CONSUMER BEHAVIOUR IN ONLINE SHOPPING – UNDERSTANDING THE ROLE OF REGULATORY FOCUS

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For good health, determination and drive, to God be glory.

To Adesua – thank you for your patience and steadfastness.

To Leonard, Peter, and Anthony – I hope I have always made you guys proud.

To Professor Ken Russell – here is the result of what you instigated; thanks!

And to Professor Bill Donaldson – thank you for every opportunity you have given me over the years.

ABSTRACT

The behaviour of consumers on the Internet is increasingly a focus of marketing research. In particular, consumers' behaviour in online shopping, from adoption motivation to post-usage behaviour, has become a major focus of research in the field of marketing, especially within consumer behaviour. Yet it has been acknowledged that while aspects such as adoption and usage motivation are now better understood, there are many questions that remain unanswered, and this warrants continued research effort.

In line with the above, this research addresses an issue in online consumer behaviour that is currently under researched and which relates to the role that the consumer's regulatory focus trait plays in their manifested behaviour in online shopping. The research argues that it is important to understand the role of regulatory focus in online shopping because this psychological trait has been shown to affect other aspects of human behaviour such as in response to advertising, dieting and sports.

Drawing upon research from consumer behaviour and the wider fields of marketing and psychology, this research proposes a number of hypotheses relating the consumer's regulatory focus to her perception of online shopping, motivation for online shopping, and actual usage behaviour in a structural manner. The resulting structural equation model is then tested using empirical data obtained from 306 Internet shoppers in the United Kingdom.

The results of the research confirm that regulatory focus has an influence on consumer behaviour in online shopping by affecting their perception, motivation and usage of online shopping. The research makes a unique contribution by demonstrating that regulatory focus is a valid and robust predictor of online shopping behaviour and behavioural outcomes, a conclusion which is relevant to both marketing research and marketing practice. Finally, the research identifies and recommends areas for future studies.

Keywords: Internet shopping, e-commerce, e-business, e-retail, consumer behaviour, consumer psychology, regulatory focus, online shopping, process flow

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CHAPTER ONE

INTRODUCTION TO THE RESEARCH

1.0   INTRODUCTION

It is commonly understood (Weinstein, 1987) in marketing research that segmentation and profiling of consumers along psychological dimensions not only has merits for marketing strategy but is as essential for any meaningful understanding of the consumer as is segmentation that is traditionally based on physical and observable attributes like geographical location, social status and demographics. The advent of psychological segementation in marketing has been fundamental to the now well established field of consumer behaviour (Peter and Olsen, 2005; Allenby et al., 2006; Carrillat et al., 2009), and while consumer behaviour as a field is not new, the amount of interest generated in this area of research has continued to rise as organisations strive to gain competitive advantage through a better understanding of the consumer entity. Thus the psychology of consumers as a parameter has become not only a mainstay of marketing segmentation theory but straddles a wide range of disciplines, particularly socio-psychology and management (Foxall and Goldsmith, 1994; Gunter and Furnham, 1992). Take the related discipline of advertising as example. According to Werth and Foerster (2007) the advertising industry would love nothing better than to be able to predict and influence what consumers pay attention to, what motivates them to make a purchase, or indeed what prevents them from doing so.

Marketing research and practice recognises the significance of understanding how people's psychological traits and orientations affect their choices, especially choices regarding what goods and services they consume, how they consume them and from whom they source them. As early as the 17th century the first cases of psychographic profiling were reported with the use of designed experiments providing evidence for the existence of homogenous segments along psychological boundaries (Gunter and Furnham, 1992), which provided a classic means for merchants to attract and retain customers. More recently the use of

discrete psychological dimensions to measure behaviour with relation to consumer response and behaviour towards marketing, advertising and retail has become more common; this primary focus on micro individual cognitive and affective variables has resulted in a dominance of cognitive approaches to understanding how consumer puchase decisions are made (Bargh, 2002). On the basis of categorisations such as personality traits, motivation and learning theory, and decision making dynamics, consumer behaviourists have been able to profile consumers into homogeneous and unique segments (Evans et al., 1996).

However, while there is demonstratable evidence that existing behavioural segmentation and classification works for marketing, new evidence which suggests that other important dimensions exist for understanding consumer differences. As consumers become more sophisticated and innovation increases choice, exploring these dimensions has become as essential to marketing as understanding the traditionally recognised bases for psychographic classification and segmentation. This is because consumer behaviour has moved into new territories, resulting in new spheres and realms of influence.

Of particular impact is the emergence and now entrenched domain of Internet, and its associated activities like online retail, e-commerce and e-business. Therefore, for the purpose of predicting and influencing modern consumer behaviour more accurately, new research that takes into account creative and novel approaches such as adaptation of affective, cognitive and behavioural factors to understand consumer behaviour is particularly beneficial (Werth and Foerster, 2007).

In recognition of this, several new theories have emerged or been adapted that attempt to capture hitherto unexamined combinations of psychological variables affecting consumer behaviour. Some of the more prominent theories are the theory of approach-avoidance (Mehrabian and Russell, 1974; Donovan and Rossiter, 1982), theory of planned behaviour and perceived behavioural control (Ajzen, 1985, 1991), the theory of self regulation resource (Faber and Vohs, 2004) and the regulatory focus theory (Higgins, 1997). Although these theories are generally rooted in the fields of cognitive and behavioural psychology, several instances of their application in consumer behaviour show that they can

be successfully adapted to provide a better understanding of consumers. This is good news, given the antecedents of psychological applications in marketing and the current interest in understanding consumers' pschological dimensions (Mooradian et al., 2008).

The regulatory focus theory (RFT) has previously shown strong potential for classification and prediction of consumers and their judgment and information processing techniques (Florack et al., 2005) because it takes a collective look at key psychological components influencing consumer behaviour (Higgins, 2002), by examining whether individuals are more influenced by an objective to attain advantage or by an objective to avoid disadvantage. In fact RFT has even been shown to influence and affect small group dynamics based on the regulatory focus compositions of the groups (Florack and Hartmann, 2007). Although it has enjoyed increasing popularity in consumer behaviour research since its establishment (for example Camacho et al., 2003; Werth and Foester, 2006; Wang and Lee, 2007) the application of regulatory focus theory to the study of online consumer behaviour has only recently been explored, and has in fact only been attempted by as few as three recent studies: van Noort et al (2008) and van Noort (2009) assessed its impact on online perceived risk and decision making, and Trudel et al. (2011) evaluated its impact on post-purchase satisfaction in online retail.

But does regulatory focus also affect the consumer's usage behaviour in online shopping? And if it does, what is the nature of this effect – is it similar to the manner in which regulatory focus generally affects behaviour in other consumer domains, or is there a uniqueness in its effect on consumer behaviour in online shopping. Furthermore, how can any effect and its nature be convincingly established and proved?

1.1 BACKGROUND TO THE RESEARCH

The use of the Internet as a medium for commercial interaction between businesses and consumers has grown in significant proportions in the last decade, coinciding with the overall growth in the spread and use of the Internet, as illustrated in Figure 1.1.
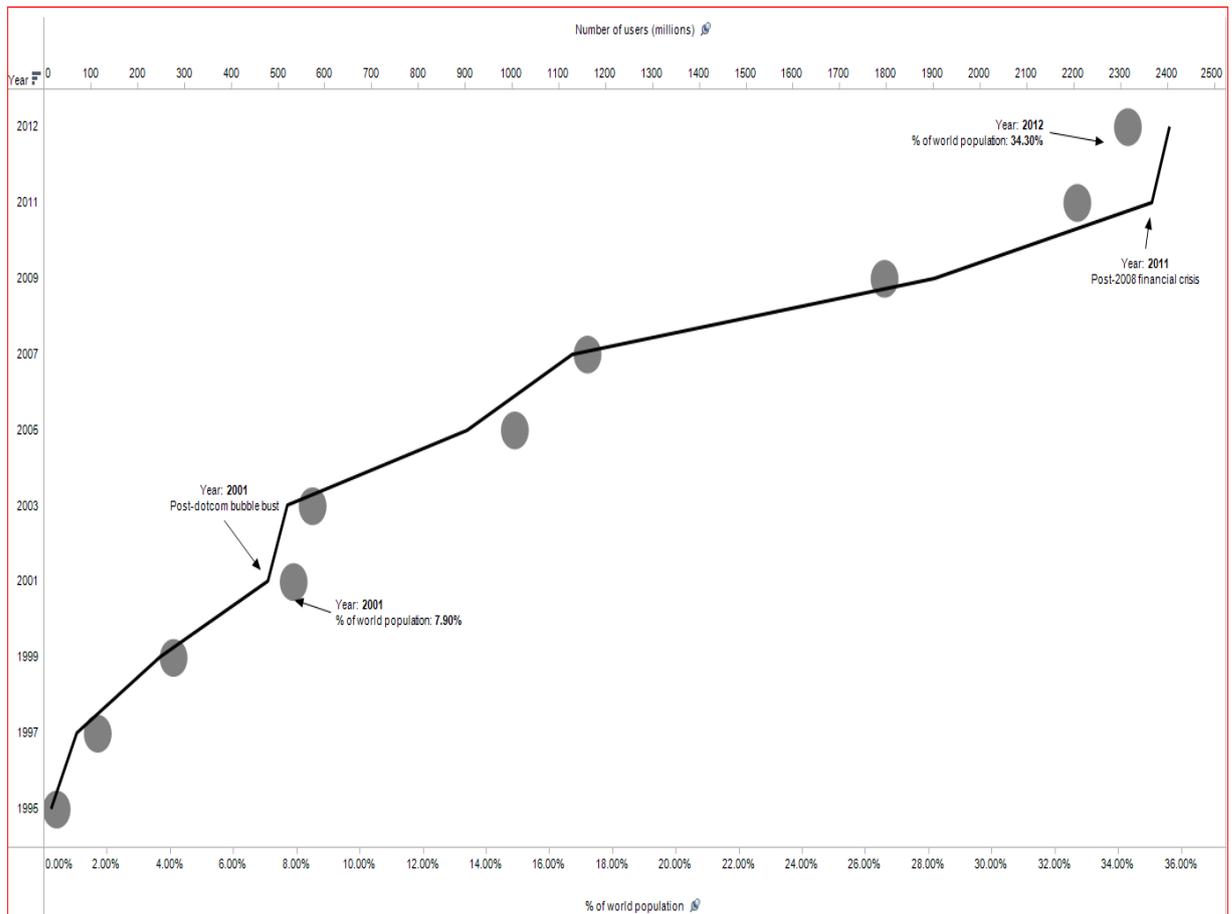
Figure 1.1 Internet growth (based on data from: internetworldstats.com)

It would appear from figure 1.1 that key moments in the growth of the Internet have coincided with the periods immediately after economic events. For example the dotcom bubble of the late 1990s was followed by strong growth in Internet use between 2001 and 2003, and the financial crisis of late 2007 appears to have been followed by a spike in Internet use, especially as a percentage of the world population. This shows that economic uncertainty appears to have had a positive effect on the Internet, perhaps as a result of consumers' search for better solutions to satisfy needs.

In this background to the research, initial insights are provided into the extant research and literature on the subject, culminating in the derivation of the aim and objectives of the research. This background is essential because it is indicative of the extent of the research problem, and also provides clues about

the extent of the critical review required to establish the research questions and hypotheses.

As far back as 1999, Donthu and Garcia (1999) concluded that the Internet had become an integral part of how consumers shopped for and purchased various goods and services. Through a computer-mediated environment, retailers, advertisers and marketers were successful in attracting exponential growth in online shopping due to the promises of lower search and purchase costs, convenience, greater choice and extensive availability of product/service related information (Janssen and Moraga, 2000). In tandem with the growing use of the Internet as a shopping medium by consumers, there was also witnessed (Lim and Dubinsky, 2004) a substantially increasing interest in electronic commerce research, particularly with regards to Internet shopping attributes. This is because academics and researchers realised early on that it was not enough to simply transfer findings from other domains of marketing and consumer behaviour to explain human engagement with the Internet – the Internet represented a unique innovation and utilising the Internet for commerce and commercial exchange constituted a unique phenomenon that required domain-specific research to understand. Earlier examples focused on acceptance and adoption motivations, including e-store characteristics as predictors of shoppers' intentions (Shim et al., 2001), the use of decision aids (Haubl and Trifts, 2000), expected satisfaction (Szymansky and Hise, 2000) and shopping orientations/motivations (Wolfinbarger and Gilly, 2001). But while initial research was predominated by questions about adoption and acceptance motivations and predictions of intentions, it was acknowledged from the outset that the use of the Internet by consumers could be broadly represented as a three-dimensional phenomenon (Cheung et al., 2003). The first dimension was adoption (with its associated factors like motivations, drivers, perceptions, intentions); the second dimension was actual usage post-adoption (with its attendant factors like control/ impulsivity, loyalty/variety, and task/process orientation); and the final dimension was evaluation post-usage (with its attendant factors of confirmation, satisfaction, and continuance). On the basis of this, Cheung et al. (2003) proposed the base model of intention, adoption and continuance (MIAC).

Consequently, from recent literature, it would appear that the focus has shifted from the first dimension of adoption to the second dimension of usage behaviour, and in some extent, to the third dimension of post-usage evaluation. For example, Gauzente (2010) examines the behaviour of consumers with respect to online marketing in the form of clicks on sponsored advertising and concludes that there is a relationship between this behaviour and the consumers' profile in the form of prior attitudes and knowledge of the advertiser. Egeln and Joseph (2012) have studied behaviour in online shopping by examining the behaviour of shopping cart abandonment and concluded that the behaviour appeared to be non-uniform across consumers and was in part accounted for by the factors of perceived risk and decision making style of the consumer. Fagerstrom and Ghinea (2011) have focused on purchase behaviour in the presence of final price and recommendations information, while Park et al. (2011) have examined specific behaviour in relation to product attributes, browsing and impulsivity, concluding that product specific attributes in websites encourage consumer browsing behaviour. Finally, in recognising the importance of individual and personality differences in the behaviours discussed above, it has been argued that far too little attention has thus far been paid to behavioural traits and their relationships to online shopping behaviour. Tsao and Chang (2010) state that a person's value and preference are often reflected in their personality trait, as a result of which personality traits and psychological states influence the formation of a consumer's purchase behaviour and its variability with that of other people; therefore, personality traits are to some degree, useful in explaining an individual's consumption behaviour and purchase decisions. Hence, Tsao and Chang (2010) and Sahney et al. (2010) utilised the five-factor personality model of Costa and McCrae (as described in Costa et al., 1991) to evaluate online shopping in respect of hedonic and utilitarian motivations. But both studies were inconclusive in their analysis about how these personality variables impacted on actual online usage behaviour. Furthermore, Bosnjak et al. (2007) and Jayawardhena et al. (2007) argue that with respect to psycho-cognitive and personality traits influences on online shopping, there are as yet many variables and premises that have not been evaluated. In fact, Bosnjak et al., (2007) identify only four studies that have used personality related correlates to evaluate or explain online consumer behaviour.

One personality-based trait that has enjoyed recent popularity and success in predicting behaviour in various contexts is regulatory focus (RF), as defined in the regulatory focus theory (RFT) of Higgins et al. (1997). According to this theory, different psychological profiles exist in individuals which have a direct effect on how they approach goals and objectives: some individulas have a higher need for attainment of positive outcomes, thereby directing their attention to the maximisation of gains; other people have a higher need for protection against the occurance of unpleasant states and the avoidance of negative consequences, thereby directing their attention to the minimisation of losses. This differentiation on the basis of individuals' regulatory focus has been utilised in extant literature to describe and explain differences in behaviour, especially in explaining perceived risk and related aspects of cognitive behaviour such as decision-making and evaluation (Forster et al., 2003; Zhou and Pham, 2004), repurchase decisions (Louro et al., 2005) and response to persuasion and advertising (Chernev, 2004; Pham and Avnet, 2004). Although, these factors may also be important in consumers' participation in online shopping, the regulatory focus theory has, until more recently, been ignored in the study of consumers engagement with online shopping. This is surprising considering it has been shown to be versatile, parsimonious and relatively successful in explaining behaviour in other contexts. As mentioned in the introduction, a few studies have now examined the effects of RF on some aspects of online shopping, including perceived risk and persuasiveness of safety cues (van Noort et al., 2008; van Noort, 2009) and concluded that consumers differed in their perception of online shopping risk and related behaviours according to whether they were promotion focused or prevention focused in their personality.

