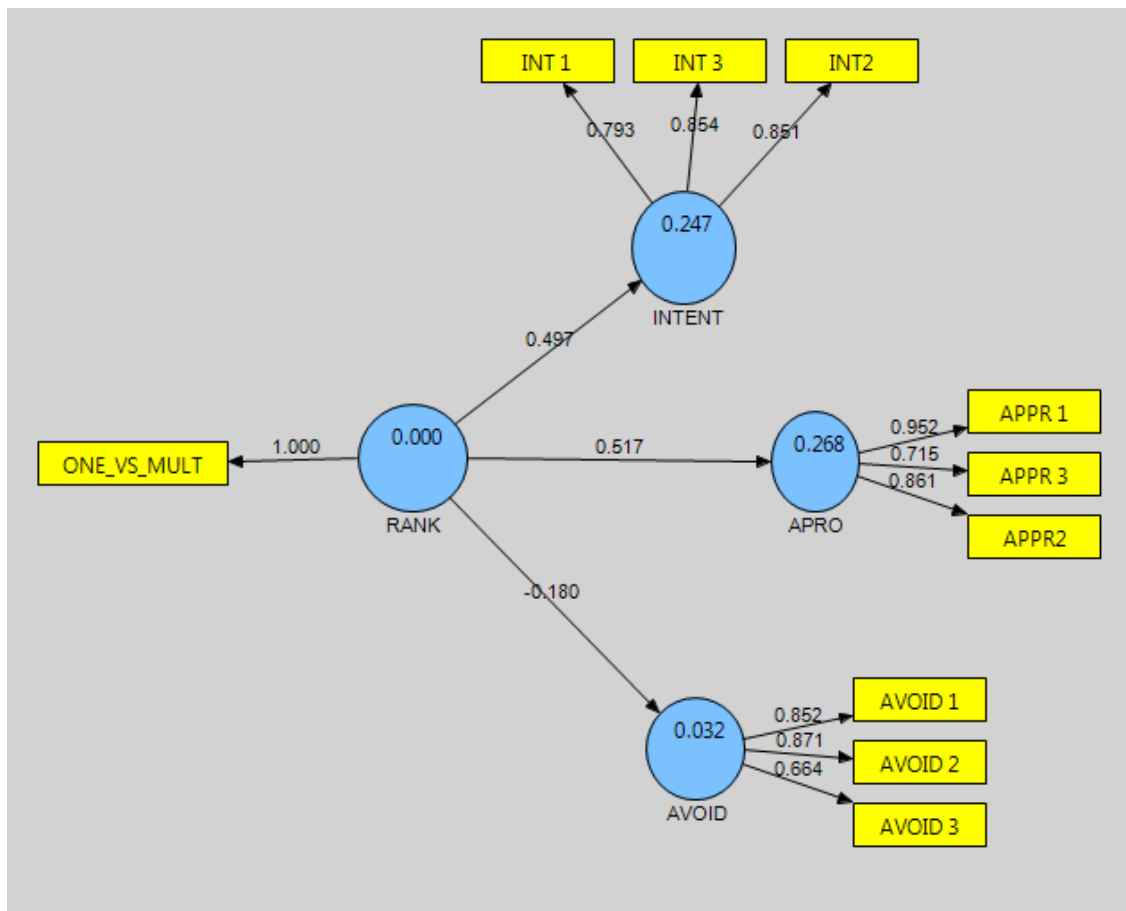
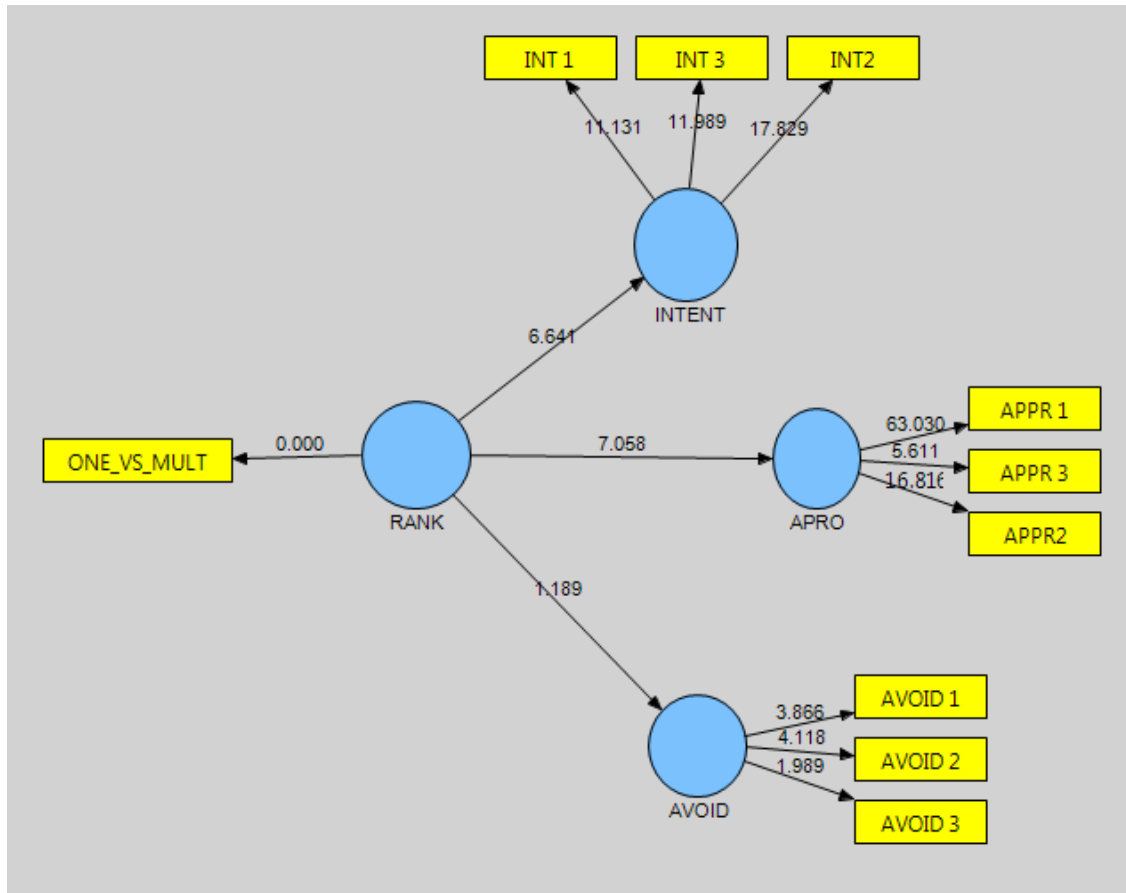


Figure 20 -Multi-channel Bootstrapping Results (Significances)



## 5.12 Chapter Summary

This chapter began with a preliminary data analysis that showed that the data did not suffer from consumer non-response. Although a first approximation to the data showed inconsistencies created by respondents with low intention, measures were taken to eliminate this bias. The demographic profile showed that the three surveys shared common characteristics that allowed comparisons to be made between them. Regaine awareness was lower than expected, and this could have affected the results of the research. Descriptive statistics showed that PBC was one of the constructs with highest means, indicating that respondents did not identify control problems with the purchase of Regaine. No

problems with data normality were identified. Some outliers were present but were considered part of the normal variance of the data and hence kept in the sample. Following the pilot study, the changes made to the survey reduced the level of missing data, which was already under controllable levels. However, some of the missing value issues identified in the pilot study continued to affect a small number of questions. Skewness and kurtosis was under controllable levels for most of the questions. However, skewness of awareness and negative emotions indicated low levels of awareness of Regaine and negative emotions, in particular on the internet. The data was found to be homoscedastic and optimal for use with a PLS approach. Multicollinearity was also under the required levels. An exploratory approach was taken to select the demographic and personality items used in the thesis. Only one item per variable was selected.

An exploratory approach to the model showed that variables such as subjective norm and emotions were relevant in the drugstore but irrelevant for the internet and multi-channel. The internet and multi-channel were mainly attitude driven.

A two-step approach to data analysis was undertaken. The outer model was tested for discriminant and convergent validity. High loadings and a few high inter-construct cross-loadings were found. The inner model was evaluated. The TPB variables demonstrated to be highly important in the prediction of response, however, their relevance varied for each channel. The hypothesised paths were partially supported by the literature. Of the 30 relationships hypothesised, 14 were significant for the drugstore, 18 were significant for the internet, and 7 were significant for multi-channel. The  $R^2$  achieved by the model

was satisfactory given its complexity. The results of this investigation brought up to date the Stimulus-Organism-Response framework, with a model that was capable of incorporating the advances in the explanation of consumer behaviour that had been achieved by the consistent results of the TPB. The main direct effects on intention were found to be attitudes, PN and negative emotions in the drugstore and PN on the internet. In multi-channel, attitudes and subjective norm had a medium-sized effect on intention. The main effects on approach were found to be positive and negative emotions in the drugstore, PBC and CBBRCE on the internet and no effects were found in multi-channel. The main effects on avoidance were AT, negative emotions and CBBRCE in the drugstore and CBBRCE on the internet. Avoidance showed no significant effects on multi-channel. The high impact that emotions had on the different channels, in particular, how negative emotions affected the channels approach, avoidance and intention in the case of an embarrassing product, was one of the biggest contributions of this research.

The small moderating effect that personality had on the channels evaluated proved it is a relevant future research topic.

The low levels of significance, combined with the low levels of correlations found in the discriminant analysis provided a warning about the real understanding that customers have about what multi-channel is, and how they have not decided on a position in their minds regarding their preference for this mode of shopping.



## [Chapter 5]

The strongest or highest number of significant results of this study came from the internet channel, where customers had a clear view of what the advantages and disadvantages of shopping in the channel were.

The aim of this thesis was to confirm and discover factors that lead to the formation of intention, approach and avoidance in three different contexts. Using data analysis, this thesis was able to confirm which factors were significant. The analysis demonstrated that context had a great impact on the results and significance of the variables that take part in the explanation of intention. The embarrassing nature of the shopping situation in the drugstore became irrelevant on the internet channel. The conclusions that can be drawn from these findings are discussed in the next chapter.

## Chapter 6

### Conclusions and Implications

#### 6.1 Introduction

This chapter will discuss the results obtained in Chapter 5. Conclusions will be provided about the research problem in general and the research questions in particular.

The primary research aim of this thesis was defined in chapter 1: ***To determine how effective the TPB is in predicting and explaining shopping consumer behaviour for an embarrassing product, in the context of single channel versus multi-channel.***

To provide conclusions about the research problem, this chapter is divided into five sections. In the first section, this thesis will revisit, one by one, the research questions and hypothesis presented in Chapter 3. The hypothesis results will be analysed in the light of the literature review findings presented in chapter 3. In the analysis, the thesis will explain how and why the findings agree or disagree with the literature. The second section will present some general conclusions about the research problem. In the third section, the implications and contributions will be discussed. Contributions will be divided into four sub-sections: theoretical contributions, methodological contributions, managerial/practical contributions, and the implications for competition, policy and regulation.

In the fourth section, the limitations of this thesis are considered. Building on the implications and limitations, the chapter ends with a discussion about avenues for future research.

A summary table presenting the statistical significance, coefficients, effect sizes and predictive relevance for the all the hypotheses is presented in Table 50. All the figures used to support the hypotheses conclusions are presented in it.

### **6.1.5 Research Question 1: Direct TPB Measurements**

*Are the direct measures of the TPB associated with a higher intention in the case of shopping for an embarrassing product using single or multiple channels?*

The first research question was addressed with the aid of the following hypotheses.

#### **Hypothesis 1: Attitude → Intention**

The results of this thesis agreed with the TPB theory because they showed that men's intention to shop for an embarrassing product using single or multiple channels was positively associated with their attitude in both the drugstore (0.47 Coef. and 3.75 t-value) and multi-channel (0.36 Coef. and 2.1t-value). Furthermore, the ATT→Intention path achieved medium to large effect sizes (0.29 drugstore and 0.13 multi-channel) and predictive relevance (0.15 drugstore and 0.12 multi-channel). However, there was a discrepancy in the context of the internet. Attitudes showed no significance towards shopping for Regaine on the Boots website. This finding was surprising because attitudes

## 6.2 Conclusions about each research question and hypotheses

Table 50 -Summary of the Hypotheses Results

H.No	Path	Coefficient			Significance(t-value)						f2			q2		
		DRUG (a)	INT (b)	MULTI ( c )	DRUG (a)	Sig	INT (b)	Sig	MULTI ( c )	Sig	DRUG (a)	INT (b)	MULTI ( c )	DRUG (a)	INT (b)	MULTI ( c )
H1	ATT-INTENTION	0.47	-0.11	0.36	3.75	***	0.6		2.1	**	0.29	0.01	0.13	0.15	0	0.12
H2	ATT-APPROACH	-0.21	-0.24	0.29	1.07		2.1		1.2		0.04	0.08	0.04	0	0.06	0.02
H3	ATT-AVOIDANCE	0.3	-0.16	-0.18	1.97	**	0.69		0.82		0.21	0.01	0.02	0.06	0.01	-0.02
H4	ATT-CBBRCE	0.25	0.46	0	1.51		3.24	***	0.004		0.06	0.5	0	0.05	0.28	0.05
H5	SN-INT	0.31	0.63	0.37	3.03	***	2.92	***	2.35	**	0.25	0.31	0.16	0.11	0.15	0.16
H6	SN-APPROACH	0.30	-0.24	0.29	1.88	*	1.53		1.91	*	0.13	0.04	0.07	0.08	0.02	-0.01
H7	SN-AVOIDANCE	-0.04	0.48	0.06	0.3055		2.2478	**	0.2691		0.00	0.12	0.01	0.00	0.10	0.05
H8	PBC-INTENTION	0.04	0.28	0.07	0.3654		2.3571	**	0.4438		0.00	0.12	0.01	-0.01	0.08	0.04
H9	PBC-APPROACH	0.02	-0.46	-0.03	0.1821		3.4807	***	0.1268		0.00	0.31	0.00	-0.02	0.14	0.10
H10	PBC-AVOIDANCE	-0.24	-0.25	-0.15	1.8813	*	1.5949		0.8091		0.08	0.06	0.00	0.05	0.05	-0.03
H11	POSEMO-INTENTION	-0.07	-0.26	0.10	0.8292		1.7439	*	0.6799		0.01	0.11	0.01	0.01	0.03	0.02
H12	POSEMO-APPROACH	0.37	-0.14	0.06	3.0366	***	1.1718		0.3167		0.21	0.03	0.00	0.15	0.01	-0.06
H13	POSEMO-AVOIDANCE	-0.12	-0.15	-0.01	0.9002		0.7298		0.0525		0.03	0.02	0.00	0.02	0.02	-0.05
H14	POSEMO-CBBRCE	-0.1974	0.36	-0.15	1.559		3.0915	***	1.2854		0.05	0.30	0.04	0.04	0.18	0.20
H15	NEGEMO-INTENTION	-0.29	0.09	0.03	3.2465	***	0.5872		0.3088		0.20	0.01	0.00	0.07	0.00	0.03
H16	NEGEMO-APPROACH	-0.42	0.02	-0.05	3.4842	***	0.142		0.2952		0.22	0.00	0.00	0.14	-0.02	0.01
H17	NEGEMO-AVOIDANCE	0.48	-0.10	0.26	4.0343	***	0.522		1.688	*	0.36	0.01	0.03	0.20	0.00	-0.01
H18	NEGEMO-CBBRCE	-0.0373	-0.35	-0.02	0.3423		2.0424	**	0.3031		0.00	0.40	0.00	0.00	0.18	0.03
H19	PERSO-INTENTION	-0.07	-0.07	-0.18	0.69		0.45		1.67	*						
H20	PERSO-APPROACH	-0.19	-0.42	-0.28	1.44		3.19	***	1.9	*						
H21	PERSO-AVOIDANCE	0.51	0.09	0.2	4.92	***	0.52		1.06							
H22	DEMO-INTENTION	-0.14	-0.33	-0.18	1.89	*	3.86	***	1.3							
H23	DEMO-APPROACH	-0.21	-0.38	-0.16	1.67	*	3.84	***	1.3							
H24	DEMO-AVOIDANCE	0.12	-0.19	0.18	1.15		2.1	**	1.15							
H25	CBBRCE-INTENTION	-0.01	0.05	0.08	0.064		0.295		0.728		0.05	0.01	0.01	0.00	-0.02	0.01
H26	CBBRCE-APPROACH	-0.15	0.50	0.12	1.2603		4.3001	***	0.6564		0.04	0.30	0.02	0.06	0.16	0.01
H27	CBBRCE-AVOIDANCE	-0.12	-0.58	0.15	0.8864		5.2559	***	0.8716		0.58	0.26	0.03	0.05	0.16	0.07
H28	AWA-CBBRCE	0.29	-0.60	0.64	2.673	***	3.5441	***	6.0538	***	0.13	0.48	0.52	0.45	0.18	0.23
H29	QUAL-CBBRCE	-0.34	0.38	0.08	1.4484		2.2508	**	0.5812		0.09	0.30	0.01	0.11	0.16	0.11
H30	LOY-CBBRCE	0.36	0.35	0.20	1.9013	*	1.962	**	1.3076		0.12	0.22	0.03	0.11	0.10	0.13

are the main pillar of behavioural models (as presented in section 3.2.2). This result questions attitudes predictive relevance in the case of the internet, and contradicts the results of other internet studies, which had established a relevant connection between attitudes and intention (Shim, Drake 1990) (Shim, Eastlick et al. 2001) (Lin 2008). However, other internet studies supported in the Technology Acceptance Model (TAM) have found that attitudes were not significant predictors of intention (Taylor, Todd 1995) (Taylor, Todd 1995) (Limayem, Hirt et al. 2001). The comparison with the TAM is valid because the TAM uses attitudes to study the adoption of technology-based channels like the internet. The loss in significance for attitudes on the internet could be the consequence of the high significance achieved by other variables such as PBC, demographics and CBBRCE.

### **Hypothesis 2 Attitude→Approach**

This hypothesis was rejected in all channels. Neither significant effects nor predictive relevance was found in this path. This means that although consumers might think that shopping for Regaine from the Boots channel/multi-channel is something useful/wise/pleasant, this does not mean that they want to spend more or less time exploring the channel.

Previous studies showed this connection. However, they measured approach in a different way. For example, the study by Neumann, Hülsenbeck et al. (2004) showed that attitudes towards people with AIDS correlated with approach. Nevertheless, approach was measured as touching people with AIDS. The use

of approach in a retail setting is very different. In this thesis, approach corresponded to the willingness to spend more time on the channel.

### **Hypothesis 3: Attitude→Avoidance**

This hypothesis had no significance in all the evaluated channels with the exception of the drugstore where it was significant (1.97 t-value) and had a large effect (0.21). No significant effects or predictive relevance was found for the other channels. This result implies that even though consumers thought that shopping for Regaine from a Boots drugstore was something useful/wise/simple/ pleasant, they wanted to get in and out of the drugstore as fast as possible. Men wanted to avoid talking with strangers in the drugstore. The face-to-face interaction in the drugstore created embarrassment and hence the need to avoid it created the desire to exit the store as soon as possible. The simultaneous desire to avoid the channel and a positive attitude towards the product is consistent with the stereotype of the male shopper: *“He knows something he needs. He needs a shirt. He’s got it in a shop that he likes... He goes there to the shirt rack, he buys one of those shirt...he pays for it and he walks out. He is not there for pants. He never sees these pants. That’s to me a stereotypical male shopper... I have plenty of friends like that.”* (Otnes, McGrath 2001, p. 116). This thesis showed that some consumers thought Regaine was useful, however, this does not mean that they wanted to spend more time in the drugstore.

#### **Hypothesis 4 Attitude→CBBRCE**

This study showed that attitudes had a positive and significant impact on CBBRCE for the internet channel (3.24 t-value, 0.5f<sup>2</sup> and 0.28q<sup>2</sup>) but insignificant for other channels. The result implies that even though attitudes were not relevant in order to make a man's purchase intention increase, they did influence the way in which they valued the online brand-retailer-channel. The results confirmed the research which showed that Customer-Based Brand Equity studies had established a connection between brand attitude and brand equity (Washburn, Till et al. 2004) (Park, MacInnis et al. 2010) (Rafi, Ahsan et al. 2011). It was surprising to find that there was no connection between ATT and CBBRCE in the drugstore and by multi-channel.

#### **Hypothesis 5: Subjective Norm → Intention**

*Men's behavioural intention to shop for an embarrassing product, using single or multiple channels is positively associated with their subjective norms towards the behaviour.*

PN showed a medium to large effect and predictive relevance on intention in the three evaluated channels (0.25f<sup>2</sup> and 0.11q<sup>2</sup> drugstore; 0.31f<sup>2</sup> and 0.15q<sup>2</sup> internet and 0.16f<sup>2</sup> and 0.16q<sup>2</sup> multi-channel). SN also achieved significance in all the paths leading to intention (t-values of 3.03 in the drugstore, 2.92 on the internet and 2.35 in multi-channel). Consequently, SN constituted itself as the most relevant construct to explain both single and multi-channel behaviour of an embarrassing product. This finding is consistent with TPB studies that have shown the relevance of SN. SN is a concept that augments its importance when

the context of the behaviour is embarrassing, like the intention of students to buy condoms (Lavoie, Godin 1991). The internet is another environment in which the influence of SN is significant (Shu-Hsien Liao, Yu-Chun Chung 2011). This study concluded that subjective norm was also important for multi-channel. Multi-channel has been an area where SN studies have been limited. The result supported the validity of SN as a predictor of intention even under different channels/contexts.

### **Hypothesis 6: Subjective Norm → Approach**

SN evidenced a significant and positive path on approach in the drugstore and multi-channel (0.30 Coef. and 1.88 t-value in the drugstore and 0.29 Coef. and 1.91 t-value in multi-channel). Willingness to spend more time on the channel is the consequence of important people for the respondent wanting him to shop for Regaine in that channel. This does not hold true for the internet. Even if people who are important to the respondent want him to buy Regaine from the Boots website, it does not mean that the consumer will spend more time on the website. PBC and demographics were more relevant on the internet, and the loss of control generated by this channel could have reduced the importance of SN on approach.

### **Hypothesis 7: Subjective Norm → Avoidance**

In contrast with the findings presented in Hypothesis 6, SN significantly predicted avoidance on the internet (2.24 t-value; 0.12f<sup>2</sup> and 0.10q<sup>2</sup>). SN, the positive influence of people who are important to the consumer, had a positive effect on avoidance on the internet (0.48 Coef.). The consumer left quickly and



avoided exploring the website. This could be related with trust. Distrust creates an unwillingness to purchase online (Choi, Geistfeld 2004). If people who are important to the consumer trust or recommend shopping on the website, it will be unnecessary for the consumer to search the website and explore it. The consumer will feel more confident to purchase the required item, decreasing the desire to leave the website as quickly as possible.

### **Hypothesis 8: PBC → Intention**

*Men's behavioural intention to shop for an embarrassing product, using single or multiple channels is positively associated with their perceptions of control towards the behaviour.*

PBC was found irrelevant to predict intentions in either the drugstore or multi-channel. However, it had a positive and statistically significant effect on the internet (0.28 Coef. and 2.35 t-value). It also had a medium effect size and predictive relevance on this channel (0.12f<sup>2</sup> and 0.08q<sup>2</sup>). The interpretation of this thesis was that when men thought that purchasing Regaine from the Boots website was completely up to them, their intention to visit Boots.com increases. Systematic reviews of the TPB have documented the significance of PBC (Godin, Valois et al. 1993) (Ajzen 1991). Furthermore, PBC has been found relevant to the internet context (Pavlou, Fygenson 2006) (Hansen 2008). If a man is confident about his abilities to shop on the internet, his intentions to buy from the retailer's website will rise.

### **Hypothesis 9: PBC → Approach**

This study has evidenced that PBC had a negative and significant coefficient on approach to the website (-0.46 Coef. and 3.48 t-value). Furthermore, large effect sizes and medium predictive relevance were achieved on this path for the internet channel (0.31f<sup>2</sup> and 0.14 q<sup>2</sup>). The negative coefficient sign had one implication: that men with a high degree of control over the shopping decision wanted to spend less time online. This finding is harmonious with studies that have identified gender differences in shopping. Men see shopping as a task to be completed with effectiveness and some even try to avoid it (Campbell 1997).

### **Hypothesis 10: PBC → Avoidance**

The results for the PBC→Avoidance path were very poor in general. The only significant relationship was the negative path to avoidance in the drugstore (-0.24 Coef. and 1.88 t-value). In the drugstore, PBC→Avoidance had a medium-low effect size and a low predictive relevance (0.08f<sup>2</sup> and 0.05q<sup>2</sup>). When men thought that shopping for Regaine in a Boots drugstore was completely up to them they did not feel the need to leave quickly. High PBC facilitated talking to strangers. This effect could be created by the confidence of making your own decisions.

### **6.2.5 Research Question 2: Beliefs**

*What beliefs are the most important when it comes to shopping for an embarrassing product using single or multi-channels?*

For the drugstore, the most important beliefs were “easy” and “close”. This finding was consistent with the theory that has connected store location with

## [Chapter 6]

consumer behaviour (Gruen, Gruen 1966). Evidence has shown that consumers who had a store close to home preferred shopping in the store more than online (Dijst, Schwanen et al. 2006) (Farag 2006).

The belief that most influenced the use of the internet to shop for Regaine was the opinion of the consumer's wife/partner. This finding is coherent with the research of Jinggang, Jinchao et al. (2011), who showed the influence of SN on the internet.

The belief behind the use of multi-channel was that multi-channel provided convenience, choice and flexibility. Convenience is a construct that has been repeatedly cited in the literature as a reason for shopping (Darian 1987) (Donthu, Gilliland 1996) (Verhoef, Langerak 2001) (Kaufman-Scarborough, Lindquist 2002). However, the studies mentioned do not refer specifically to convenience in a multi-channel environment. One of the few authors who had identified why consumers use multi-channel is Schröder and Zaharia (2008), who acknowledged four shopping motives: convenience orientation, independence orientation, recreational orientation, and risk aversion. This study agrees with Schröder on the importance of convenience. What consumers identified in this thesis as flexibility, in the research of Schröder and Zaharia (2008), could be equivalent to striving for independence (SFI). SFI is to shop free from external constraints, 24 hours a day and seven days a week, regardless of the retailer's location (Schröder, Zaharia 2008).

### **6.2.6 Research Question 3: Emotions**

*What is the role of emotions in the behaviour of single channel shoppers versus multi-channel shoppers?*

#### **Hypothesis 11 Positive Emotions → Intention**

In general, positive emotions did not have a large effect or significance on intention. However, positive emotion had a negative relation with intention on the internet (-0.26 Coef. and 1.74 t-value). Positive emotions were significant at the 90 percent C.L., with a medium effect size ( $0.11f^2$ ), but a small predictive relevance ( $0.03q^2$ ). This means that when men felt optimistic/content/indifferent about shopping for Regaine from the Boots website they did not want to shop online. This finding was contradictory and could be the result of the inclusion of “no emotion” or indifference among positive emotions. If the consumer is indifferent towards Regaine, it is logical to think that he will not want to purchase it. It is also possible that the embarrassing nature of the product category influenced this outcome. For example, intentions to use condoms (an embarrassing product) were not influenced by anticipated emotions (Gleicher, Boninger et al. 1995).

#### **Hypothesis 12 Positive Emotions → Approach**

Positive emotions had a large and significant effect on approach in the drugstore (0.37 Coef. and 3.03 t-value). Furthermore, medium to large effect sizes and predictive relevance were achieved ( $0.21f^2$  and  $0.15q^2$ ). When men felt optimistic/content about shopping at the drugstore, they spent more time

exploring around this shopping environment. Similarly, positive emotions influenced approach to visit a shopping mall (Dennis, Newman et al. 2010). However, Dennis, Newman et al. (2010) understood approach as spending, intention to revisit and frequency of visits. This research understood approach in terms of how the consumer wanted to spend more or less time exploring the channel.

### **Hypothesis 13 Positive Emotions → Avoidance**

There was no connection found between positive emotions and avoidance in any channel. Most studies made a connection between a positive stimulus and a positive response. For example, positive emotion is usually connected with approach and negative emotion with avoidance. This thesis evaluated whether a positive emotion decreased avoidance. The inconclusive result across channels implied that this is not the case. This means that there is no connection between how content/optimistic people feel about shopping for Regaine and the desire to leave the channel quickly.

### **Hypothesis 14 Positive Emotions → CBBRCE**

Positive emotions significantly influenced CBBRCE on the internet (0.36 Coef. and 3.091 t-value). Effect sizes and predictive relevance were also high (0.30f<sup>2</sup> and 0.18q<sup>2</sup>). This finding is consistent with the value of positive emotions to create brand equity (Nowak, Thach et al. 2006). Positive emotions can create a sense of flow (Éthier, Hadaya et al. 2006). Flow, in turn, creates brand equity in virtual worlds (Nah, Eschenbrenner et al. 2010). In this research, emotions were not generated by a direct marketing stimulus like a wine experience room

(Nowak, Thach et al. 2006) or store employees (Rafaeli, Sutton 1990). The emotions were anticipated. Emotions were the result of the anticipated feeling generated by the shopping experience. The feeling that in the future shopping for Regaine will create optimism and content is what produces value for the brand on the internet.