This research progresses the body of knowledge by examining the nature of the effect of regulatory focus on consumer behaviour in online shopping. It is a first of its kind, utilising a structural equation modelling approach to model regulatory focus as a high-order construct to define a linear relationship between regulatory focus, two mediator variables and actual usage behaviour in online shopping. As a result, the research does not simply address the relationship between regulatory focus and an aspect of online shopping, but integrates the key dimensions in a holistic model of online shopping engagement, utilising a modification of the original base model proposal by Cheung et al. (2003).

1.2 RESEARCH AIM AND OBJECTIVES

The aim of this research is to develop and test a conceptual framework that integrates all key dimensions of online shopping and explains the influence of a consumers' regulatory focus on (1) the online shopping adoption-level variables of perception and motivation; and (2) actual online shopping usage behaviour. In addition, the research aims to examine the said relationship in a simultaneous model based on a structural equation modelling (SEM) technique which represents a unique approach to the problem. In order to achieve its aims, the research had specific objectives as follows:

    I.   To review the literature on consumer behaviour in online shopping in order to clarify the existing knowledge gaps.

   II.   To develop a framework and derive a structural model of consumer behaviour in online shopping based on the effects of regulatory focus, perception and motivation.

 III.   To construct quantitative measures for the purpose of measuring the relationships proposed and developed in objective II.

 IV.   To test the regulatory focus model of online consumer behaviour using structural equation modelling techniques to estimate and verify empirically sourced data.

   V.   To raise practical and theoretical implications for the results of the empirical work in objective IV.

 VI.   To suggest guidelines and recommendations for marketing practice in relation to online retail strategy and implementation

VII.   To suggest areas for future research, as appropriate.

1.3 PURPOSE OF THE RESEARCH

The purpose of this research is to contribute to the body of knowledge on consumer behaviour by providing a description and explanation of consumers' online shopping behaviour through an assessment of the effect of regulatory focus on their perception, motivation and usage, and to do this by drawing upon the wider fields of consumer psychology, Internet research, and marketing with the aid of the structural equation modelling technique.

1.3.1 Rationale

In general, identifying and explaining consumer characteristics have been underpinnings of traditional marketing practice. These, along with segmentation, are the most important bases upon which marketing practice engage with consumers. Therefore, knowing why and how different consumers use the Internet and which attributes influence them the most may provide researchers and practitioners with valuable insights into what factors inform consumer choices online. Consistent with this reasoning, this research is relevant and timely as it provides a new perspective for understanding differences in consumers' online risk perception, avoidance, loyalty and dependency (Tsai and Huang, 2009), their need for control (Wolfinbarger and Gilly, 2001), their use of third-party reassurances (Williams and Grimes, 2010), and their affect (i.e. feelings and emotions) toward the medium (Bosnjak et al., 2007; Isen et al., 1991). Furthermore, as an emergent field, the study of Internet and consumer behaviour has benefited from the utilisation of concepts and frameworks from traditional psychology and other marketing domains (Jayawardhena et al., 2007). Turban et al. (2006) state that the purpose of a consumer behaviour model is to help vendors understand how a consumer makes a purchasing decision, because if a firm understands the decision making process of the consumer, it may be able to influence the buyer's decision, for example through appropriate advertising and promotion. This study continues this tradition and extends knowledge in the field by integrating regulatory focus as an important psychological concept into the representation of consumers' online shopping involvement.

1.4 INITIAL RESEARCH QUESTIONS

Initial background reading revealed a number of questions relating to the Internet as a medium for consumer activity in the area of online shopping. Specific questions related to areas that appeared to have been under researched or hardly researched. These questions contributed to the initial formulation of the research problem, and although they were refined and rephrased in the course of the literature review in Chapter Two, it is necessary to present them here in their

original form, to show how they provided justification for the progression of this research.

1. **Question**: *Does regulatory focus have any effect on consumers' behaviour in online shopping?*
2. **Question:** *Is there any relationship between regulatory focus and the perception that a consumer holds about online shopping in terms of its potential risks and potential benefits?*
3. **Question:** *Is there any relationship between regulatory focus and the motivation for a consumer's adoption and usage of online shopping in terms of its associated hedonic and utilitarian values?*
4. **Question**: *What is the nature of the relationship between the initial adoption factors (perception and motivation) and actual online shopping usage behaviour?*
5. **Question**: *Is there a relationship between consumers' regulatory focus and their actual shopping behaviour online?*
6. **Question:** *What is the nature of any relationship between regulatory focus and actual online shopping usage behaviour?*

1.5 RESEARCH APPROACH AND DESIGN

This section provides an overview of the research design and approach, including the methodology, which are described in detail in Chapter Three. It is necessary to introduce the reader to the design of the research at this stage in order to provide a clear basis for understanding the overall thesis. After careful considerations about philosophy and methodological paradigms, a quantitative design utilising a number of well-established methodologies and techniques was decided upon. An online survey method was identified as most appropriate and cost-efficient for the purpose of gathering empirical data, given a descriptive focus of the research. A questionnaire was developed in which mostly pretested items from the literature were used based on their suitability and pre-validation in other studies. In some cases, new items were generated or modifications were made to pre-existing measures. The full questionnaire is presented in Appendix 9. After successfully testing the questionnaire, an online-based final version was

activated and invitations were sent out by surface mail to households in the UK requesting the householder to visit a link and complete the online questionnaire. Households were randomly selected using a stratified and systematic random selection from the UK 2001 population census (Supergroup) classification scheme (ONS, 2005), in order to generate data that was suitable for statistical analysis using the technique adopted in this research. Finally, the data collected was subjected to robust analysis using descriptive tools and estimations with structural equation analysis. The use of structural equation modelling in this research was particularly appropriate because of the confirmatory objectives set out in the research, and because this technique provided capability for undertaking robust analysis of the research model and hypotheses.

At the end of the survey, 306 useful responses were received (representing a 15% response rate), and although it would have been helpful to obtain more responses, it was not logistically possible to attempt this because of the costs involved, and the consideration that a minimum sample of 120 cases is required to successfully undertake structural equation analysis (Garver and Mentzer, 1999). Furthermore, other studies of this nature have successfully utilised similar numbers and rates of responses: Fagerstrom and Ghinea (2011) utilised 268 responses; Gauzente (2010) utilised 272 responses; and Bridges and Florsheim (2008) utilised 337 responses.

1.5.1 Research Setting

The research was conducted in the United Kingdom (UK), with the unit of analysis based on individuals targeted on the basis of randomly selected households. The United Kingdom is an important player in the Internet domain, with recent research showing that the use of Internet in general, as well as its use specifically for retail purposes, has witnessed some of the highest growth for any country in the world (Kuchler, 2012). Reporting in the Financial Times, Kuchler (2012) provided evidence to the fact that the UK represents the fastest growing market for Internet based commerce among the Group of 20 nations, with this trend set to continue into the foreseeable future. According to this report, the UK's digital economy grew at a rate of 10.9 per cent a year, outpacing South Korea and China as the fastest growing Internet economy for the period. Internet commerce contributed £121bn (or 8.3 per cent of GDP) to

the UK economy in 2010 and was set to rise to £225bn by 2016. The report states that:

> *"British shoppers make 13.5 per cent of their purchases online, higher than 7.1 per cent in Germany, 5 per cent in the US and 6.6 per cent in the world's most wired nation -South Korea. Even more customers choose to research online and buy in store."*

Therefore, any Internet commerce related research conducted within this setting has the potential to provide insights for understanding the subject in other economies of the world. It is acknowledged that some idiosyncrasies will exist in how consumers approach their engagement with Internet commerce on the basis of social, cultural and economic differences. Nevertheless, the setting in which this research was conducted will provide a useful basis for understanding the issues, as well as for future research customisable to other settings.

1.6 INITIAL ASSUMPTIONS

From the initial review of the literature, as presented in Chapter Two , this research assumed that regulatory focus is a trait variable, as opposed to its sometimes construed meaning as a situational variable. On the basis of this assumption, individuals may occasionally show deviations to their regulatory focus disposition, and are capable of learning to adapt as a result of experience and familiarity, but will nevertheless always predispose to a particular way of perceiving and acting, consistent with their regulatory focus. This means that in the case of online shopping, the findings in this research may be more relevant to situations in which consumers are new to shopping online, to a particular retailer or web provider, or to a context, but are nevertheless applicable in all contexts of consumer behaviour online.

Another initial assumption of the research relates to the technique of structural equation modelling and model specification. Although a model is derived on the basis of the literature reviewed herein, and subsequently tested and accepted, it is assumed that other equally valid models may provide alternative explanation for the data collected. This is one shortcoming of statistical modelling, especially

when using the SEM approach. However, it is for this reason that a model derived for SEM estimation must first be rigorously evaluated for its theoretical underpinnings – in other words, such a model is confirmatory to a set of derived hypotheses, and must be specified from a well developed theoretical base.

Finally, the research proceeds on the assumption that consumer behaviour within the UK setting in which the research was conducted is homogenous with consumer behaviour in other parts of the world with similar economic and social-demographic characteristics, and that the research respondents were heterogeneous units of decision making, acting upon their own initiative and therefore responding to the research on an individual basis.

1.7 CONTRIBUTION AND ORIGINALITY

As discussed above, the research in online consumer behaviour is predominated by adoption-stage issues, although recent research appears to be focusing more on actual usage behaviour. However, there is no apparent empirically validated model that integrates the three dimensions of adoption, usage and evaluation. In addition, although some personality trait variables have been explored in studying online shopping, regulatory focus, a robust and tested trait variable, has been surprisingly ignored, having been tested only by a couple of research studies, with inconclusive outcomes. This study proposes an integrated model of online shopping dimensions, develops a framework in which the influence of regulatory focus on these dimensions is clearly specified and empirically tested, and includes the mediating effects that consumers' perception and motivation have on their actual online shopping usage behaviour. In addition to the conceptual contribution, this study is also the first to use a robust structural equation modelling and estimation technique to test these propositions in a simultaneously estimated model, thereby making an additional contribution in the form of methodology and technique.

1.8 STRUCTURE OF THE THESIS

This thesis reports on all aspects of the research carried out in this study and contains five chapters, each with several sections and subheadings. The thesis is designed to support a confirmatory structural equation modelling approach, as illustrated in figure 1.2.
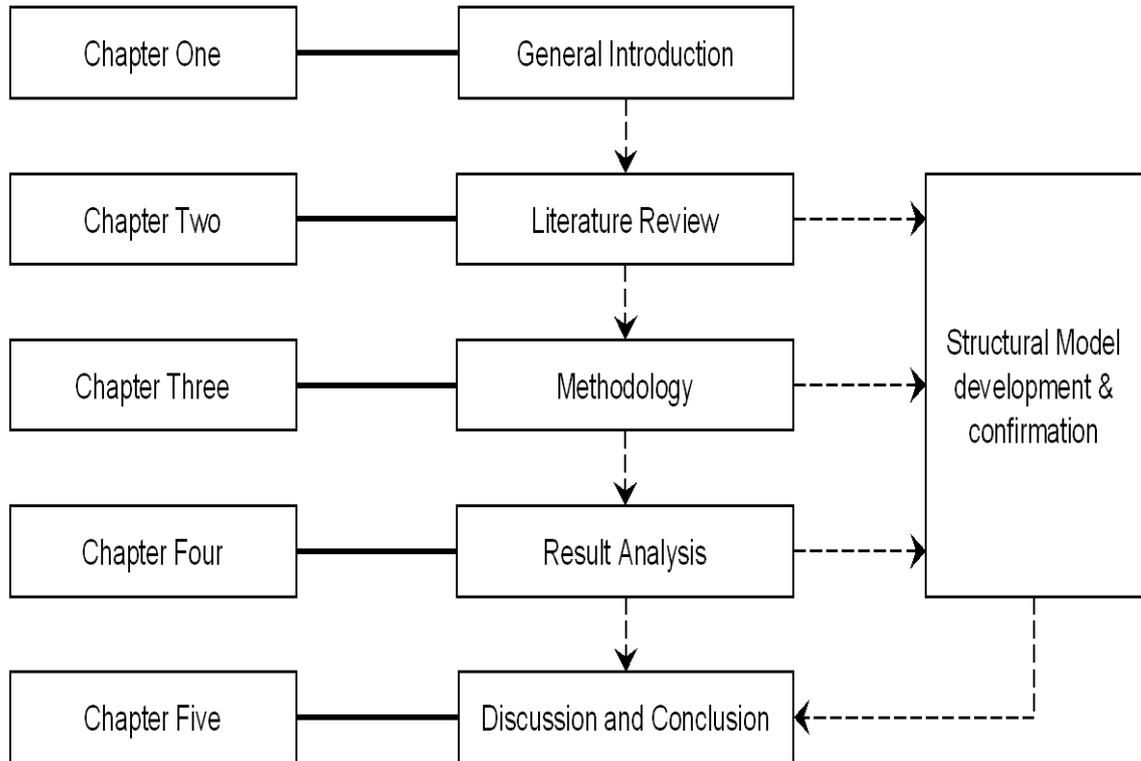
Figure 1.2: Structure of the thesis

Chapter One provides a general introduction to the research which covers an introduction and background to the study, the aims and objectives of the research, the rationale for the research and the initial questions and assumptions.

Chapter Two provides a review and synthesis of the literature and covers the foundations for the research framework; in addition, this chapter lays out the arguments for the research, identifying themes and refining research questions, deriving a research model and proffering a number of research hypotheses based on this model.

Chapter Three provides details about the empirical field work, including the sampling techniques, design and testing of questionnaire instrument, survey research implementation and overall data gathering. The chapter also discusses structural equation modelling in detail, for the purpose of providing a primer to the reader on the technique and its application in this research.

In Chapter Four, the results of the survey are analysed. Details of how the data is tested for quality and fidelity are given, as well as providing a descriptive overview of the results. The chapter also provides a detailed analysis of the research data, using structural equation modelling to simultaneously estimate the fit of data to the research model, and hypothetical propositions. First, the measurement model is tested to confirm that the instrument used was suitable, and the data collected was fit for the purpose of the research; thereafter, the structural model was estimated, to test for the relationships between variables, as specified in the research model.

Chapter 5 provides a discussion of the research results, examines the implications on marketing theory and practice, and concludes the research by making recommendations for practice and future research."

1.9 GLOSSARY OF USE: TERMS, ABBREVIATIONS, FIGURES AND TABLES

This section serves two purposes: it provides a glossary of abbreviations and at the same time serves to explain the usage of key terminologies in this research.

- **Ad, advertisement, advert**. These terms are used interchangeably to refer to the advertisement form of market communication.
- **e-, Internet, online.** The terms Internet and online and the prefix e- are used interchangeably in this research to refer to activity (for example shopping) which occurs via the medium of, and is facilitated by, the electronic exchange and processing of information on the World Wide Web.
- **SEM, structural equation modelling, structural equation model.** The abbreviation SEM is used interchangeably to refer to the terms structural equation modelling and structural equation model(s), respectively: a

methodology for analysing factorial and variable structures, and the model which serves as a visual representation of these structures.

- **Her and him.** The gender terms "her" and "him" are used interchangeably without preference in this research to refer to the individual consumer.
- **RF**: refers to regulatory focus.
- **RFT**: refers to regulatory focus theory, also referred to as the theory of regulatory focus.
- **ROM**: refers to consumers' response to online marketing.
- **RR**: refers to consumers' use of risk relievers.
- **SCA**: refers to the concept of shopping cart abandonment.
- **OS**: refers to online shopping, also referred to as Internet shopping and e-shopping.
- **OSP**: refers to consumers' online shopping perception.
- **OSM**: refers to consumers' motivation to shop online, or online shopping motivation.
- **OSB**: refers to consumers' online shopping behaviour.
- **REFCOS**: refers to the regulatory focus conceptualisation of online shopping, a model for describing consumer behaviour in online shopping based on their regulatory focus orientation.
- **Figures and Tables**: all figures and tables contained in this thesis were generated by the author, unless otherwise stated.