### **Hypothesis 15 Negative Emotions → Intention**

Negative emotions negatively affected (decreased) intention to shop in the drugstore (-0.29 Coef., 3.24 t-value, 0.20f<sup>2</sup> and 0.07q<sup>2</sup>). Negative emotions were irrelevant in the other channels. It is not a surprise that negative emotions were present in shopping situations where a face-to-face interaction is required. Embarrassment theories confirmed that face-to-face interaction generated negative emotions (Grace 2007). Negative emotions were able to decrease intention. This finding is consistent with previous research that provided evidence for the link between negative emotions and intention (Bagozzi, Pieters 1998).

### **Hypothesis 16 Negative Emotions → Approach**

Negative emotions negatively affected approach in the drugstore (-0.42 Coef., 3.48 t-value, 0.22f<sup>2</sup> and 0.14q<sup>2</sup>), but were irrelevant in the other channels. Consistent with the results of Hypothesis 15, negative emotions had a negative and large effect on approach in the drugstore. The explanation resides in how personal interactions increase embarrassment (Grace 2007). Personal interactions are intrinsic to the drugstore because there is a face-to-face interaction. The contact with the pharmacist or the sales attendant in the

drugstore generated negative emotions. This decreased the amount of time the consumer wanted to spend exploring the drugstore while shopping for Regaine.

### **Hypothesis 17 Negative Emotions → Avoidance**

Negative emotions affected positively avoidance in the drugstore (0.48 Coef., 4.03 t-value, 0.36f<sup>2</sup> and 0.20q<sup>2</sup>) but were irrelevant in the other channels. Negative emotions can stem from social factors, such as crowding or the behaviour of the sales personnel and also from characteristics of the product itself like unfavourable information (Penz, Hogg 2011) (Mizerski 1982). A consumer who feels embarrassed/nervous/tense in the drugstore wants to leave quickly. It is an environment where he feels uncomfortable.

Krieglmeyer, Deutsch et al. (2010) found a link between the perception of valence (emotion) and avoidance behaviour. Consistent with this finding, Adams, Ambady et al. (2006) established that emotional expressions forecasted avoidance behaviour. Applying these findings in the field of marketing, Orth, Stöckl et al. (2012) found that store evoked affects impacted approach/avoidance behaviour. Similarly, Van Kenhove and Desrumaux (1997) discovered a relationship between emotional states and approach or avoidance responses in retail environments.

### **Hypothesis 18 Negative Emotions → CBBRCE**

Negative emotions negatively affected CBBRCE on the internet (-0.35 Coef., 2.04 t-value, 0.40f<sup>2</sup> and 0.18q<sup>2</sup>) but were irrelevant in other channels. A consumer that feels embarrassed/nervous/tense about shopping for Regaine

online has probably received negative information about shopping for Regaine from the Boots website. The elicitation study found that consumers were concerned about the negative outcomes of shopping online such as safety, delivery problems and a lack of personal advice. This affected the perceptions of CBBRCE.

The affective and the cognitive system are interrelated. Negative emotions, generated by a bad first impression of the website may lead to the negative judgement of the brand (De Angeli, Hartmann et al. 2009). A website that makes the consumer tense or uncomfortable will hardly be the best place to shop for Regaine.

#### **6.2.7 Research Question 4: Psychographic Variables**

*What is the predictive relevance of psychographic variables?*

##### **Hypothesis 19: Personality → Intention**

Personality (Careful) was the only significant personality variable that was helpful to predict intention in multi-channel (-0.07 Coef. and 1.67 t-value). This result is part of the exploratory research of this thesis. Although there are previous studies that had confirmed the link between personality and intention, this is the first study that has found a connection between a careful personality and multi-channel intention. This result showed a connection between the consumer's personality and the store's personality. The store layout and architecture, symbols and colours, and sales personnel define a store's personality. It is a deciding factor to draw shoppers (Martineau 1958). Multi-



channel is a characteristic of the store's personality and reflects a highly organised retailer. A world-class retailer is capable of coordinating logistics in real time to be able to provide a seamless customer experience. This characteristic could be what appealed to consumers with a careful personality. A careful person will not buy from only one channel, but will use the advantages of buying from both the internet and the store.

### **Hypothesis 20: Personality → Approach**

Personality (Extroversion) had a negative and significant coefficient on approach to the internet (-0.19 Coef. and 1.9 t-value). In general, the most relevant personality theory for the internet context is the extroversion and neuroticism personality theory (Amichai-Hamburger 2005). Introversion and neuroticism were found to be positively related to the use of internet social sites (Hamburger, Ben-Artzi 2000). On the other hand, extroverts act on impulse, find it difficult being alone, and find it difficult to concentrate for too long. Extroverts are able to discuss Regaine-related issues openly with other people, therefore, when extroverts arrive at the website, they need less time to explore.

### **Hypothesis 21: Personality → Avoidance**

A conventional personality had a positive and significant coefficient on avoidance in the drugstore (0.51 Coef. and 4.92 t-value). Conventional consumers wanted to spend less time shopping in the drugstore. Although initially this result could be counter-intuitive, it makes sense. Normally, conventional people would prefer traditional channels like the drugstore. However, this was not what the path evaluated. What people with a

conventional personality do not want is to spend more time exploring the channel. Conventional people do not like to explore. Conventional consumers (those who ranked high in conventional personality) avoided spending time in the drugstore. This result, although counterintuitive makes sense because a very conventional person will want to shop in the fastest and simplest way possible.

Extroverted respondents spent less time online. The restrictive internet environment generated avoidance in extroverts. This finding is contradictory with the conclusion of Jung (1971). Jung noticed that extroverts moved toward social objects, whereas introverts moved away from social objects. It also contradicts recent findings that showed that the internet reduced embarrassment for shy/socially nervous students (Tucciarone Jr 2011). Similarly, Eysenck (1967) found that that introverts were “stimulus shy” as a consequence of high baseline levels of cortical arousal. On the other hand, extroverts were “stimulus hungry” as a result of low baseline levels of cortical arousal.

Very few studies have considered the relationship between personality variables and shopping. Some of those that have done so are (Bosnjak, Galesic et al. 2007) (Donthu, Garcla 1999) (LaRose, Eastin 2002), (Mooradian, JAMES 1996), (Copas 2003), and (Kwak, Zinkhan et al. 2002).

### **6.2.8 Research Question 5: Demographic Variables**

*What is the predictive relevance of demographic variables?*

### **Hypothesis 22: Demographic → Intention**

Age had a negative effect on intention on the drugstore and on the internet (-0.14 Coef. and 1.89 t-value in the drugstore and -0.33 and 3.86 on the internet). This means that older consumers had a greater interest in Regaine than younger ones. Most of the men who considered using Regaine were those who had experienced hair loss, therefore, young men with hair had a low intention of using Regaine. This finding confirmed the effect that age had on intention (Holland, Hill 2007) (Anich, White 2009). The similar results in the store and online suggests that channel played a minor role compared with the product benefits or characteristics.

### **Hypothesis 23: Demographic → Approach**

Older consumers wanted to spend more time exploring the drugstore and the internet. Consistent with the high intention that old men presented in hypothesis 22, the results were significant for both the internet (-0.38 Coef. and 3.84 t-value) and the drugstore (-0.21 Coef. and 1.67 t-value). Older consumers, who had a high intention to purchase, spent more time exploring the channel. Once again, product characteristics seemed more important than channels.

### **Hypothesis 24: Demographic → Avoidance**

The only channel where demographics predicted avoidance was the internet (-.019 Coef. and 2.1 t-value). Older consumers had a contradiction when it came to avoidance online. They wanted to explore the website, nevertheless, they wanted to leave it quickly at the same time. There was a love-hate

relationship between older men and the internet. On the other hand, this means that young men had less avoidance towards the internet. Young men felt they did not have to leave the website quickly.

### **6.2.9 Research Question 6: CBBRCE**

*What is the importance of CBBRCE in terms of the response that it can create from the consumer?*

#### **Hypothesis 25 CBBRCE → Intention**

This hypothesis was rejected in every channel. There was no evidence of CBBRCE influencing or predicting intention. This finding was surprising because there is a wide array of literature connecting brand equity with intention. Many consumers had to answer a very precise question about a previously unknown brand, retailer and channel. The consumer could provide a better opinion about which is the best brand, retailer and channel only after being able or at least trying to examine “all” the possible brands, retailers and channels.

#### **Hypothesis 26 CBBRCE → Approach**

CBBRCE had a negative and significant coefficient on approach on the internet (-0.15 Coef and 4.3 t-value). Furthermore, it reached large effect sizes and medium predictive relevance (0.30f<sup>2</sup> and 0.16q<sup>2</sup>). The more CBBRCE a customer had, the less they were willing to explore the website. A high CBBRCE implied that the customer knew that the Boots website was the best place to purchase Regaine and did not need to look around for more

information. This result relates to how customers decide whether they stay or leave the website based on the initial experience on the system of the website (Kuan, Bock et al. 2005).

### **Hypothesis 27 CBBRCE → Avoidance**

CBBRCE decreased avoidance on the internet (-0.15 Coef., 5.25 t-value, 0.26f<sup>2</sup> and 0.16q<sup>2</sup>). This means that the more CBBRCE the more the customer wants to stay on the website, the more they want to explore, talk and chat with others. This indicates that equity made the consumer feel like the owner of the brand, at home. At home, the consumer feels comfortable in talking to other people. He does not feel pressure to leave and knows where to find anything. If the consumer had to find something at home, it would only require a short time to find it. This is a contradiction between approach and avoidance created by CBBRCE.

### **Hypothesis 28 Awareness → CBBRCE**

The connection between awareness and equity was significant. It achieved high t-values (2.67 drugstore, 3.54 internet and 6.05 multi-channel) and had a medium to large effect sizes (0.13f<sup>2</sup> drugstore, 0.48f<sup>2</sup> internet and 0.52f<sup>2</sup> multi-channel) and a medium to large predictive relevance (0.45q<sup>2</sup> drugstore, 0.18q<sup>2</sup> internet and 0.23q<sup>2</sup> multi-channel) in all channels.

The coefficient was positive in the drugstore and multi-channel, but negative on the internet. The negative sign on the internet could mean that consumers that know more about Regaine have identified that the Boots website is not the best

place to purchase it. It is possible that price perceptions are influencing this response (Lii, Sy 2009).

### **Hypothesis 29 Quality →CBBRCE**

Consumers felt that the quality of Regaine sold on the Boots website increased CBBRCE (0.38 Coef. and 2.25 t-value). This result suggested that the consumer perceives that the internet channel certifies the quality of Regaine. This finding confirms the value of quality on equity as suggested by Aaker (1991) and Srivastava, Shocker (1991). It is possible that the consumer has experienced in the past that Boots website delivers good quality products and this influences quality perceptions (Anand, Sinha 2009). The retailer's perceived quality (Jinfeng, Zhilong 2009) influenced on the products perceived quality. However, there was no connection between the online and offline quality as suggested by Yang, Lu et al. (2011) given that quality was not significant in the drugstore and by multi-channel.

### **Hypothesis 30 Loyalty →CBBRCE**

Loyalty had a significant (1.90 t-value drugstore and 1.96 t-value internet) and positive effect (0.36 Coef. drugstore and 0.35 Coef. internet) on CBBRCE in both the drugstore and on the internet. The medium and high effects and the medium predictive relevance support these findings. This result is consistent with the large number of studies that support the connection between loyalty and brand equity (Shocker, Weitz 1988) (Srivastava, Shocker 1991) (Aaker 1991) (Yoo, Donthu et al. 2000) (Washburn, Plank 2002).

### **6.3 Conclusions about the research problem**

This thesis examined the problem of how effective the TPB is for predicting and explaining single channel versus multi-channel consumer behaviour while shopping for an embarrassing product. The thesis showed that the TPB was effective. The TPB on its own was able to predict intentions to shop for Regaine using any channel. However, only the subjective norm→intention and the awareness→CBBRCE paths were significant across channels.

The TPB was selected because the literature showed it had the ability to explain behaviour in different settings. This topic is important because there was no framework able to compare the results across channels while providing a unified approach to single and multi-channels.

The comparison of meta-analysis with the results of this thesis concluded that the modifications made to the TPB were effective in creating superior levels of variance explained. The revised TPB model was more effective in explaining intention, with the additional benefit of explaining approach and avoidance. The inclusion of psychographic and demographic variables, emotions and CBBRCE was an effective improvement on the TPB and created a reliable model for prediction of shopping for an embarrassing product.

The addition of CBBRCE, although not effective to predict intention, was useful to explain approach and avoidance online. The addition of demographic variables was useful to understand how older consumers used the internet channel. Although older consumers wanted to use the internet, they did not want to explore it. Introducing emotion in the model was useful to understand

how embarrassment affected shopping in the drugstore. This thesis found that shopping for Regaine on the internet and by multi-channel eliminated the embarrassing element of the purchase.

The variables added to the TPB such as emotions, personality and demographics, captured the changes caused by the embarrassing nature of the product. The nature of each channel increased or decreased the relevance of many of the evaluated variables. The addition of approach/avoidance helped to understand what factors helped consumers stay with or leave the channel.

Although the CBBRCE to intention path did not have a large effect or significance in any of the three channels, the influence of this type of equity was important because it had a significant effect on approach and avoidance on the internet.

CBBRCE had a negative effect on avoidance and a positive effect on approach on the internet. This means that the combination of brands and channel is making men stay longer on the website. These findings are in line with Yao, Liao et al. (2012) who found that web equity had a negative influence on internet anxiety, approach and avoidance.

Other researchers had also found a connection between brands and approach/avoidance. Ulrich suggested that brand related attributions influenced approach and avoidance (Orth, Stöckl et al. 2012). Similarly, Kwak, Kim et al. (2011) explored the reaction to marketing stimuli on sport consumers' approach/avoidance.



The exploration of psychographic variables that explain intention, approach and avoidance concluded with the identification of one personality trait in each channel that was relevant to understand the dependent variables.

The exploration of demographic variables concluded with the identification of two characteristics, such as age and working status, which improved the variance explained of the model. Age had a negative and significant effect on intention in the drugstore and online. Demographic factors had significance on both approach and avoidance on the internet. This suggests that young consumers had conflicting feelings with respect to their behaviour in this channel. Previous research has shown that the internet is a channel that young respondents prefer (McMillan, Morrison 2006), however, the embarrassing nature of the shopping trip made them avoid it. Another researcher found that embarrassment decreased with age and experience (Moore, Dahl et al. 2008). In harmony with this finding, age has been a factor that had explained approach and avoidance in elder consumers (apparel) (Moye 1998) (Moye, Giddings 2002). The demographic variable “*working*” showed to be insignificant for multi-channel customers. In this study, “*working*” was a categorical variable in which the increase in the scale rating did not imply that the person is “working more”; this could have caused inconsistencies in the results.

#### **6.4 Contributions and Implications**

This thesis has made several contributions to the extant literature and offers a number of practical implications. The former encompass theoretical and

methodological contributions. Each of these will now be described and discussed in turn.

## **6.4.5 Contributions to Theory**

### **6.4.5.1 Contributions to the TPB**

The first and foremost contribution of this research was to extend the TPB with the inclusion of emotions, demographic and personality variables, CBBRCE and approach/avoidance.

The extension to the TPB in this thesis provided a model that is better equipped to explain consumer response. This thesis included approach and avoidance in the model as response variables, which provided analysis tools that go beyond intention. The inclusion of approach and avoidance contributed to capture the value added by channels. The value of channels could have been omitted when the response variable is limited to intention.

The proposed model achieved an adequate balance between “big frameworks” such as the S-O-R and operational or prescriptive models such as the TPB (Bray 2008). This model was large, allowing it to gain the benefits of understanding that big frameworks achieve, but at the same time was small, permitting it to be operationalised.

A second contribution was the application of the TPB within a new context. The new context was created not only by the multi-channel setting, but also influenced by embarrassment. The TPB proved to be a good “one size fits all”

theory. The TPB constructs were useful to a large or small degree to evaluate channels; it adapted well to the particularities of the three contexts.

A third contribution was to increase the predictive power of the TPB. Table 51 shows the R<sup>2</sup> achieved solely by the TPB compared with the TPB plus the extended variables. The increase in variance explained was significant (14 percentage points) in both the drugstore and by multi-channel, and by one percent on the internet channel. The difference could become greater if the results of this thesis were compared with other TPB meta-analysis studies.

**Table 51 - Difference in variance explained TPB versus TPB + Extension**

	<b>TPB ONLY</b>	<b>TPB+ EXTENSION</b>	<b>DIFFERENCE</b>
DRUGSTORE	0.59	0.73	0.14
INTERNET	0.66	0.67	0.01
MULTICHANNEL	0.40	0.54	0.14

Godin and Kok’s meta-analysis (1996) revealed that TPB variables accounted for 41percent of the variance in intentions; the figure was 39 percent according to Armitage and Conner’s meta-analysis (2001). After comparing these meta-analyses with the results of this thesis, it is demonstrated that the variance explained by the proposed model was much larger than the one that would have been achieved by the TPB on its own.

#### **6.4.5.2 Contributions to Attitudes Theory**

This thesis contributed to the development of attitude theory. It provided evidence of the advantages gained from a division between attitudes and emotions. It supports researchers who argue in favour of a division of attitudes

in terms of its affective and cognitive components (Bagozzi, Gopinath et al. 1999). Attitudes are adequate to provide us with an overall view of what the consumer feels about the target behaviour. On the other hand, emotions are a mental state. They can also act as either blockers or enhancer of attitudes (Bagozzi, Pieters 1998) or even, as this thesis proposed, have a direct effect on intention.

#### **6.4.5.3 Contributions to Subjective Norm Theory**

Contrary to the view of SN as the weakest of the TPB variables (Sheppard, Hartwick et al. 1988) (Van den Putte 1991) (Godin, Kok 1996) (Sparks, Shepherd et al. 1995), this thesis showed that SN was in fact the best performing of all the TPB variables. This thesis contributed to support the importance of SN within the TPB. It was found relevant in every channel despite being used in different contexts.

#### **6.4.5.4 Contributions to PBC Theory**

This thesis confirmed the utility of the PBC construct to explain intention to use the internet. This finding supports the idea that many consumers resist making purchases using the internet because they do not believe in their own abilities to buy online (George 2004). However, in the store and by multi-channel PBC was found irrelevant. This finding supports the idea of “illusion of control” (Langer 1975). The lack of knowledge about Regaine’s price could have contributed to the lack of consistency in the responses.

The results of this study are critical to the usefulness of the PBC construct, especially when the respondents are not very familiar with the product being evaluated. Their lack of knowledge about what the product is, how it is used and how much it costs, makes the consumer underestimate the difficulty that could be involved in the purchase of the product. This finding supports researchers that have proposed the construct *knowledge* as an antecedent of PBC (Feng, Wu 2005, Fisher, Fisher 1992, Ajzen, Joyce et al. 2011).

The importance that PBC had in intention on the internet, and the concerns that men expressed about shopping on the internet (delivery and safety issues) are still areas in which retailers have to continue educating the consumer. Retailers should help consumers to make safe purchases and guarantee them a timely and fast delivery.

#### **6.4.5.5 Contributions to Intention Theory**

The findings of this thesis showed that when intention is very low, attitudes and other TPB variables become unstable. In consequence, researchers should consider behavioural targets in which consumers have at least a minimum level of motivation towards the behaviour. This finding builds on the study of Kijisanayotin, Pannarunothai et al. (2009) who experienced similar problems with subjects who declared very low intention but reported a high degree of IT use. It also supports the idea of including motivation as a construct (Hsu, Huang 2012, Masser, Bednall et al. 2012, Steinbauer, Werthner 2007).

#### **6.4.5.6 Contributions to the S-O-R Framework**

From the analysis presented in Appendix 1, this thesis identified that one of the main problems of research in multi-channel is the lack of a solid conceptual model that supports the understanding of consumer behaviour. This study provided a solid theoretical base for explaining consumer behaviour based on the TPB (Ajzen 1991) and complemented with the S-O-R framework (Mehrabian, Russell 1974).

The high  $R^2$  achieved by all the latent variables confirmed the model was able to provide a simultaneous explanation of intention, approach and avoidance.

To propose a model that includes all the connections and relations presented within the S-O-R framework will inevitably result in a model that lacks parsimony. To reduce that risk, this study incorporated only a few of the elements of the S-O-R framework such as approach/avoidance and adapted them to single and multi-channel. The *belief* concept found in the S-O-R framework was incorporated into the model in the form of TPB variables. In the same way, emotions were incorporated as positive and negative emotions. Signs, symbols and artefacts were included in the form of CBBRCE; ambient conditions were also integrated. However, ambient was not integrated as a construct, it was transversely incorporated as the context in which the situation was evaluated (drugstore/internet/multi-channel). Personal and situational moderators were built in in the form of personality and demographic variables. However, there are S-O-R framework elements that could still be included in future research. For example, variables such as flow (Lee 2009), self-esteem

(Baker, White 2010), promotion sensitivity (Oh, Kyoung-Nan Kwon 2009), anxiety (Yao, Liao et al. 2012), coping capacity (Moore, Dahl et al. 2008), and the store atmosphere (Kotler 1973, Donovan, Rossiter 1982, Eroglu, Machleit et al. 2001) could be incorporated.

#### **6.4.5.7 Contributions to the Embarrassing Products Literature**

This thesis contributed to the development of the theory on embarrassing products. This research explained how the purchase of an embarrassing product affected channel selection. It confirmed that mental barriers that arise in the customer's mind in one channel could be insignificant in another channel. This thesis confirmed that negative emotions like embarrassment decreased intention to shop for an embarrassing product like Regaine. Furthermore, these negative emotions made the consumer avoid the channel. Evidence of channel avoidance was outstanding in the drugstore. The internet provided a "cure" for embarrassment. To a lesser extent, the same effect was achieved through multi-channel. This thesis discovered that on the internet embarrassment does not occur in private, as suggested by Sabini, Garvey et al (2001). However, the reduction or elimination of embarrassment in the store remains a problem to be solved.

This thesis found that Regaine exemplified a case in which a product is embarrassing for some people, but not for others. The literature should refer to this type of product as potentially embarrassing products. This thesis found a new type of embarrassment that will be defined as channel embarrassment. Channel embarrassment is the embarrassment created by the channel in which

the product or service is purchased. It occurs when the channel places the consumer in a situation in which he feels nervous or tense. There are channels that are more likely than others to generate channel embarrassment.

#### **6.4.5.8 Contributions to Multi-Channel**

This thesis contributed to answer the research gaps identified in multi-channel literature that were presented in chapter 2 section 2.2.5. This thesis tried to determine if there was an impact of loyalty in multi-channel. It was identified that loyalty contributed to create CBBRCE in the drugstore and on the internet. However, there was no evidence that loyalty created CBBRCE in multi-channel. This finding agrees with the view of multi-channel shoppers being more driven by promotions (Ellis 2013) than by loyalty.

New determinants of the multi-channel purchase were evaluated. Personality, emotions and CBBRCE were found to be significant determinants of consumers' responses. The only variable introduced that did not show any contribution to explain multi-channel was PBC. The lack of relevance of PBC could indicate that consumers thought that using multi-channel was easier than using either the drugstore or the internet.

The value created by the integrated efforts of channel and firm (CBBRCE) was not sufficient to change intention to shop for Regaine. Attitudes and subjective norms were the critical paths, which manufacturers need to influence to create intention to shop for Regaine using multi-channel.



Firms should employ channels that reduce embarrassment. To achieve this purpose, firms should encourage the use of both the internet and multi-channel when consumers are trying to purchase an embarrassing product.

The framework developed in this thesis helped to understand both integrated and independent channels. Retailers can benefit from having integrated channels in which the consumer is able to identify the benefits of convenience and flexibility that multi-channel offers.

This thesis tried to answer the question of why multi-channel grows sales (Neslin, Grewal et al. 2006). This thesis found that the answer relies on the convenience and flexibility that multi-channel offers consumers. Although multi-channel evolved from the internet, it is a step back for the consumer. Multi-channel is a step back because it provides a bridge that closes the gap between the internet and the store. Multi-channel is for customers who want the best of two worlds, the physical store and the virtual world. In this thesis, multi-channel eliminated not only the negative emotions created by embarrassment in the drugstore but also the perceptions of losing control that create distress in the internet.

Neslin, Grewal et al. (2006) challenged researchers to find out whether the consumer could distinguish between channel and firm. Although this thesis was not able to distinguish between these two, it was able to integrate brand, retailer and channel into CBBRCE. This holistic approach allowed capturing the synergies created by brands, retailers and channels. Surprisingly, CBBRCE

was not powerful enough to affect intention. Attitudes and subjective norm were the most relevant variables to create intention in multi-channel.

The best channel to shop for Regaine was the internet. It eliminated negative emotions. On the other hand, multi-channel still implies a face-to-face contact in which negative emotions are still part of the equation.

Independent versus integrated channels (Neslin, Grewal et al. 2006) were compared. From a statistical perspective, more similarities were found between the drugstore and multi-channel than between multi-channel and the internet. Future efforts to understand multi-channel should use theoretical concepts that are closer to the store than to the internet.

This thesis contributed with the development of the concept of “Intention to shop for product X in retailer Y using multi-channel”. Consumers were able to understand the concept and relate to its benefits.

The value of multi-channel should not only be considered in terms of how it increases intention but also how it helps to increase the time spent by the consumer in the retail environment. However, the nature of the purchase and the way in which men shop made this objective difficult to achieve. The retailer has to accept this reality and facilitate the purchase of the embarrassing product, while stimulating the impulse purchase of other less embarrassing items. The inclusion of the response variables in the multi-channel framework provided a measure of channel response that had not been considered when the measurement was limited to intention.

#### **6.4.5.9 Contributions to Marketing**

The traditional four dimensions of Aaker (1996) and Keller (1993) benefited from the addition of two new measurements: CBBRCE brand attitude and CBBRCE anticipated negative and positive emotions. However, the newly included equity dimensions were only effective on the internet, as they lacked significance and predictive relevance in both the drugstore and by multi-channel. This finding suggests that CBBRCE should be considered for future studies, especially those with an internet context.

This thesis found that CBBRCE created approach and avoidance online. The finding was consistent with other authors' findings in online brand and website approach and avoidance (Park, Lennon 2009). Consumers expected to find on the Boots website a place where they could explore and spend time to shop for Regaine. When CBBRCE was low, consumers wanted to avoid spending time and exploring the website. The finding is consistent with research that has identified that images associated with the brands a store carries influence the store's image, which, in turn, influences consumers' decision-making processes and behaviours (Porter, Claycomb 1997).

Online, retailers should create partnerships with well-known brands to enhance CBBRCE. This thesis found that the most powerful way to create CBBRCE was via awareness. Brands should make consumers aware about their preferred retailers. Brands should let the consumer know which is the easiest way to access a product.

The holistic perspective to analyse the brand, retailer and channel contributed to present a new way in which value should be measured and constructed. From the moment a brand manager designs a product or service, he or she should be thinking about how this brand is going to create value in coordination with a certain channel or retailer. In this way, the needs of the consumer can be better satisfied.

#### **6.4.5.10 Contributions to Emotions**

With the inclusion of emotions, this thesis adopted elements of the humanist approach to the TPB, which has been by tradition a cognitive theory. However, elements were added without over-complicating the model or making it difficult to measure.

This thesis identified that emotions had no channel, in other words, that the emotions identified in the elicitation study were the same for the three channels. Furthermore, the addition of negative emotions to the TPB was particularly important in the case of channels where there is a face-to-face interaction like the drugstore.

This thesis found that the emotion of embarrassment is accompanied by other emotions such as nervousness or tension. In this thesis these were called negative emotions. This result shows a set of emotions that is triggered by embarrassing situations. To identify these feeling, is a first step in the identification or construction of a complete set of emotions related with embarrassment.

This research could complement the efforts of researchers like Tangney, Miller et al. (1996) who have tried to distance embarrassment from other emotions such as shame and guilt.

#### **6.4.5.11 Contributions to Personality**

This thesis identified that a careful personality trait can influence the intention to make a multi-channel purchase. It contributes to the studies that have made a link between personality and intention presented in chapter 3 (Table 7 p.59.).

#### **6.4.5.12 Contributions to Demographics**

This thesis identified one demographic characteristic that was very relevant for each channel. Specifically, this thesis established that age had an important role in predicting intention in the drugstore and on the internet. It contributes to the studies that have made a link between demographic variables and intention presented in chapter 2 (see Table 6 p.58).

#### **6.4.6 Methodological contributions**

This research contributed to the development of the TPB with additional questions that complemented the elicitation of attitudes. To achieve this result, this study elicited positive and negative emotions. This research showed that relevant emotions did not emerge spontaneously as suggested by Ajzen (1991), solely with the use of the TPB elicitation method. Direct questioning about emotions, aided with Richins' (1997) emotions list, was a useful method to determine which were the most relevant emotions for the target behaviour.

## [Chapter 6]

This study contributed to the development of PLS-SEM in marketing research. From the use of PLS emerged a number of potential problems for its use. This contributed to the debate about the adequate use of some of the new variety of enhancements that PLS now offers to researchers such as FIMIX-PLS, MGA, and moderating effects.

The study also contributed to the debate about formative and reflective modes in SEM (Diamantopoulos, Winklhofer 2001).

This study contributed to the development of complex models in marketing research. The complexity of the interrelations between intention, approach and avoidance created complex relations that needed to be analysed. The development of complex models with the aid of second-generation modelling software like PLS was proof that it is possible to deal with complexity in a satisfactory manner.