1.10 CHAPTER SUMMARY

This chapter serves as a general introduction to the research documented in this thesis. It sets the scene for the full thesis by providing a background to the research, framing the initial research questions, describing the aim and objectives and explaining the purpose, relevance and contribution of the research. Beginning with Chapter Two, this thesis provides a detailed reporting of the research study which was undertaken in fulfilment of the requirements for the award of the Doctor of Philosophy (PhD) in marketing.

CHAPTER TWO

REVIEW OF LITERATURE AND DEVELOPMENT OF RESEARCH MODEL

2.0 INTRODUCTION

In Chapter One, the dissertation topic was introduced and a general background provided, using relevant literature and previous research to build a case for the importance of this research. The research rationale and relevance were also introduced, and the aims and objectives of the research were identified. One of the stated objectives was to conduct a thorough and comprehensive review of existing literature relevant to the themes of this research. Hence in this chapter, a review of the literature is presented detailing the theories, concepts and previous findings relating to consumers' behaviour in general as well as their behaviour in relation to the use of the Internet as a domain for shopping and retail. The objective of this review is two-fold: on the one hand, this review attempts to take stock of the originating ideas, principles and approaches of consumer behaviour and to provide a detailed overview of relevant concepts, models and theories in consumer behaviour; on the other hand the review aims to critically appraise the literature on the antecedents of consumer behaviour in online shopping, draw upon the extant literature in consumer psychology, marketing theory and Internet retail practice to clarify the knowledge gap in the current understanding of the subject matter, and propose a research model and hypotheses for subsequent testing.

The literature review is divided into four main parts as follows:

- The first part of the review examines the relationship between psychology and marketing, commencing with a historical overview of the emergence of consumer behaviour as an important discipline in marketing. This section's importance to this research is that it places the current research in perspective and provides the context in which the overall research exercise was carried out. It is important that the reader should understand the psychological backgrounds of consumer behaviour and their interaction

with marketing in order that they may better appreciate the manner in which the research was carried out, analysed and interpreted.

- In the second part, this link between psychology and marketing is further developed to explore relevant consumer behaviour theories, with specific emphasis on the Regulatory Focus Theory and its antecedents.

- The concept of the Internet is introduced in the third part of the literature review, where the discussion is also developed to encompass the use of the Internet as a means to commercial mediation and communication, and specifically its use as a retailing and shopping medium within the United Kingdom.

- Finally the review provides a synthesis of the concepts introduced in the preceding parts, showing how those consumer concepts discussed affect marketing outcomes, specifically focusing on the Internet market and retail domain. From this synthesis, the research hypotheses are drawn, and a research model is specified following the deductive-confirmatory tradition of structural equation modelling.
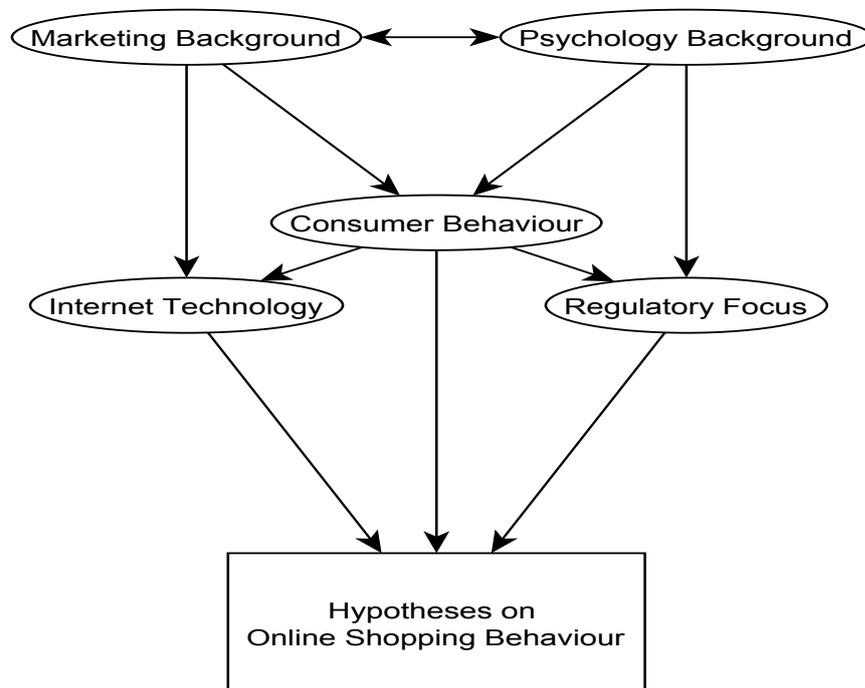
Figure 2.1: Structure of the literature review based on interactions between research fields

The structure of the literature review is represented in figure 2.1 which reflects the interactions that are reviewed, and from which the research propositions and hypotheses are drawn.

2.1 THE PSYCHOLOGICAL AND MARKETING BACKGROUNDS OF CONSUMER BEHAVIOUR

The emergence of consumer behaviour as a marketing field of study can be traced to as far back as the end of the Second World War, and more particularly from about the period between 1950s and 1970s, when business managers began to realize that it was no longer viable for them to attempt to sell just what their factory happened to produce, and liberal market economic ideas became entrenched in Western-style economies with the realisation that to survive was to produce and offer what the consumer dictated (Markin, 1970; Jenkins, 1972; Wright, 2006). It became apparent that any organization which wanted to stay in business had to make an effort to know its market and determine, as well as provide, what its actual and potential customers wanted (Jenkins, 1972). Prior to this, traditional marketing theory had sought to explain the consumption activity using the simple utility theory of economics. According to Kassarjian and Robertson (1981, pp. xiv) this theory postulates that "at all times a rational consumer works toward one goal – the maximization of utility." This behaviour is summarized by the following equation:

$$\frac{MUx}{Px} = \frac{MUy}{Py} = \frac{MUn}{Pn}$$

This means that consumers will buy those quantities of products given that marginal utility (*MU*) or additional satisfaction from consuming one more unit per pound's worth (*P*) of any one product (*x*) equalled the additional satisfaction gained from consuming one more additional unit of any other product (*y,n*), for a specified period of time. This model assumes that consumers derive satisfaction from consumption and that they seek to maximize this within their income limitations in relation to a given set of prices. Secondly, consumers are assumed to act rationally in self-interest, and to be able to judge their tastes and preferences for all products under consideration. However, Kassarjian and

Robertson (1981) state that the micro-economic model, though useful, fell short of satisfactorily explaining consumer behaviour because it did not take into account other factors affecting consumer decisions. Furthermore, some assumptions of the model were not beyond dispute: does the consumer truly seek to maximize satisfaction? After all, existing research on individual decision making had pointed to behaviour that sought satisfactory alternatives rather than optimal alternatives. Rationality too could not be entirely defined and appeared to be relative to the individual and product rather than absolute: "*consumers are not always sensitive to price or knowledgeable about them; they may even buy the more expensive of two items under the assumption that a price-quality relationship exists*."

According to Schiffman and Kanuk (1994), marketers had noticed that consumers did not always act or react according to predictions by marketing theory, with preferences constantly changing. To keep pace with these changes, marketers began taking interest in understanding what the consumer wanted and predicting what they would buy. This resulted in the initial segmentation, with the phrases "customer behaviour" and "consumer behaviour" describing the consumer actions, thought processes and general psychology as understood by businesses. The focus on consumer oriented approach in business resulted in a shift from traditional approaches of marketing following clearly definable stages which can be traced to the post-1945 period (Gunter and Furnham, 1992):

1. Mass marketing: the seller mass produced, mass distributed and promoted one product to all buyers, relying on the economies of scale to turn a profit.
2. Product differentiated marketing: at this stage, the seller began to produce a mix of products that exhibited different styles and features, but were still distributed and marketed following a mass-market philosophy.
3. Target marketing: the emergence of consumer behaviour awareness led to the stage of target marketing, where the seller distinguished many market segments, targeting relevant segments with appropriate product and marketing mixes.

The history of consumer behaviour indicates that as the discipline grew in popularity, the social psychological approach became common because it took

into account the diverse approaches to the study of the role of the consumer in marketing; it involved the bringing together of the two distinct disciplines of marketing and psychology. Indeed, Hoyer and McInnis's (1997) model of consumer behaviour exhibits the psychological foundations upon which marketing explanations of consumer behaviour originated. It shows that there is a psychological core to consumer behaviour.
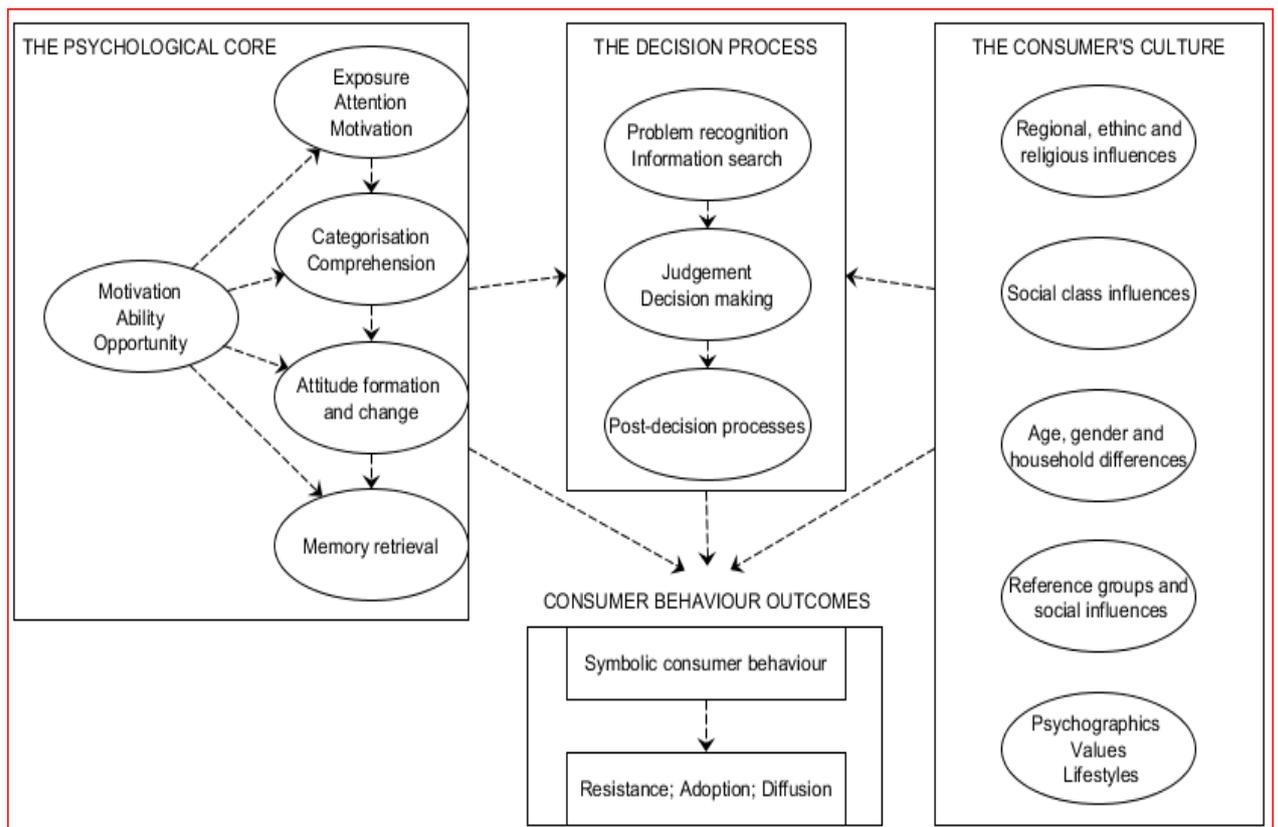
Figure 2.2: Hoyer-McInnis' model of consumer behaviour (source: Hoyer and McInnis, 1997)

This psychological core describes and explains internal consumer processes which are the foundations upon which decision outcomes are based. In addition to the psychological core, there are three other domains that encompass consumer behaviour: the decision making process, the consumer's culture and the behavioural outcomes (Figure 2.2).

The psychological foundations as proposed by Hoyer-McInnis provide a rational basis for building and advancing theories of consumer behaviour, as applicable in this research. Indeed, it is upon the basis of such foundations that a framework for understanding how consumers engage with online shopping can be advanced. However, there was no unanimous initial agreement as to the exact nature of consumer behaviour (was it an economics, sociology or psychology sub-discipline?) and whether it could be considered a discipline in its own right.

This uncertainty had earlier led Sommer and Kernan (1970) to argue that the consideration of consumer behaviour as a discipline or sub-discipline was a matter of perspective, but that the more important issue was the realisation that understanding humans as consumers ultimately led to a better understanding of behaviour. A conclusion that can be derived early on in this research is therefore that in order to claim any credible understanding of behaviour exhibited by consumers, one must seek to understand the consumers themselves, and specifically their psychology. Following from this premise, some early theorists began to view consumer behaviour in terms of consumer psychology. For example, Katona (1967) argued that consumer behaviour as a discipline could be summarized into three main purpose functions (pp. 23):

1. The purpose of consumer psychology is the acquisition of knowledge for the sake of understanding and predicting important aspects of real-life behaviour.
2. Consumer psychology contributes to the development of a theory of social action, consisting of the never-ending process of testing and reformulating hypotheses.
3. Consumer psychology is policy oriented and practical, in the sense that nothing is more practical than good theory.

However, consumer behaviour did not originate from the field of psychology alone. An important aspect of the formative age of consumer behaviour was the variety of theoretical alternatives from which it could be studied and applied. To appreciate the new field of consumer behaviour, the marketing practitioner needed to become an interdisciplinarian, introducing into marketing those theoretical considerations, experimental techniques, and empirical results from

the disciplines of anthropology, sociology and psychology that help to provide increased understanding of consumer behaviour (Britt, 1966).

As an example of this multidisciplinary approach, Kotler (1965) identified and summarised the five models of behaviour that were commonly applied to the study of consumers: (1) The Marshallian model, which stressed economic rationality; (2) the Pavlovian model, focusing on learning; (3) the Freudian model which emphasized psycho-analytic motivations; (4) the Veblenian model, which deals with social-psychological factors; and (5) the Hobbesian model, dealing with organisational factors. This multidisciplinary tradition has formed the basis for the development of consumer behaviour, and continues today as reflected in the very manner in which modern consumer behaviourists define the subject (cf. Wright, 2006; Solomon et al., 2013). This research follows in the above tradition as it draws upon several inter-related conceptions and fields of knowledge to progress the understanding of consumers and their behaviour.

2.2   DEVELOPMENT OF THEORIES OF CONSUMER BEHAVIOUR

Foxall (1990) states that the most widely accepted and influential models of consumer behaviour have emerged largely from cognitive psychology which in itself has assumed a dominant paradigm for psychological research. However, according to Markin (1970), theories of consumer behaviour relied upon concepts developed in the various fields of the social sciences - economics, psychology and sociology – as explained below:

As a result of these diverse approaches to the understanding and appreciation of consumers' purchasing behaviour, several models emerged which sought to describe and explain consumer behaviour. Perhaps in early recognition of the interdependency of approaches, Howard and Sheth (1969) produced what is viewed as an integrated base model of buyer behaviour based on derivations of concepts from the above disciplines, illustrating "*the use of unobservables, representing intervening variables and hypothetical constructs, to account for observed consumer choice*" (Foxall, 1990, pp. 10). The Howard-Sheth theory of buyer behaviour comprises of four sets of variables, namely, inputs, perceptual

constructs, learning constructs and outputs. A summarized description of this theory is provided by Foxall (1990, pp. 10) as follows:

> *"Three types of input among the commercial and social stimuli that impact upon consumers: significative inputs include quality, price, distinctiveness, service, and availability as they influence the consumer directly through the brand's attributes; symbolic inputs, which derive from the same factors as they are portrayed in the mass media and by sales people, and which influence the consumer indirectly; and social inputs – including family, reference groups, and social class. These stimuli impinge upon the consumer's perceptual field to produce stimulus ambiguity (feelings of dissonance and uncertainty that can be reduced by a search for further information) and perceptual bias (the results of the consumer fitting the newly available information into his or her existing mental state). The learning process leads to a determination of the degree of confidence the consumer places on a particular brand, the results being largely influenced by motives, attitudes and comprehension. The extent to which the consumer is satisfied with the purchase feeds back as modifying information that affects attitudes, confidence, purchase intentions and subsequent activity."*

However, the Howard-Sheth Model for describing consumer behaviour (Figure 2.3), considered as belonging to an information processing school of thought, has been criticised because of the untestability of many of its propositions (Foxall, 1990) and also because of its high level of abstraction, resulting in lack of correspondence with, and poor predictability of, actual consumer behaviour (Tuck, 1976, in: Foxall, 1990). But in spite of these criticisms, there are many good reasons for the strength of a comprehensive model such as the Howard-Sheth model which inculcates information processing and cognitive principles. This is because a cognitive approach uses consumers' descriptions of their experiences in terms of attitudes, wants, needs and motives to ensure that an explanation proceeds in the same terms as the description of what is explained. In this research, some elements of the Howard-Sheth comprehensive model are evident, in general encompassed in the influence of consumer motivation and perception as discussed subsequently.
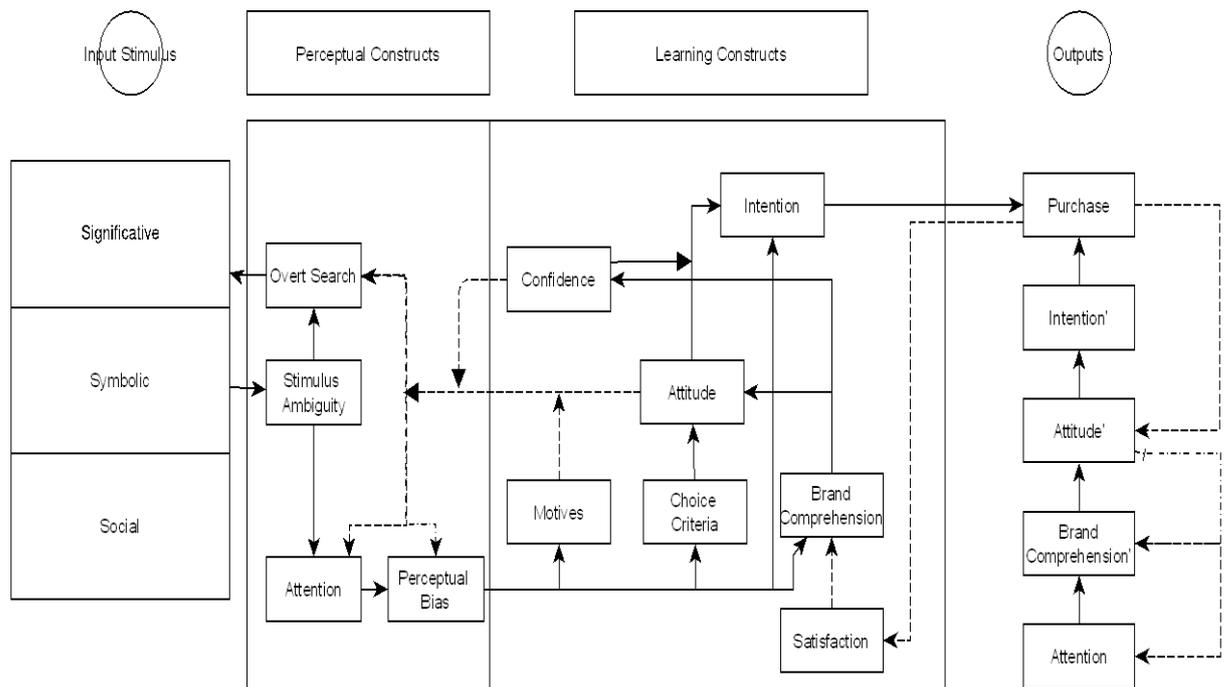
Figure 2.3: Howard-Sheth Model of Buyer Behaviour (source: Foxall, 1990)

Other early models that sought to define and describe consumer behaviour were Engel et al.'s (1968) model (in Simonson et al., 2001), the Nicosia (1966) model, Fishbein and Ajzen's (1975) and Rosenberg's (1956) attribute-preference based models. While the Nicosia model is similar to the Howard-Sheth model because of its buyer behaviour approach, Lehman (1972) states that Fishbein's and Rosenberg's models described perceptual mapping and are focused on the explanation of individual preferences.

These early models were criticized for attempting to capture the complexity of consumer behaviour in one comprehensive and grand model, and as a result the emphasis on grand theories declined during the 1980s (Simonson et al., 2001). The preferred approach of parsimonious and readily testable models that emerged subsequently continues to date, and is the philosophy underpinning the modelling approach in this research. However, the early approaches to consumer behaviour provided valuable and essential directions for the field. One of the key contributions was in providing a reference for the assumptions that underpinned the study of consumer behaviour, as explained next.

2.3   ASSUMPTIONS ABOUT FORCES INFLUENCING CONSUMER BEHAVIOUR

Gardner (1985) first presented a summary of the assumptions of consumer behaviour. According to him, these assumptions are universal to human behaviour and operate whether it is in voting, selecting and consuming goods or services, or making decisions and choices of all kinds. Gardner briefly described these assumptions as follows:

- The individual has strong drives and energies which must be acted upon and with, if he is to sustain his life and well being.
- The individual is part of his culture and he is profoundly influenced by the broad social environment in which he pursues his personal ends, lives his life, and satisfies his needs.
- The most important social influences are his family, neighbourhood and community environment within which he develops interpersonal relations and behavioural references.
- The individual has personality, which is a compound of his basic human needs and his life experiences.
- Although each person has his own personality pattern, there recur broad patterns or types which are common within certain groups, and which gives rise to identifiable and discernible societal segments.
- Finally, the process of symbolic association communicates different meanings of different individuals: words, objects, actions, pictures all communicate many things both consciously and subconsciously (for example as exploited through the use of brands and brand image associations).

These assumptions are important to this study and any study of consumer behaviour because they have stood the test of time since 1966 and have underpinned the study of consumer behaviour, hence they form the guiding premise upon which the researcher proceeds to discuss the relevant concepts and theories that inform and frame the current research. The work of Gardner (1966) also provides validity to the psychological core argument for understanding consumer behaviour, as proffered in the Hoyer-McInnis model (1997) presented in section 2.1.

2.4   CONTEMPORARY APPROACHES TO CONSUMER BEHAVIOUR

As far back as 1981, Kassarjian and Robertson (1981) contended that the dominant view in consumer behaviour was the social psychological view, which is multi-theoretical in its perspective. In this, the consumer is viewed as a thinking, cognitive organism influenced by many forces: external forces such as price and inflation are important, but so are psychological factors such as learning, perception and motivation. More recently however, Peter and Olson (2005) contended that consumer behaviour was a complex and eclectic field of study, with contributors' backgrounds varying greatly by training, objectives and methods. They identified three modern approaches adopted in the study of consumer behaviour as interpretive, traditional and marketing science (Figure 2.4). The interpretive approach is relatively new in the field, is derived from the cultural arm of anthropology and is concerned with developing a deep understanding of the meaning of consumption and the origins of consumption behaviour in humans.
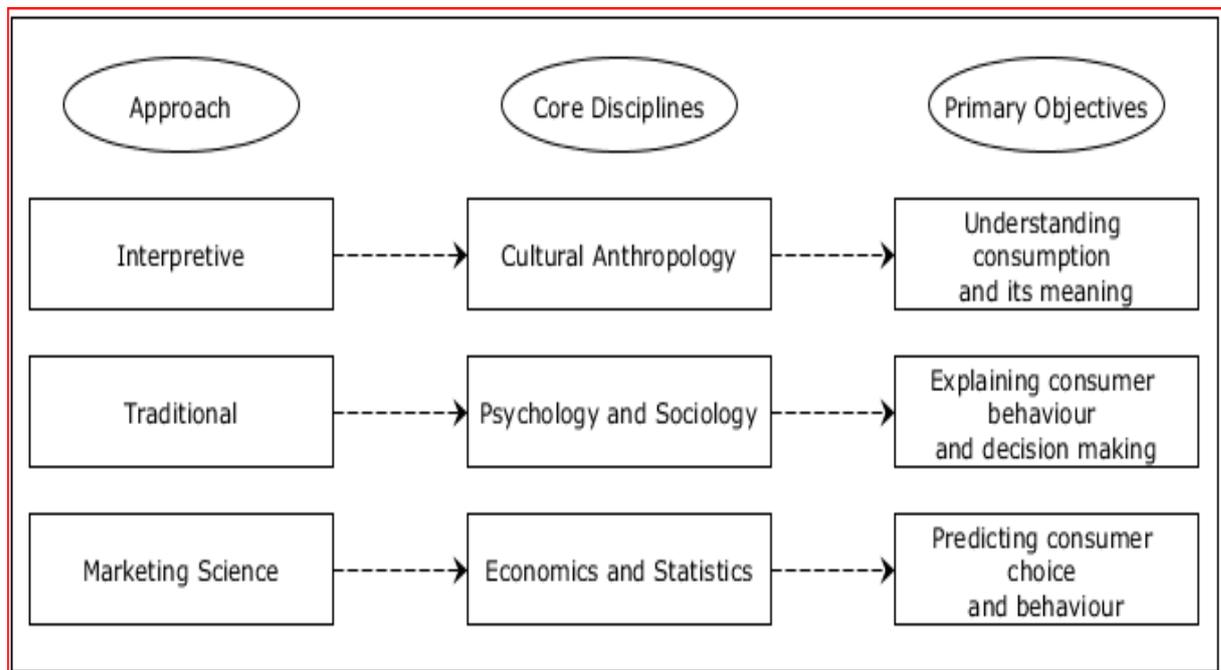
Figure 2.4: Approaches to the study of consumer behaviour (source: Peter and Olson, 2005)

The traditional approach on the other hand is derived mainly from theories of cognitive, social and behavioural psychology, as well as sociology, and is concerned with developing theories and methods (for example experiments) to

explain consumer decision making and behaviour. Peter and Olson point out that this approach has had "*a profound impact on marketing thought, with some researchers focusing on theory testing and others on investigating the impact of marketing strategies on consumers*" (p. 10).

The marketing science approach derives from theories and methods that are common in economics; as such, it is primarily preoccupied with developing and testing models of mathematical grounding to help predict the impact and effect of marketing strategies on consumer choices, preferences and behaviour.

As Peter and Olson state, all three approaches have value and have been successfully utilised in evaluating an aspect of consumer behaviour. Given the current research topic, a combination of the traditional and the marketing science approaches is favoured to provide conceptual and methodological capability for achieving the stated objectives.

Because of the variations in approaches that have emerged over time in the study and application of consumer behaviour in marketing, providing a clear-cut definition of the discipline is not easy. The review of literature shows that numerous definitions of consumer behaviour exist in varying degrees. It is important to undertake a brief review of those definitions here in order to position the reader's mind towards the complexity of the concept of consumer behaviour, thus explaining why research on this phenomena is continually evolving and yet complex to construe or interpret.

Simonson et al. (2001) acknowledge that while there have been multidisciplinary influences on the development of consumer behaviour and research, socio-cognitive psychology has had the greatest impact. This is because most key aspects of buyer behaviour are also central research topics in psychology. The present research focuses on consumer behaviour from the individual unit of analysis; therefore an explanation of psychological concepts of consumer behaviour is required, and the definitions provided here lead onto that.

Hoyer and McInnis (1997, pp. 6) define consumer behaviour as "*the study of the totality of consumers' decisions with respect to the acquisition, consumption, and disposition of goods, services, time and ideas by (human) decision making units (over time).*"

Alternatively, Schiffman and Kanuk (1994) define both the term – the behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs – and the act of its study – the study of how individuals make decisions to spend their available resources such as time, money and effort on consumption related objectives. The definition which refers to behaviour that consumers display is the main focus of the present research, although it should be noted that this focus is only meaningful when considered within the context of the definition of consumer behaviour as an area of study, as substantiated by Jacoby et al. (1998).

A number of common themes emerge from the above definitions:

- Consumer behaviour involves the study of how and why consumers make choices
- Consumer behaviour studies the factors that influence these choices, decisions and processes.
- Consumer behaviour involves decision making
- Consumer behaviour studies the processes by which consumers carry out the act of consumption

The common themes identified from the definitions above are all applicable in this research and reflect the generality of thought relating to the study of the consumer behaviour domain. These themes relate to the consumers' underlying traits, environment, choice and decision making processes, and behaviour. In this research, the focus is primarily on understanding the manifested behaviours (acts) and their underlying psychological antecedents. Therefore it can be deduced that this research fits a mix of traditional and marketing science approaches, seeking to explain and define consumers' behaviour in the domain of online shopping, and seeking to provide a statistically relevant model for perceiving aspects of this behaviour.

In the next section, the review is focused on a more in depth understanding of relevant psychological concepts which are applicable to this research and also provide a contextual framework for the progress of the research.

2.5   RELEVANT   PSYCHOLOGICAL   CONCEPTS   IN   CONSUMER BEHAVIOUR

2.5.1 Introduction

In the preceding sub-sections a historical overview of the emergence of consumer behaviour as a discipline in the broader field of marketing was presented, highlighting the early approaches that were adopted in the study and research of consumer behaviour. Significantly, the role and contributions of psychology in shaping modern day consumer behaviour were discussed. The previous section was important as it provides a "launch pad" for the remainder of this thesis.

In keeping with the aim of this research as specified in the opening chapter, a thorough examination of psychological constructs of consumer behaviour relevant to this research is required. Therefore, in this section, the author examines relevant socio-psychological concepts that influence consumer affect, choice, decisions and consumption processes.

2.5.2 Perception

Wright (2006, p. 110) defines perception as the "*process of selecting, organizing and interpreting sensory data into usable mental representations of the world*." Perception is a cognitive function in psychology; that is, it is an internal function relying upon the individuals' understanding and interpretation of a stimulus. According to Kassarjian and Robertson (1981) a simple way to relate this to consumer behaviour is that, for a consumer to buy a product or service, he must first perceive it to exist. They state further that perception is governed in part by the nature and strength of the stimulus. For example, a colour advertisement may be more readily noticed than a greyscale advertisement, not because this is necessarily related to the needs and motivations of the reader, but merely as a result of the stimulus's strength in encouraging perception.

Nevertheless, Kassarjian and Robertson aver that the "naïve realism" view that was once held of perception has been replaced in consumer behaviour with a view that acknowledges the role of motivations and need-value systems of the observer in forming what is perceived, as well as the context in which the

stimulus appears. This later is the basis for the concept of selective perception, which further holds that reality is quite personal and somewhat different for each individual. "*It is formed by individuals' needs, drives, and past experiences; by what they have learned; by their motives and personalities; and by their cultural environment. Each of these factors influences how an individual perceives the world*" (p.2). Selective perception theory argues that the selective nature of perception means more than different people having varying values and preferences; it also means different people holding the same "thing" to different interpretations and meaning. Hastorf and Cantril (in Kassarjian and Robertson, 1981) point out that it is inaccurate and misleading to say that different people merely have different attitudes concerning the same thing. They argue:

> "*The thing simply is not the same for different people whether the thing is a football game, a presidential candidate, Communism or spinach. We do not simply react to a happening or to some impingement from the environment in a determined way.*"

In this regard, perception has been described as not only selective but subjective, leading to the idea of what Smith et al. (1998) termed the natural state of perceptual bias, which provides evidence of trait influence on perception. In marketing terms, a product or service exists for consumers with a particular set of needs, values, motivations and past experience. Each set combination determines how the individual construes the meaning of the product.