From a methodological perspective, this study presented a viable approach for the issues that researchers experienced when dealing with three channels, for example, the dilemma between reducing survey length and the ability to compare channels.

The context in which this thesis was tested (Scotland) showed to be particularly challenging to the objectives of this research, given that in previous studies Scottish men tended to hide their feelings about health and wellbeing (Hughes 2011). To remove this obstacle, the fieldwork for this study was performed in barbershops. The context of “hair related issues” opened a gate for the consumer to be able to talk about the product selected for this study. The

contribution of barbershops in this study was two-fold. Firstly, it showed how the environment in which the survey was undertaken created the opportunity to be open about an issue that would be treated more privately under different circumstances. Secondly, the barbershop was a “neutral location” visited by consumers that purchased online and in the store. The channels in which the data were collected, outside a drugstore or online, would have implied a bias for the evaluated channel i.e. if the surveys were collected online, it would have created a bias in favour of the internet.

This research also contributed to the development of TPB studies under a “choice situation”. The use of channel rankings created the opportunity to force the customer to state their channel preference and evaluate the relationship between channel ranking and their intention to purchase from that channel. Not all the ranking questions were effective in predicting intentions. This thesis identified key questions in each channel that were found important to predict intentions.

To facilitate a comprehensive view of the value added by this thesis, Table 52 presents a summary of the contributions presented in this section.

**Table 52 - Summary of Contributions**

TPB	Extend in a new context Increased variance explained Improved understanding of consumer response (beyond intention) Ability to compare channels
Attitudes	Advantage of including affective component
SN	Relevance despite changes in context
PBC	Useful to explain the Internet but not the drugstore or multi-channel Product type could affect PBC – Create an illusion of control
Intention	Required minimum level of motivation
S-O-R	Successful merge with TPB and extension variables

Embarrassing Products	Role of negative emotions in the drugstore Reduction of negative emotions on the internet Channel creates embarrassment
Multi-channel	Loyalty does not create CBBRCE in multi-channel Multi-channel grows sales because it provides convenience and flexibility CBBRCE does not affect intention to multi-channel Statistically, multi-channel has more similarities to the store than the internet.
Marketing	Extension of Aakers and Kellers four dimensions in the context of brand, retailer and channel. Addition of two more dimensions to the traditional four brand equity dimensions CBBRCE was useful to explain approach and avoidance online. Awareness created CBBRCE in all channels. Holistic perspective to brand management New measurement of the synergies created by brands, retailers and channels: CBBRCE
Emotions	Salient emotions did not differ by channel Other emotions accompany embarrassment
Personality	Careful personality influences multi-channel intention Links personality with intention
Demographics	Age influences intention to shop in the drugstore and the internet but not multi-channel. Links demographics with intention
Methodological	Elicitation of emotions in TPB Use of list of emotions in TPB Use of PLS-SEM Use of formative indicators Comparison of surveys Neutral data collection context for multi-channel studies (barber shops) Use of channel rankings

### 6.4.7 Managerial/Practical implications

#### 6.4.7.1 Implications of the TPB for managers

##### For Manufacturers:

Manufacturers could obtain a significant increase in consumer intention if they communicated the positive role that social norm has in the purchase. As a result, this thesis recommends that the manufacturers of Regaine integrate into their marketing communications the approving role of wife, partner or girlfriend in the use of the product. For example, develop an advertising campaign, which



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portrays a woman caressing a man with abundant hair while complimenting him for using the product.

**For Retailers:**

Retailers can also remind the consumer about the SN at the point of sale. The retailers' customer assistants can reinforce the customer's decision with comments like "your wife is going to be very happy" or "women love men with hair".

**6.4.7.2 Implications of the S-O-R for Managers**

**For Manufacturers:**

Men tended to show avoidance to shop for Regaine. This implies that manufacturers should try to convince the consumer to buy Regaine before it arrives in the store. However, this does not discard favouring an impulse purchase; Regaine could have been in the consumer's mind but they may not have taken the decision to buy. Product displays like those presented in Appendix 20 can be useful to stimulate the purchase at the point of sale.

**For Retailers:**

For retailers, men's avoidance means that they need to be strategic with the store layout and design. Even if Regaine is not placed in a visible place, the consumer is going to try to find it. This opens up an opportunity for retailers to promote impulse purchases of other less embarrassing products while the consumer finds Regaine.

### **6.4.7.3 Implications for Manufacturers/Retailers of Embarrassing Products**

#### **For Manufacturers:**

Manufacturers should recognize the particularities of embarrassing products. They should understand how negative emotions could generate approach or avoidance of certain channels. Manufacturers could minimize the effect of negative emotions by encouraging the purchase of these products using the internet or multi-channel.

#### **For Retailers:**

The findings of this research suggested that brick and mortar drugstores/retailers that sell embarrassing products should invest in having an online presence. The internet is a channel that eliminates the negative emotions created by embarrassment. The retailer's managers have to reduce the role of negative emotions in the drugstore, therefore they have to reinvent the drugstore's layout and customer service in a way that minimizes face-to-face contact. Multi-channel is also a recommended channel for embarrassing products. It achieved a similar effect to the internet. Multi-channel reduced the effect of embarrassing emotions and rewarded customers with choice and flexibility.

Retailers could develop multi-channel distribution systems that allow the consumer to pick up Regaine at the store without being noticed or embarrassed by sales people. Retailers should also develop online mechanisms that allow

the customer to indicate that he would prefer to receive the purchased item “in secret”. Retailers will have to develop new and less embarrassing ways of shopping that re-design the store shopping experience. For example, some retailers like Asda are starting to develop lockers where the customer can pick up the product ordered online. The lockers could be opened with a code given to the consumer online. This eliminates any source of human interaction in the collection of the purchase, hence embarrassment. Orders could be picked up at different locations such as business parks, universities, train stations and park-and-ride schemes (Lawson 2013). This improvement in multi-channel increases the competitiveness of this channel alternative. It increases the perception that multi-channel is close and easy to use which, as ascertained by this thesis, is currently one of the main strengths of the drugstore.

#### **6.4.7.4 Implications for Multi-channel Management**

##### **For manufacturers:**

Given that this thesis identified that multi-channel consumers are not loyal, retailers should give discounts and coupons to multi-channel customers. This recommendation follows on from previous research that has identified that coupons and discounts are usually given to the non-loyal customers to prevent them from switching to competitor companies (Ching, Ng et al. 2004).

To create intention to shop for Regaine using multi-channel, managers should develop communications that try to change the beliefs behind attitudes and subjective norm. This means communicating to consumers that shopping for Regaine using multi-channel is wise, pleasant, useful and simple, and that

people who are important to them want them to shop for Regaine using multi-channel.

**For Retailers:**

Retailers should design channels for embarrassing products, evaluate the level of embarrassment created by each channel, and talk with consumers in private about embarrassing issues.

Retailers and manufacturers need to coordinate their actions. Boots and Regaine were an example of a retailer and a manufacturer that worked very well together. An example of this relationship is how Boots refers its customers to Regaine's official page. On the other hand, Regaine suggests to its customers that they can find its brand in Boots. This could prevent customers from visiting other blogs and websites where negative comments about Regaine can be found.

**6.4.7.5 Implications of CBBRCE**

Both brand managers and retailers can use CBBRCE in several ways. CBBRCE can be used as a benchmarking tool. For example, a brand can compare its CBBRCE when stocked by different retailers. Differences in CBBRCE will indicate the competitive advantage or disadvantage of a certain brand-retailer-channel. CBBRCE could indicate if the manufacturer and the retailer need to work more closely to improve their brand-retailer-channel equity. CBBRCE could also be used to help evaluate or identify untapped market segments. For example, retailers could work together with

manufacturers to measure the degree to which they have more or less common CBBRCE among consumers that they are not currently targeting. CBBRCE could focus the effort of manufacturers and retailers. CBBRCE could be able to measure the additional equity generated by a new channel, such as a website, created in alliance between a retailer and a manufacturer. Furthermore, CBBRCE also has the potential to demonstrate the advantages of cooperative advertising and co-branding.

The central role that awareness had on CBBRCE implies that to create equity across channels, managers will have to remind consumers about their brand and the availability of channels.

CBBRCE could be used to evaluate the retailer programmes. For example, Boots could measure how the Regaine brand fits with the Boots hair retention programme or the male hair retention service.

The most powerful tool that managers have to create CBBRCE for their retailer-brand-channel is to remind customers about the brand-retailer-channel connection. In short, create awareness.

#### **6.4.7.6 Implications for the management of Emotions**

Customer service can reduce *negative emotions* in the store. Boots and Regaine should continue working together to provide training to their customer service/pharmacists. Representatives of the firm should be able to answer any questions with confidence, without making the customer feel uncomfortable or embarrassed.

Consumers wanted to avoid embarrassment. Retailers could use this fact to build on their fear of embarrassment. By doing this, they could “channel” the consumer to use less embarrassing channels for his purchases. For example, the National Pharmacy Association displays posters in pharmacies recommending consumers to ask for an online appointment to discuss hair loss related issues and a prescription for treatment. The poster is presented in Appendix 21.

#### **6.4.7.7 Implications of the Personality for Managers**

It is difficult to implement advertising strategies that respond to personality differences. However, advertisements can be more effective when they are tailored to the unique personality profiles of potential consumers (Hirsh, Kang et al. 2012). Managers can design advertising campaigns for men with a conventional personality in the drugstore, extroverted on the internet and careful by multi-channel.

This thesis found that extroverts had a negative and significant coefficient to approach on the internet. For managers, this finding could have different implications. For example, extroverts are more willing to communicate with others, but currently the internet limits this possibility. The opportunity to chat online with an advisor or pharmacist could be the way to provide the interaction that extroverts are looking for.

This study also found that consumers with a conventional personality present avoidance to the drugstore. Currently there is no incentive for men with this personality type to stay in the store. An opportunity for drugstore managers

could be to offer interactive in-store educational kiosks. These places could help the consumer understand the advantages and disadvantages of the embarrassing products they are buying and slow the consumer down from exiting the store as fast as possible.

This study also found that consumers with a careful personality wanted to shop using multi-channel. Managers could stimulate careful consumers reinforcing the company's compromise with delivery and safety. To do this, managers could offer delivery or safety guarantees. Online, managers should always offer the consumer the possibility to double-check his decisions. For example, reconfirm the purchase value before the customer makes a payment, confirm his credit card number or authorize where the product is going to be delivered.

#### **6.4.7.8 Implications of Demographics**

Older consumers had more intention of purchasing Regaine. This implies that managers have to be more creative in order to engage young people both online and in the store.

Today, marketing tools are able to identify the age of the targeted market segment. Facebook advertisements for example can be targeted to men of a certain age group. In the same way that Regaine foam was developed with the younger generation in mind, managers could develop advertising especially designed for middle-aged men.

Regaine communicates that the best results for Regaine are achieved when consumers start to use it when they are young and their hair loss is not at an

advanced stage. However, consumers might disregard this information as part of a marketing campaign. A better approach could be to help young people identify signs of early warning that help them recognize the best time to act and purchase the product.

#### **6.4.7.9 Implications of Indirect Measurements (beliefs)**

##### **For retailers:**

In the drugstore, *easy* was *the* most important belief related with intention. The result of this indirect measurement offered valuable lessons for drugstore chains/retailers: the number of drugstores should be high in the case of large cities. Retailers should have at least one physical drugstore in the case of small towns. The war of drugstores becomes not only a war on who has the widest assortment or the best quality, but also a war on who has the largest number of drugstores in the country. Retailers should try to have a drugstore near the house of each customer. This makes shopping easy. This strategy, which is coherent for the drugstore channel, could be in conflict with the overall strategy of the retailer. When considering the results of the different groups it can be seen that all the channels respond to similar customer needs. The retailer then needs to consider if reducing the number of drugstores could free up resources in order to improve its multi-channel capabilities.

Retailers will have to work on developing more flexibility. Flexibility means easy and flexible returns for products purchased online. Flexibility is helping shoppers to flow seamlessly across channels. Flexibility is providing facilities to order online and collect at home. Flexibility is to provide systems that facilitate



the order in store and provide the facility to receive the product at home. Flexibility is to provide customers with the ability to track orders online or via mobile and interact with the business in the store.

The importance of control beliefs to purchase online has significant implications for managers. Managers should develop a website that is easy to find, easy to browse, easy to pay, and that is transparent about delivery costs. To reduce the negative effect that PBC had on the internet purchase, retailers should emphasise that the internet is open 24 hours a day, 7 days a week, and reinforce benefits like the ability to detect out of stocks. It should also be emphasised that customers do not need to find or pay for a parking space.

Although the number of customers that ranked mobile in first place is still low, the opportunities for mobile are a reality and managers should prepare their companies for this new challenge.

**For manufacturers:**

To obtain good sales results, manufacturers must try to achieve the highest possible distribution. This makes the purchase easy, which is what consumers want.

**6.4.7.10 Implications for Category Managers**

Category Management (CM) is the retailer/supplier process of satisfying consumers by managing categories as strategic business units (Dennis, Fenech et al. 2005). CM could be a catalyst in the future application of CBBRCE. Brand captains are brands that are usually highly recalled and

recognized. They usually have already started a collaborative agreement with the retailer. Alliances that create high CBBRCE are needed to build profit for both retailers and manufacturers.

The low significance achieved between CBBRCE and intention in this thesis suggests that retailers and manufacturers, in this case Boots and Regaine, should re-evaluate their brand alliance or create strategies that could communicate better the value that they create together.

#### **6.4.8 Implications for competition policy and retail regulation**

The lack of connection between the results of this research showed that the perceptions that consumers had about shopping on the internet still evidenced problems with delivery and security. The government should study these issues, to facilitate the exchange between retailers and customers who use the internet or multi-channel. Future studies should evaluate if more regulation is needed. Drugstore customers should take more advantage of the personalised and expert advice that the pharmacist can provide. The government should encourage this interaction. Maintaining today's status-quo has advantages. Drugstores and pharmaceutical companies can work closely to create alliances that educate consumers. For example, online drugstores should offer the customer the possibility of contacting the pharmacist via e-mail. An open and competitive market with supermarkets could place the focus on price and customer service will pay the consequence of poor service. This adds to the emerging concern about marketing drugs online (Akram 2000) and consumers that self-medicate themselves. Policy makers should study the effects of

encouraging Regaine use to consumers who do not need it. Policy makers should safeguard consumers to make the right decisions when selecting pharmaceutical products and services.

Direct to consumer advertising (DTC) can decrease embarrassment. If an embarrassing condition is advertised, people are more likely to seek help and speak openly to their doctor (Rados 2003). However, DTC advertising has a downside: people who self-medicate or use the product inappropriately. This is especially problematic when inexperienced consumers act on biased facts about the product. Further studies should evaluate if regulation should be enforced on the claims that manufacturers make about hair loss products. When a retailer includes a product in his store, they should be able to test it. This would protect consumers from unscrupulous manufacturers. The fact that a retailer is selling a product is implicitly stating that the retailer approves of the product's claims.

The drugstore as a retailer should evolve from a place merely providing medicines, to a place that solves any health problems, to a place where consumers can prevent illness and improve their lifestyles.

## **6.5 Limitations**

### **6.5.5.1 Survey Length Limitations**

#### **Problem:**

The TPB questionnaire length was a limitation for this study. The TPB questionnaire is long because it needs to evaluate not only what the

consumers' attitudes, subjective norm and perceptions of control are, but also the beliefs behind each of these. The large number of questions that a TPB questionnaire has makes it difficult to add new variables/extensions. For example, the use of comprehensive personality tests, ethnicity questions, comparisons between product categories or channels.

**Solution:**

To avoid the problem of long questionnaires, instead of undertaking one survey in which the three channels are evaluated, this thesis performed three separate questionnaires and performed a statistical analysis afterwards that allowed the comparison of measurements. The constructs added, like personality items, were the shortest possible. This is why the ten-item personality test was used. In addition, to keep the questionnaire short, the study was limited to the study of only one product category. Future studies that focus only on prediction could benefit from shorter questionnaires. This type of study would only need to include the TPB direct measurements and benefit from higher attention span, response rate and less missing values (Burchell, Marsh 1992).

To keep the questionnaire short, the shopping experience was evaluated holistically. It was not decomposed into shopping phases i.e. search and purchase.

**6.5.5.2 Sample Size Limitations**

**Problem:**

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To be able to gain more insight into single and multi-channel, three different channels needed to be compared. This triplicated the efforts in terms of sample size, since each group required an individual sample. Financial and time constraints also limited the number of surveys that could be collected. Additionally, the number of surveys was reduced after the respondents with very low intention were removed from the sample.

**Solution:**

The use of PLS permitted an adequate statistical analysis of the study variables. The characteristics of the data and the model were considered in the selection of the sample size.

### **6.5.5.3 Sample Characteristics**

**Problem:**

As presented in Appendix 8, natural samples have disadvantages. One of the disadvantages of selecting a natural sample was the low penetration rate of Regaine users found in it.

The lack of data on behaviour created a limitation in terms of corroborating the connection between intention and behaviour.

**Solution:**

Given the inability to establish a connection with behaviour, this study focused its efforts on intention. The intention-behaviour relationship was not analysed in

this study. To complement intention, other response variables like approach and avoidance were included.

#### **6.5.5.4 Cross Sectional Study**

##### **Problem:**

The use of a cross-sectional study relies on analysing the data from a single point in time. Over long periods, the consumer can change their perception of shopping for Regaine using the drugstore or the internet. These changes can occur because of the development of better customer service in the stores or technological advances on the internet or by multi-channel. They can affect attitudes, subjective norms or perceptions of control about the shopping process. With a cross-sectional study design, these changes would not be perceived. The cross-sectional nature of this study also had the limitation of reducing common method variance bias and enhancing causal inferences (Bosnjak, Galesic et al. 2007).

##### **Solution:**

The cross-sectional design was adequate to answer the research question of this thesis. It corresponds to the positivist philosophy followed in the study. The cross-sectional design permitted the researcher to compare channels and a large number of variables at one point in time. The reliance on only one methodology was reduced with the use of the elicitation study.

#### **6.5.5.5 Measurement of Emotion**

**Problem:**

The measurement of emotions is a difficult task. Knowledge about the role of emotions in the marketing field is relatively new (Agnoli, Begalli et al. 2009). Emotions are context specific, and the emotions that arise in the context of intimate interpersonal relationships are likely to differ in intensity and quality of the emotions experienced when buying a pair of shoes (Richins 1997). The list used to evaluate the emotions also had its restrictions: it did not assess every possible consumption emotion (Richins 1997).

**Solution:**

This research overcame the limitation of emotion measurement using perceived emotions instead of felt emotions. This study did not measure felt emotions because it involves a complex procedure that would require sophisticated photographic equipment. Although the list of emotions did not include all possible emotions, it was developed especially to consider emotions related to consumption, which coincides with the objective of this thesis.

#### **6.5.5.6 Measurement of Personality**

**Problem:**

The measurement of personality was complex because it often requires long questionnaires.

**Solution:**

The ten-item personality inventory has been tested for validity and reliability. It is an efficient approximation of longer measurement and recommended when time is limited. The primary focus is other constructs and it is desirable to reduce the testing burden on participants (Muck, Hell et al. 2007).

**6.5.5.7 Product Characteristics**

**Problem:**

The TPB requires that the behaviour to be evaluated be “reasoned”. This creates a limitation for the use of this framework in categories with low involvement. To use the TPB model, the researcher is required to use a well-known brand and retailer. This limits the applicability of future studies since many of the brands/retailers do not have large market share or brand awareness.

**Solution:**

Regaine was selected because it is a product with a high level of involvement. The consideration of shopping or not shopping for Regaine is a high involvement decision (Ruby, Montagne 1992) (Basara 1994). People do not shop immediately for a high involvement product after watching its advertising; people plan and consider the purchase before starting their shopping trip. This product characteristic was valuable for this study because it resonates with the requirements of the TPB: that the consumer reasons about their behaviour. The brand selected for this study was on the mind of many consumers.



#### **6.5.5.8 PBC Limitations**

##### **Problem:**

One of the problems with the PBC construct is that consumers could have an “illusion of control” (Langer 1975). Men could ignore control factors that will become important once the search phase of the product purchase starts, for example, the fact that Regaine is an expensive product that requires to be used twice per day.

##### **Solution:**

To reduce the possibility of having a problem with “illusion of control”, users who did not know what Regaine was, were presented with a product description at the beginning of the survey. Using this stimulus, consumers had at least a sense of what Regaine was about and what the benefits of this product were.

#### **6.5.5.9 TPB Questionnaire**

##### **Problem:**

The topic of this study was multi-channel shopping. To pose questions to consumers about their perceptions of multi-channel required that consumers understood to a certain point what was meant by multi-channel.

##### **Solution:**

The terms that represented problems for the consumer were explained; the survey used words that were part of the everyday language of consumers to

explain complex concepts, i.e. shopping or multi-channel. Before undertaking the survey consumers received an explanation of what multi-channel was.

#### **6.5.5.10 Multi-Group Analysis**

The reported differences in structural weights may actually be caused by differences in measurements between the groups.

### **6.6 Assumptions about the theory**

This thesis is based on the TPB, which assumes the consumer “reasons” about the behaviour he is going to perform, therefore, the researcher assumed that consumers were consistent (Festinger 1957) and rational (Jacoby 2000) with their choices. This implies that consumers have reasoned about the way they shop and they think about the shopping alternatives they face. For example, this research assumed that customers had a formed intention to shop by multi-channel. Other researchers consider that today’s customers do have the intention to shop using multiple channels such as the internet, catalogues, actual stores, and TV shopping etc. (Yang, Park et al. 2007) (Vijayasathy, Jones 2000) (Yoh, Damhorst et al. 2003). If a consumer is rational and reasons, then they will always be searching for retailers and brands of high quality or at least high quality for their money. Rationality also implies that the consumer is able to identify a preferred channel for the purchase of Regaine and that it considers not only the brand, but also from which retailer and channel they are going to shop.

## **6.7 Future Research**

### **6.7.5.1 TPB**

Researchers should continue to use the TPB to study multi-channel in the future. Further qualitative interviews could be useful to evaluate different aspects that resulted from the quantitative research. For example, what is meant by easy and close; what is convenience; what is understood by flexible; why do they usually shop very quickly; how does their wife/partner/girlfriend influence the purchase; how much do they think a bottle of Regaine is worth; or what do they not like about the Boots website.

Social sites put the consumer under the constant pressure of subjective norms. Although the people who influence could be the same as those identified in this study, for example their wife, girlfriend, partner, social media exposes the consumer to more people commenting on their personal appearance. This occurs because consumers post pictures of themselves, which are seen by old school friends that they have not seen for a long time. The first thing that others notice is changes in the physical appearance such as hair loss. An analysis of social sites could illustrate the dynamics of social norms and hair related issues. Future research could include the effect that social networking sites like Facebook have on consumers' multi-channel intentions (Jang, Chang et al. 2013).

This thesis chose a narrow focus in terms of the number of product categories to analyse. Future research could decrease the emphasis in understanding (the

salient beliefs) and increase the emphasis in predicting. This will allow the number of product categories studied to be increased.

This study used self-report data to evaluate intention and behaviour. Future studies could use scanning systems or radio frequencies to eliminate the disadvantages of self-reporting.

Additional measurements of response can be included in future studies, for example, to measure the amount of time spent by the consumer in each channel. Other studies should be used to evaluate whether there is a correlation between these measurements and approach/avoidance. The measurement of “other items” purchased when the consumer purchases Regaine could help to have a wider view of what is implied when the consumer is thinking about “shopping for Regaine” and if there are differences while shopping in single or multi-channels.

Future TPB studies in which the product is not very well known could use as a stimulus a television commercial about the evaluated product. In this way, all consumers will have a common ground of knowledge about the product. This could improve the quality of the responses obtained in the study.

One of the advantages of the TPB is that it can be used to develop interventions to modify the beliefs. Future research can use the beliefs identified in this thesis to develop experiments in which different groups of individuals are subject to different messages and persuasion that try to modify their beliefs.

### **6.7.5.2 S-O-R**

Future studies should try to focus on understanding the apparent contradiction between having a positive attitude towards the brand but at the same time wanting to leave the drugstore quickly. Research should identify if this is a problem created by the way that retailers lay out their stores or a culturally learned behaviour.

Since PBC was important to understand approach online, it would be useful to develop research that answers the following questions:

*How are perceptions of control different for those who do not avoid spending time online? What is it that creates the confidence to navigate the website? Why do young consumers want to leave the website so quickly?*

Emotions were also found important in approach and avoidance in the drugstore. Optimism was shown to improve approach in the drugstore. Future research could explore if communicating optimistic messages about shopping for an embarrassing product in the drugstore could improve approach responses and ultimately intention.

### **6.7.5.3 Embarrassing products literature**

Future research could explore a wide range of products and brands that pharmaceutical companies have but are not used because of embarrassment. Examples of these are treatments for acne, constipation, dandruff, haemorrhoids, snoring, wind, bladder weakness, cystitis, diarrhoea, head lice, thrush and worms, amongst others. Other product categories that are not

particularly health-related but could also be affected by embarrassment, such as the purchase of flowers, could be studied.

Research on retailing has to continue to help people to reduce their embarrassment while shopping. Bandura, Adams et al. (1977) developed the concept of “Self efficacy” and helped patients eliminate or reduce snake phobias. Similarly, this thesis can help customers to reduce their avoidance of channels. The negative emotions that become associated with the use of certain channels can be eliminated. Future research should explore how this model performs in other areas such as the financial services. Customers might avoid borrowing money from banks because of their embarrassment in having to accept to a bank official that they are facing economic distress.

Future studies may also use other types of embarrassing products that are sold by different types of retailers such as convenience stores and hypermarkets.

More research is needed to determine if purchasing online is embarrassing at all. The internet eliminated to a great extent the negative emotions associated with shopping for Regaine.

This thesis evaluated a large drugstore chain. Future research could evaluate what the implications of shopping for embarrassing products are in small/independent drugstores.

Future research should study the effectiveness of different strategies to reduce embarrassment in the drugstore.

This thesis found that not all consumers suffered from embarrassment. Some consumers felt that shopping for Regaine was embarrassing, while others did not feel embarrassment. Future studies could try to find out which are the coping mechanisms that allow some consumers to handle embarrassment in the drugstore.

Future studies could include the observation of the purchase of Regaine in the drugstore. The observation methodology allows evaluating consumer body language and records if there are physical changes in the consumer's posture that indicates that he is feeling embarrassment in the process of purchasing Regaine. In addition, it would be important to analyse how accompanied shoppers are influenced. The time taken to purchase Regaine should also be measured as this could confirm the results of this thesis in terms of approach and avoidance.

#### **6.7.5.4 Multi-channels**

The increasing number of channels available for consumers limited how many of them could be included in this study. The limitations in survey length narrowed the number of channels tested to the drugstore, the internet and by multi-channel. This study ignored the use of catalogues and mobile phones to purchase embarrassing products. These channels should be included in future studies. On the other hand, the large number of channels studied had a counter effect on the small number of product categories that could be analysed. The findings of this research could be expanded to other types of embarrassing products. In the same way, this study could be replicated with products of other

categories and services. Future researchers should also examine the impact of variables like the frequency of visits to the retailer and its location.

The phenomena of channel switching in embarrassing situations could be the subject of future research.

New models or analysis could be proposed in which the channel ranking questions are combined with other study variables in order to achieve higher levels of predictability.

#### **6.7.5.5 CBBRCE**

Future research has the job of proving that CBBRCE is able to predict intention in the case of other products and behaviours. CBBRCE should be tested in cases of products that are well known by consumers and in cases where the respondents are loyal to the brand-retailer-channel.

The great importance of awareness in the three channels and especially in multi-channel motivates researchers to improve the understanding of how to communicate that a retailer is multi-channel. Researchers could evaluate if the label "*Store-Online-Mobile*" is enough to communicate that a retailer is multi-channel.

Additional research is needed to explain what the antecedents of CBBRCE are. Some researchers have proposed marketing mix variables as antecedents of brand equity (Yoo, Donthu et al. 2000) (Baldauf, Cravens et al. 2009). However, in a CBBRCE context, using marketing mix variables as an antecedent creates problems. Consider the following questions. Which factors should be



examined? Should the marketing mix of the retailer or the mix of the manufacturer be of concern? Therefore, experiments that manipulate marketing mix variables and evaluate the effects on CBBRCE are needed. Co-branding alliances could be studied using the CBBRCE framework as a means to understand the dynamics and gains for both manufacturers and retailers. Rao, Qu et al. (1999) defined brand alliances as “all circumstances in which two or more brand names are presented jointly to the consumer” and the brand-retailer link could be seen as an alliance between the product brand and the store brand. This thesis has proposed general items that could be used by most retailers and brands. However, researchers can add items that capture specific retailer-brand associations. Studies that compare the CBBRCE across channels (online versus stores versus mobile) will provide further insight into the synergies that collaboration strategies can introduce to multi-channel environments. Research that adapts the CBBRCE to different retail formats could also help illustrate the advantages of having certain products/brands in some formats and not in others. CBBRCE could also be converted into a CBBRCE Index.

Future studies should be more careful about how they define loyalty for a product such as Regaine. The low levels of success rate of the product indicate that Regaine users will try the product only once or a few times and then abandon the use of the product. Therefore, the average consumer does not use the product long enough to become loyal. New definitions of loyalty are needed for this type of product with low re-trial levels.