Kassarjian and Robertson (1981) expand on this by ascribing to the concept of **symbolic meaning**, arguing that the importance of symbolic meaning or image cannot be overestimated. A created image, combined with the consumer's ability to perceive what she wishes to perceive, is an important factor for brand selection in the purchase of many products. This concept was aptly demonstrated by Allison and Uhl (1964) who found that subjects were not able to discern the taste differences among various brands of beer when labels were removed; however when the products were identified, the subjects had clear preferences. This description of symbolic meaning highlights the importance of key concepts in marketing – notably image and brand, which, as indicated in Figure 2.3, have been established as important in the success of organisations' relationships with consumers.

Additionally, perception is said to be affected by internal factors like attitude and mood, as well as external factors like familiarity and culture (Wright, 2006); it is closely associated with the other psychological factors of attitude, motivation, affect and personality, it can also change or vary for the same product or situation, although individuals default to a pre-existing frame of reference to evaluate familiar attributes or cues in a changed context (Loudon and Bitta, 1979). Loudon and Bitta (ibid) further elaborate that perception can be based on the perceived physical characteristics of a product, non-physical attributes such as price, or psychological attributes such as risk. This view is shared by Monroe and Petroshius (1981) who averred that changes in the price of a product can affect the way it is perceived by some consumers.

2.5.2.1 Perception of risk

The concept of perceived risk was introduced to consumer behaviour in 1960 by Bauer (Kassarjian and Robertson, 1981) and has been a major topic of consumer behaviour ever since. It stresses that consumers generally seek to reduce risk in their decision making processes because decisions contained an element of uncertainty about outcomes. Cox (1967) and Roselius (1971) studied types of risks perceived by consumers and risk reducing measures respectively. Cox stated that the consumer perceives risk of uncertainty of goals, that is, what she really wants or wishes; a second risk is associated with not knowing which product, service or even brand will best match the buying goals; finally, there is risk that arises from the possibility of adverse consequences if a purchase is made (commission risk) or not made (omission risk). On his part, Roselius identified important risk reducing mechanisms that consumers employed to relieve potential risk anxiety: brand image, loyalty to a familiar retailer, store reputation, sampling and testing, word-of-mouth, price, and guarantees.

In consumer behaviour, perceived risk has been conceptualised as the nature and amount of risk perceived by a consumer when contemplating a purchase decision (Cox and Rich, 1964); it has also been defined as the subjectively determined expectation of loss (Mitchell, 1999). Jacoby and Kaplan (1972) and Peter and Tarpey (1975) collectively identified six components of perceived risk as applicable to consumer behaviour as physical, social, product, convenience, financial, and psychological risks.

In this research, although specific types of risk are considered, these are not subsequently accounted for, as rather, the sum product of the risk factors is evaluated. Three types of risk are relevant to online consumer behaviour and therefore to this research, and are here briefly defined. Product risk has been defined as the probability of the item failing to meet the original performance expectations (Peter and Tarpey, 1975); financial risk is the likelihood of suffering a monetary loss from a purchase or transaction (Jacoby and Kaplan, 1972); privacy risk is defined as the probability that personal information is disclosed as a result of the transaction (Maignan and Lukas, 1997).

2.5.3 Motivation

Another important concept central to the study and understanding of consumer behaviour is motivation. Wright (2006) describes how consumer behaviour is interested in imputing reasons why people behave and act in a particular manner. He gives examples: an individual running towards the railway station is in a hurry to catch a train; the lady who closes a window is probably cold; and the girl crying at a dance most likely has man trouble. In order instances, reasons could be imputed from what people say, although there are times when people say one thing and then do another, so that the real motives may be different from those given. As Wright points out, motivational reasons can be complex, with numerous amounts of research showing that individuals can be uncertain or unaware of the real reasons behind their actions, and so give one reason for their behaviour when another reason is the real one. This is why marketing has been keen to understand the psychology of motivation. Businesses are interested in understanding the real reasons behind behaviour that is exhibited in the form of brand choice and purchase decisions because they realize that this knowledge can bring real benefits in the form of ability to design marketing mixes that appeal to the consumer.

Historically, it has been established that motivation can arise from curiosity (Wilson, 1975) and from deliberately seeking out stimulation or excitement (Wright, 2006). It can also be positive or negative – positive motivation results from the need to obtain fulfilment while negative motivation results from the need to avoid unwanted outcomes; this principle is further explored by Higgins (1997) in the theory of regulatory focus, and Elliot and Church (1997) in the

theory of approach-avoidance achievement motivation. The theory of regulatory focus is explored further in section 2.11 of this chapter.

Maslow (1968) described motivation as hierachical. He argued that motivation could be understood from a categorisation of needs into safety needs and self-actualisation needs. On the basis of this, he proposed a theory of hierarchy of needs in the order of (i) psychological needs; (ii) need for safety from danger and risk; (iii) esteem needs; and (iv) the need for self actualisation.

In addition to the above, other motivation theorists have sought to explain this concept in a different way. Vroom (1964) proposed the expectancy theory which states that motivation results from rational calculations by people about potential rewards, the value of the rewards and the effort or cost involved in attaining that reward. Herzberg, (1968 and 2008) argued that there are two kinds of motivators: the hygiene factors and the motivating factors. In marketing, hygiene factors can be likened to the basic level of service expected by customers from an organization while motivating factors may be likened to the higher level of service that an organization must achieve in order to obtain and maintain customers' loyalty.

2.5.3.1 Primary versus secondary needs and internal versus external motives

Based on Maslow's theory, Wright (2006) distinguishes between primary and secondary needs as well as internal and external needs. He states that primary needs are innate and biological, which all animals and humans are said to share, while secondary needs are those that have been socially and culturally acquired through interaction with others. Internal or intrinsic needs are desires or motives that originate within the individual, for example the decision to buy a dress on the Internet, whereas external or extrinsic motives emanate from the prospect of obtaining an external reward, for example buying a fanciful dress to impress at a party.

Later within this chapter, the concepts and theories of motivation are utilised appropriately to relate the impact of motivation on consumers, particularly as it relates to its underlying factors as well as its effect on, and relationship with, behaviour in the online shopping context. Specifically, the research considers

how motivation in the shopping context presents itself in two forms - as either hedonic based or utilitarian based – how this is preceded by the consumer's regulatory focus orientation, and how this plays an important role in consumers behaviour in online shopping.

2.5.4 Learning

Learning is an important concept in consumer behaviour. Bernstein et al. (1997) define learning as the process through which experience modifies pre-existing behaviour and understanding. "*It plays a central role in most aspects of human behaviour, from the motor skills we need to walk or tie a shoe to the language skills we need to communicate and the object categories – such as food, vehicle, or animal – that help us to organize our perceptions and to think logically about the world*" (p. 191). As Bernstein et al. (ibid) state, the Pavlovian model of conditioned learning has been widely used in explaining the learning process because it describes the methods by which basic associations develop; as an early behavioural learning approach, it also forms the foundation upon which subsequent theories of conditioning were developed. They describe two forms of conditioning: (i) classic conditioning (p. 193 and 196) and (ii) instrumental and operant conditioning (p. 201).

However, not everyone agrees with the behavioural approaches to learning. MacKintosh (1983) and Myers (1988) are prominent critics of the behavioural approach. They proposed that learning is a cognitive process that occurs from the internal mental processes of the individual, although with cognisance of the stimulus-response environment. Supporters of this view (cf. Solomon et al., 2005; Bernstein et al, 1997) also highlight the role of creativity and insight during the learning process.

Solomon et al. (2002) state that consumer learning is very important in marketing, while Bernstein et al. (1997, p. 204) aver that: "*daily life is full of examples of operant conditioning. People go to movies, parties, classes, and jobs primarily because doing so brings reinforcement.*" Many theories of consumer behaviour refer to learning as an important factor in how consumers behave and as an important ingredient in forming attitudes, perceptions and affect. Additionally, Solomon et al. (2002) state that behavioural learning principles

apply to many consumer phenomena, ranging from the creation of a distinctive brand image and brand equity to the perceived link between a product and the consumer's underlying need.

In recognition of this, advertisers commonly link their products to images of popular people, or to other artefacts which are likely to evoke good feelings, in order to create association between those good feelings and the product through second order conditioning. In general then, it is without doubt that learning plays an important role in marketing communication and consumers' responses to these communications. It is therefore an important area to generally understand, in appreciating the broader discussion relating to online marketing communication and consumers' affect and response toward it, as evaluated in this thesis.

2.5.5 Attitudes

According to Wright (2006), unlike other behavioural concepts, "*it can be safely accepted that people are not born with an attitude*." Rather, attitudes are feelings and beliefs that people develop about objects, events, people, and issues over a lifetime through learning and experiences of interacting with people and the environment. Commenting on the nature of attitudes, Solomon et al. (2002) state that an attitude is lasting because it tends to endure over time; it is general because it applies to more than a momentary event.

2.5.5.1 The structure of attitudes: affect, behaviour and cognition

There is agreement that attitude comprises of three components; although some writers refer to these as beliefs, emotions and behaviour, others consider the three components to be affect, behaviour and cognition, that is, the ABC model of attitude (Wright, 2006). In reality, these are similarly conceptualised terms. As Bernstein et al. (1997) explain: the cognitive component is a set of beliefs about the attributes of the attitude object; the affective component consists of feelings or emotions about the object; and the behavioural component pertains to the way people act toward the object. These three components are not always consistent or harmonious within an individual's attitude, so that although one set of beliefs may be held about an object and elicit a determinable affect, the reaction or behaviour exhibited may not be in conformity to the expected

behaviour (Kraus, 1995). This may be due to the influences of subjective norms – perception of how one is expected to behave by important others (Eagly and Chaiken, 1993) - and by one's beliefs about her ability to perform a specific behaviour, also referred to as perceived control (Madden et al., 1992).

However attitudes can be both positive and negative. Wright (2006) states that while managers strive to create and maintain positive attitude feedback about their company and brand, customers can develop both positive and negative attitudes toward company and product brands. Thence, Wright avers that it is important for marketers to understand how the three components of affect, behaviour and cognition interact when forming attitudes about products and brands, in order to build the right marketing and promotional campaigns. To do this, he identifies three approaches which are applicable: high consumer involvement, low consumer involvement, and emotional consumer involvement.

2.5.5.2 Attitude formation and change

While people are not born with specific attitudes toward specific objects, their attitudes about new objects begin to appear early in life, and continue to emerge throughout life. Bernstein et al. (1997) state that the formation of new attitudes is influenced mainly by the principles of learning, as discussed in section 2.6.4. In addition, Bornstein (in Bernstein et al., 1997) describes the **mere-exposure effect** as influencing attitudes: all else being equal, attitudes toward a thing will become more positive the more frequent people are exposed to it. This is an important concept which underpins some advertising and marketing communication philosophies, and is applicable to the online context, as discussed further on in this chapter.

But once attitudes are formed, they can also be changed. Bersntein et al. (1997) explain that the process of attitude change involves elaboration, with two routes to attitude described by the **elaboration likelihood model** (figure 2.5):

- **The peripheral route**. Attitude change is achieved through attention to peripheral persuasion cues, such as the attractiveness of the person delivering the message, rather than to content or validity of the message. This can apply to affect to a retailer due to the attractiveness and aesthetic quality of its website – the hedonic influence.

- **The central route**. When this is activated, the content of the message becomes more important in attitude change than the characteristics of the communicator or medium. This can apply to the perceived usefulness or utilitarian aspects of the retailers' website or e-store.

The notion of the existence of two different routes to achieving attitude change can be likened to the concept of obliquity (Kay, 2010) which describes how goals can be achieved through direct and indirect means. Indeed, the concept of obliquity is, to a large extent, based on the elaboration likelihood model of attitude change. Similarly, the two-route approach can be extended to apply to consumers' hedonic and utilitarian preferences, as presumably, hedonic oriented consumers should prefer the peripheral route while utilitarian oriented consumers should prefer the central processing route.
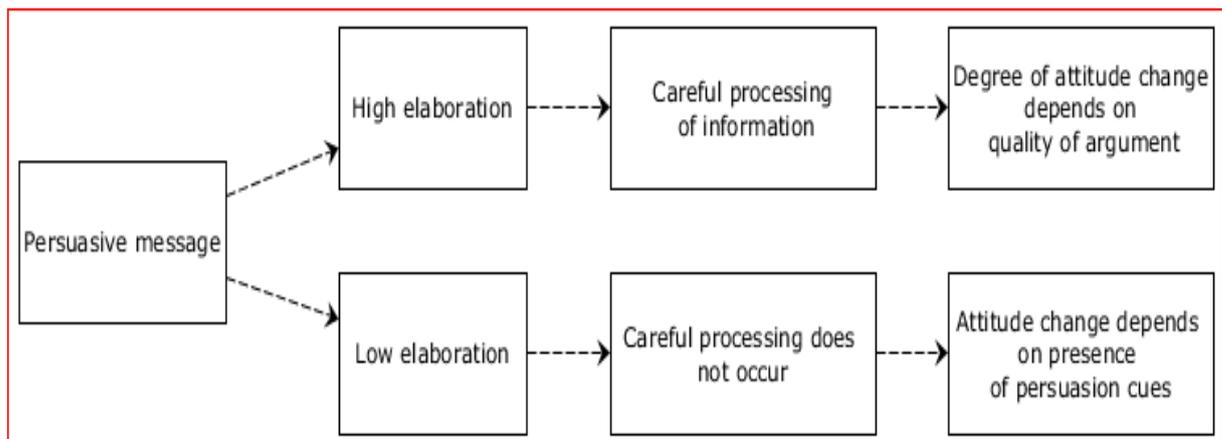
Figure 2.5: The Elaboration Likelihood Model of Attitude Change (Bernstein et al., 1997)

Another approach to changing people's attitudes is to get them to act in ways that are inconsistent with those attitudes, in the hope that attitude adjustment will occur to match this behaviour (Bernstein, 1997). Inconsistencies between belief, behaviour and attitude produce internal tension (cognitive dissonance), which people then take steps to correct by changing the held attitude (cognitive consistency). This phenomenon is described by the **cognitive dissonance theory** (Festinger, 1957). Cognitive dissonance can also apply when individuals are forced by situations and circumstances to act in contrast to their default

behavioural orientation, for example regulatory focus. In such a situation, the individual seeks to return to their default psychological state as soon as it is possible to do (that is, revision to type).

But changing attitudes requires that there is an understanding of why the attitude was adopted in the first instance; reasons why a particular attitude is adopted will be different among individuals, and these differences are important in understanding the behavioural consequences. Wright (2006) identifies four reasons:

- **Utilitarian purpose**: attitudes are adopted because they serve a practical, utility purpose.
- **Value-expressive purpose**: attitudes are adopted because they appear to reflect ideas about the person that one thinks they are, would like to be or would like to be seen by others.
- **Ego defensive function**: attitude clusters adopted to perform an ego-defensive role.
- **Knowledge function**: attitudes are developed through knowledge, experience and reason.

It is important to understand the attitude concept in this research because, although it is not expressly modelled, the attitude construct forms an integral and implicit component of perception and motivation as discussed above. It is treated as a subcomponent of the perceptual process and the formation of perceptions as well as motives.

2.5.6 Personality

The world's population is estimated in billions, yet each individual that constitutes this human population is different in their combination of perception, attitude and behaviour. These differences are what define personality. According to Wright (2006) and Mischel (1993), personality is the crucible or coalescence of the psychological processes, in interaction with the biological and behavioural aspects of the individual. Personality has been defined from a number of different perspectives. According to Bernstein (1997) one perspective is based on the Freudian **psychodynamic** concepts of id, ego and superego – *"the interplay of various unconscious psychological processes determines thoughts, feelings and*

behaviour" (p. 460) – which, it will be recalled, were earlier linked to the Hoyer-McInness model of consumer behaviour in section 2.1.

A second way to view personality is from the self-concept theory (Bernstein et al, 1997). The **self-concept theory** focuses on how an individual perceives herself and her environment, rather than how an external body perceives their personality. The theory argues that an individual with a strong, positive self concept views his environment quite differently from an individual whose self concept is weak. Self concept theory also refers to the ideal-self, which is a concept relating to the kind of individual the person would like to be – the closer the ideal self to the real self, the more fulfilled the individual will be. The implication for marketing is that as individuals aspire to their ideal self or seek to maintain their self-concept, they are like to purchase those goods and services that enable them to satisfy these objectives (Williams, 1981).

Finally, personality has been defined and explained from a **trait** perspective. Pervin (1994) defines traits as the inclinations or tendencies that help to direct how a person usually thinks and behaves. Bernstein (1997) summarises assumptions of trait theory as (i) people's traits are relatively stable and predictable over time; (ii) they are stable across diverse situations; and (iii) no two people are exactly alike on all traits, hence an endless variety of unique human personalities. According to Williams (1981) the trait theory is quantitative and looks at personality as being composed of predisposition attributes and traits. The objective of the trait approach is to identify the important attributes of personality and to study their effect on behaviour. However the application of trait theory has not been without its shortcomings. Specifically Wiliams (1981) identify three criticisms:

- Traits are inferred from behaviour and thus to use them to explain behaviour may be counter-intuitive;
- The interaction of various traits results in the Gestalt of a unique personality which is different from the sum of the traits which are merely aspects of the total personality; and
- Situational variables are important in determining given behaviour. Trait theory does not take enough account of the interaction between individual differences and the situation/environment.

Nevertheless, Williams (ibid) states that the trait theory has been used more in consumer behaviour than any other personality concept, for example, as the basis for segmenting consumer markets. The trait approach is central to the conceptualisation of the regulatory focus concept, as this concept is based on the assumption of enduring personality differences. Regulatory focus has been construed as a personality trait, although it has also been shown to have temporal consequences relative to the environment and situation. These conceptualisations are discussed in more detail in later parts of this thesis. Another popular trait theory of personality postulates that there are five factors that explain personality of individuals. Sometimes referred to as the Big Five, these factors are extraversion, emotional stability, agreeableness, conscientiousness and openness to experience (Digman, 1990). The importance of personality in this research lies in the conceptualisation of regulatory focus as a personality trait. By considering regulatory focus to be a trait, the research assumes that behaviour that is influenced by this trait will vary across people and can be predictable based on the trait differences, and regardless of the overall general situation.

The discussion in this section focused on the key psychological derivatives that inform the present research. The concepts of perception, motivation, learning, attitudes and personality were discussed in depth in order to establish a clear foundation upon which a more focused review would be conducted, and upon which the research framework would be further developed in subsequent sections. Deriving from the above, the next subsection briefly explores the main concepts of marketing that are relevant to the understanding of consumer behaviour in the context of this research.

2.6 RELEVANT MARKETING CONCEPTS: MARKETING MIX AND MARKET SEGMENTATION

2.6.1 The Marketing Mix

Managers are aware of the importance of consumer behaviour concepts to the marketing mix. For this reason, an understanding of consumer behaviour should take account of the marketing mix: product, price, place and promotion (Wright,

2006). Donaldson (2009) adds that it is common to find the fifth "p", that is "people" added to the elements of the marketing mix, in addition to two more elements which make up the modern seven "P"s of marketing: process and physical evidence. The element "people" refers to consumers and their attitudes, perceptions, motivations, aspirations and influences. Doyle (2002) defines the marketing mix as "the set of marketing decisions that management make to implement its positioning strategy and achieve its objectives." In this research, there is particular interest in the Internet as the "place", and its associated effect on the other elements of the marketing mix, especially people.

2.6.2 Segmentation

One way the concepts discussed in section 2.6 can be used in consumer behaviour is through segmentation. Later in this chapter, the classification and segmentation of online consumers using the various attributes and concepts is examined further.

According to Doyle (2002), a market consists of customers with similar needs who are never homogenous and differ in the benefits wanted, the amount they are able to or willing to pay, the media they see and the quantities they buy. Doyle further avers that segmentation increases profit opportunities because different groups of customers attach different economic or psychological values to the solution offered. But segmentation is an art rather than a science, based on two types of variables: needs and profiles (Doyle, 2002, p. 67). Needs are what the customer segment wants and profiles are the description of the customer segment, based on measurable characteristics which may be tangible (age) or non-tangible (attitude). Segmentation begins with classifications or profiling. The most common profilers used in consumer market segmentation are (Doyle, 2002, p. 68; Donaldson, 2009, p. 20):

- Geographic
- Region of the world
- Region of the country
- Urban or rural area
- Demographic
- Age sex, family size

- Income, occupation, education
- Religion, race, nationality
- Psychographic
- Social class
- Lifestyle type
- Personality type

- Perceptions and motivation
- Behavioural
- Product usage
- Attitudes, knowledge
- Loyalty
- Type of user: heavy, medium, low

To these categories one might add culture and social group membership (Wright, 2006). Although the present research is not focused primarily on segmentation per se, it addresses classification that is based on a psycho-cognitive and behavioural descriptor, and this is related to online marketing segmentation. By understanding differences in behaviour at the individual level, Internet marketing practitioners can develop models for the segmentation of consumers along common behavioural clusters, as well as other psychological parameters.

2.7   LINKS TO THIS RESEARCH

The preceding sections introduce, describe and analyse the key concepts relevant to this study. Without first explaining these concepts, it would not be possible to clearly discuss the phenomenon of regulatory focus and to examine its impact on the consumer's behaviour in online shopping, in a contextual and logical manner.

In the next section, the research discussion is progressed by applying the relevant concepts discussed in the development of a model for consumer behaviour on the Internet.

2.8   FOUNDATIONS AND DEVELOPMENT OF MODEL

2.8.1 Introduction

In this section, the foundations for the research model development are laid, by providing an extended description, discussion and analysis of the literature relating to the important aspects of the Internet and its application to marketing, retail and shopping. In the first instance, the development of the Internet as a retail and shopping medium is discussed, including commentary on its current estimated worth and future growth expectations within the United Kingdom and

elsewhere. Thereafter, the practice of marketing on the Internet is discussed, an extended description of Internet retail characteristics and online shopping attributes is provided, including advantages that have been identified for retailing and shopping within this medium. Thereafter, a more analytical evaluation of the literature on online shopping is conducted, followed by an analysis of how consumer behaviour online has been researched. Based on these analyses some questions and gaps in the existing literature begin to emerge which are summarised as the basis for developing the research model.

2.8.2 Development of Internet as a Retail and Shopping Domain

A 2010 Boston Consulting Group/Google report (Kalapesi et al., 2010) estimated that as much as 7.2 per cent of the Gross Domestic Product of the United Kingdom was then accounted for by Internet commerce or e-commerce, surpassing predictions by the Office of Fair Trading (2010) that 8.1 per cent of all retail sales in 2010 were attributable to the Internet. To put this into perspective, this means that the Internet economy was worth about £100 billion, that is, more than the construction, utilities and transport sectors. Elsewhere, Fasolo et al. (2005) stated that as at 2003, of the nearly 100 million Americans who went online, 67 million did so to shop and purchase goods and services. Similar exponential trends have been reported in relatively emerging economies like China, where online sales were valued at £17 billion in 2004, representing an 8.2% growth from the previous year – the highest activity witnessed for the period (Liu, 2007). More recent statistics show that in the UK, the news continued to be good for online retailers as IMRG Capgemini (2011) reported that 70% of shoppers in the UK spent a total of £5.1 billion online in January, 2011 (an increase of 21%), with every imaginable product now available online.

The Office of Fair Trading in its 2007 report identified a number of underlying factors that were primarily responsible for propelling the growth of Internet shopping and retail. First of all there were the technical factors like increased ownership of computers and improved Internet speeds; then there were the factors of human familiarity with the medium and increased willingness to utilise the medium. But while this report showed clearly the upward trajectory of growth in Internet shopping and retail, it also identified a number of factors that affect usage or had the potential to affect usage intention. These were primarily

issues associated with perceived risk and safety of the medium, which despite increased confidence and familiarity still accounted for as much as 58% of non usage.

2.8.3 Marketing on the Internet

The power and potential of the Internet as a marketing medium have been acknowledged by marketing writers. As early as 1995, Hoffman et al. (1995) pointed to the growing influence of the Internet as a marketing medium and predicted that it would become a key channel through which marketers would seek to reach their audiences. This prediction appears to have been vindicated, as only eleven years later, Hsieh and Chen (2011) categorically stated that "*increasingly, companies are now aware that Internet advertising is more popular and economical than traditional advertising methods.*" However, Kiang et al. (2000) stated that despite numerous statistics regarding the development of the Internet, both successful and unsuccessful cases of Internet marketing have been reported; as a result they conclude that the effect of Internet marketing, for example advertising, has been a controversial and unresolved issue.

Indeed, Parasuraman and Zinkhan (2002) averred that a considerable knowledge gap existed between the practice of Internet based marketing and the availability of sound, research-based insights and principles for guiding that practice. However, Kiang et al. (2000) state that although the Internet is an entirely new channel with unique attributes, it shares many characteristics with conventional channels, therefore studying the factors considered significant in conventional channels can also help in analyzing the characteristic of Internet marketing.

There are many ways in which the Internet can be used to deliver marketing or marketing communications. Researchers have identified viral marketing, email marketing (Ellis-Chadwick and Doherty, 2011), promotions (Stewart and Pavlou, 2002) recommenders (Fagerstrom and Ghinea, 2011) and several formats of web-based advertising (Gauzente, 2010) as just some of these ways. However Internet mediated marketing can have different consequences, depending on whether it is solicited or unsolicited (Wolin and Korgaonkar, 2002). For example , although email marketing has been reported to be on the increase (Kim et al., 2006) and to produce approximately twice the return on investment of the other

main forms of online marketing such as web banners and online directory adverts (Pavlov et al., 2008), not all forms of email marketing are favourably viewed by consumers. Ellis-Chadwick and Doherty (2011) state that one form of email marketing – permission based emailing – is on the increase due to consumers' disaffection with a more common and once popular form of email marketing – the unsolicited email or "spam". Moustakas et al. (2006) state that adoption of email as a means of distributing promotional messages has the advantages of low set up and distribution costs, targeted distribution of promotions, and affordability by small and medium sized businesses. But even more popular as a means of online marketing communication is advertising in its various forms and manifestations (Hsieh and Chen, 2011).

2.8.3.1 Consumers and online advertising

The medium of presentation affects consumers' attitudes towards a marketing communication. For example, consumers hold different attitudes towards advertisements depending on the media the advertisements are viewed within (Ha and McCann 2008). Ha and McCann describe online media as having "objective users" that interact with the medium they are consuming; as a result the manner in which online advertising affects shoppers can be said to differ from traditional media like television and radio – these do not require the preceptor to be actively involved or interact, whereas most advertising online involves some interaction or involvement of the consumer.

In recognition of this, Rowley (2001) provided specific recommendations in relation to marketing communications on the Internet, based on the unique challenges which this medium presents to marketers, while Cho and Cheon (2004) write that although advertisements serve goal-oriented purposes for consumers, they also hold entertainment value for other consumers whose shopping goals are more hedonic than utilitarian. Therefore, depending on the consumer's orientation, some forms of advertising may be held with more positive affect than others. Ha and McCann (2008, p.588) state that "*the value of an audience to advertisers is determined by its receptiveness to advertising.*" But does a consumer's psychological trait such as regulatory focus dictate whether they will be receptive to, or avoidant of, advertising?

2.8.3.2 Interactivity

Unlike traditional media formats, the Internet allows a two-way communication between advertisers and consumers within the same medium. This interactive capacity may appeal to some types of consumer, but it may also be a put-off to other consumers. Although some researchers suggest that interactivity is a boon for marketing communication because it enables consumers to participate in a two-way process of production and sharing (for example Chen et al., 2005; Wu, 2005; Cho, 2004; Lee et al, 2002), others find that it has a negative consequence on consumers affect towards advertising (for example Bucy and Tao, 2007; Sundar and Kim, 2005). Are these differences in receptiveness to interactivity rooted in the consumers' personality or psychological trait such as regulatory focus?

2.8.3.3 Advertising format

In the early days of the Internet, many companies failed in their attempts at effective online advertising through a lack of understanding of how to use the Internet as a marketing tool, thinking they could directly transpose traditional advertising principles to the online world (Belch and Belch 2009). Studies have shown that the novelty of Internet advertising has worn off – click-through rates have declined significantly since the introduction of online advertising (Mitchell and Valenzuela, 2005), and data on newer online advertising formats suggests that past research is becoming less useful in some ways, because of the formats of focus for such research. Consumers are becoming less responsive to online advertisements, which are becoming increasingly ineffective for reasons including lack of consumer interest (Goldsmith and Lafferty, 2002), and the information overload (Cho and Cheon, 2004). Benway (in Hsieh and Chen, 2011) propose the phenomenon he refers to as banner blindness, which describes the situation in which some Internet users have learned from their past surfing experience to automatically ignore advertisement and content that resembles advertisement, especially banners. However, this position is countered by Mitchell and Valenzuela (2005) who support an alternative view that online advertising has value beyond short term response, for example click-through rates (Chandon and Chtourou, 2005), mainly due to perceptual fluency, recall and accessibility

arising through the mere exposure effect (a concept introduced in section 2.6.5.2).

There are different formats that Internet advertising can take. The most common are banners, pop-ups, logos and web pages (Wolin and Korgaonkar, 2002). New formats such as videos and audio are becoming increasingly common. The effects of these formats on consumers' reception and response to online advertising have been examined, with more recent research focusing on the effects of newer formats on advert effectiveness (Burns and Lutz, 2006).

The format of an online advertisement is important, especially where the advert is pushed rather than voluntarily accessed. For example, Burns and Lutz (2006) found that that companies that use pop-up ads are not generally viewed as market leaders by consumers, which in turn affects consumer perceptions of the brand in question. It is therefore of interest in this research to understand how consumers' perception of different formats may be affected by their regulatory focus, and therefore their response to an advertisement communication.

2.8.3.4 Format preference

There is surprisingly very little academic research covering consumer's preference for, or tolerance of online advertising formats. Much of the literature on consumer attitudes towards online advertisements has been narrative (Burns and Lutz, 2006), and not concerned with any particular ad format. Where the literature does look at particular formats, it does not do so in a comparative way (Burns and Lutz, 2006), and ignores more recent formats such as online video. The literature that exists is also primarily concerned with consumers' perceptions of advertising clutter, and the consequences of those perceptions.

Burns and Lutz (2006) found, in their study of online advertising formats, that the format type has a strong correlation with consumers' attitudes and behavioural responses, supporting the findings of Eagly and Chaiken (in: Burns and Lutz, 2006). It is important to understand the variables that influence attitudes towards advertising, in order to have the ability to predict consumer responses to different online advertising formats (Burns and Lutz, 2006). Although format is important, this research does not focus on consumers and their format preferences, but instead considers how consumers with different

regulatory focus might differ in their overall response to online advertising and other marketing communications.

2.8.3.5 Targeted online advertising

Technological improvements have provided an opportunity for advertisers to use richer media in their advertisements (Taylor, 2009). Being able to connect advertisements with user searches in search engines has provided an important revenue opportunity for advertisers (Taylor, 2009). Algorithm development has arguably taken this a step further in terms of value by enhancing the search experience for users by, for example, providing the ability to search for increasingly relevant results using advanced semantics, integrating a user's social media networks into search results (for example, Google Social Search), and using artificial intelligence principles (example Wolfram Alpha Search Engine) to provide meaningful interpretations of search query results. These developments are important because they allow for finer targeting, customization, and measurement of consumer interaction with online advertising media, leading to more effective ads (Wang et al., 2009). Targeted advertising, based on a consumer's profile, is one of the key arguments in this research.

2.8.3.6 Online advertising paradigms

There are two identifiable paradigms from the relevant literature on online advertising formats which are relevant in understanding how consumers perceive and react to advertising formats online. Ha and McCann (2008) proposed a paradigm that considers structural aspects of the ad (physical attributes that advertisers can control, for example framing), functional aspects of the ad (usefulness, benefit and relevance), and information processing aspects (a person's limited ability to process information, leading to perceptual bias that is not directly under the control of advertisers). Alternatively, Cho and Cheon (2004) propose a three component model which considers responses to advertising stimuli using the three components of cognition (evaluative belief), affect (feeling towards the ad), and behaviour (approach toward, or avoidance of, the ad) constructs of "goal impediment", "perceived clutter", and "prior negative experience".