Future studies can also try to determine which is the relative importance of the six dimensions of CBBRCE, and if they work in any particular sequence. For example, Keller (2010) has identified that brand equity grows in a sequence of steps, which are contingent on successful achievement of the previous steps.

#### **6.7.5.6 Emotions**

Studies should continue to identify which are the emotions that are more relevant for different shopping situations, for example, shopping with love, jealousy or happiness.

Future research is needed to understand the role of negative emotions. For example, research could create simulations of different situations of purchase experience in the drugstore, varying the store layout or customer service to evaluate the levels of anxiety and negative emotions generated under each setting. Measurement of galvanic skin response could help to measure negative emotions experienced during the purchase of an embarrassing product.

Future research should not include the paths that link positive or negative emotions with approach and avoidance. This is recommended because only one significant relationship was found in this path. The lack of significant results indicates there is no connection between these variables. Eliminating the emotions→approach/avoidance paths will contribute to simplify future replications of the model.

Future research should not classify “no emotion” as either a positive or a negative emotion. Probably neutral emotions have no impact on intention,

therefore they should not be considered in models in which prediction is one of the objectives.

Future analysis could evaluate if using emotions as mediators is more effective for the TPB than having emotions drawn in a direct connection with intention (Bagozzi, Warshaw 1990).

Another type of analysis could be to test the role of embarrassing emotions as antecedents of PBC. PBC measures how easy or difficult a task is. Embarrassment can make the purchase much more difficult, hence it could be influencing the perception of PBC.

#### **6.7.5.7 Personality**

In future, larger personality inventories could focus on one personality trait. Future studies should explore why extroverts want to leave the website quickly, or why conventional people want to leave the store and why careful people like to use multi-channel.

A careful personality was found relevant in the multi-channel setting. Further exploration of how advertising can communicate that multi-channel is a careful way of shopping could be explored.

Future research needs to explore how retailers can satisfy people with a conventional personality trait. The desire to leave the store is in conflict with the retailers' interest: to have the customer in their stores for the longest amount of time.

#### **6.7.5.8 Demographics**

Future studies may want to perform a deeper analysis of the variable age, which was found to be particularly important amongst all the variables analysed, specifically trying to identify at what age does the intention to shop for Regaine increase and how does this differ according to the channel used. This information could be valuable for practitioners who could target direct marketing messages at men when they more need/want the product.

#### **6.7.5.9 Other future studies**

Cultural differences like attitudes towards personal care and beauty may influence the use of Regaine. This study used a sample of Scottish men, therefore, it was influenced by the Scottish culture. Different results could emerge if this study were to be replicated on another culture or in another area. This study could be replicated exclusively with men who suffer from alopecia. However, replication could be done under the assumption that consumers are able to assess their own baldness, which is a subjective measurement. Hence, it is important to solve the hair loss self-assessment problem before conducting new research.

The sample of this thesis was deliberately selected from an urban population. However, being able to compare an urban and a rural sample could discover differences caused by the absence of drugstores that are close to the consumers' homes. For example, if the drugstore is not close to home, elements of PBC could become relevant in the drugstore.

Although the selected sample was from an urban population, this study could be replicated in large cities. Cities of more than one million inhabitants in which the consumer is more influenced by modern trends and where men are probably more concerned about their appearance than in smaller cities.

The elimination of very low intention respondents could have introduced bias in this thesis. However, the benefits of eliminating these users were substantial. The general male population includes men with low intention to purchase Regaine. Future studies should include filters for respondents with very low intention. TPB questionnaires should have disguised mechanisms to identify if the consumer has an extremely low intention to purchase the product of interest. For example, the consumer could classify a list of multi-category products in terms of “consider their use” and “will never use”. Future studies can include quantitative measures of brand equity like profit margins and market share.

The SN construct of the TPB identifies groups that are important for the user when shopping for the target behaviour. However, people that the consumer does not even know, such as other shoppers in the store could trigger embarrassment. The presence of other shoppers is important when shopping and should be included among the influencers of SN, even though consumers do not identify them as relevant influencers of their purchase.

In future, replicating this model with a larger sample size could improve the study. Firstly, it would allow the researcher to use some of the new PLS tools to uncover customers' heterogeneity such as FIMIX response-based

segmentation. Secondly, a larger sample could have allowed the use of CBSEM. In this way, the results could have benefited from better parameter accuracy and the possibility to calculate the goodness of fit indicators that were missing from this study. Thirdly, a larger sample size would help to decrease the standard error and detect smaller effect sizes.

In future, this study could be replicated in countries with a higher penetration rate of users to evaluate if there are differences in the results. Repeating this study with only Regaine users could also be of interest because Regaine users could have different beliefs compared with the general population of men. Replicating this study with Regaine users could provide further insights into what their actual concerns are in terms of AT, SN, PBC and the other variables studied. The low levels of Regaine users found made it impossible to confirm the effects of familiarity on intention. Manufacturers should validate the results of this study with customers who use the product on a regular basis. This study could also be replicated with women, given the fact that women with androgenic alopecia can use the Regaine for Women variant.

Future studies should increase the sample of respondents that perform the behaviour. If unlimited financial resources were available for the completion of this study, resources like uSamp™ could have been used to achieve a significant number of respondents who used Regaine. uSamp is an online research panel that has UK. based Regaine panellists.

## **6.8 Final Remarks**

This thesis has successfully solved the research aim outlined in Chapter 1. The most effective variable to explain purchase intention in both single and multi-channel was Subjective Norm. PBC was effective on the internet but lost relevance in the drugstore and in multi-channel. The TPB effectiveness was improved. Of the introduced variables, emotions were particularly useful to explain the drugstore, demographics were very relevant for the internet, and personality predicted intention in multi-channel. Significance was found in almost half of the hypotheses for both the drugstore and the internet. However, the number of significant paths identified in multi-channel was relatively small. The TPB variables were effective, however, the variable significance changed amongst channels. The way in which men shop influenced the results in terms of approach and avoidance. The addition of other response variables apart from intention was valuable because not all the results of marketing efforts transform into intention; sometimes the benefits are in terms of approach and avoidance.

The drugstore was the channel most affected by embarrassment. The internet and multi-channel served to eliminate the influence of negative emotions.

The methodology that has been traditionally used by the TPB minimized the role of emotions. A methodological innovation introduced by this thesis permitted the highlighting of the role that emotions had on behaviour.

This thesis introduced the concept of CBBRCE. CBBRCE is a tool that could be used for benchmarking purposes. CBBRCE could measure the results of brand-retailer-channel alliances and category management initiatives.

## [Chapter 6]

Although the three evaluated channels shared similarities in terms of the beliefs they elicited, such as emotions and subjective norm, each channel's beliefs were very different in terms of their advantages and disadvantages.

This research tried to identify the similarities and differences between single channel and multi-channel customers. The results of the MGA showed that the differences between the drugstore and the internet were bigger than the one between the drugstore and multi-channel, suggesting a new approach to multi-channel is needed.



## Appendix 1 -The relationship between method and theory used

<b>Part A) Multi-channel academics</b>							
<b>Author</b>	<b>Study Title</b>	<b>Year</b>	<b>Method and Target</b>	<b>Channels</b>	<b>Sample Size</b>	<b>Theory Used</b>	<b>Product Categories</b>
(Ansari, Mela et al. 2008)	Customer channel migration	2008	Telephone interviews	Catalogue E-mail	2400 (340 multi-channel)	Own conceptual framework (OCF) (catalogue and e-mail communications influence purchase volume and channel).	Durable and apparel products
(Burke 2002)	Technology and the customer interface	2002	Online consumers panel	Online Store	2120 online consumers	OCF shopping experience and customer satisfaction.	10 product types/categories.
(Kim, Park et al. 2006)	Effects of multi-channel consumers' perceived retail attributes on purchase intentions of clothing products	2006	CATI  Students + staff	Store Catalogue Internet	500 multi-channel consumers	OCF retail attributes and purchase intention	Clothing products
(Oh, Kyoung-Nan Kwon 2009)	An exploratory study of sales promotions for multi-channel holiday shopping	2009	Telephone survey Single item measures	Online Offline	501 holiday shoppers	OCF Perceived promotions Promotion sensitivity Price promotions during holiday season	Holiday shoppers.
(Slack, Rowley et al. 2008)	Consumer behaviour in multi-channel contexts: the case of a theatre festival	2008	Survey distributed to all the assistants to the festival (2993)	Internet Flyer/poster Metrolink poster Local radio/TV Press Word of	881 theatre audience	OCF Black framework of factors that determine channel choice.	Theatre audience.

[Appendix]

				mouth Brochure Phone Box office Door			
(Keen, Wetzels et al. 2004)	E-tailers versus retailers which factors determine channel choice	2004	Self-administered Familiar with both modes of shopping	Store Catalogue Internet	290 mall shoppers  143 cd 138 computer	TPB + TAM Using the part worth of conjoint analysis Simulations and cluster analysis Product purchase	Music cd  Personal computer
(Yang 2010)	Determinants of use of consumer mobile shopping services adoption: implications for designing mobile shopping services.	2010	Online survey 2-3 items per construct.	Mobile shopping	400 mobile service users from consumer panel.	Unified theory of acceptance and use of technology. + personality +hedonic performance expectancy SEM	Mobile shopping services
(Kim, Park 2005)	A consumer shopping channel extension model: personality shift toward the online store	2005	Self-administered questionnaire	Online Offline	262 students	TPB (ATT + PBC) does not use SN.	Attitude shift from offline to online store
(Montoya-Weiss, Voss et al. 2003)	Determinants of online channel use and overall satisfaction with a relational, multi-channel service provider.	2003	Online survey	Online Primary alternative channel.	1137 bank users	OCF model based on Technology adoption Technology diffusion  Servqual	Financial institution University
(Jiang, Rosenbloom 2005)	Customer intention to return online price perception, attribute-level performance, and satisfaction unfolding over time	2005	Online survey	Online shoppers	416 e-tailers Go to a site and purchase from it.	OCF based on Customer satisfaction Price perceptions Check out versus delivery satisfaction.	Selected E-retailer

[Appendix]

(Gupta, Bo-chiuan Su et al. 2004)	An empirical study of consumer switching from traditional to electronic channel: a purchase decision process perspective.	2004	E-mail survey	Online buyers	Purchased 50.000 e-mail addresses To obtain 337 responses (2 percent).  156 questions 56 x 4 categ.	TRA Logistic regression Switching is a binary variable Channel risk perceptions Price search intentions Evaluation effort Waiting time	Search goods Books Flight tickets Experience goods Wine Stereo systems
(Nicholson, Clarke et al. 2002)	One brand three ways to shop: situational variables and multi-channel consumer behaviour.	2002	48 Consumers Qualitative case study Credit status IT skills	Store Catalogue Internet	Store database used to select focus group participants and shopping diary	Belkian dimensions by shopping mode	UK. Fashion retailer
<b>Part b) retail format academics</b>							
(Wang, Bezawada et al. 2010)	An investigation of consumer brand choice behaviour across different retail formats	2010	Database	Mass merchandise Supermarkets	IRI panel database 1200 households	Multi-format probit choice model Price Promotion	Paper towel Bath tissue Soft drinks Cold cereal
(Inman, Shankar et al. 2004)	The roles of channel-category associations and geo-demographics in channel patronage.	2004	Database	Grocery Mass Drug Club	Database fusion of geo-demographics + retail format.	Channel patronage by: Geo-demographics Channel-category associations.	Healthcare Juices Cleaning supplies
(Anand, Sinha 2009)	Store format choice in an	2009	Surveys	Hypermar	148	Modified TPB	Bulk grocery

[Appendix]

	evolving market: role of affect, cognition and involvement		Door to door	Supermarket Discount Kirana Internet	>than 1 year in location Exclude forced choice of format Quota per format	Quality of past experience PBC: operational + lifestyle Net involvement Net valence 16 questions per format. Summated scales	purchase
(Carpenter, Balijs 2010)	Retail format choice in the US. Consumer electronic market	2009	Telephone survey according to age quota	Department store, specialty store, discount, category killer, internet only, catalogue	13 questions 252 respondents	Sample characteristics Consumer demographics Retail attributes Retail format choice Frequency for each format Importance of each factor.	Consumer electronics
(Berne, Mugica et al. 2005)	The managerial ability to control the varied behaviour of regular customers in retailing: inter-format differences	2005	Telephone survey Three samples	Large Medium And small store	935 large store 267 medium store 139 small store	Own model Satisfaction Varied behaviour SEM	3 types of retail store
(Teller, Elms 2010)	Managing the attractiveness of evolved and created retail agglomerations formats	2010	Street/mall intercept survey	Town centre Strip centre Mall	486 town centre 228 strip centre 294 mall	OCF stimulus-organism-response	Three retail agglomeration formats
(Gehrt, Ruoh-Nan	Situational, consumer, and	2004	Mail survey	Internet	114	OCF MANOVA	Situations simulation

[Appendix]

Yan 2004)	retailer factors affecting internet, catalogue, and store shopping		Computer owners	Catalogue Store	university students 181 respondents		
(Solgaard, Hansen 2003)	A hierarchical Bayes model of choice between supermarket formats	2003	Survey to households	Supermarkets/ Discount stores/ Hypermarkets	631 households	Multinomial legit model of discrete choice developed by Mc Fadden, D., 1974. Combined with a random coefficients Logit model.	Three types of supermarket formats.
(Bell, Lattin et al. 1998)	Shopping behaviour and consumer preference for store price format: why "large basket" shoppers prefer EDLP	1998	Scanner panel database	EDLP HILO	1,042 households	Control variables like distance to the store to analyse effect of EDLP.	12 categories
(Baltas, Argouslidis et al. 2010)	The role of customer factors in multiple store patronage: a cost-benefit approach	2010	CATI	Takes into account the number of store patronized but does not ask questions about each format.	1888 interviews	OCF Household production theory Positive and negative determinants of patronage set size. Shopping frequency Expenditure Family size Gender Store brand proneness Income Age Store Satisfaction with main store Satisfaction with private label of main store. Zero-altered poisson (zap) models	No categories.
(Gijbrecchts, Campo et al. 2008)	Beyond promotion-based store switching: antecedents and patterns of systematic	2008	Gfk panel data Store visit	Two stores	906 households	Multinomial Logit model	12 grocery chains 4 store formats

[Appendix]

	multiple-store shopping		Category purchase data				
Fox, EJ (Fox, Montgomery et al. 2004)	Consumer shopping and spending across retail formats	2004	Panel data	Grocery stores Drugstores Mass merchandisers.	96 households	OCF Assortment Pricing Promotional strategies Demographics Multivariate Tobit	Three retail formats
(Bhatnagar, Ratchford 2004)	A model of retail format competition for non-durable goods	2004	Mail survey	Convenience store Supermarket Food warehouse	526 completed surveys were received back.	Developed a general model of consumers store-format choice Consumer travel costs, membership fees, consumer inventory capacity constraints, and retail cost structures Test the hypotheses on self-reports of shopping behaviour in hypothetical situations.	No category
<b>Part c) TPB academics</b>							
(Berg, Jonsson et al. 2000)	Understanding choice of milk and bread for breakfast among Swedish children aged 11-15 years: an application of the theory of planned behaviour.	2000	Questionnaire during school hours	Skimmed milk Low fat milk Medium fat milk full fat milk, high fibre bread Bi: two items At: two items Outcomes : 4 items	1730 students	TPB	Milk and bread

[Appendix]

Ajzen, Bamberg and Schmidt  (Bamberg, Ajzen et al. 2003)	Choice of travel mode in the theory of planned behaviour: the roles of past behaviour, habit and reasoned action.	2003	At the university registers office	Bus Car Bicycle Walking	2 questionnaires 578 students	TPB +past behaviour +habit	Bus Car Bicycle Walking
(Dennison, Shepherd 1995)	Adolescent food choice: an application of the theory of planned behaviour	2008	Questionnaire during school hours	Three common foods at lunchtime	675 students	TPB	Three common food
(Ajzen, Driver 1992)	Application of the theory of planned behaviour to leisure choice.	1992	Elicitation questionnaire divided in two groups	Mountain climbing Fishing Boating Camping	Pilot 60 students 140 students	TPB (does not mention items per variable)	5 activities (Twice a year to 10 times a year).
(Ajzen, Fishbein 1969)	The prediction of behavioural intentions in a choice situation	1969	Undergraduate students	Eight behaviours	100 undergraduate students	TPB  One item per variable.	Eight behaviours Going to a party Reading a book Visiting an exhibition

## Appendix 2 -Evolution of Brand, Retailer and Channel Equity

Author	Year	Concept
<b>Brand Equity</b>		
(Shocker, Weitz 1988)	1988	Brand loyalty, brand image
(Farquhar 1989)	1989	Brand image, attitude accessibility, and brand evaluation.
(Martin, Brown 1990)	1990	Brand impression
(Srivastava, Shocker 1991)	1991	Brand image, brand awareness, brand loyalty and perceived quality
(Aaker 1991)	1991	Brand awareness, brand associations, perceived quality, and brand loyalty
(Farquhar, Han et al. 1991)	1991	Brand assets
(Blackston 1992)	1992	Trust in the brand and customer satisfaction
(Holden 1992)	1992	Brand awareness and brand preference
(Kapferer. J 1992)	1992	Physical features, brand attitude, culture and brand association
(Keller 1993)	1993	Brand awareness and brand image
(Simon, Sullivan 1993)	1993	Firm value, advertising, R&D
(Cuervorst 1995)	1994	Commitment
(Park, Srinivasan 1994)	1994	Brand preference and commitment
(Cobb-Walgren, Ruble et al. 1995)	1995	Brand awareness, brand associations and perceived quality
(Blackston 1995)	1995	Brand salience, brand association and brand attitude
(Lassar, Mittal et al. 1995)	1995	Performance giving, perceived value, image, trustworthiness, and a feeling of commitment.
(Sharp 1996)	1995	Company/brand awareness brand image relationships with customers/existing customer franchise
(Aaker 1996)	1996	Loyalty (willingness to pay price premium and satisfaction), perceived quality (perceived quality and leadership), differentiation (perceived value, brand attitude, organizational associations) and brand awareness.
(Biel 1997)	1997	Brand image, brand attitude and brand magic
(Anantachart 1998)	1998	Brand preference, customer satisfaction
(Erdem, Swait 1998)	1998	Perceived quality, perceived risk, brand signals, Information costs, expected utility.
(Haigh 1999)	1999	Financial value of brands
(Yoo, Donthu et al. 2000)	2000	Perceived quality, brand loyalty, and brand associations combined with brand awareness
(Berry 2000)	2000	Brand awareness and brand meaning



[Appendix]

(Chandon, Wansink et al. 2000)	2000	High- and low-equity brands
(Yoo, Donthu 2001)	2001	Scale for brand awareness, brand associations, perceived quality, brand loyalty
(Aaker, Jacobson 2001)	2001	Perceived quality, via its effect on consumer knowledge.
(Washburn, Plank 2002)	2002	Brand awareness, brand association, perceived quality brand loyalty
(Vazquez, Río et al. 2002)	2002	Brand utilities: product functional utility, product symbolic utility, brand name functional utility, brand name symbolic utility.
(Ailawadi, Lehmann et al. 2003)	2003	Consumer-level outcomes such as attitude, awareness, image, and knowledge.
(Pappu, Quester et al. 2005)	2005	Brand awareness, brand association, perceived quality brand loyalty
(Atilgan, Aksoy et al. 2005)	2005	Brand awareness, brand association, perceived quality brand loyalty
(Anderson, Narus et al. 1999)	2004	Brand equity (linking brands and consumers), channel equity (links to resellers), and reseller equity (resellers' links with the end customer) which together creates marketplace equity.
(Jeong, Drumwright 2006)	2004	Utility, loyalty, image
(Netemeyer, Krishnan et al. 2004)	2004	Perceived quality, perceived value for cost and brand uniqueness, which would influence purchase intention and behaviour through the mediation of the willingness to pay a price premium + brand awareness, familiarity and popularity.
(Kim, Kim 2004)	2004	Brand awareness, brand association, perceived quality, brand loyalty
(Brodie, Glynn et al. 2006)	2006	Relational, network (co-branding and alliances) and financial implications
(Oliveira-Castro, Foxall et al. 2008)	2008	Product category, social benefit, familiarity, quality, market share and revenue
(Priluck, Till 2010)	2010	High-low equity
(Chen 2010)	2010	Green brand image, green satisfaction, and green trust.
<b>Author</b>	<b>Year</b>	<b>Concept</b>
<b>Retailer/Reseller equity</b>		
(Hoffman 1991)		Brand equity not meaningful from a retailer's perspective
(Grewal, Krishnan et al. 1998)	1998	Store image, store environment, customer service, product quality and the perceived quality of the brand
(Collins-Dodd, Louviere 1999)	1999	Brand equity and retailer acceptance of brand extensions
(Webster 2000)	2000	Understanding the relationships among brands, consumers, and resellers. Resellers should be included as a source of brand equity
(Baldauf, Cravens et al. 2003)	2003	Performance consequences of brand equity management: evidence from organizations in the value chain

[Appendix]

(Davis 2003)	2003	The effect of brand equity in supply chain relationship
(Ailawadi, Keller 2004)	2004	Private label brands and increase revenue and profitability by insulating from competitors
(Glynn, Brodie 2004)	2004	Manufacturer support, brand preference and customer demand influence reseller satisfaction, which influences trust, commitment and performance. The resources associated with the brand, not the brand itself is what creates value for resellers in channel relationships. There is a need for the resellers' perspective of the brand.
(Ahmed 2004)	2004	Store type does not influence perceived quality (emerging markets).
(Hartman, Spiro 2005)	2005	Customer-based store equity, store image, store knowledge.
(Pappu, Quester 2006)	2006	Retailer awareness, retailer associations, retailer perceived quality, and retailer loyalty
(Manning 2007)	2007	Corporate identity is now the brand: a valuable business asset.
(Davis, Mentzer 2008)	2008	Firm as a trustworthy trading partner.
(Jinfeng, Zhilong 2009).	2009	Store image, retailer awareness, retailer associations, retailer perceived quality, retailer loyalty, retailer equity, value to firms, and value to the customer.
(Baldauf, Cravens et al. 2009)	2009	Retailer perceived brand equity product country image marketing mix
(Jara 2009)	2009	Retail equity index brand knowledge brand awareness, brand effect product effect
(Tran, Cox 2009)	2009	Building brand equity between manufacturers and retailers
(Burt, Davies 2010)	2010	From the product as a brand; to the store as a brand; to the organisation as a brand.
(Chattopadhyay, Shivani et al. 2010)	2010	Store image brand's level of exposure, brand recognition and awareness
(Chattopadhyay, Shivani et al. 2010)	2010	Store image influences perceived quality and brand awareness in the indian automobile market.
<b>Channel Equity</b>		
<b>Author</b>	<b>Year</b>	<b>Concept</b>
(Keller 1993)	1993	Manufacturer name premiums brand equity, channel equity
(Srivastava, Shervani et al. 1998).	1998	Market performance, shareholder value, loyalty, cash flow, ability to charge higher prices, brand extensions Knowledge information about competitors, customers and channels. Marketing activities create brand equity, customer equity, channel equity, and/or customer satisfaction that enhance and accelerate cash flows and perhaps lower the firm's working capital (cash) needs
(Simpson, Siguaw et al. 2001)	2001	Channel equity ( relationship between suppliers and resellers)
(Sarkar, Echambadi et al.	2001	Channel equity is a type of relationship capital. Mutual trust reciprocal commitment, and information exchange

[Appendix]

2001)		
(Brodie, Glynn et al. 2002)	2002	Channel equity comes from derived demand. Experience and knowledge define channel equity
(Simpson, Siguaw et al. 2002)	2002	Channel equity construct; market oriented behaviour; value supplier activities and behaviours; reseller perceived value of the relationship and systematic evaluation of suppliers.
(Kumar, Bohling et al. 2003)	2003	Channel equity influence relationship intentions
(Uggla 2004)	2004	Partner brand leverage channel equity from leader brand.
(Jones 2005)	2005	Reputation and employees are part of channel equity assets.
(Kushwaha 2007)	2007	The channel equity of multi-channel customers is nearly twice that of the closest single channel customers (online or offline).
(Cretu, Brodie 2009)	2009	Despite the relatively large amount of literature describing the benefits of firms in having strong brand equity and delivering customer value, no research validated the linkage of brand equity components, brand image, and corporate reputation, simultaneously in the customer value–customer loyalty chain. (B2B context).

### Appendix 3 -Use of Aaker's four main dimensions

Author	Brand/Name Awareness	Brand/Retailer Associations (Image)	Perceived/Service Quality	Brand/Store Loyalty
(Shocker, Weitz 1988)	No	Yes	No	Yes
(Aaker 1991)	Yes	Yes	Yes	Yes
(Keller 1993)	Yes	Yes	No	No
(Cobb-Walgren, Ruble et al. 1995)	Yes	Yes	Yes	Yes
(Sinha, Pappu 1998)	Yes	Yes	Yes	Yes
(Sinha, Leszczyc et al. 2000)	Yes	Yes	Yes	Yes
(Del Rio, Vazquez et al. 2001)	No	Yes	No	No
(Yoo, Donthu et al. 2000)	Yes (unified)		Yes	Yes
(Yoo, Donthu 2001)	Yes (unified)		Yes	Yes
(Washburn, Plank 2002)	Yes (unified)		Yes	Yes
(Arnett, Laverie et al. 2003)	Yes	Yes	Yes	Yes
(Netemeyer, Krishnan et al. 2004)	Yes	Yes	Yes	No
(Kim, Kim 2004)	Yes	Yes	Yes	Yes
(Pappu, Quester et al. 2005)	Yes	Yes	Yes	Yes
(Atilgan, Aksoy et al. 2005)	Yes	Yes	Yes	Yes
(Pappu, Quester 2006)	Yes	Yes	Yes	Yes
(Hananto 2006)	Yes	Yes	Yes	Yes
(Zeugner Roth, Diamantopoulos et al. 2008)	Yes(unified)		Yes	Yes
(Buil, de Chernatory et al. 2008)	Yes	Yes	Yes	Yes
(Jinfeng, Zhilong 2009)	Yes	Yes	Yes	Yes
(Ha 2009)		Yes	Yes	Yes
(Jara 2009)	Yes	Yes	Yes	No
(Chattopadhyay, Shivani et al. 2010)	Yes	Yes	Yes	No
(Wang, Hsu et al. 2011)	Yes	Yes	Yes	Yes
(Spry, Pappu et al. 2011)	Yes	Yes	Yes	Yes
(Juan Beristain, Zorrilla 2011)	Yes (Unified)		Yes	Yes
(Jara, Cliquet 2012)	Yes	Yes	Yes	Yes

[Appendix]

## **Appendix 4 -Elicitation Study Survey (Drugstore)**

Survey No \_\_\_\_\_

Thank you very much for agreeing to participate in this survey! My name is Juan Carlos Londoño and this study is part of my PhD thesis at Stirling University. The information provided by you in this questionnaire will be used for research purposes and will not be used in a manner, which would allow identification of your individual responses. The target sample for this survey is the general population of males. You were randomly selected to participate in this survey.

What is your Age?

Less than 18\_\_\_\_ 19-29\_\_\_\_ 30-40\_\_\_\_ 41-51\_\_\_\_ 52-65\_\_\_\_ More than 65\_\_\_\_

Have you seen any of the following products the day before yesterday? (ASK INTERVIEWER TO SHOW YOU THE PICTURE WITH PRODUCTS).

Have you purchased any product in a high street drugstore during the last year?

Yes\_\_\_\_ No\_\_\_\_

What is your Occupation\_\_\_\_\_?

How would you classify yourself?

[Appendix]

Brand New to Regaine\_\_\_\_\_

Using Regaine 1-15 Weeks\_\_\_\_\_

Using Regaine for over 16 Weeks\_\_\_\_\_

Used Regaine in the past but not currently using it\_\_\_\_\_

*Instructions:*

Please take a few minutes to tell us about your perceptions about purchasing Regaine/Rogaine from a retailer of your choice using only the High street drugstore. There are no right or wrong responses; we are merely interested in your personal opinions. In response to the questions below, please list the thoughts that come immediately to mind. Write each thought on a separate line. For each question, replace the blank line \_\_\_\_\_ with the name of a Retailer that you like and would probably sell Regaine/Rogaine on its High street drugstore.

What **Positive** EMOTIONS come to mind when you think about of purchasing Regaine/Rogaine from \_\_\_\_\_using only the High street drugstore in the process of purchase instead of using multiple channels? (Select at least two from the Emotions list provided). ASK THE INTERVIEWER FOR THE EMOTONS LIST.

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[Appendix]

What **Negative** EMOTIONS come to mind when you think about purchasing Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore in the process of purchase instead of using multiple channels? (Select at least two from the Emotions list provided).

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What do you see as the **advantages** of purchasing Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore in the process of purchase instead of using multiple channels?

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What do you see as the **disadvantages** of purchasing Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore in the process of purchase instead of using multiple channels?

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[Appendix]

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Is there anything else you associate with you own views about purchasing Regaine/Rogaine using only the High street drugstore in the process of purchase instead of using multiple channels?

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Please list any person or group who would **approve** or think you should purchase Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore instead of using multiple channels.