The first paradigm delineates the dimensions of online advertising according to its component mix, classifying both advertiser and consumer controlled aspects. The second paradigm however focuses specifically on the psychological dynamics of consumers' evaluation and reception of online advertising. However it can be argued that both paradigms offer important considerations for the understanding of consumers and online advertising. This is because it is important to understand the structural aspects of online advertising, but it is equally important to understand how these structures relate to the psychological aspects associated with the target consumers. Previously, the combination of advert structure and consumer differences had resulted in varying categorisations of online advertising. Burns and Lutz (2006) and Cheng et al. (2009) found that consumers perceive online advertisement as falling into one of the following categories: information (including usefulness), irritation (including disruption, intrusion, and annoyance), and entertainment (including amusement). Additionally, Burns and Lutz (2006) refer to composition (aesthetic attractiveness) as another category. This research is interested in understanding how a consumer's regulatory focus orientation influences their attitude, affect and reaction toward different online advertising overall and toward different structures of online advertising.

2.8.3.7 Framing and anchoring

Two important concepts to consider in the evaluation of online marketing communications are framing and anchoring. Cognitive psychology holds that information processing affecting decision making can be influenced by the way the information is presented. This influence leads to two types of cognitive biases: the framing bias and the anchoring bias (Wu and Cheng, 2011).
Wu and Cheng (ibid) explain framing using Tversky and Kahneman's (1981) well known experiment in which an Asian disease is described in terms of either the likelihood of lives saved (positive framing) or the likelihood of lives lost (negative framing) to a group of subjects. The results showed that relative attractiveness of options varies when the same decision problem is framed in different ways, and this is referred to as the framing effect or the framing bias. Wu and Cheng (2011) state: "in the online shopping context, framing messages are most likely to be used in describing a product attribute as positive or negative." Hence they

contend that Internet shoppers' purchase decisions may be influenced by the way the product information is presented. In other words, a marketing message's appeal and consequent effect may differ according to whether it was framed positively or negatively.

Wu and Cheng (2011) conclude that when consumers are exposed to positive messages, they are likely to form a higher expectation for product quality; by contrast, when exposed to a negative message, consumers may form a lower expectation about quality. However, this conclusion is not far reaching as it only relates to attribute framing and not to goal framing. In the pursuit of goals, a negative frame may very well elicit more closely the desired effect.

Wu and Cheng argue that the second type of cognitive bias, anchoring bias, affects consumers in online shopping. The anchoring effect describes the phenomenon that occurs when an arbitrarily chosen reference point or anchor (for example the declared price) influences a decision maker's estimate of value. The reference price of a website banner advertisement may serve as an anchor point to influence an Internet shopper's decision behaviour. However, this effect will not be uniform across consumers and may be moderated or mediated by other factors such as the consumer's regulatory focus.

While it remains the most commonly researched issue in online marketing communication, the effects of online advertising on consumers can be generalised and are similar to other forms of online marketing. For example, avoidance behaviour by online consumers (Zhang and Kim, 2008) affects other forms of online marketing as much as it affects advertising. In this research, the overall phenomenon of behaviour toward online marketing is considered, and constitutes the concept of response to online marketing (ROM), as explored further in section 2.11.4.1.

2.8.4 The Internet and Retail (e-Tail, e-Retail)

Technological developments have enabled development of retail platforms and models that enable retailers to offer products and services online as well as sell and transact on these offerings. The Internet retail function is commonly divided into business to consumer (b2c) where the retailer's market is made up of individual consumers, and business to business (b2b) where the retailer's market constitutes mainly of other businesses (Connon, 2007). Although electronic

commerce has existed within retail in the form of Electronic Data Transfers (EDT and Electronic Funds Transfers (EFT) since the 1970s, the role of IT has now changed from simply providing logistical and back end support for retailers to informing strategy as well as influencing the structure of the industry (McGoldrick, 2002). Hence the OFT (2007) report shows that many traditional retailers have found it necessary, indeed essential, to embrace Internet retail in order to continue to be competitive. Walters and Cook (1991) illuminated the objectives for Information and Communication Technology (ICT) use by retailers as follows: the use and manipulation of merchandise, customer service, trading formats, store environments and customer communications. In the course of doing this, retailers were able to handle numerous functions using Internet technologies, such as marketing, finance, operations and distribution. Connon (2007) defines e-retail as that process that represents all business undertaken by the retail organisation using the Internet, whether as a b2c or a b2b function. It is important to note here that other models of the retailing relationship on the Internet have developed, for example consumer to consumer (c2c) and government related models (g2c, g2b, g2g) (Connon, 2007). Internet retailers generally use an e-store in order to merchandise, promote and sell their products or services. Lim and Dubinsky (2004) define an e-store as a "commercial Web site on which consumers can shop and make a purchase," and Rowley (2001) identified a number of unique attributes of the e-marketplace:

- The essential nature of the channel is different from more traditional channels; for example the ability to view marketing communications round the clock and from anywhere that there was the facility to do so – creating reach and availability of unprecedented scale;
- The potential audience is global and undifferentiated, but once reached, can be differentiated and identified – for example as focused on in this research;
- The channel constrains marketing communication to non-human contact forms, but at the same time provides greater scope for interactivity through dialogue rather than broadcast.

These unique characteristics combine to make the Internet a challenging but potential opportunity for marketers. More specifically, some of the features that

have emerged of the Internet as a means of retailing can be summarised as follows:

- **Availability and accessibility**: the Internet is increasingly becoming accessible to households and this has enable retailers to reach consumers right in their homes and to make their offerings available at all times (Connon, 2007).
- **New markets**: the market place has become global and far reaching as a result of the Internet. This market continues to grow as more people are able to or willing to adopt the technology for the purposes of shopping; this can create opportunities for brand building as well as diversification (Ward and Lee, 2000).
- **Communication**: the Internet has enabled interactivity and two way communication between the retailer and the buyer, and this has increased the ability of retailers to target and segment their customer based on almost instant feedback (Hart et al., 2000).
- **Efficiency**: the ability to save cost and reduced overheads is a major feature of the Internet. This is because the retailer is able to offer directly to the consumer almost 24 hours every day at minimal cost and without incurring labour costs (Connon, 2007).

In this thesis, the focus is on the consumer (as a collective entity as well as in their individual capacity, therefore the main thrust of the discussion is on the b2c aspect of e-retailing, and specifically on the demand side (consumer) aspects of the relationship. Chen et al. (2002) describe this focus as the consumer-centred view, which studies online shopping from the consumers' perspective, investigating consumers' salient beliefs about it. This approach is central to the study of the Internet as a retail medium, as it provides retailers with the knowledge and intelligence required to entice and retain their customers online.

2.8.5 Internet and Shopping

It is surprisingly difficult to come across any academic definition of Internet shopping or e-shopping. A search of this term on the Internet shows that although well described, there is a general presumption that it is a readily understood term or concept whose definition may simply be inferred. Thus the

definitions available are from more general sources rather than from academic writers who have studied this area. One potentially useful definition is provided by Business Dictionary (2010) which refers to this phenomenon as online shopping, thus reflecting the interchangeable use of the terms Internet shopping, e-shopping and online shopping. It defines online shopping as the *"act of purchasing products or services over the Internet."* From this definition, it would appear that online shopping is simply considered as any other kind of shopping, with the only difference being the medium. However, as Mafe and Blas (2007) argue, online shopping differs significantly from traditional shopping, mainly due to the medium's highly interactive nature; the Internet can decisively affect the way consumers search for and evaluate product information. As Rowley (2001) suggests – the use of interactive features allows the consumers to search, compare and access information worldwide much more easily and in greater depth than within the bricks-and-mortar structure.

Lim and Dubinsky (2004) describe the factors and attributes of online shopping that make it unique from other forms of shopping. These attributes are summarised in Table 2.1. They argue that these characteristics of online shopping are perceived differently by different consumers, as a result of which, in conjunction with the degree to which a subjective importance is placed on any particular attribute, different attitudes are formed towards online shopping. As a result they conclude that an e-retailer's failure to foster a favourable attitude toward its Web site would likely lead consumers to eschew online purchases with that particular e-retailer.

But in order to fully appreciate how attitudes to online shopping are formed from its characteristics, it is important to understand the underlying factors that lead to these attitudes. The discussion in section 2.6.5 implied that attitudes are underpinned by learning, personal traits, beliefs and values. Consequently, they relate to how individuals perceive a stimuli and to their motivation in acting toward that stimuli, as well as their actual behaviour. Hence, the effects of Internet shopping characteristics on consumers may be better understood by knowing the perceptions and motivations that describe their attitudes to these characteristics, and therefore inform their actions in the presence of these characteristics. This informs the focus of the present research.

E-store factors	Attributes	Examples
Merchandise	Product information	Perceived depth of product information
	Brand selection	Well-known national brands
	Price	Merchandise price
Convenience	Timely delivery	Delivery on time, delivery options
	Ease of ordering	Fast check-out, confirmation by e-mail
	Product display	Product lists and visuals
Interactivity	User interaction functions	Downloading, order status checking, feedback, personal-choice helper, improved search function
Reliability	Reputation	Company information
	Security	Information on transaction security
	Privacy	Privacy policies for personal information
Promotions	Promotion on the cybermall	Clearance, free shipping, frequent buyer incentives, prize for participation
Navigation	Time to get to home pages	Time taken from ads on other sites to home pages
	Expected waiting time	Perceived duration of the time to download pages on the site
	Waiting information	Duration information at the beginning of the wait, countdown information

Table 2.1: Summary of e-shopping attributes (source: Lim and Dubinsky, 2004)

The attributes of online shopping are briefly described in the following subsections:

2.8.5.1 Merchandise characteristics

These are characteristics relating to the merchandise, which are goods and services offered by the retailer. Because of the unique nature of the Internet shopping medium, consumers' evaluation of e-retail merchandise might be somewhat different from those for traditional retailer, for example, because consumers cannot touch or feel the product (Ward and Lee, 2000).

Previous research has revealed that merchandise selection has an influence on consumers' store choice (McDaniel and Burnet, 1990), and a vast number of product alternatives have been argued to be a key benefit for online retail.

However this has been contradicted by Alba et al. (1997) who argue that consumers may become tired and stressed when presented with information on hundreds of products. Furthermore, Lohse and Spiller (1998) found that while an extensive array of merchandise increased traffic to a website, it did not necessarily increase sales, and Henry (2005) argued that too much choice could lead to information overload and consumer disempowerment in the online environment. This would suggest that for some consumers, it was more important for an e-retailer to provide the particular product that the customer wanted than to suggest variety of alternative goods – that is, suitability over variety.

Similarly, although an important merchandise consideration, the effect of price on consumers' online shopping decisions has now been shown to vary. Previously, it was assumed that all consumers' were motivated by lower prices online, but Shankar et al. (in: Lim and Dubinsky, 2004) and Lynch and Ariely (2000) showed that some consumers were more interested in the usability of a product and other important features of the product, as reflected by the perceived depth of information available about the product, than in how cheap they could obtain it. Can these preferences be explained from the basis of an underlying consumer trait?

2.8.5.2 Convenience characteristics

Lohse and Spiller (1998) identified the major convenience advantages of online shopping as timely delivery, ease of ordering and product display. As a result they discerned that several factors can be subsumed under the convenience attribute of online shopping, for example, number of links to the Web store, number and types of shopping modes, average number of items on a product menu listing, scrolling features, and availability of price and other key information on product lists. They found that product display had an important role to play in number of store visits and sales – specifically, displaying product lists that used both pictures and click buttons was valued better by a number of customers than simply displaying only the click-through buttons or pictures. Lohse and Spiller (1998) also found that for some consumers, if order processing was not very simple and straightforward, they would likely become frustrated and give up purchasing from the e-retailer. In this regard, some customers

measure convenience in terms of effort savings and ease of use. This association is significant due to the number of studies that have considered the concept of ease of use as an important precursor to the adoption of Internet shopping and because it can hence be argued that ease of use is a convenience motivation valued by some, but not all online consumers. Similarly, effort saving and ease of use can be argued to relate to the phenomenon of shopping cart abandonment, as discussed further in section 2.11.4.2.

2.8.5.3 Interactive characteristics

According to Blattberg and Deighton, (1991), Internet shopping interactivity refers to the degree to which customers and retailers can communicate directly with one another anytime and anywhere. In a survey of 101 Web sites, Ghose and Dou (1998) found that the degree of interactivity influenced the perceived quality of the Web site. They identified key interactivity factors that influence Web site appeal as customer support applets, personal-choice helper, surfer postings, and promotion and recommendation engines.

In online shopping, the traditional model of sales person interaction has been replaced by interactivity software such as e-form enquiry, order status tracker, feedback forms, instant chat messengers and user blogs. Furthermore, Ghose and Dou (1998) concluded that recommendations engines were useful to the shopper because they could help with finding target items based on their decision criteria.

Interactivity of a web site has consequences for its design as well as affecting consumer decision making (Fasolo et al., 2005). Lohse and Spiller (1998) state that e-store promotions in the form of special offers, online games, lotteries, links to other sites of interest, and appetisers are usually sources of interactivity. However, the design of the website as related to its interactivity is informative but not explicitly modelled in the understanding of the consumer's behaviour in this context. It should be noted that this research argues that consumers' affect and response to interactivity will differ, and this may result from their trait orientation, perception and motivation to shop, and their utilitarian or hedonic shopping needs, as discussed in section 2.11.3.1.

2.8.5.4 Reliability characteristics

Reliability is an important consideration in consumer choice (Lindquist, 1974). For this reason consumers seek out and consider information about a retailer as part of the decision to patronise that retailer. A 1998 Graphics, Visualisation and Utilisation Centre report (in: Lim and Dubinsky, 2004) found that among internet shoppers, reliability was an important characteristic, along with security and privacy. Consumers may perceive reliability through the availability of service information and company history or background (Lohse and Spiller, 1998). These attributes could also serve as risk relievers and lower the uncertainty and perceived risk associated with Internet shopping (Lim and Dubinsky (2004). Similarly, by informing customers about the security of online transactions, they will be more comfortable and willing to give credit card information and make purchases online (Shern, 1998).

Concerns relating to privacy, trust and security of transactions have contributed to perceived risk as an aspect of reliability in online shopping. Although in general all manners of home shopping involving remote transactions and purchasing are characterised with elevated levels of perceived risk (Lumpkin and Dunn, 1990), the Internet as a shopping channel has been shown to particularly raise consumers' levels of perceived risk when contemplating buying decisions (Donthu and Garcia, 1999). This heightened awareness of risk can be in response to concerns about lack of product verification, service reliability, privacy and safety of financial information (Cases, 2002). The evidence in support of the effect of perceived risk on online shopping behaviour is however contradictory: six studies found a negative impact on intention and actual online purchasing behaviour, but three others failed to find any significant effects, warranting the recommendation that online risk perception be further investigated (Chang and Chen, 2008). Therefore the reliability characteristic informs this research because it affects perceived risk which is one of the key concepts investigated, as discussed further in section 2.11.2.

2.8.5.5 Navigation characteristics

Navigation characteristics are important Internet shopping considerations for consumers. Weinberg (2001) stated that customers are not tolerant of waiting

times and would likely drift to another e-retailer if a particular Web site's loading speed was slow. The speed of reference for the consumer is her perceived waiting time rather than the actual waiting time (Dellaert and Kahn, 1999). In addition the ability to move across different parts of the Web site is also an important aspect of navigation (Weinberg, 2000). For this reason e-retailers that provide links in a logical and intuitive manner will likely increase the number of pages a customer visits as well as repeat shopping. In this research, navigation characteristics are relevant because they relate to one of the key behavioural outcomes, that is, shopping cart abandonment. It is important to consider how the navigation design and process at checkout can be optimised to be suitable for different types of consumers and therefore increase conversion.