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[Appendix]

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Please list any person or group who would **disapprove** or think you should **not purchase** Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore instead of using multiple channels.

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Sometimes, when we are not sure what to do, we look to see what others are doing. Please list the individuals or groups who are **most likely** to purchase Regaine/Rogaine using only the High street drugstore in the process of purchase instead of using multiple channels.

[Appendix]

Please list the individuals or groups who are **least likely** to purchase Regaine/Rogaine using only the High street drugstore in the process of purchase instead of using multiple channels

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Please list any factors or circumstances that would make it **easy** or enable you to purchase Regaine/Rogaine using only the High street drugstore in the process of purchase instead of using multiple channels

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Please list any factors or circumstances that would make it **difficult** or prevent you from purchasing Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore in the process of purchase instead of using multiple channels?

[Appendix]

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Are there any other issues that come to mind when you think about purchasing Regaine/Rogaine from \_\_\_\_\_ using only the High street drugstore in the process of purchase instead of using multiple channels?

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The picture used to evaluate if the participant had heard about Regaine is presented in the next page:

[Appendix]



## Appendix 5 -Advantages and Disadvantages Literature Review

<b>Internet</b>	
<b>Advantages</b>	<b>Disadvantages</b>
Reduce the cost and effort of searching (Chen, Shang et al. 2009)	Slow website/technical reliability
Better for people with time pressure	Insecure personal information
Better to take advantages of deals	Insecure purchase
Easy to compare prices	Delivery
Open 24/7/365	Dehumanized
No parking hassles	Security issues
Reviews and recommendations from experts Convenience Access to opinions of others Availability of information from vendors No pressure from sales people Better prices (Lokken, Cross et al. 2003)	Internet access at home Lack of product demonstration Lack of information about how to shop online Privacy issues (Lokken, Cross et al. 2003)
Speed of the transaction and product choice (Van Zanten 2005)	Low exposure to new products or services (Van Staden, Maree 2005)
Competitive price (Dai 2007) Prices (Štefko, Dorčák et al. )	Problems with the connection(Van Staden, Maree 2005)
Site functionality positioned appropriately Site search results appropriate, easy to manage and follow conventions Site supports appropriate and effective browsing Users can choose products easily and effectively Checkout process appropriate, effective and easy to use Delivery costs noticeable and clearly explained Convenience (Webcredible 2012)	Cost of shipping and handling. (Webcredible 2012)
High degrees of control ease of effort, lower price, and positive experience. (Keen, Wetzels et al. 2004)	Perceived lack of a secure payment method. Lack of confidence in the technology Lack personal service and human

	interface (Lang 2000)
Personal information is private Secure environment Reliable site Current content Timely delivery (Schoenbachler, Gordon 2002)	
<b>Store</b>	
<b>Advantages</b>	<b>Disadvantages</b>
Shop for other items	High shopping trip cost
Immediacy (can see the product and take it home in the same trip).	More difficult to find lower prices
No shipping costs	High cost to go to other store
Interaction with store personnel	
Pleasure of shopping "social activity".	
Time efficiency (Chebat, G��linas-Chebat et al. 2008)	
<b>Multi-channel</b>	
<b>Advantages</b>	<b>Disadvantages</b>
If i don't find information online i can ask to the pharmacist in the drugstore	Anxiety/confusion because some promotions are only for certain channels.
I can order a product online and pick it up at boots drugstore	A product promoted by one channel is not accessible/ no inventory in the other channel
The right to receive discounts and promotional offers based on total online and offline purchases	Pay to have access to extra channel
It is easier to purchase because the website remembers my purchases online and offline	
Send me information that is more adequate to my needs	
Retail store customer service issue can be handled online or by telephone	
Recognizing attractive offers (price promotions) across channels	
Avoid interacting with service employees	
Examine goods at one channel, buy them at another channel, and finally pick them up at a third channel	

[Appendix]

Return an online-ordered product to a nearby drugstore	
Various options to choose from based on each channel's unique strength(Jin, Kim 2010)	
Communication and promotion aspects Were evaluated more highly for multi-channel retailers than for pure e-tailers(Jin, Kim 2010)	
Business proposition is clear across all channels Contact communications appropriate and consistent across channels Flexible interactions across channels to match user needs Appropriate and flexible customer service Appropriate customer care after purchase (Webcredible 2012)	
Highly-integrated promotions, product consistency across channels, an integrated information system that shares customer, pricing and inventory data across multiple channels, a process that enables store pick-up for items purchased on the web or through a catalogue, and the search for multi-channel opportunities with appropriate partners (Berman, Thelen 2004)	

## Appendix 6 -Emotions List used for Elicitation Study

### EMOTIONS

Anger	Love
Frustrated	Loving
Angry	Sentimental
Irritated	Warm hearted
Discontent	Peacefulness
Unfulfilled	Calm
Discontented	Peaceful
Worry	Contentment
Nervous	Contented
Worried	Fulfilled
Tense	Optimism
Sadness	Optimistic
Depressed	Encouraged
Sad	Hopeful



[Appendix]

Miserable	Joy
Fear	Happy
Scared	Pleased
Afraid	Joyful
Panicky	Excitement
Shame	Excited
Embarrassed	Thrilled
Ashamed	Enthusiastic
Humiliated	Surprise
Envy	Surprised
Envious	Amazed
Jealous	Astonished
Loneliness	
Lonely	Other items:
Homesick	Guilty
Romantic love	Proud
Sexy	Eager

[Appendix]

Romantic	Relieved
Passionate	

Source: Consumption Emotions Set Marsha L. Richins 1997. (Richins 1997)

## Appendix 7 -Quantitative Study Survey

Questionnaire used for the Drugstore Channel.

DRUGSTORE THESIS SURVEY																																																																																																			
Survey No: _____					Date: _____																																																																																														
<p>Thank you very much for agreeing to participate in this survey! My name is Juan Carlos Londono and this study is part of my PhD thesis at Stirling University. The information provided by you will be used for research purposes and will not be used in a manner which would allow identification of your individual responses. The target sample for this survey is the general population of males. There will be some questions about a product called Regaine or Rogaine (you do not need to be a user or have purchased this product). If you have not heard about Regaine but still want to participate, the researcher will provide you with some product information. You were randomly selected to participate in this survey. If you want to participate to win £100 in Amazon vouchers as a token of our appreciation please leave us your email in the last question! This survey should take around 15 minutes. *Please make sure to answer all items - do not omit any.</p> <p>How would you classify yourself?</p> <p>_____ Did not know what is Regaine, just heard about it.</p> <p>_____ Had heard of Regaine before yesterday but have never used it</p> <p>_____ Using Regaine 1-15 Weeks</p> <p>_____ Using Regaine for over 16 Weeks</p> <p>_____ Used Regaine in the past but not currently using it</p> <p>Have you purchased <b>ANY</b> product in a high street (HS) drugstore during the last year?</p> <p style="text-align: center;">No _____ Yes _____</p> <p>Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues.</p> <p>In this survey the word <b>SHOP</b> represents your efforts to <b>search</b> for information and the act of <b>purchasing</b> Regaine.</p> <p>To what extent would you feel optimism if you shop for Regaine from a Boots High Street(HS) Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel no emotion if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel contentment if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel embarrassed if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel nervous if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel tense if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>To what extent would you feel discontent if you shop for Regaine on a Boots HS Drugstore</p> <p style="text-align: center;">Not at all    1   2   3   4   5   6   7   8   9   Very Much</p> <p>Shopping easily for Regaine on a Boots HS drugstore is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">Extremely undesirable</td> <td style="width: 5%; text-align: center;">-3</td> <td style="width: 5%; text-align: center;">-2</td> <td style="width: 5%; text-align: center;">-1</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">+1</td> <td style="width: 5%; text-align: center;">+2</td> <td style="width: 5%; text-align: center;">+3</td> <td style="width: 20%; text-align: right;">Extremely desirable</td> </tr> </table> <p>Shopping for Regaine on a Boots HS drugstore that is close to me is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">Extremely undesirable</td> <td style="width: 5%; text-align: center;">-3</td> <td style="width: 5%; text-align: center;">-2</td> <td style="width: 5%; text-align: center;">-1</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">+1</td> <td style="width: 5%; text-align: center;">+2</td> <td style="width: 5%; text-align: center;">+3</td> <td style="width: 20%; text-align: right;">Extremely desirable</td> </tr> </table> <p>Shopping rapidly for Regaine on a Boots HS drugstore is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">Extremely undesirable</td> <td style="width: 5%; text-align: center;">-3</td> <td style="width: 5%; text-align: center;">-2</td> <td style="width: 5%; text-align: center;">-1</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">+1</td> <td style="width: 5%; text-align: center;">+2</td> <td style="width: 5%; text-align: center;">+3</td> <td style="width: 20%; text-align: right;">Extremely desirable</td> </tr> </table> <p>Shopping for Regaine on a Boots HS drugstore without having quality concerns is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">Extremely undesirable</td> <td style="width: 5%; text-align: center;">-3</td> <td style="width: 5%; text-align: center;">-2</td> <td style="width: 5%; text-align: center;">-1</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">+1</td> <td style="width: 5%; text-align: center;">+2</td> <td style="width: 5%; text-align: center;">+3</td> <td style="width: 20%; text-align: right;">Extremely desirable</td> </tr> </table> <p>For me to pay a little more to shop for Regaine on a Boots HS drugstore instead of the internet is:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">Unacceptable</td> <td style="width: 5%; text-align: center;">-3</td> <td style="width: 5%; text-align: center;">-2</td> <td style="width: 5%; text-align: center;">-1</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">+1</td> <td style="width: 5%; text-align: center;">+2</td> <td style="width: 5%; text-align: center;">+3</td> <td style="width: 20%; text-align: right;">Acceptable</td> </tr> </table> <p>During the last six months, how many bottles of Regaine have you purchased using Boots drugstore? _____</p> <p>Please put an "X" on the blank that best reflects your opinion. If I had to purchase Regaine from Boots, I will do it:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%; text-align: center;">On the Internet</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 20%; text-align: right;">On the store</td> </tr> <tr> <td style="width: 20%; text-align: center;">On the Internet</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 20%; text-align: right;">Mobile</td> </tr> <tr> <td style="width: 20%; text-align: center;">Mobile</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 20%; text-align: right;">On the store</td> </tr> <tr> <td style="width: 20%; text-align: center;">Using only one Channel</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 10%; text-align: center;">.....</td> <td style="width: 20%; text-align: right;">Using Multi-Channel</td> </tr> </table> <p>Please rank from 1 to 3 the following Channels according to the likelihood that you will use them as a channel to purchase Regaine from Boots:</p> <p style="text-align: center;">___ Store    ___ Internet    ___ Mobile</p>											Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable		Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable		Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable		Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable		Unacceptable	-3	-2	-1	0	+1	+2	+3	Acceptable	On the Internet	.....	.....	.....	.....	.....	.....	.....	.....	On the store	On the Internet	.....	.....	.....	.....	.....	.....	.....	.....	Mobile	Mobile	.....	.....	.....	.....	.....	.....	.....	.....	On the store	Using only one Channel	.....	.....	.....	.....	.....	.....	.....	.....	Using Multi-Channel
	Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable																																																																																										
	Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable																																																																																										
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	Extremely undesirable	-3	-2	-1	0	+1	+2	+3	Extremely desirable																																																																																										
	Unacceptable	-3	-2	-1	0	+1	+2	+3	Acceptable																																																																																										
On the Internet	.....	.....	.....	.....	.....	.....	.....	.....	On the store																																																																																										
On the Internet	.....	.....	.....	.....	.....	.....	.....	.....	Mobile																																																																																										
Mobile	.....	.....	.....	.....	.....	.....	.....	.....	On the store																																																																																										
Using only one Channel	.....	.....	.....	.....	.....	.....	.....	.....	Using Multi-Channel																																																																																										

[Appendix]

There are external factors that make it difficult to shop for Regaine on a Boots Drugstore.	strongly disagree	1	2	3	4	5	6	7	strongly agree
Most of the people who are important for me would think that	I should not	1	2	3	4	5	6	7	I should
Shop for Regaine using Boots H.S. Drugstore									
Shopping for Regaine on a Boots H.S drugstore is	Good	1	2	3	4	5	6	7	Bad
I expect to shop for Regaine on a Boots H.S Drugstore	strongly disagree	1	2	3	4	5	6	7	strongly agree
Whether or not I shop for Regaine from Boots H.S drugstore is completely up to me	strongly disagree	1	2	3	4	5	6	7	strongly agree
Most of the people who suffer from hair loss shop for Regaine on a regular basis using Boots H.S. Drugstore.	strongly disagree	1	2	3	4	5	6	7	strongly agree
Shopping for Regaine from Boots using its H.S drugstore is	Foolish	1	2	3	4	5	6	7	Wise
I want to shop for Regaine on Boots using the H.S Drugstore	strongly disagree	1	2	3	4	5	6	7	strongly agree
I am confident that if I wanted to, I could shop for Regaine on Boots using the H.S drugstore	definitely false	1	2	3	4	5	6	7	definitely true
It is expected by others that I shop for Regaine on a regular basis using Boots H.S. Drugstore	definitely false	1	2	3	4	5	6	7	definitely true
Shopping for Regaine on Boots using its H.S drugstore is	Changeable	1	2	3	4	5	6	7	Stable
I intend to shop for Regaine on Boots using the H.S Drugstore	strongly disagree	1	2	3	4	5	6	7	strongly agree
Shopping for Regaine on Boots using the HS drugstore is something	Public	1	2	3	4	5	6	7	Private
Most people whose opinions I value would approve that I shop for Regaine on Boots H.S. drugstore on a regular basis	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
Shopping for Regaine on Boots using its H.S drugstore is	Calm	1	2	3	4	5	6	7	Excited
Shopping for Regaine on Boots using the HS drugstore is	Unpleasant	1	2	3	4	5	6	7	Pleasant
Shopping for Regaine on Boots using the HS drugstore is	Unenjoyable	1	2	3	4	5	6	7	Enjoyable
Shopping for Regaine on Boots using the HS drugstore is	Constrained	1	2	3	4	5	6	7	Free
Shopping for Regaine on Boots using the HS drugstore is	Useless	1	2	3	4	5	6	7	Useful
Shopping for Regaine on Boots using the HS drugstore is	Complex	1	2	3	4	5	6	7	Simple
Generally speaking, how much do you care what your parents/family think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your wife/girlfriend/partner think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your pharmacist think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
If I feel that shopping for Regaine from Boots using the Drugstore is the easiest, I will choose the H.S. store.	Unlikely	1	2	3	4	5	6	7	Likely
If I have a Boots H.S drugstore very close to my work/home, I will use it to shop for Regaine.	Unlikely	1	2	3	4	5	6	7	Likely
If I feel that shopping for Regaine from Boots using the drugstore is the fastest, I will choose the H.S. store.	Unlikely	1	2	3	4	5	6	7	Likely
If I feel there are no quality concerns when shopping from Boots H.S. drugstore, I will choose it for purchase.	Unlikely	1	2	3	4	5	6	7	Likely
If I feel there is only a little more expensive to shop from Boots H.S. drugstore compared with the internet or catalogue, I will choose it for	Unlikely	1	2	3	4	5	6	7	Likely
How often do you see Regaine Exhibited in Boots Drugstore?	Never	1	2	3	4	5	6	7	Always
How often are you find yourself within a walking distance of a Boots Drugstore?	Never	1	2	3	4	5	6	7	Always
How often do you feel embarrassed about purchasing Regaine at Boots Drugstore	Never	1	2	3	4	5	6	7	Always
How often do you find good customer service when purchasing Regaine at Boots HS Drugstore?	Never	1	2	3	4	5	6	7	Always
If I did not see Regaine exhibited in Boots HS drugstore, it would make it more difficult for me to shop for it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

## [Appendix]

If I did not find myself within a walking distance of Boots HS drugstore, it would make it more difficult for me to shop for it.	strongly disagree	1	2	3	4	5	6	7	strongly agree
If I feel embarrassed of shopping for Regaine at Boots HS drugstore, it would make it more difficult for me to purchase it.	strongly disagree	1	2	3	4	5	6	7	Strongly Agree
If I did not find a good customer service at Boots HS drugstore, it would make it more difficult for me to shop for Regaine	strongly disagree	1	2	3	4	5	6	7	strongly agree
My family/parents thinks that I should shop for Regaine on Boots using the H.S. drugstore	Extremely Unlikely	-3	-2	-1	0	+1	+2	+3	Extremely Likely
My wife/girlfriend/partner thinks I should for Regaine on Boots using the H.S. drugstore	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
My pharmacist thinks that I should shop for Regaine on Boots using the H.S. drugstore	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
I consider myself to be loyal to Regaine in Boots H.S. Drugstore	Strongly disagree	1	2	3	4	5	Strongly Agree		
Regaine in Boots H.S. Drugstore would be my first choice.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I will not buy other brands if Regaine is available at Boots HS Drugstore	Strongly disagree	1	2	3	4	5	Strongly Agree		
The expected quality of Regaine sold in Boots H.S. drugstore is extremely high.	Strongly disagree	1	2	3	4	5	Strongly Agree		
The likelihood that Regaine purchased in Boots H.S. drugstore would have all its therapeutic properties is very high.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I can recognize Regaine in Boots H.S. drugstore among other competing brands, retailers and channels.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I am aware of Regaine in Boots H.S. drugstore	Strongly disagree	1	2	3	4	5	Strongly Agree		
If I think about a Package/Bottle of Regaine in Boots H.S drugstore, it comes to my mind quickly.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I can quickly recall the symbol or logo of Regaine.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I can quickly recall the symbol or logo of Boots.	Strongly disagree	1	2	3	4	5	Strongly Agree		
I have difficulty in imagining Regaine in Boots H.S. drugstore in my mind.	Strongly disagree	1	2	3	4	5	Strongly Agree		
It makes sense to buy Regaine in Boots H.S. Drugstore instead of any other brand-retailer-channel even if they are the same.	Strongly disagree	1	2	3	4	5	Strongly Agree		
Even if another brand-retailer-channel has the same features as Regaine in Boots H.S drugstore, I would prefer to buy Regaine in Boots Drugstore.	Strongly disagree	1	2	3	4	5	Strongly Agree		
If there is another brand-retailer-channel as good as Regaine in Boots H.S Drugstore, I prefer to buy Regaine in Boots Drugstore.	Strongly disagree	1	2	3	4	5	Strongly Agree		
If another brand-retailer is not different from Regaine in Boots H.S drugstore in any way, it seems smarter to shop for Regaine in Boots Drugstore.	Strongly disagree	1	2	3	4	5	Strongly Agree		
<i>I see myself as:</i>									
1. Extroverted, enthusiastic.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
2. Critical, quarrelsome.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
3. Dependable, self-disciplined.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
4. Anxious, easily upset.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
5. Open to new experiences, complex.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
6. Reserved, quiet.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
7. Sympathetic, warm.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
8. Disorganized, careless.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

[Appendix]

8. Disorganized, careless.	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
9. Calm, emotionally stable.	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
10. Conventional, uncreative.	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
Imagine that you are now purchasing Regaine in Boots Drugstore, imagine your mood in there. Now evaluate the following statements according to how you feel in this shopping situation.								
I like spending time in the drugstore	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
I enjoy exploring around the drugstore	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
I feel friendly to talk to a stranger who happens to be near me in the drugstore	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
I feel I want to leave the drugstore quickly	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
I would avoid looking around or exploring other products in the drugstore	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
I would avoid other people or talking to other people in the drugstore	Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree
<b>ABOUT YOURSELF:</b> The following background information questions are included only to help us interpret your responses in relation to other questions. Your responses here and throughout the questionnaire will be held strictly confidential.								
<b>3) Highest academic qualification</b>								
<b>1) In what year were you born?</b> _____	<b>2) What is your marital status?</b> _____	High school or less						
	_____ Married/ living with a partner	Some college						
<b>4) Are you working?</b>	_____ Widowed	Bachelors degree						
_____ Not working	_____ Divorced	Graduate or professional degree						
_____ Part-time (> 20 hrs/week)	_____ Separated							
_____ 3/4 time (20 – 31 hrs/week)	_____ Single/ Never married							
_____ Full time (32 – 40hrs/week)								
_____ Self Employed								
_____ Student	<b>6) How many children under 18 do you have?</b> _____							
_____ Employee								
_____ Retired								
_____ Other								
<b>5) What is your annual household income from all sources before taxes?</b>								
_____ Less than £9,999	<b>7) How is your Household Composed?</b>							
_____ £10,000-£29,999	_____ Living Alone							
_____ £30,000-£49,999	_____ Living with Partner							
_____ £50,000-£69,999	_____ Living with children							
_____ £70,000-£89,999	_____ Living with partner and children							
_____ £90,000 and more	_____ Living with parents and eventually							
Write your email here to participate in the 100£ Amazon voucher raffle: _____								
<b>THANK YOU FOR PARTICIPATING IN THIS STUDY!!!!!!</b>								

[Appendix]

Questionnaire used for the Internet Channel

INTERNET THESIS SURVEY		
Survey No: _____		
<p>Thank you very much for agreeing to participate in this survey! My name is Juan Carlos Londono and this study is part of my PhD thesis at Stirling University. The information provided by you will be used for research purposes and will not be used in a manner which would allow identification of your individual responses. The target sample for this survey is the general population of males. There will be some questions about a product called Regaine or Rogaine (you do not need to be a user or have purchased this product). If you have not heard about Regaine but still want to participate, the researcher will provide you with some product information. You were randomly selected to participate in this survey. If you want to participate to win £100 in Amazon vouchers as a token of our appreciation please leave us your email in the last question! This survey should take around 10 minutes. *Please make sure to answer all items - do not omit any.</p>		
How would you classify yourself?		
<input type="checkbox"/> Did not know what is Regaine, just heard about it. <input type="checkbox"/> Had heard of Regaine before yesterday but have never used it <input type="checkbox"/> Using Regaine 1-15 Weeks <input type="checkbox"/> Using Regaine for over 16 Weeks <input type="checkbox"/> Used Regaine in the past but not currently using it		
Have you purchased <b>ANY</b> product online during the last year?		
No _____ Yes _____		
Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues.		
In this survey the word <b>SHOP</b> represents your efforts to <b>search</b> for information and the act of <b>purchasing</b> Regaine.		
To what extent would you feel Optimism if you shop for Regaine on Boots webpage?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel No Emotion if you shop for Regaine on Boots webpage?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel Contentment if you shop for Regaine on Boots webpage?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel embarrassed if you shop for Regaine on a Boots web page?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel nervous if you shop for Regaine on a Boots web page?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel tense if you shop for Regaine on a Boots web page?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
To what extent would you feel discontent if you shop for Regaine on a Boots web page?		
Not at all 1 2 3 4 5 6 7 8 9 Very Much		
Shopping conveniently for Regaine on Boots Internet web page is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping inexpensively for Regaine on Boots Internet web page is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping rapidly for Regaine on Boots web page is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping anonymously for Regaine on Boots Internet web page is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping safely for Regaine (e.g. secure credit card/personal information) on Boots web page is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping for Regaine from Boots webpage without having delivery problems is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
Shopping for Regaine on Boots web page without having any personal advice is:	Extremely undesirable -3 -2 -1 0 +1 +2 +3 Extremely desirable	
During the last six months, how many bottles of Regaine have you purchased from Boots using the Internet? _____		
Fore EACH of the following, please put an "X" on the blank that best reflects your opinion. If I had to purchase Regaine from Boots, I will do it:		
MAINLY	NO PREFERENCE	PREFER
On the Internet	On the Internet	On the store
On the Internet	On the Internet	Mobile
On a Mobile	On the Internet	On the store
Using only one Channel	On the Internet	Using Multi-Channel
Please rank from 1 to 3 the following Channels according to the likelihood that you will use them as a channel to purchase product Regaine from Boots:		
___ Store ___ Internet ___ Mobile		
The decision to purchase Regaine in Boots website is beyond my control	strongly disagree 1 2 3 4 5 6 7 strongly agree	

[Appendix]

Most of the people who are important for me think that	I should not	1	2	3	4	5	6	7	I should
	Shop for Regaine using Boots website								
I expect to shop for Regaine from Boots web page	strongly disagree	1	2	3	4	5	6	7	strongly agree
Whether or not I shop for Regaine from Boots web page is completely up to me	strongly disagree	1	2	3	4	5	6	7	strongly agree
Most of the people who suffer from hair loss shop for Regaine from Boots website on a regular basis.	strongly disagree	1	2	3	4	5	6	7	strongly agree
Shopping for Regaine using Boots webpage is:	Foolish	1	2	3	4	5	6	7	Wise
I want to shop for Regaine on Boots webpage	strongly disagree	1	2	3	4	5	6	7	strongly agree
I am confident that if I wanted to, I could shop for Regaine from Boots using the web page	definitely false	1	2	3	4	5	6	7	definitely true
It is expected by others that I shop for Regaine on a regular basis from Boots	definitely false	1	2	3	4	5	6	7	definitely true
Shopping for Regaine using Boots webpage is:	Changeable	1	2	3	4	5	6	7	Stable
I intend to shop for Regaine on Boots using the web page	strongly disagree	1	2	3	4	5	6	7	strongly agree
Shopping for Regaine on Boots using the web page is	Public	1	2	3	4	5	6	7	Private
Most people whose opinions I value would approve that I shop for Regaine from Boots website on a regular basis	Strongly disagree	1	2	3	4	5	6	7	Strongly agree
Shopping for Regaine using Boots webpage is	Unpleasant	1	2	3	4	5	6	7	Pleasant
Shopping for Regaine on Boots using the web page is	Useless	1	2	3	4	5	6	7	Useful
Shopping for Regaine on Boots using the web page is	Complex	1	2	3	4	5	6	7	Simple
Generally speaking, how much do you care what your friends think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your wife/girlfriend/partner think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your peers think you should do?	Not at all	1	2	3	4	5	6	7	Very Much
If I feel that shopping for Regaine from Boots using the webpage is the fastest, I will choose this channel to shop for it.	Unlikely	1	2	3	4	5	6	7	Likely
If Boots web page allows me to shop for in a discrete/anonymous way, I will use it to shop for Regaine.	Unlikely	1	2	3	4	5	6	7	Likely
If Boots web page allows me to shop for in cheap/inexpensive way, I will use it to shop for Regaine.	Unlikely	1	2	3	4	5	6	7	Likely
If Boots web page allows me to shop for in convenient way, I will use it to shop for Regaine.	Unlikely	1	2	3	4	5	6	7	Likely
If I find I could face safety issues (e.g. loose credit card/personal information) to shop for Regaine from Boots web page, I will shop from the store or catalogue.	Unlikely	1	2	3	4	5	6	7	Likely
If I find I could face delivery issues to shop for Regaine from Boots web page, I will shop from the store or catalogue.	Unlikely	1	2	3	4	5	6	7	Likely
If I find there is no personal advice to help me shop for Regaine from Boots web page, I will shop from the store or catalogue.	Unlikely	1	2	3	4	5	6	7	Likely



[Appendix]

Boots web page has a fast delivery service for Regaine.	Unlikely	1	2	3	4	5	6	7	Likely
Regaine product information/advertising is displayed on Boots website	Unlikely	1	2	3	4	5	6	7	Likely
Impartial customer reviews about Regaine are found on Boots Website	Unlikely	1	2	3	4	5	6	7	Likely
When I am trying to shop for Regaine at Boots web page the internet connection fails	Unlikely	1	2	3	4	5	6	7	Likely
After I shop for Regaine from Boots website, I have problems with its delivery	Unlikely	1	2	3	4	5	6	7	Likely
If I do not see other customer reviews about Regaine on Boots web page, it would make it more difficult for me to shop for it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I did not find product information/advertising about Regaine on Boots web page, it would make it more difficult for me to shop for it	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I do not have internet access to shop for Regaine at Boots web page, it would make it more difficult for me to shop for it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I do not find delivery from Boots web page to be fast, it would make it more difficult for me to shop for Regaine.	Strongly Disagree	-3	-2	-1	0	+1	+2	+3	Strongly Agree
My wife/girlfriend/partner thinks I should shop for Regaine from Boots website	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
My parents think I should shop for Regaine from Boots website	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
My peers thinks that I should shop for Regaine from Boots Website	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
I consider myself to be loyal to Regaine in Boots web page	Strongly disagree	1	2	3	4	5	Strongly agree		
Regaine in Boots webpage would be my first choice.	Strongly disagree	1	2	3	4	5	Strongly agree		
I will not buy other brands if Regaine is available at Boots web page	Strongly disagree	1	2	3	4	5	Strongly agree		
The expected quality of Regaine in Boots web page is extremely high.	Strongly disagree	1	2	3	4	5	Strongly agree		
The likelihood that Regaine purchased in Boots web page has all its therapeutic properties is very high.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can recognize Regaine in Boots website among other competing brands, retailers and channels.	Strongly disagree	1	2	3	4	5	Strongly agree		
I am aware that Regaine is sold on Boots web page	Strongly disagree	1	2	3	4	5	Strongly agree		
If I think about a Package/Bottle of Regaine in Boots web page, it comes to my mind quickly.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can quickly recall the symbol or logo of Regaine.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can quickly recall the symbol or logo of Boots.	Strongly disagree	1	2	3	4	5	Strongly agree		
I have difficulty in imagining Regaine in Boots web page in my mind.	Strongly disagree	1	2	3	4	5	Strongly agree		
It makes sense to buy Regaine in Boots web page instead of any other brand-retailer-channel, even if they are the same.	Strongly disagree	1	2	3	4	5	Strongly agree		
Even if another brand-retailer-channel has the same features as Regaine in Boots web page, I would prefer to buy Regaine in Boots webpage.	Strongly disagree	1	2	3	4	5	Strongly agree		
If there is another brand-retailer-channel as good as Regaine in Boots web page, I prefer to buy Regaine in Boots webpage.	Strongly disagree	1	2	3	4	5	Strongly agree		
If another brand-retailer-channel is not different from Regaine in Boots Internet Web page in any way, it seems smarter to shop for Regaine in Boots webpage.	Strongly disagree	1	2	3	4	5	Strongly agree		

[Appendix]

<i>I see myself as:</i>																																																																																																																																																																																																																	
1. Extroverted, enthusiastic.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
2. Critical, quarrelsome.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
3. Dependable, self-disciplined.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
4. Anxious, easily upset.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
5. Open to new experiences, complex.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
6. Reserved, quiet.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
7. Sympathetic, warm.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
8. Disorganized, careless.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
9. Calm, emotionally stable.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
10. Conventional, uncreative.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
Imagine that you are now looking at Regaine on the Boots website, imagine your mood while shopping there. Now evaluate the following according to how you feel in this situation.																																																																																																																																																																																																																	
I like spending time in the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
I enjoy exploring around the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
I feel friendly to chat/post comments to other internet users about it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
I feel I want to leave the website quickly	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
I would avoid looking around or exploring other products on the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
I would avoid chatting or posting comments to other people	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree																																																																																																																																																																																																								
<b>ABOUT YOURSELF:</b> The following background information questions are included only to help us interpret your responses in relation to other questions. Your responses here and throughout the questionnaire will be held strictly confidential.																																																																																																																																																																																																																	
<table border="0"> <tr> <td><b>1) In what year were you born?</b> _____</td> <td><b>2) What is your marital</b></td> <td><b>3) Highest academic qualification</b></td> <td colspan="7"></td> </tr> <tr> <td></td> <td>_____ Married/ living with a partner</td> <td>_____ High school or less</td> <td colspan="7"></td> </tr> <tr> <td></td> <td>_____ Widowed</td> <td>_____ Some college</td> <td colspan="7"></td> </tr> <tr> <td><b>4) Are you working?</b></td> <td>_____ Divorced</td> <td>_____ Bachelors degree</td> <td colspan="7"></td> </tr> <tr> <td>_____ Not working</td> <td>_____ Separated</td> <td>_____ Graduate or</td> <td colspan="7"></td> </tr> <tr> <td>_____ Part-time (&gt; 20 hrs/week)</td> <td>_____ Single/ Never married</td> <td>_____ professional degree</td> <td colspan="7"></td> </tr> <tr> <td>_____ 3/4 time (20 – 31 hrs/week)</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Full time (32 – 40hrs/week)</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Self Employed</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Student</td> <td><b>6) How many children under 18 do you have?</b> _____</td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Employee</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Retired</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td>_____ Other</td> <td></td> <td></td> <td colspan="7"></td> </tr> <tr> <td><b>5) What is your annual household income from all sources before taxes?</b></td> <td></td> <td><b>7) How is your household composed?</b></td> <td colspan="7"></td> </tr> <tr> <td>_____ Less than £9,999</td> <td></td> <td>_____ Living Alone</td> <td colspan="7"></td> </tr> <tr> <td>_____ £10,000-£29,999</td> <td></td> <td>_____ Living with Partner</td> <td colspan="7"></td> </tr> <tr> <td>_____ £30,000-£49,999</td> <td></td> <td>_____ Living with children</td> <td colspan="7"></td> </tr> <tr> <td>_____ £50,000-£69,999</td> <td></td> <td>_____ Living with partner and children</td> <td colspan="7"></td> </tr> <tr> <td>_____ £70,000-£89,999</td> <td></td> <td>_____ Living with parents and eventually</td> <td colspan="7"></td> </tr> <tr> <td>_____ £90,000 and more</td> <td></td> <td>_____ brother(s) and sister(s)</td> <td colspan="7"></td> </tr> </table>										<b>1) In what year were you born?</b> _____	<b>2) What is your marital</b>	<b>3) Highest academic qualification</b>									_____ Married/ living with a partner	_____ High school or less									_____ Widowed	_____ Some college								<b>4) Are you working?</b>	_____ Divorced	_____ Bachelors degree								_____ Not working	_____ Separated	_____ Graduate or								_____ Part-time (> 20 hrs/week)	_____ Single/ Never married	_____ professional degree								_____ 3/4 time (20 – 31 hrs/week)										_____ Full time (32 – 40hrs/week)										_____ Self Employed										_____ Student	<b>6) How many children under 18 do you have?</b> _____									_____ Employee										_____ Retired										_____ Other										<b>5) What is your annual household income from all sources before taxes?</b>		<b>7) How is your household composed?</b>								_____ Less than £9,999		_____ Living Alone								_____ £10,000-£29,999		_____ Living with Partner								_____ £30,000-£49,999		_____ Living with children								_____ £50,000-£69,999		_____ Living with partner and children								_____ £70,000-£89,999		_____ Living with parents and eventually								_____ £90,000 and more		_____ brother(s) and sister(s)							
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[Appendix]

Multi-channel survey

**MULTI-CHANNEL THESIS SURVEY**

Survey No: \_\_\_\_\_

Thank you very much for agreeing to participate in this survey! My name is Juan Carlos Londono and this study is part of my PhD thesis at Stirling University. The information provided by you will be used for research purposes and will not be used in a manner which would allow identification of your individual responses. The target sample for this survey is the general population of males. There will be some questions about a product called Regaine or Rogaine (you do not need to be a user or have purchased this product). If you have not heard about Regaine but still want to participate, the researcher will provide you with some product information. You were randomly selected to participate in this survey. If you want to participate to win £100 in Amazon vouchers as a token of our appreciation please leave us your email in the last question! This survey should take around 10 minutes. \*Please make sure to answer all items - do not omit any.

How would you classify yourself?

\_\_\_\_\_ Did not know what is Regaine, just heard about it.

\_\_\_\_\_ Had heard of Regaine before yesterday but have never used it

\_\_\_\_\_ Using Regaine 1-15 Weeks

\_\_\_\_\_ Using Regaine for over 16 Weeks

\_\_\_\_\_ Used Regaine in the past but not currently using it

**IMPORTANT DEFINITION:** By **Multi-channel** we mean using a combination of channels (store+ internet or store+ mobile) One can look for information about Regaine on Boots webpage and purchase it from the store, OR, look for information both in a store as well as newsletter and then buy online.

In this survey the word **SHOP** represents your efforts to **search** for information and the act of **purchasing** Regaine. Have you purchased **ANY** product using multi-channel during the last year?

No \_\_\_\_\_ Yes \_\_\_\_\_

Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues.

To what extent would you feel optimism if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel No emotion if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel contentment if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel embarrassed if you shop for Regaine from Boots using Multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel nervous if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel tense if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

To what extent would you feel discontent if you shop for Regaine from Boots using multi-channel?

Not at all    1   2   3   4   5   6   7   8   9   Very Much

Shopping conveniently for Regaine from Boots using multi-channel is:	Extremely undesirable	-3   -2   -1   0   +1   +2   +3	Extremely desirable
Shopping for Regaine from Boots using the choice/flexibility of multi-channel is:	Extremely undesirable	-3   -2   -1   0   +1   +2   +3	Extremely desirable
Being able to compare other products while shopping for Regaine from Boots multi-channel is:	Extremely undesirable	-3   -2   -1   0   +1   +2   +3	Extremely desirable
Being limited to only one channel in the purchase of Regaine from Boots is:	Extremely undesirable	-3   -2   -1   0   +1   +2   +3	Extremely desirable
Shopping for Regaine in Boots knowing that there are different prices in different channels is:	Extremely undesirable	-3   -2   -1   0   +1   +2   +3	Extremely desirable

During the last six months, how many bottles of Regaine have you purchased from Boots using multi-channel? \_\_\_\_\_

Fore EACH of the following, please put an "X" on the blank that best reflects your opinion. If I had to purchase Regaine from Boots, I will do it:

MAINLY	NO PREFERENCE	PREFER
On the Internet	On the store	
On the Internet	Mobile	
Mobile	On the store	
Using only one Channel	Using Multi-Channel	

[Appendix]

Please rank from 1 to 3 the following Channels according to the likelihood that you will use them as a channel to purchase product Regaine from Boots:										
	___ Store	___ Internet	___ Mobile							
The decision to shop for Regaine from Boots using multi-channel is beyond my control.		strongly disagree	1	2	3	4	5	6	7	strongly agree
Most of the people who are important for me would think that	I should not		1	2	3	4	5	6	7	I should
I expect to shop for Regaine from Boots using multi-channel	strongly disagree		1	2	3	4	5	6	7	strongly agree
Whether or not I shop for Regaine from Boots using multi-channel is completely up to me	strongly disagree		1	2	3	4	5	6	7	strongly agree
Most of the people I know who suffer from hair loss shop for Regaine from Boots multichannel on a regular basis.	Unlikely		1	2	3	4	5	6	7	Likely
Shopping for Regaine using Boots multi-channel is	Foolish		1	2	3	4	5	6	7	Wise
I want to shop for Regaine from Boots using multi-channel	strongly disagree		1	2	3	4	5	6	7	strongly agree
I am confident that if I wanted to I could shop for Regaine from Boots using multi-channel	definitely true		1	2	3	4	5	6	7	definitely false
It is expected by others that I shop for Regaine using multi-channel on a regular basis.	definitely true		1	2	3	4	5	6	7	definitely false
Shopping for Regaine using multi-channel is:	Changeable		1	2	3	4	5	6	7	Stable
I intend to shop for Regaine from Boots using multi-channel	strongly disagree		1	2	3	4	5	6	7	strongly agree
Shopping for Regaine from Boots using multi-channel is	Public		1	2	3	4	5	6	7	Private
Most people whose opinions I value would approve that I shop for Regaine from Boots multichannel on a regular basis	Strongly disagree		1	2	3	4	5	6	7	Strongly agree
Shopping for Regaine using Boots multi-channel is:	Unpleasant		1	2	3	4	5	6	7	Pleasant
Shopping for Regaine using Boots multi-channel is:	Useless		1	2	3	4	5	6	7	Useful
Shopping for Regaine using Boots multi-channel is:	Complex		1	2	3	4	5	6	7	Simple
Generally speaking, how much do you care what your family/parents think you should do?	Not at all		1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your wife/girlfriend/partner think you should do?	Not at all		1	2	3	4	5	6	7	Very Much
Generally speaking, how much do you care what your peers think you should do?	Not at all		1	2	3	4	5	6	7	Very Much
If I feel that purchasing Regaine from Boots using Multi-channel is the most convenient, I will use it to shop for Regaine.	Unlikely		1	2	3	4	5	6	7	Likely
If Boots multi-channel provides me with the widest choice/flexibility, I will use it to shop for Regaine.	Unlikely		1	2	3	4	5	6	7	Likely
If I find that using Boots Multichannel I can compare/take an informed decision, I will use it to shop for Regaine.	Unlikely		1	2	3	4	5	6	7	Likely
If I find that using only one of Boots channels is limiting my choice, I will use multichannel to shop for Regaine.	Unlikely		1	2	3	4	5	6	7	Likely
If I find that using Boots Multichannel I can compare/take an informed decision, I will use it to shop for Regaine.	Unlikely		1	2	3	4	5	6	7	Likely
Shipping costs are low when purchasing Regaine at Boots multi-channel?	Unlikely		1	2	3	4	5	6	7	Likely

[Appendix]

If I did not find Regaine on stock in Boots multi-channel, it would make it more difficult for me to shop for it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I did not find a store locator on Boots multi-channel, it would make it more difficult for me to shop for it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I had no internet access to Boots multi-channel, it would make it more difficult for me to shop for Regaine.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
If I find that shipping costs are very high at Boots multi-channel, it would make it more difficult for me to shop for Regaine	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
My wife/girlfriend/partner think I should shop for Regaine from Boots multichannel	Extremely Unlikely	-3	-2	-1	0	+1	+2	+3	Extremely Likely
My parents think I should shop for Regaine from Boots multichannel	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
My family thinks that I should shop for Regaine from Boots multichannel	Extremely Unlikely	1	2	3	4	5	6	7	Extremely Likely
Most of busy people shop for Regaine from Boots using multi-channel.	False	1	2	3	4	5	6	7	True
I consider myself to be loyal to Regaine in Boots multi-channel	Strongly disagree	1	2	3	4	5	Strongly agree		
Regaine in Boots multi-channel would be my first choice.	Strongly disagree	1	2	3	4	5	Strongly agree		
I will not buy other brands if Regaine is available at Boots multi-channel	Strongly disagree	1	2	3	4	5	Strongly agree		
The expected quality of Regaine in Boots multi-channel is extremely high.	Strongly disagree	1	2	3	4	5	Strongly agree		
The likelihood that Regaine in Boots multi-channel would be functional is very high.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can recognize Regaine in Boots multi-channel among other competing brands and retailers.	Strongly disagree	1	2	3	4	5	Strongly agree		
I am aware of Regaine in Boots multi-channel	Strongly disagree	1	2	3	4	5	Strongly agree		
If I think about the package/ bottle of Regaine in Boots multi-channel, it comes to my mind quickly.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can quickly recall the symbol or logo of Regaine.	Strongly disagree	1	2	3	4	5	Strongly agree		
I can quickly recall the symbol or logo of Boots.	Strongly disagree	1	2	3	4	5	Strongly agree		
I have difficulty in imagining Regaine in Boots multi-channel in my mind.	Strongly disagree	1	2	3	4	5	Strongly agree		
It makes sense to buy Regaine in Boots multi-channel instead of any other brand-retailer-channel, even if they are the same.	Strongly disagree	1	2	3	4	5	Strongly agree		
Even if another brand-retailer-channel has the same features as Regaine in Boots multi-channel, I would prefer to buy Regaine in Boots.	Strongly disagree	1	2	3	4	5	Strongly agree		
If there is another brand-retailer-channel as good as Regaine in Boots multi-channel, I prefer to buy Regaine in Boots.	Strongly disagree	1	2	3	4	5	Strongly agree		
If another brand-retailer-channel is not different from Regaine in Boots multi-channel in any way, it seems smarter to shop for Regaine in Boots.	Strongly disagree	1	2	3	4	5	Strongly agree		
<i>I see myself as:</i>									
1. Extroverted, enthusiastic.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
2. Critical, quarrelsome.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
3. Dependable, self-disciplined.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
4. Anxious, easily upset.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
5. Open to new experiences, complex.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
6. Reserved, quiet.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
7. Sympathetic, warm.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

[Appendix]

8. Disorganized, careless.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
9. Calm, emotionally stable.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
10. Conventional, uncreative.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
Imagine that you purchase Regaine using Boots multi-channel, imagine your mood, first visiting one channel and then the other. Now evaluate the following according to how you feel in this shopping situation.									
I like spending time both in the store and on the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I enjoy exploring both the store and the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I feel friendly to talk/chat to store/internet users about it.	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I feel I want to leave both the store and the website quickly	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I would avoid looking around or exploring other products on both the store and the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I would avoid talking/chatting to other people on both the store and the website	Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
<b>ABOUT YOURSELF:</b> The following background information questions are included only to help us interpret your responses in relation to other questions. Your responses here and throughout the questionnaire will be held strictly confidential.									
<b>1) In what year were you born? _____</b>			<b>2) What is your marital status?</b>			<b>3) Highest academic qualification</b>			
			____ Married/ living with a partner			____ High school or less			
<b>4) Are you working?</b>			____ Widowed			____ Some college			
____ Not working			____ Divorced			____ Bachelors degree			
____ Part-time (> 20 hrs/week)			____ Separated			____ Graduate or			
____ 3/4 time (20 – 31 hrs/week)			____ Single/ Never married			____ professional degree			
____ Full time (32 – 40hrs/week)									
____ Self Employed									
____ Student									
____ Employee			<b>6) How many children under 18 do you have? _____</b>						
____ Retired									
____ Other									
<b>5) What is your annual household income from all sources before taxes?</b>					<b>7) Composition of the Household</b>				
____ Less than £9,999					____ Living Alone				
____ £10,000-£29,999					____ Living with Partner				
____ £30,000-£49,999					____ Living with children				
____ £50,000-£69,999					____ Living with partner and children				
____ £70,000-£89,999					____ Living with parents and eventually				
____ £90,000 and more					____ brother(s) and sister(s)				
Write your email here to participate in the 100€ Amazon voucher raffle: _____									
<b>THANK YOU FOR PARTICIPATING IN THIS STUDY!!!!!!</b>									

## Stimulus used for Interviewees who have not heard about Regaine.

REGAINE® helps reverse the progression of hereditary hair loss and continues to lead the way in topical products for regrowing hair. In clinical testing, 9 out of 10 men said they kept or regrew hair after 4 months of using REGAINE® Foam twice daily. Plus, it goes on easy and dries quickly.



New REGAINE® Foam is the first and only clinically proven foam hair loss treatment for men. It works by increasing the blood supply to the hair follicles, which helps to strengthen existing hair and stimulate secondary hair growth. The easy-to-use foam takes very little time to apply, meaning it seamlessly fits into your daily grooming routine.

- Helps prevent further hair loss and regrow hair
- Results may be noticeable in just 8 weeks
- Apply directly to your scalp—twice a day, every day
- Goes on easily and dries quickly
- Is unscented

REGAINE® Foam is licensed for hereditary hair loss in Men aged 18 to 49. The cut off age of 49 is based on the upper age limit in the trials submitted for license.

Recommended Retail Price for REGAINE® Foam Single Pack: £34.95

Recommended Retail Price for REGAINE® Foam Triple Pack: £69.90

*This price is our recommended retail price only; prices may vary as retailers will determine the prices for their individual stores.*

## Appendix 8 -Advantages and Disadvantages of a Segmented Sample versus Natural Sample

Segmented Sample		Natural Sample	
Advantages	Disadvantages	Advantages	Disadvantages
More precise prediction		Better for generalisation	
Increase statistical validity.			Decrease statistical validity
Customers are familiar to decisions			Customers unfamiliar with product/channel. Can create artificial logic in the responses.
	Do not know the opinion of non-users	Includes users and non-users.	
Suffer of hair loss and are motivated to take action (behaviour).	Hair loss self report can be biased.	Regaine brand managers interested in “preventive use”.	
Value of understanding single channel versus multi-channel.	Multi-channel-single channel self report can be biased.		
Patient sample as in other tpb health studies.			
	Difficult to define familiarity with channels.		
All the respondents are aware of the product	Creates interference in the measurement of equity: brand awareness	Creates no interference with measurement of equity: brand awareness.	Customers could be unaware of the product.
	No-respondents can affect findings in unpredictable ways. Article reviewers – thesis jury, can pick this up.		
			Expected high



[Appendix]

			relevance of pbc (do not know how to use the internet).
		Previous studies that have selected a highly visible product had no issues.	
Ajzen urged researchers to consider salient beliefs that are specific to the context (target population).		Regaine target population is men 18-49 years old	
Regaine only works for hereditary hair loss This could be part of the filter.			
	Sample much more difficult to find.	Sample much more easier to find	

## Appendix 9 -Personality Items proposed by Osgood (1957)

Evaluation		
1	Good	Bad
2	Optimistic	Pessimistic
3	Complete	Incomplete
4	Timely	Untimely
5	Altruistic	Egoistic
6	Sociable	Unsociable
7	Kind	Cruel
8	Grateful	Ungrateful
9	Harmonious	Dissonant
10	Willing	Unwilling
11	Clean	Dirty
12	Light	Dark
13	Graceful	Awkward
14	Pleasurable	Painful
15	Beautiful	Ugly
16	Successful	Unsuccessful
17	High	Low
18	Meaningful	Meaningless
19	Important/Useful	Unimportant/Useless
20	Progressive	Regressive
21	True/Right	False /Wrong
22	Reputable	Disreputable
23	Believing/Gullible	Sceptical/incredulous
24	Wise	Foolish
25	Healthy/Therapeutic	Sick/Toxic
Potency		
26	Hard	Soft
27	Strong/Prolific	Weak/Sterile
28	Severe	Lenient
29	Tenacious	Yielding
30	Constrained	Free
31	Constricted	Spacious
32	Heavy	Light
33	Serious	Humorous
34	Opaque	Transparent
35	Large	Small
36	Masculine	Feminine
Activity		
37	Active	Passive
38	Excitable/Impulsive/Emotional	Calm/Deliberate/Unemotional
39	Hot	Cold
40	Intentional	Unintentional

[Appendix]

41	Fast	Slow
42	Complex	Simple
<b>Stability</b>		
43	Sober	Drunk
44	Stable/Lasting	Changeable/Transient
45	Rational	Intuitive
46	Sane	Insane
47	Cautious	Rash
48	Orthodox	Heretical
<b>Tautness</b>		
49	Angular	Rounded
50	Straight	Curved
51	Sharp	Blunt
52	New	Old
53	Unusual	Usual
54	Youthful	Mature
<b>Receptivity</b>		
55	Savoury	Tasteless
56	Refreshed	Weary
57	Colourful	Colourless
58	Interesting	Boring
59	Pungent	Bland
60	Sensitive	Insensitive
<b>Aggressiveness</b>		
61	Aggressive	Defensive
<b>Unassigned</b>		
62	Ornate	Plain
63	Near	Far
64	Heterogeneous	Homogeneous
65	Tangible	Intangible
66	Inherent	Extraneous
67	Wet	Dry
68	Symmetrical	Asymmetrical
69	Competitive	Cooperative
70	Formed	Formless
71	Periodic	Erratic
72	Sophisticated	Naïve
73	Public/Overt	Private/Covert
74	Humble/Modest	Proud/Vain
75	Objective	Subjective
76	Thrifty/Cheap	Generous/Expensive

## Appendix 10 -Items suggested for the measurement of pleasure and arousal.

Items suggested for the measurement of arousal:	Items suggested for the measurement of pleasure:
Awake/sleepy,	Relaxed/tense
Aroused/unaroused	Pleasant/unpleasant
Stimulated/relaxed	Happy–unhappy
Excited/calm.	Bored– relaxed
Frenzied–sluggish	Unsatisfied–satisfied
Calm–excited	Pleased–annoyed
Unaroused– aroused	Contented– melancholic
Dull –jittery	Despairing–hopeful
	Comfortable/uncomfortable
	Satisfied/ dissatisfied

Source: Lee, Ha et al. (2011), Mummalaneni (2005) and Donovan and Rossiter (1982)

## Appendix 11 -Instrumental versus Affective Attitude Items

<b>Instrumental</b>	<b>Experiential/affective</b> (French, Sutton et al. 2005)
Useful–worthless	Pleasant – unpleasant
Good- harmful	Boring/interesting.
Wise/foolish	Unenjoyable /enjoyable

## Appendix 12 -Drugstore Missing Values:

Univariate Statistics			
	N	Missing	
		Count	Percent
CLASSIF	56	7	11.1
CHANPURCH	58	5	7.9
POSEMOT1	62	1	1.6
POSEMOT2	61	2	3.2
POSEEMOT3	60	3	4.8
NEGEMOT1	62	1	1.6
NEGEMOT2	60	3	4.8
NEGEMOT3	59	4	6.3
NEGEMOT4	61	2	3.2
OEADVANT1	63	0	.0
OEADVANT2	63	0	.0
OEADVANT3	63	0	.0
OEDISADVAN1	63	0	.0
OEDISADVAN2	63	0	.0
BEHAVIOUR	62	1	1.6
INT_VS_STORE	52	11	17.5
INT_VS_MOB	38	25	39.7
MOV_VS_STOR	42	21	33.3
ONE_VS_MULT	38	25	39.7
STORE_RK	51	12	19.0
INTER_RK	46	17	27.0
MOBIL_RK	42	21	33.3
PBC1CONTROL	60	3	4.8
PN1	47	16	25.4
AT1	62	1	1.6
INT1	62	1	1.6
PBC2CONTROL	62	1	1.6
PN2	62	1	1.6
AT2	62	1	1.6
INT2	62	1	1.6
PBC3SE	63	0	.0
PN3	62	1	1.6
AT3	62	1	1.6
INT3	62	1	1.6
AT4	62	1	1.6
PN4	63	0	.0
AT5	62	1	1.6

[Appendix]

AT6	62	1	1.6
AT7	61	2	3.2
AT8	62	1	1.6
AT9	63	0	.0
AT10	62	1	1.6
MC1	62	1	1.6
MC2	63	0	.0
MC3	63	0	.0
BBS1POS	63	0	.0
BBS2POS	63	0	.0
BBS3POS	62	1	1.6
BBS1NEG	63	0	.0
BBS2NEG	63	0	.0
CBS1	63	0	.0
CBS2	63	0	.0
CBS3	63	0	.0
CBS4	62	1	1.6
PCF1	62	1	1.6
PCF2	54	9	14.3
PCF3	62	1	1.6
PCF4	62	1	1.6
INB1	62	1	1.6
INB2	62	1	1.6
INB3	61	2	3.2
LOY1	61	2	3.2
LOY2	62	1	1.6
LOY3	62	1	1.6
QUAL1	61	2	3.2
QUAL2	61	2	3.2
AWA1	60	3	4.8
AWA2	61	2	3.2
AWA3	60	3	4.8
AWA4	62	1	1.6
AWA5	62	1	1.6
AWA6	61	2	3.2
CBBRE1	62	1	1.6
CBBRE2	62	1	1.6
CBBRE3	61	2	3.2
CBBRE4	61	2	3.2
EXTRO	61	2	3.2
CRIT	60	3	4.8
DEPEN	61	2	3.2

[Appendix]

ANXIOUS	61	2	3.2
OPEN	61	2	3.2
RESERVED	61	2	3.2
WARM	61	2	3.2
CARELESS	61	2	3.2
CALM	55	8	12.7
CONVENT	59	4	6.3
APPR1	63	0	.0
APPR2	63	0	.0
APPR3	62	1	1.6
AVOID1	63	0	.0
AVOID2	62	1	1.6
AVOID3	63	0	.0
BIRTH	62	1	1.6
MARITAL	63	0	.0
ACADEMIC	59	4	6.3
WORKING	60	3	4.8
INCOME	59	4	6.3
CHILDREN	46	17	27.0
HOUSEHOLD	58	5	7.9



## Appendix 13 -Skewness and Kurtosis (Item level).

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
CLASSIF	50	2.091	.337	10.282	.662
CHANPURCH	52	.159	.330	-2.055	.650
POS EMOT 1	56	-.145	.319	-1.045	.628
POS EMOT 2	55	.253	.322	-1.107	.634
POSE EMOT 3	54	.004	.325	-.582	.639
NEG EMOT 1	56	.263	.319	-1.642	.628
NEG EMOT 2	54	.546	.325	-1.339	.639
NEG EMOT 3	53	.669	.327	-1.029	.644
NEG EMOT 4	55	.696	.322	-.947	.634
OE (ADVANT 1)	57	-.608	.316	.910	.623
OE (ADVANT 2)	57	-.473	.316	.028	.623
OE (ADVANT 3)	57	-.448	.316	.511	.623
OE (DISADVAN1)	57	-.003	.316	-.523	.623
OE (DISADVAN2)	57	-.173	.316	-.905	.623
BEHAVIOUR	56	.	.	.	.
INT_VS_STORE	46	-.217	.350	-1.605	.688
INT_VS_MOB	32	1.781	.414	2.593	.809
MOV_VS_STOR	36	-.841	.393	-.987	.768
ONE_VS_MULT	32	-.122	.414	-1.010	.809
STORE_RK	45	.939	.354	-.802	.695
INTER_RK	40	.269	.374	-.937	.733
MOBIL_RK	36	-1.081	.393	.115	.768
PBC1 (CONTROL)	54	-.184	.325	-1.235	.639
PN 1	41	-.563	.369	.433	.724
AT1	56	.318	.319	-.623	.628
INT 1	56	.018	.319	-.382	.628
PBC 2 (CONTROL)	56	-1.144	.319	.830	.628
PN 2	56	-.054	.319	1.830	.628
AT2	56	-.012	.319	-.621	.628
INT2	56	.126	.319	-.308	.628
PBC 3 (SE)	57	-.226	.316	-1.051	.623
PN 3	56	-.099	.319	-.415	.628
AT 3	56	.145	.319	-.338	.628
INT 3	56	.215	.319	-.497	.628
AT 4	56	-.111	.319	-.558	.628
PN 4	57	-.302	.316	-.308	.623

[Appendix]

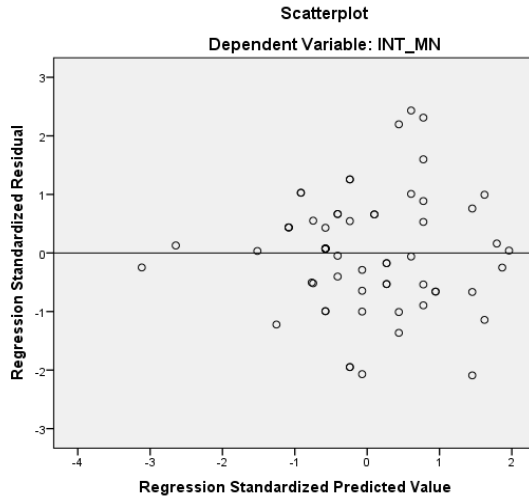
AT 5	56	-.136	.319	-.215	.628
AT 6	56	-.146	.319	-.129	.628
AT 7	55	.388	.322	-.018	.634
AT8	56	-.765	.319	1.329	.628
AT9	57	.110	.316	-.432	.623
AT10	56	-.075	.319	-.639	.628
MC1	56	-.070	.319	-1.053	.628
MC2	57	-.146	.316	-1.382	.623
MC3	57	-.198	.316	-1.223	.623
BBS1 POS	57	-.517	.316	-.737	.623
BBS2 POS	57	-.355	.316	-.980	.623
BBS3 POS	56	-.557	.319	-.450	.628
BBS1 NEG	57	-.998	.316	.957	.623
BBS2 NEG	57	-.462	.316	-.313	.623
CBS1	57	.331	.316	-.661	.623
CBS2	57	-.336	.316	-.404	.623
CBS3	57	.464	.316	-.944	.623
CBS4	56	-.163	.319	-.270	.628
PCF1	56	-.270	.319	-.132	.628
PCF2	48	-.189	.343	-.273	.674
PCF3	56	-.453	.319	-1.074	.628
PCF4	56	-.385	.319	-1.108	.628
INB1	56	-.101	.319	-.377	.628
INB2	56	.252	.319	-.753	.628
INB3	55	.081	.322	-1.427	.634
LOY1	55	.725	.322	-.695	.634
LOY2	56	.393	.319	.463	.628
LOY3	56	.388	.319	.827	.628
QUAL1	55	-.569	.322	-.185	.634
QUAL2	55	.018	.322	-.228	.634
AWA1	54	-.082	.325	-.810	.639
AWA2	55	-.366	.322	-.533	.634
AWA3	54	.095	.325	-.333	.639
AWA4	56	.508	.319	-.339	.628
AWA5	56	-.890	.319	.078	.628
AWA6	55	.198	.322	-.713	.634
CBBRE1	56	.527	.319	1.321	.628
CBBRE2	56	.065	.319	-.233	.628
CBBRE3	55	.743	.322	1.418	.634
CBBRE4	55	.976	.322	2.839	.634
EXTRO	55	-.836	.322	.562	.634
CRIT	54	-.421	.325	-.865	.639

[Appendix]

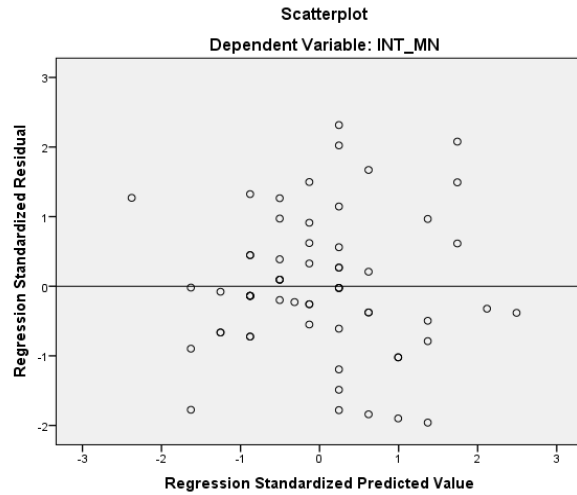
DEPEN	55	-1.016	.322	1.024	.634
ANXIOUS	55	.780	.322	.002	.634
OPEN	55	-.734	.322	.159	.634
RESERVED	55	.058	.322	-.812	.634
WARM	55	-.862	.322	.903	.634
CARELESS	55	.895	.322	.120	.634
CALM	49	-.835	.340	1.075	.388
CONVENT	53	.469	.327	-.321	.644
APPR 1	57	.356	.316	-.820	.623
APPR2	57	.556	.316	-.315	.623
APPR 3	56	.221	.319	-.906	.628
AVOID 1	57	.008	.316	-1.108	.623
AVOID 2	56	.194	.319	-.758	.628
AVOID 3	57	.100	.316	-.852	.623
BIRTH	56	-.576	.319	-.989	.628
MARITAL	57	-.159	.316	-1.984	.623
ACADEMIC	53	.185	.327	-1.469	.644
WORKING	54	.052	.325	-.319	.639
INCOME	53	.805	.327	-.034	.644
CHILDREN	40	1.710	.374	3.544	.733
HOUSEHOLD	52	-.136	.330	-1.661	.650
Valid N (listwise)	4				

## Appendix 14 -Residual Plots Drugstore

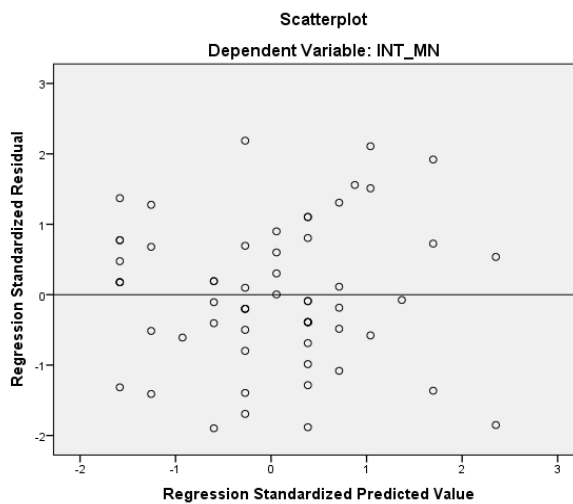
Intention versus attitude



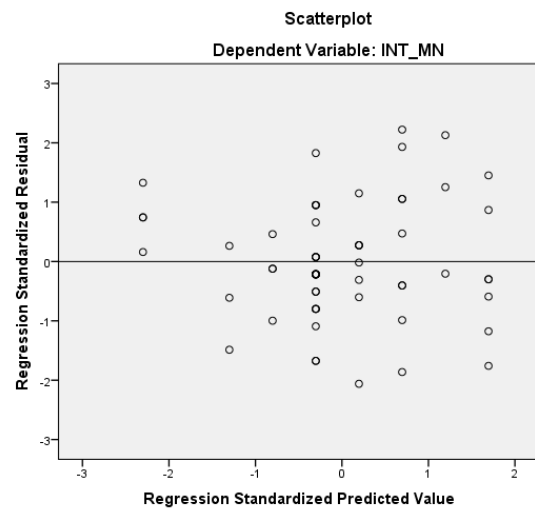
Intention versus PBC



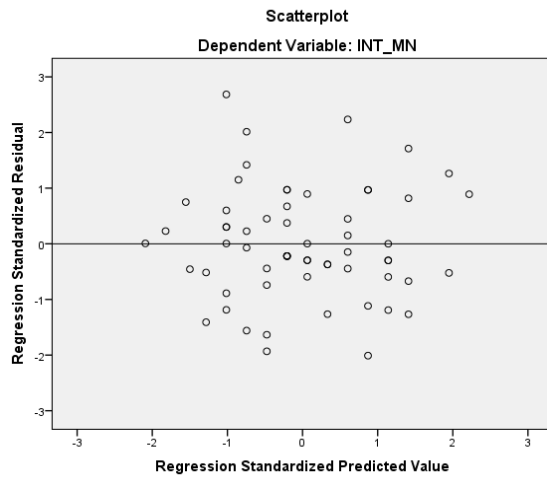
Intention versus loyalty



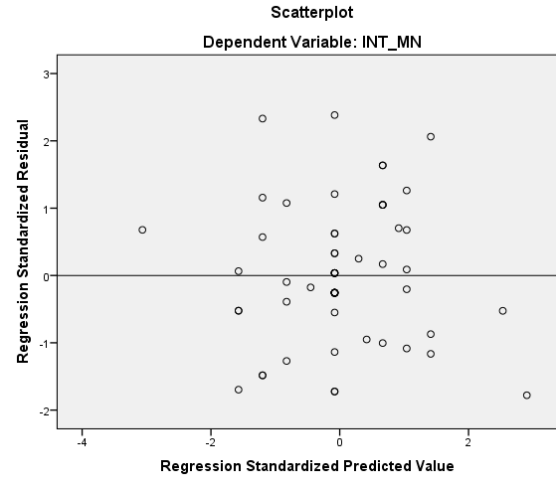
Intention versus quality



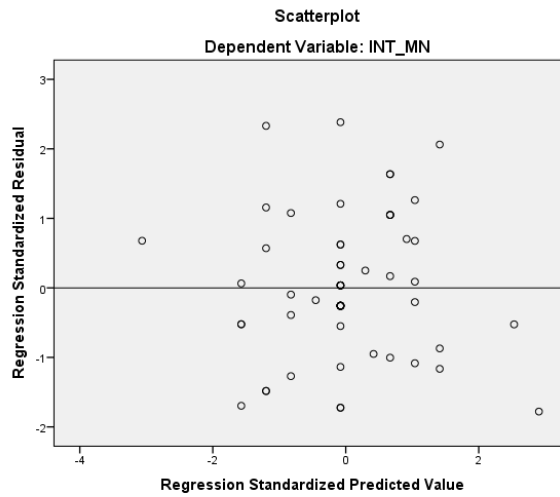
### Intention versus awareness



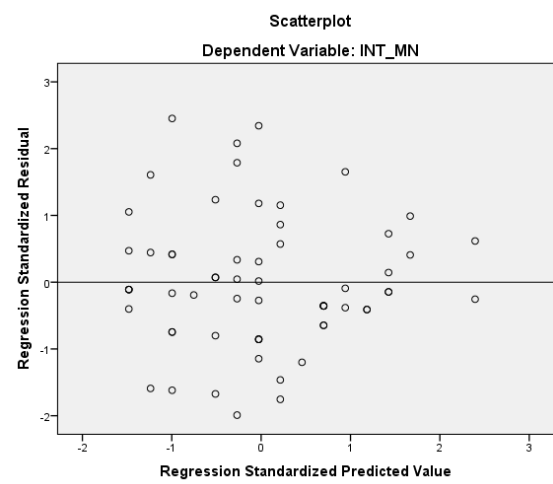
### Intention versus CBBRE



### Intention versus avoidance

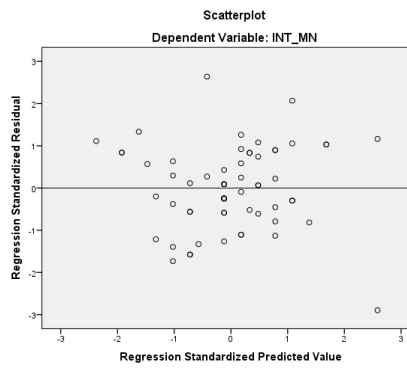


### Intention versus approach



[Appendix]

## Intention versus subjective norm



## Appendix 15 -Collinearity Statistics for main latent variables.

DEP VAR.	DRUGSTORE		INTERNET		MULTICHANNEL	
CBBRCE	Collinearity Statistics		Collinearity Statistics		Collinearity Statistics	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
ATT	0.58	1.73	0.65	1.54	0.52	1.93
POSEMO	0.87	1.15	0.65	1.55	0.58	1.72
NEGEMO	0.78	1.28	0.92	1.09	0.87	1.15
AWA	0.84	1.19	0.37	2.71	0.50	2.01
QUAL	0.54	1.85	0.56	1.79	0.27	3.66
LOYA	0.65	1.55	0.49	2.06	0.35	2.89

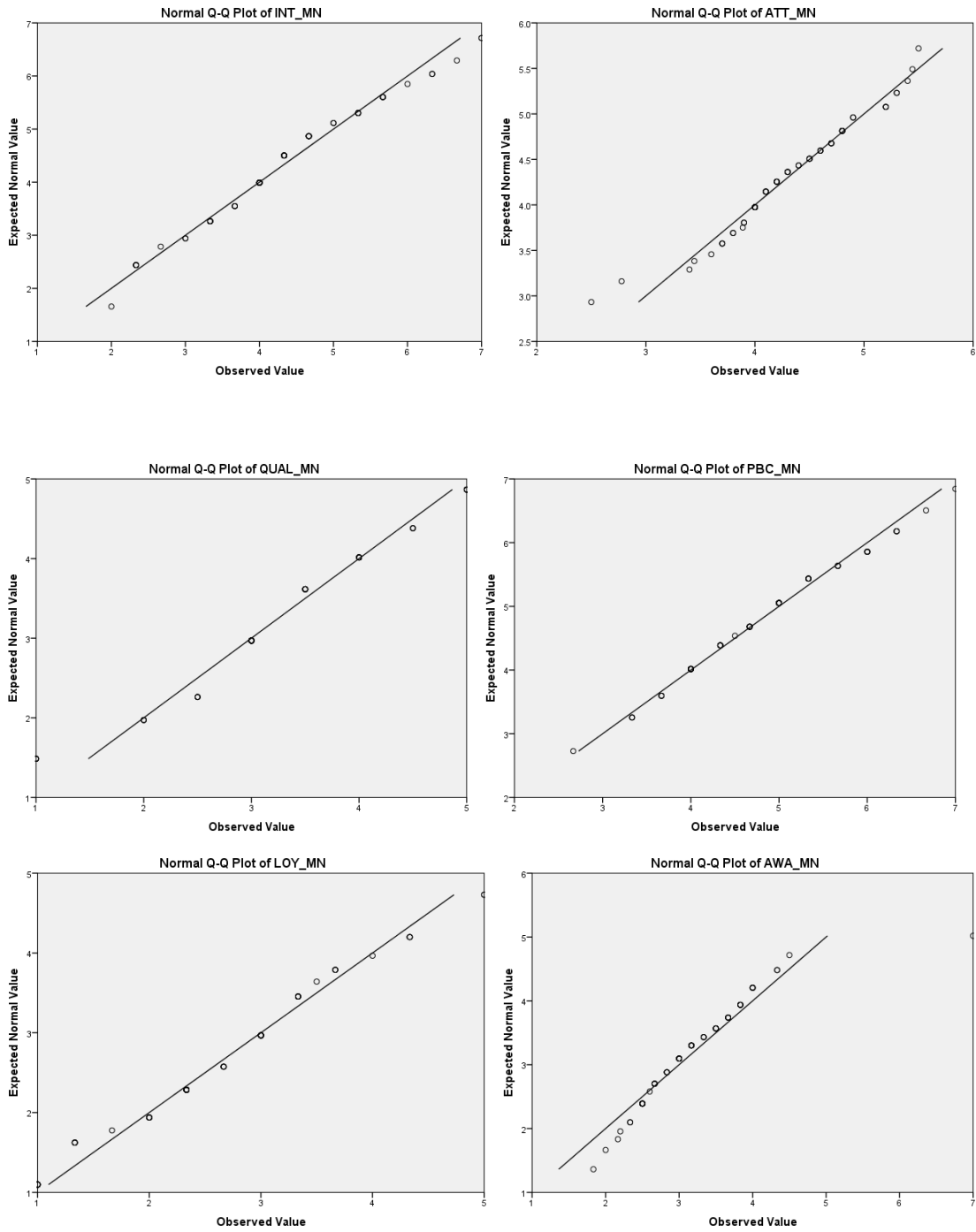
DEP VAR.	DRUGSTORE		INTERNET		MULTICHANNEL	
APPROACH	Collinearity Statistics		Collinearity Statistics		Collinearity Statistics	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
ATT	0.42	2.40	0.24	4.12	0.44	2.27
PN	0.61	1.63	0.30	3.34	0.58	1.74
PBC	0.73	1.38	0.58	1.72	0.94	1.07
POSEMO	0.83	1.20	0.52	1.92	0.62	1.62
NEGEMO	0.65	1.54	0.55	1.81	0.78	1.28
CBBRCE	0.78	1.28	0.45	2.20	0.77	1.30
PERSO	0.74	1.36	0.62	1.61	0.77	1.31
DEMO	0.65	1.54	0.83	1.20	0.79	1.26

DEP VAR.	DRUGSTORE		INTERNET		MULTICHANNEL	
AVOIDANCE	Collinearity Statistics		Collinearity Statistics		Collinearity Statistics	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
ATT	0.42	2.40	0.24	4.12	0.44	2.27
PN	0.61	1.63	0.30	3.34	0.58	1.74
PBC	0.73	1.38	0.58	1.72	0.94	1.07
POSEMO	0.83	1.20	0.52	1.92	0.62	1.62
NEGEMO	0.65	1.54	0.55	1.81	0.78	1.28
CBBRCE	0.78	1.28	0.45	2.20	0.77	1.30
PERSO	0.74	1.36	0.62	1.61	0.77	1.31
DEMO	0.65	1.54	0.83	1.20	0.79	1.26

DEP VAR.	DRUGSTORE		INTERNET		MULTICHANNEL	
INTENTION	Collinearity Statistics		Collinearity Statistics		Collinearity Statistics	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
ATT	0.42	2.40	0.24	4.12	0.44	2.27
PN	0.61	1.63	0.30	3.34	0.58	1.74
PBC	0.73	1.38	0.58	1.72	0.94	1.07
POSEMO	0.83	1.20	0.52	1.92	0.62	1.62
NEGEMO	0.65	1.54	0.55	1.81	0.78	1.28
CBBRCE	0.78	1.28	0.45	2.20	0.77	1.30
PERSO	0.74	1.36	0.62	1.61	0.77	1.31
DEMO	0.65	1.54	0.83	1.20	0.79	1.26

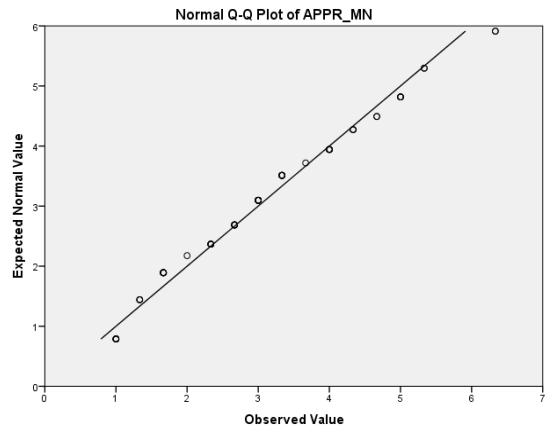
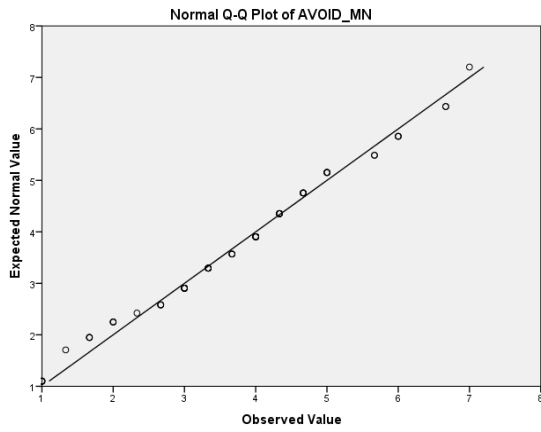
## Appendix 16 -Q-Q Plots for the main study variables

Drugstore channel main variables q-q plots

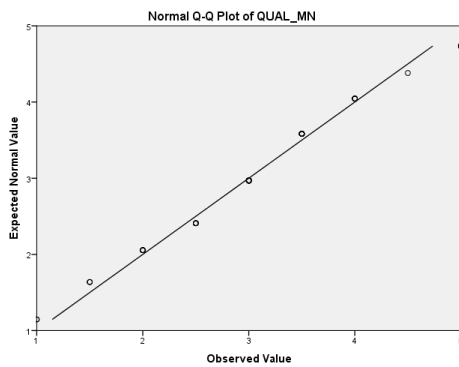
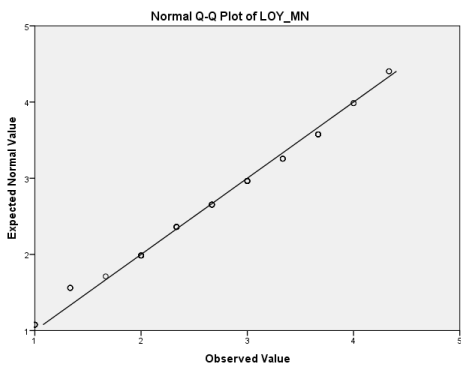
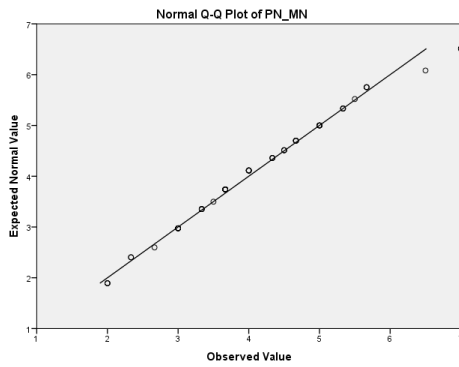
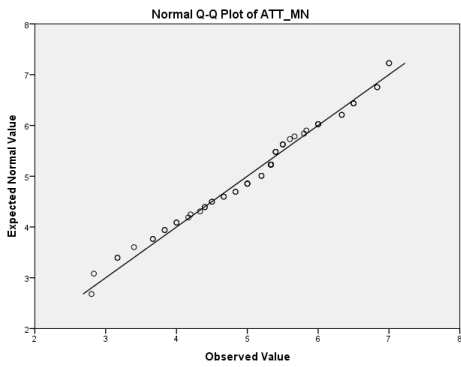
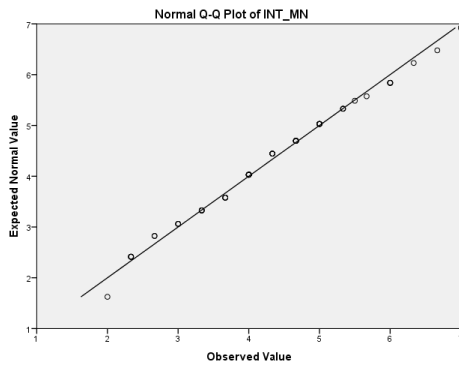
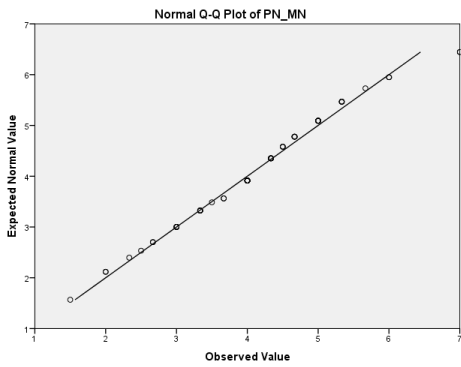




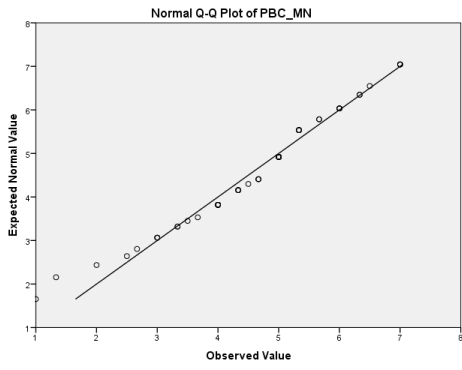
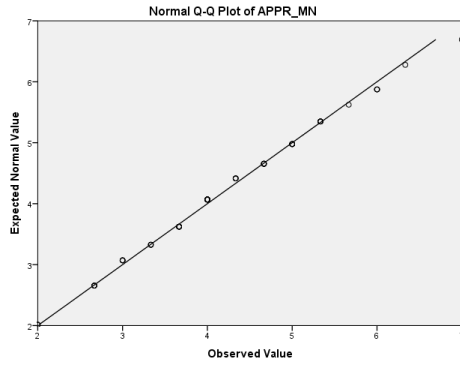
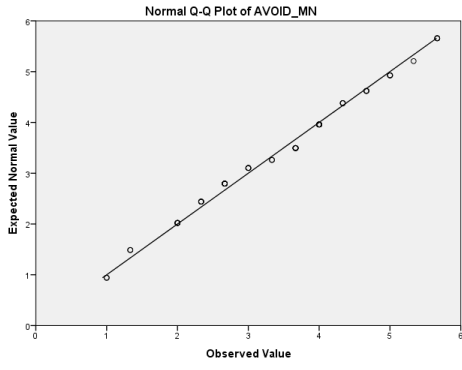
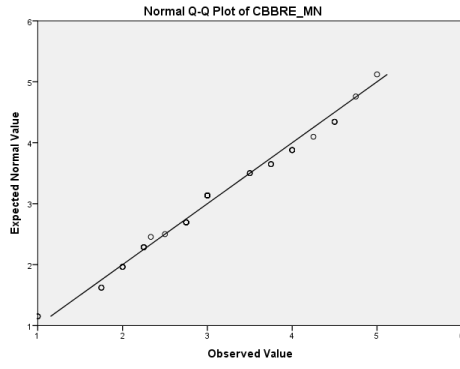
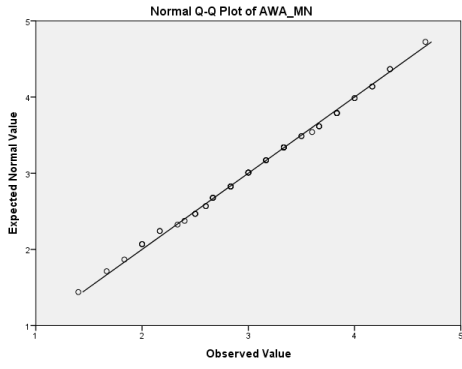
[Appendix]



Internet q-q plots

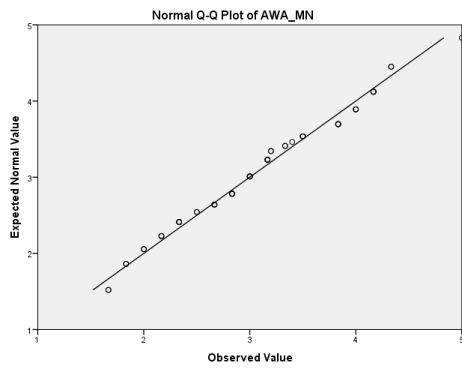
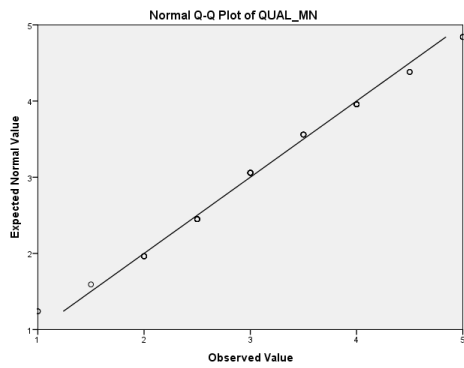
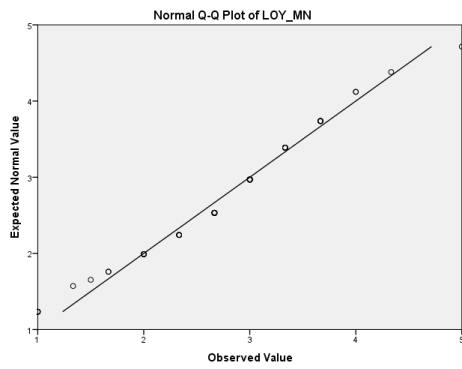
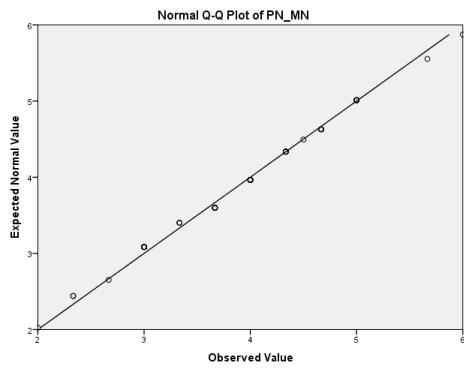
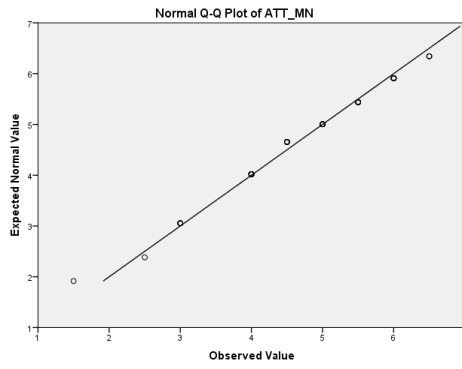
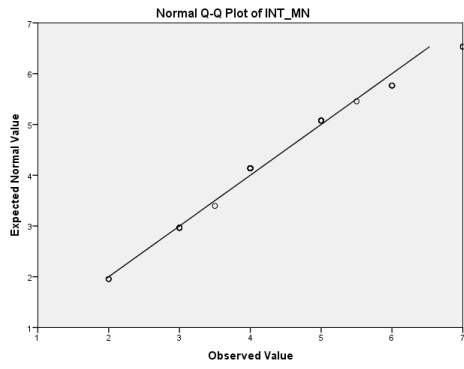


[Appendix]

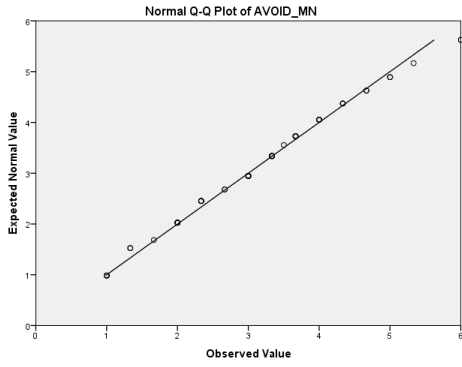
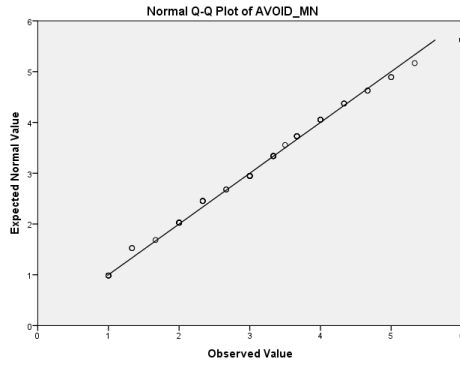
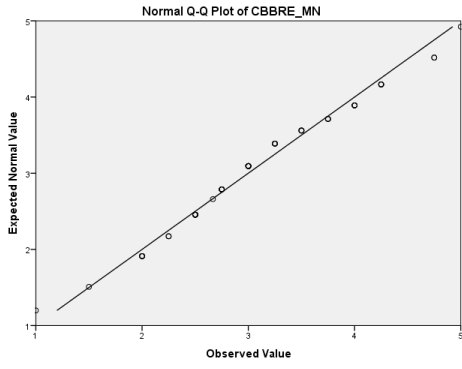


[Appendix]

Multi-channel qq plots:



[Appendix]



## Appendix 17 -Missing Values

Internet missing values

Univariate Statistics			
	N	Missing	
		Count	Percent
CLASSIF	51	10	16.4
CHANPURCH	59	2	3.3
POSEMOT1	61	0	.0
POSEMOT2	60	1	1.6
POSEEMOT3	52	9	14.8
NEGEMOT1	60	1	1.6
NEGEMOT2	58	3	4.9
NEGEMOT3	58	3	4.9
NEGEMOT4	60	1	1.6
OEADVANT1	59	2	3.3
OEADVANT2	61	0	.0
OEADVANT3	61	0	.0
OEADVANT4	61	0	.0
OEADVANT5	61	0	.0
OEDISADVAN1	61	0	.0
OEDISADVAN2	61	0	.0
BEHAVIOUR	54	7	11.5
INT_VS_STORE	56	5	8.2
INT_VS_MOB	50	11	18.0
MOV_VS_STOR	49	12	19.7
ONE_VS_MULT	48	13	21.3
STORE_RK	51	10	16.4
INTER_RK	52	9	14.8
MOBIL_RK	48	13	21.3
PBC1CONTROL	58	3	4.9
PN1	52	9	14.8
INT1	59	2	3.3
PBC2CONTROL	58	3	4.9
PN2	59	2	3.3
AT2	59	2	3.3
INT2	56	5	8.2
PBC3SE	56	5	8.2
PN3	59	2	3.3
AT3	59	2	3.3

[Appendix]

INT3	57	4	6.6
AT4	46	15	24.6
PN4	58	3	4.9
AT6	58	3	4.9
AT9	58	3	4.9
AT10	57	4	6.6
MC1	57	4	6.6
MC2	59	2	3.3
MC3	59	2	3.3
BBS1POS	59	2	3.3
BBS2POS	59	2	3.3
BBS3POS	59	2	3.3
BBS4POS	59	2	3.3
BBS1NEG	59	2	3.3
BBS2NEG	59	2	3.3
BBS3NEG	59	2	3.3
CBS1	57	4	6.6
CBS2	59	2	3.3
CBS3	59	2	3.3
CBS4	59	2	3.3
CBS5	59	2	3.3
PCF1	57	4	6.6
PCF2	60	1	1.6
PCF3	60	1	1.6
PCF4	59	2	3.3
INB1	57	4	6.6
INB2	56	5	8.2
INB3	57	4	6.6
LOY1	58	3	4.9
LOY2	59	2	3.3
LOY3	59	2	3.3
QUAL1	59	2	3.3
QUAL2	59	2	3.3
AWA1	59	2	3.3
AWA2	58	3	4.9
AWA3	59	2	3.3
AWA4	59	2	3.3
AWA5	58	3	4.9
AWA6	57	4	6.6
CBBRE1	58	3	4.9
CBBRE2	58	3	4.9
CBBRE3	58	3	4.9

[Appendix]

CBBRE4	58	3	4.9
EXTRO	56	5	8.2
CRIT	56	5	8.2
DEPEN	57	4	6.6
ANXIOUS	57	4	6.6
OPEN	57	4	6.6
RESERVED	57	4	6.6
WARM	58	3	4.9
CARELESS	58	3	4.9
CALM	58	3	4.9
CONVENT	58	3	4.9
APPR1	58	3	4.9
APPR2	57	4	6.6
APPR3	57	4	6.6
AVOID1	56	5	8.2
AVOID2	57	4	6.6
AVOID3	57	4	6.6
BIRTH	52	9	14.8
MARITAL	58	3	4.9
ACADEMIC	53	8	13.1
WORKING	55	6	9.8
INCOME	55	6	9.8
CHILDREN	39	22	36.1
HOUSEHOLD	57	4	6.6

Multi-channel missing values

**Univariate Statistics**

	N	Missing	
		Count	Percent
CLASSIF	48	10	17.2
CHANPURCH	49	9	15.5
POSEMOT1	58	0	.0
POSEMOT2	57	1	1.7
POSEEMOT3	53	5	8.6
NEGEMOT1	58	0	.0
NEGEMOT2	57	1	1.7
NEGEMOT3	57	1	1.7
NEGEMOT4	56	2	3.4
OEADVANT1	57	1	1.7

[Appendix]

OEADVANT2	56	2	3.4
OEADVANT3	58	0	.0
OEDISADVAN1	58	0	.0
OEDISADVAN2	58	0	.0
BEHAVIOUR	44	14	24.1
INT_VS_STORE	52	6	10.3
INT_VS_MOB	46	12	20.7
MOV_VS_STOR	43	15	25.9
ONE_VS_MULT	44	14	24.1
STORE_RK	37	21	36.2
INTER_RK	38	20	34.5
MOBIL_RK	35	23	39.7
PBC1CONTROL	57	1	1.7
PN1	57	1	1.7
INT1	56	2	3.4
PBC2CONTROL	57	1	1.7
PN2	58	0	.0
AT2	57	1	1.7
INT2	56	2	3.4
PBC3SE	58	0	.0
PN3	56	2	3.4
AT3	57	1	1.7
INT3	56	2	3.4
AT4	57	1	1.7
PN4	56	2	3.4
AT6	57	1	1.7
AT9	56	2	3.4
AT10	58	0	.0
MC1	56	2	3.4
MC2	56	2	3.4
MC3	57	1	1.7
BBS1POS	58	0	.0
BBS2POS	56	2	3.4
BBS3POS	58	0	.0
BBS1NEG	58	0	.0
BBS2NEG	58	0	.0
CBS1	58	0	.0
CBS2	57	1	1.7
CBS3	57	1	1.7
CBS4	57	1	1.7
CBS5	56	2	3.4
INB1	57	1	1.7



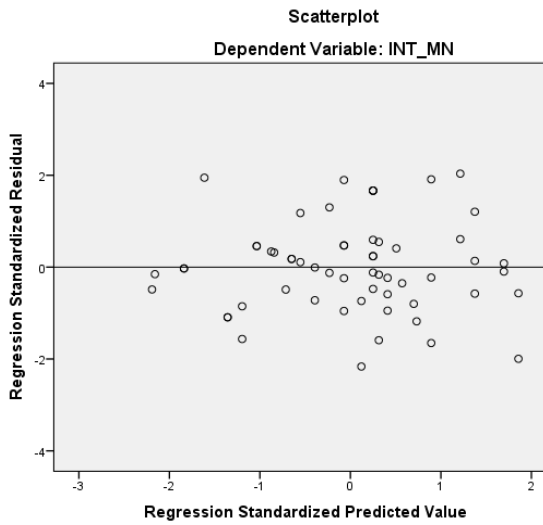
[Appendix]

INB2	57	1	1.7
INB3	56	2	3.4
INB4	54	4	6.9
LOY1	57	1	1.7
LOY2	56	2	3.4
LOY3	56	2	3.4
QUAL1	57	1	1.7
QUAL2	57	1	1.7
AWA1	56	2	3.4
AWA2	57	1	1.7
AWA3	57	1	1.7
AWA4	56	2	3.4
AWA5	56	2	3.4
AWA6	57	1	1.7
CBBRE1	57	1	1.7
CBBRE2	57	1	1.7
CBBRE3	57	1	1.7
CBBRE4	57	1	1.7
EXTRO	56	2	3.4
CRIT	56	2	3.4
DEPEN	56	2	3.4
ANXIOUS	56	2	3.4
OPEN	56	2	3.4
RESERVED	56	2	3.4
WARM	56	2	3.4
CARELESS	56	2	3.4
CALM	56	2	3.4
CONVENT	56	2	3.4
APPR1	56	2	3.4
APPR2	55	3	5.2
APPR3	55	3	5.2
AVOID1	55	3	5.2
AVOID2	56	2	3.4
AVOID3	56	2	3.4
BIRTH	53	5	8.6
MARITAL	56	2	3.4
ACADEMIC	55	3	5.2
WORKING	53	5	8.6
INCOME	53	5	8.6
<b>CHILDREN</b>	<b>40</b>	<b>18</b>	<b>31.0</b>
HOUSEHOLD	53	5	8.6

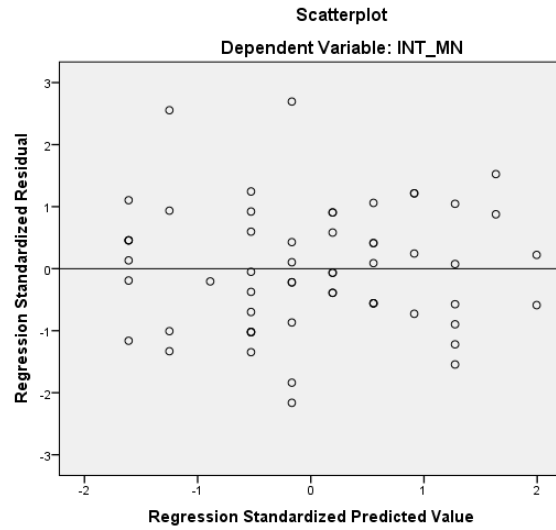
## Appendix 18 -Residual Plots (Internet and Multi-channel).

### Residual plots internet

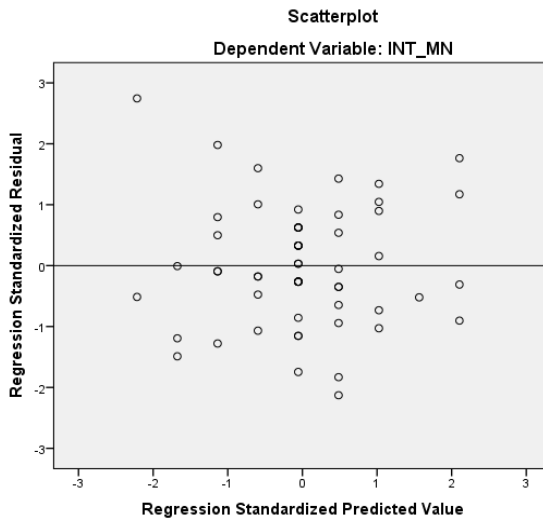
Intention versus attitude



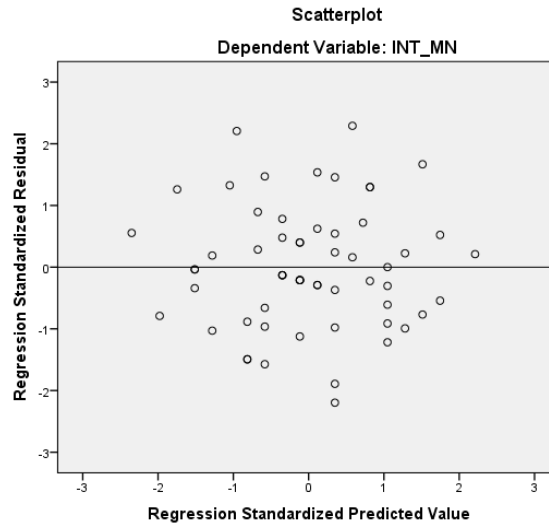
Intention versus loyalty



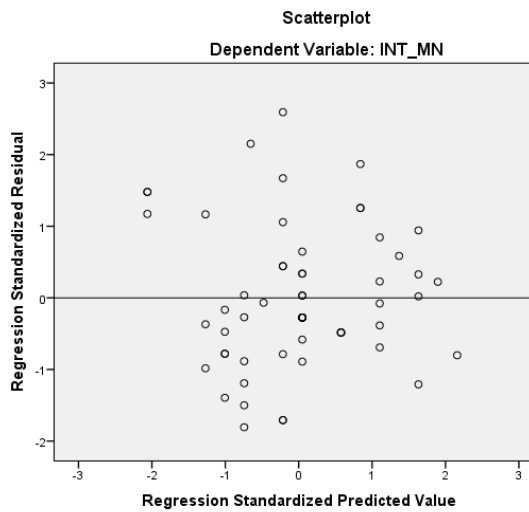
Intention versus quality



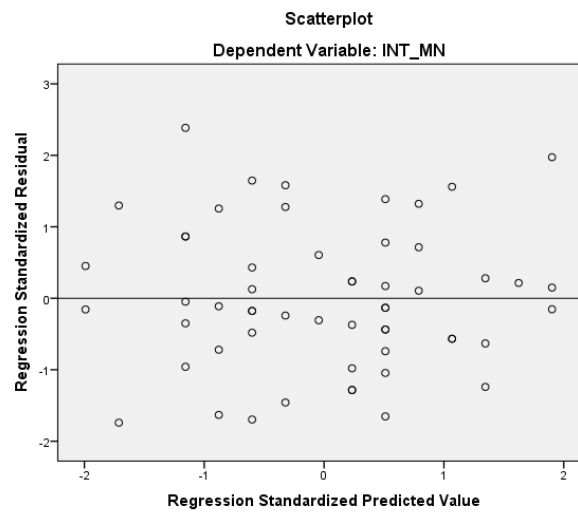
Intentions versus awareness



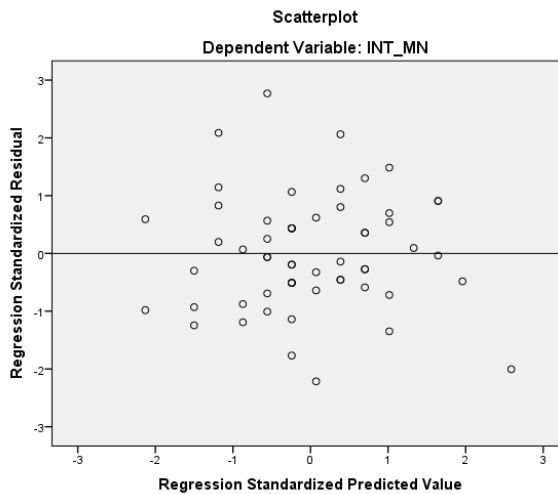
Intention versus CBBRCE



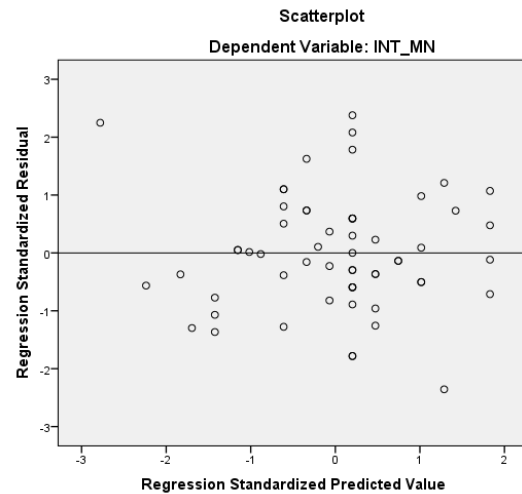
Intention versus avoidance



Intention versus approach

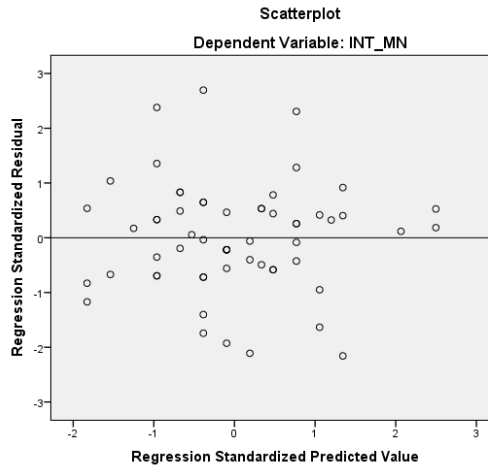


Intention versus PBC



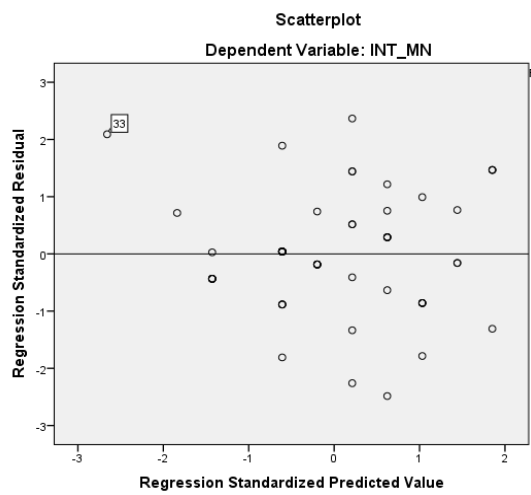
[Appendix]

Intention versus subjective norm.

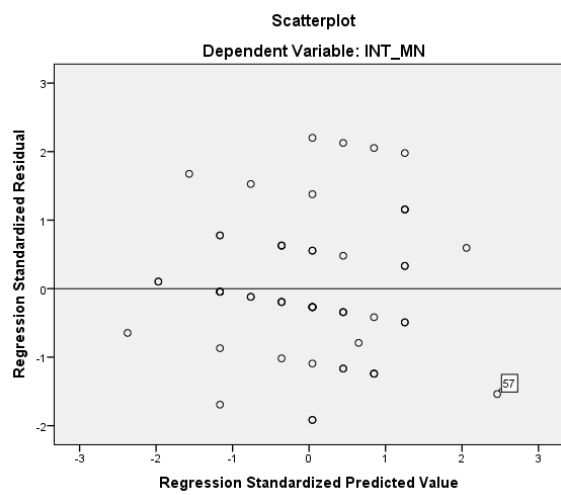


Residual plots multi-channel

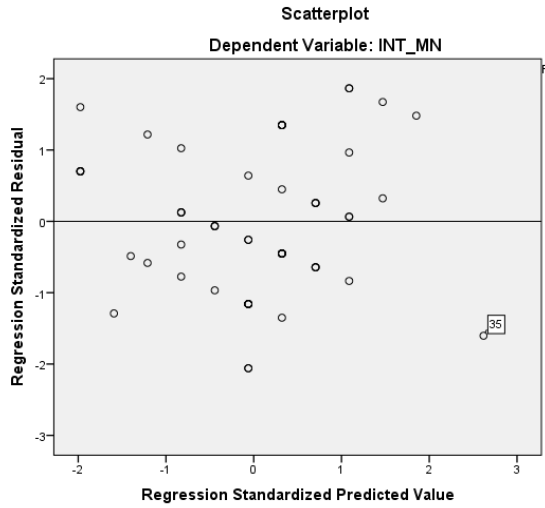
Intention versus attitude



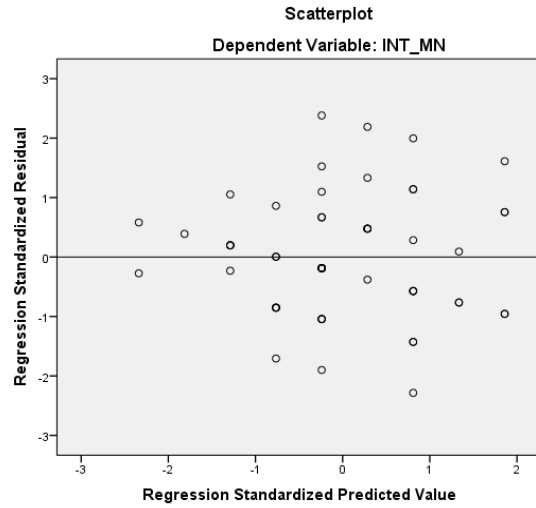
Intention versus subjective norm



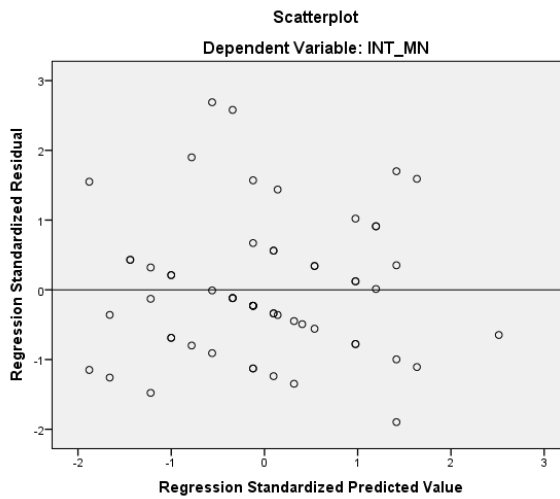
Intention versus loyalty



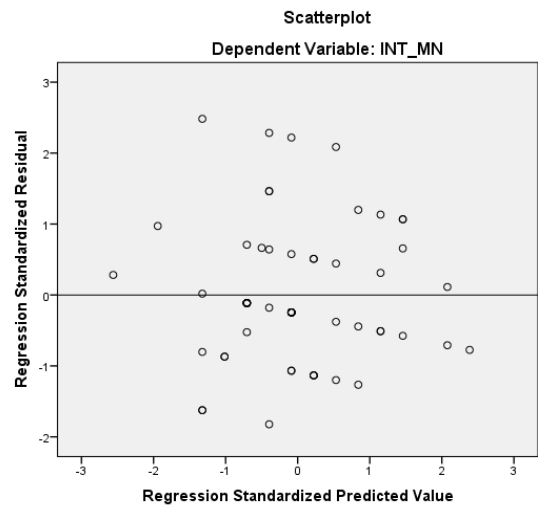
Intention versus quality



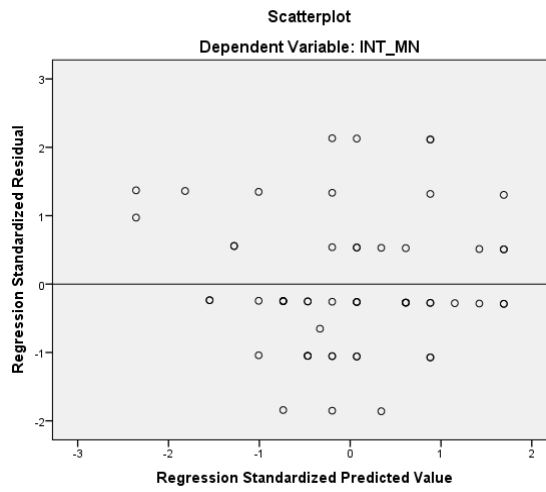
Intention versus awareness



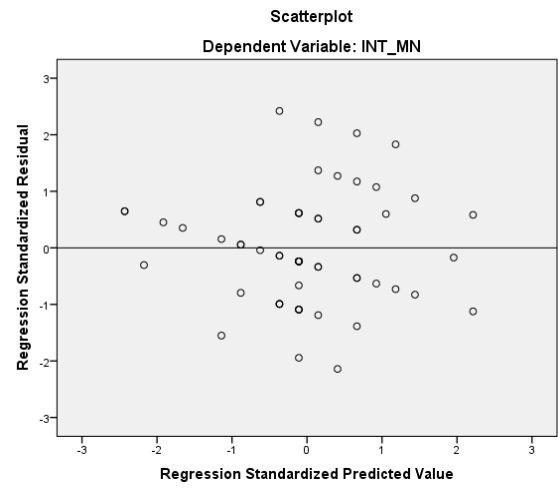
Intention versus CBBRE



Intention versus avoidance



Intention versus approach



## **Appendix 19 -Complete list of Indicators used in the study:**

CLASSIF  
CHANPURCH  
POS EMOT 1  
POS EMOT 2  
POSE EMOT 3  
NEG EMOT 1  
NEG EMOT 2  
NEG EMOT 3  
NEG EMOT 4  
OE (ADVANT 1)  
OE (ADVANT 2)  
OE (ADVANT 3)  
OE  
(DISADVAN1)  
OE  
(DISADVAN2)  
BEHAVIOUR  
INT\_VS\_STORE  
INT\_VS\_MOB  
MOV\_VS\_STOR  
ONE\_VS\_MULT  
STORE\_RK  
INTER\_RK  
MOBIL\_RK  
PBC1  
(CONTROL)  
PN 1  
AT1  
INT 1  
PBC 2  
(CONTROL)  
PN 2  
AT2  
INT2  
PBC 3 (SE)  
PN 3  
AT 3  
INT 3  
AT 4

PN 4  
AT 5  
AT 6  
AT 7  
AT8  
AT9  
AT10  
MC1  
MC2  
MC3  
BBS1 POS  
BBS2 POS  
BBS3 POS  
BBS1 NEG  
BBS2 NEG  
CBS1  
CBS2  
CBS3  
CBS4  
PCF1  
PCF2  
PCF3  
PCF4  
INB1  
INB2  
INB3  
LOY1  
LOY2  
LOY3  
QUAL1  
QUAL2  
AWA1  
AWA2  
AWA3  
AWA4  
AWA5  
AWA6  
CBBRE1  
CBBRE2  
CBBRE3  
CBBRE4  
EXTRO  
CRIT  
DEPEN  
ANXIOUS



[Appendix]

OPEN  
RESERVED  
WARM  
CARELESS  
CALM  
CONVENT  
APPR 1  
APPR2  
APPR 3  
AVOID 1  
AVOID 2  
AVOID 3  
BIRTH  
MARITAL  
ACADEMIC  
WORKING  
INCOME  
CHILDREN  
HOUSEHOLD

## Appendix 20 -Regaine Foam Drugstore Display



## Appendix 21 -National Pharmacy Association Poster



The poster features a central image of a man's head from a top-down perspective, showing a receding hairline. A hand is using a black comb to brush the hair on the sides. The text is arranged in a clean, professional layout with a blue header and footer.

**We can help you  
keep your hair on**

Prescription male hair loss medicines  
available from this pharmacy after a  
confidential, online doctor consultation



**NPA**  
National Pharmacy  
Association  
We care

## Appendix 22 -Glossary of Abbreviations

AGA: Androgenic Alopecia	MGA: Multi-Group Analysis
AIC: Akaike Information Criterion	MOBIL_RK: Mobile Ranking
APPR: Approach	MOD: Moderator
AT: Attitude	MOB_VS_STOR: Mobile versus Store
AVOID: Avoidance	MVA: Missing Value Analysis
AVE: Average Variance Extracted	NE: Negative Emotions
AWA: Awareness	NEG EMOT : Negative Emotion
BBS POS: Behavioural Belief Statement - Positive	NHS: National Health Service
BIC: Bayesian Information Criterion	OCF: Own Conceptual Framework
BIRTH: Date of Birth	ONE_VS_MULT: One Channel versus Multi-channel
CATI: Computer Aided Telephone Interview	OE (ADVANT): Outcome Expectation (Advantages)
CAIC: Consistent Akaike Information Criterion	PAD: Pleasure Arousal Dominance
CBBRE/CBBRCE: Customer Based Brand Retailer Channel Equity	PCF: Perceived Control Factor
CBS : Control Belief Statement	PE: Positive Emotions
CB SEM: Covariance based Structural Equation Modelling	PBC: Perceived Behavioural Control
CES: Consumption Emotions Set	PLS SEM: Partial Least Squares Structural Equation Modelling
CFA: Confirmatory Factor Analysis	PN: Perceived Norm
CHANPURCH: Has purchased in that Channel	POS EMOT : Positive Emotion
CLASSIF: Self Classification as user or not user of Regaine	PCF: Perceived Control Factor
CM: Category Management	PSE: Perceived Self Efficacy
CONVENT: Conventional	STORE_RK: Store Ranking
CR: Composite Reliability	q <sup>2</sup> : Relative predictive Relevance
CRIT: Critical	Q <sup>2</sup> :Predictive Relevance
DEPEN: Dependable	QUAL: Quality
DEP VAR: Dependent Variable	Q-Q Plot: Quantile-Quantile Plot
DTC: Direct to Consumer	SE: Shopping Environment
EDLP: Every Day Low Price	S-O-R: Stimulus-Organism-Response
EFA: Exploratory Factor Analysis	SN: Subjective Norm
EXTRO: Extroverted	TACT: Target, Action, Context and Time
f <sup>2</sup> : Effect Size	TAM: Technology Acceptance Model
FIMIX: Finite Mixture Modelling	TPB: Theory of Planned Behaviour
GoF: Goodness of Fit	TRA: Theory of Reasoned Action
HILO: Hi-Low Price Strategy	VIF: Variance Inflation Factor
IDT: Information Diffusion Theory	
INB: Injunctive Norm Beliefs	
INT: Intention	
INTER_RK: Internet Ranking	
INT_VS_MOB: Internet versus Mobile	
INT_VS_STORE: Internet versus Store	
I-O: Input-Output	
I-B: Intention - Behaviour	
LOY: Loyalty	
MC: Motivation to Comply	
MCM: Multi-channel Customer Management	
MED: Mediator	

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