2.8.5.6 Internet characteristics and the consumer

The characteristics of the Internet as a shopping medium as described above point to a technology that has evolved over a short period of time toward a more intelligent and consumer-friendly scheme, a development which was identified by Mishra and Olshavsky (2005). However, the highlight of an intelligent Internet is its recognition that the characteristics and attributes of online shopping do not attract or affect consumers in the same way. The characteristics identified above are not valued equally across consumers. For this reason, Rohm and Swaminathan (2004) identified typologies of online shoppers based on which of these factors motivated them the most. They proposed that online shoppers could be described as convenience shoppers, variety seekers, balanced buyers, and store-oriented occasional shoppers. Convenience shoppers, variety seekers and balanced buyers shopped more frequently online while store oriented consumers shopped only when it was necessary or unavoidable to do so.

In summary, the characteristics of the Internet as a medium for commerce and shopping as described in section 2.8 can be seen as essential in understanding why the medium presents a different dynamic for marketers as well as for consumers. For consumers, these characteristics translate to a heightened awareness of opportunity for access to more information, products and services, better prices, and potentially bargaining power; however the characteristics also lead to a heightened awareness of many forms of real and perceived risks. For retailers and marketers, the characteristics translate to opportunities to reach

more consumers, to target the right markets, and to build customer relationships with the best offers; however they also imply a number of challenges, of which the most imminent is the understanding of what consumer characteristics influence their interaction with the Internet's. This research aims to illuminate one of the important consumer characteristics that can help online retailers and marketers – that is, the regulatory focus trait.

2.9 RESEARCH INTO CONSUMER BEHAVIOUR IN INTERNET SHOPPING

Reflecting the growth witnessed in the value of Internet shopping and retail, the study of Internet shopping has also seen a growing amount of interest. Academics and practitioners alike have shown increased interest in understanding what factors account for consumers' uptake and usage of the Internet as a shopping medium. According to Rodriguez-Ardura et al. (2009) the identification and analysis of the factors involved in explaining the consumer's predisposition or intention to buy on the Web as well as an explanation of the actual buying behaviour have emerged as prominent in recent consumer behaviour research. But they state that early research into the Web/consumer behaviour interface concentrated on the obtaining of early user profiles and on the segmentation of consumers who adopted the use of the Web; however as more people used the medium, subsequent research became more interested in questions directly related to behaviour. This was further boosted by the lessons of initial failures of Internet businesses, whence firms realised a renewed need to focus on consumer aspects of e-commerce and e-business such as loyalty and retention (Liu, 2007). But in spite of these highlighted increases in the number of research studies directed at understanding Internet shopping and the Internet consumer, it has been said that overall, research output in this area has continued to lag behind its level of growth and innovation (Mishra and Olshavsky, 2005). Although as many as 120 articles were published on the topic within one year (in 2001) according to Cheung et al. (2003), the growth of the Internet as a consumer market continues to outpace requisite research needed to fully appreciate its characteristics (Jayawardhena et al., 2007). As a result, many firms are still unclear about what factors shape consumers' behaviour online (Constantinides, 2004).

Yet prominent marketing authors have acknowledged that the Web represents a real revolution for the discipline (Mahajan and Venkatesh, 2000; Hoffman, 2004; Sharma and Sheth, 2004). Furthermore, Forsythe and Shi (2003) state that there are as yet many important variables to be understood in the context of consumer shopping on the Internet. It is for this reason that Jayawardena et al. (2007) encouraged more research and enquiry by marketing academics. Wolfinbarger and Gilly (2001) state that just as with traditional modes of shopping where it is recognised that consumers shop differently, consumers in the Internet domain differ in their motivations for shopping online. It can be argued that if consumers differ in their online shopping motivations, they will as well differ in other aspects such as usage behaviour and evaluation of the online medium. It is for this reason that research addressing the understanding of these differences has continued to emerge. Therefore while earlier research in this area focused on adoption factors and motivations, companies have started to realise that initial adoption by consumers is only the first step and to succeed in their e-commerce initiatives means being able to create and maintain lasting relationships with the consumer. It thus became more important to understand continuance and repurchase behaviour (Cheung et al., 2003). But even as there has been a growing interest in understanding actual usage behaviour in online shopping, the literature shows that many researchers have not ventured to derive better models that focus on the actual behaviour exhibited by the consumer in the domain, but have instead continued to base their studies on existing intention/evaluation family of theories, for example Theory of Planned Behaviour (Cheung et al., 2005), Unified Theory of Acceptance and Technology (Cody-Allen and Kishore, 2006) and the Decomposed Theory of Planned Behaviour (Shih and Fang, 2004).

Kimiloglu (2004) described research into consumer behaviour and Internet shopping as falling into four strands: study of the variables in purchasing intentions, analysis of the purchasing process on the Web, consumer satisfaction and loyalty on the Web, and adoption of models and theories to the electronic markets. To these, Rodriguez-Adura et al. (2009) add that a fifth line - the analyses of the extent to which the Web empowers consumers - may be considered, following the emergence of social networking on the Internet. Similarly, Pachauri (in: Bosnjak et al., 2007) classifies four approaches to the

study of online consumer behaviour as (i*) economics of information approach*, which deals primarily with the perceived efficiency of buying online; (ii) *cognitive costs approach*, which focuses on the costs stemming from search and purchase related cognitive processes; (iii) *lifestyle approach*, which studies socio-demographic characteristics of existing and potential Internet consumers; and (iv) *contextual influence approach*, which analyses the influence of navigational aides as well as atmosphere on online shopping behaviour. However, Bosnjak et al. (2007) identify a gap in the coverage that these approaches provide for understanding consumers' behaviour online. They state that few personality correlates have been examined to provide knowledge about the underlying determinants of online shopping behaviour, and thus conclude that an understanding of personality traits as they relate to online shopping behaviour is an underdeveloped area of online consumer behaviour research. In fact, Bosnjak et al. (ibid) identify only four studies that have used personality related correlates to evaluate or explain online consumer behaviour. One of these is Donthu and Garcia's (1999) study which found significant differences in a variety of psychological constructs between people that shopped online and those who had Internet access but did not shop online. In that study, those who shopped online showed characteristics of willingness to innovate and take risk, impulsivity, and variety seeking behaviour. However Bosnjak et al. (2007) argue that while Donthu and Garcia's study supports the importance of personality traits as determinants of online shopping behaviour, the study itself suffered from limitations in the research design and the number of trait forms considered. Therefore a trait theory like regulatory focus can be utilised to understand personality in relation to online shopping, but only a few studies have attempted to examine this relationship (for example Larose et al., 2003).

Bosnjak et al. (2007) investigated the applicability of a hierarchical model of personality, based on an earlier approach by Mowen (2000). This adaption results in a model which consists of four hierarchical levels, known as the surface traits, situational traits, compound traits and elemental traits, and these can be drawn upon to provide a personality oriented view of online consumer behaviour. This foundation for the use of personality theory in evaluating consumer behaviour outcomes is important because it has already been established here that personality represents an important psychological phenomenon upon which

individuals can be differentiated. Thus in this research, the use of the regulatory focus trait to differentiate consumer perception, motivation and behaviour in online shopping is consistent with current understanding and practice, and contributes to further understanding and enhancement of the subject.

At the very heart of Bosnjak et al.'s (2007) personality model of consumer behaviour are the elemental traits, which describe the basic human personalities, and are not dissimilar to the *big five* personality types (cf. Costa et al., 1991). These elemental traits are considered to derive from genetic predispositions and early learning experiences (Bosnjak et al., 2007). Next to elemental traits are the compound traits which refer to the constructs of need for cognition, need to evaluate, need for arousal, and need for material resources. Compound traits are developed during socialisation, and are shaped by the interaction of one's learning experiences and socialisation history with the traits at the elemental level of the model. Bosnjak et al. (2007) describe situational traits as consisting of affective involvement and cognitive involvement, and apply to whole classes of situations, for example to situations in which one can act in health-promoting ways. Finally, surface traits are the outcomes of the preceding three trait levels and are the immediate determinants of behaviour, consisting of highly context and behaviour specific dispositions, closely related to the concept of behavioural intention. Bosnjak et al. (2007) provide typical examples of these traits as proneness to bargaining, or a tendency to favour health-promoting behaviours.

However while the above model successfully demonstrates that there is a relationship between personality factors and the intention to shop online, it is conceptually inadequate on a number of bases. In the first instance, neither Mowen's (2002) original framework nor Bosnjak et al.'s (2007) modified model include any goal orientation construct or trait levels. Yet as the literature on regulatory focus shows (reviewed in section 2.11), goal achievement orientation bears close similarity to cognitive and affective functions similar to the so called "level three" compound traits in the above model. In the interim, it is important to point out that the absence of regulatory focus as a trait construct in this model becomes particularly apparent when Bosnjak et al.'s repeated use of the term "promotion" is compared to the regulatory focus concepts of promotion focus and prevention focus. Clearly, it can be seen that their description of behavioural

outcomes is referenced to these concepts that have been developed within the regulatory focus theory (Higgins, 1997). The absence of the regulatory focus construct in a personality based model of online shopping behaviour is therefore a shortcoming that this research attempts to address.

Secondly, Bosnjak et al.'s model postulates intention to shop online as the outcome variable. Although intention is arguably a good predictor of actual behaviour, for example as postulated in the Technology Acceptance Model (Davis et al., 1989), it is nevertheless not as conclusive as observing or measuring the actual behaviour. As Van den Poel and Buckinx (2005) point out, in order to address the problem of low conversion rates in Internet retail, a better understanding of actual online shopping behaviour is required. The above model could therefore be improved along these lines, and for this reason this research has as an objective the proposition of an improved model focusing on actual behaviour. Indeed, Bosnjak et al. (2007) acknowledge that the model could be improved by the addition of other personality-behavioural constructs, as their results suggested several improvements. Given the highlighted shortcomings, this model was considered but rejected as a suitable basis upon which this research could explain online shopping usage behaviour.

On their part, Cheung et al (2003) describe initial research efforts as mostly drawn from theories of a classical origination such as behavioural learning (Skinner, 1938), personality (Folkes, 1988), information processing (Bettman, 1979) and attitude research (Fishbein, 1967). Additionally, they state that an examination of research in online consumer behaviour reveals an extensive use of components of consumer behaviour, although this relationship is not always a straightforward borrowing or transfer of theory. This is because there is a significant difference between offline and online consumer behaviour which warrants a distinction in conceptualisation. It is for this reason that traditional theories of consumer behaviour are built upon and adapted to better explain online behaviour; for example Song and Zahedi's (2001) use of the Theory of Planned Behaviour (TPB) to explain the effects of website design on adoption, and Vijayasarathy's (2004) integration of Theory of Reasoned Action (TRA) with web-specific factors to derive the online shopping aid. According to Cheung et al. (2003), prior research of this nature provides us with a rich foundation upon

which to build research frameworks for the study of online consumer behaviour. However they argue that the Theory of Reasoned Action and its family of related theories including Technology Acceptance Model (TAM) and TPB have dominated the study of online consumer behaviour, with Innovation Diffusion Theory (IDT) and Expectation-Confirmation Theory (ECT) also featuring frequently, but this has been to the detriment of other equally useful theories such as the flow theory and, one might add, the theory of regulatory focus. Hence they call on research that explores and investigates the applicability of new theories and frameworks to the understanding of online consumer behaviour. Without such research, the field of marketing and consumer behaviour will continue to bear some unanswered questions about how some of the person and trait related factors discussed here affect behaviour in Internet shopping.

To this end, Cheung et al. (2003) proposed a framework for the study of online consumer behaviour utilising a base model that links intentions, adoption and continuance. As Cheung et al. (2003) argue such a link had not been explicitly modelled before. The Model of Intention, Adoption and Continuance (MIAC) was therefore intended to bridge this gap. This framework and other models aimed at explaining behaviour in online shopping are examined in section 2.9.1.

2.9.1 Decision Based Models of Internet Consumer Behaviour

Turban et al. (2006) state that the purpose of a consumer behaviour model is to help vendors understand how a consumer makes a purchasing decision, because if a firm understands the decision making process of the consumer, it may be able to influence the buyer's decision, for example through advertising and other marketing communications. Consequently, Silverman et al. (in Turban et al., 2006) developed a model that describes buyers' decision making and searching at a website. This model is based on the generic purchasing-decision model (Kotler, 2003) and is divided into three parts, with parts one and two based on Miles (2000) and Guttman et al. (in: Turban et al., 2006) respectively. The main usefulness of this model is that it demonstrates the flow of data and the decision support systems in electronic commerce. However this model and models of a similar decision based criteria (for example Turban et al., 2006; Mishra and Olshavsky, 2005) typically describe a high abstraction of electronic commerce system topology but fail to elaborate on the consumer as the primary entity with

variable behaviour within a dynamic system. Yet it is important that models that attempt to explain decision processes should also provide marketers with simplified description of complex underlying consumer behaviour (Teo and Yeong, 2003). For this reason, decision-based models have been far less popular than innovation and technology acceptance-based models in the study of online consumer behaviour. Whereas the decision making process is an important aspect to understand in consumers' use of the Internet for shopping, it may be argued that even far more important is a clear understanding of the behavioural antecedents underpinning decision making. For this reason, decision making theory informs this research, but the decision making models as described above, although evaluated, were rejected as directly adaptable for the purpose of this research, as they have not modelled the potential role of regulatory focus (the criterion of interest) in consumers' online decision making.

2.9.2 S-O-R Based Framework for Online Shopping Environments

Mehrabian and Russell (1974) proposed a model of environmental psychology that describes an organism's response to a stimulus. This is the stimulus-organism response (S-O-R) framework which suggests that stimuli are antecedents which affect the consumers' emotional states (organism), whose response may result in their retail behaviours (response) such as repeat purchase, store search and in-store behaviour (Koo and Ju, 2010). The S-O-R model has been used extensively in researching and modelling the effect of store atmospherics on consumer emotions, affect and behaviour (for example, Donovan and Rossiter, 1982; Baker et al., 1994; Sherman et al., 1997). Sherman et al. (1997) showed that the ambient atmosphere had a positive effect on arousal, social and design factors had a positive effect on pleasure; and that these effects were associated positively with the amount of money spent, affect (liking) toward the store, and even the quantities purchased.

As Koo and Ju (2010) explain, the stimuli in the S-O-R framework are represented by a set of attributes that affect the perceptions of the consumer and are the starting point of the consumer behaviour process. They are cues that enter the consumers' cognition and arouse or incite them (as recipients) consciously or subconsciously into action. These attributes, traditionally, will include people in the store (the social cues), design, layout and other visual cues

(for example clutter, cleanliness, colour), and ambient cues such as smells, sounds, temperature. The organism references the intervening internal processes between the stimuli and the consumer's reaction. In this process, the consumer converts the stimuli into meaningful information and utilises them to comprehend the environment before making judgement and reaching conclusions. Based on this conceptualisation of the organic stimulus from the environment, Kim et al. (2007) evaluated the impact of image interactivity technology on the utilitarian as well as hedonic behaviours and benefits derived from shopping online. They concluded that the level of image interactivity available on a website affected the enjoyment of and involvement with the shopping experience on the website.

The main highlight of the S-O-R framework is that it demonstrates the interaction that an organism has with its environment and how this interaction in turn affects the decision outcomes in the form of perceptions, behaviours, actions, and evaluations. However, a criticism of the S-O-R framework arises from its lack of explanatory focus on the underlying variables that may interact to influence or mediate the organism's reaction to its environment, as can be seen in the example model proposed by Eroglu et al. (2003) toward the study of consumer response to online shopping (Figure 2.6). For instance, although image interactive technology (cf. Kim et al., 2007) may have an effect on the way people perceive a website, S-O-R does not provide the ability to further analyse the impact of multidimensional factors such as personality and individual orientations. As a result, inconsistencies abound as to the conclusions reached in studies that have utilised the S-O-R framework to study shopping and behaviour (Mummalaneni, 2005). In this research, the impact of an important personality dimension in the form of regulatory focus is examined to illustrate the potential effect personality factors can have on the online environmental cues. However the S-O-R framework is not adopted in this research because of the limitations and inconsistencies in the conclusions that can be derived from using this framework in the study of online consumer behaviour.

The S-O-R framework would be particularly useful were regulatory focus conceptualised in this research as a situational variable rather than as a trait variable. In the situational conceptualisation, the environment would be considered the key and influential factor; however in the present

conceptualisation, the S-O-R would have served no apparent purposes and was therefore rejected as the basis for the research.
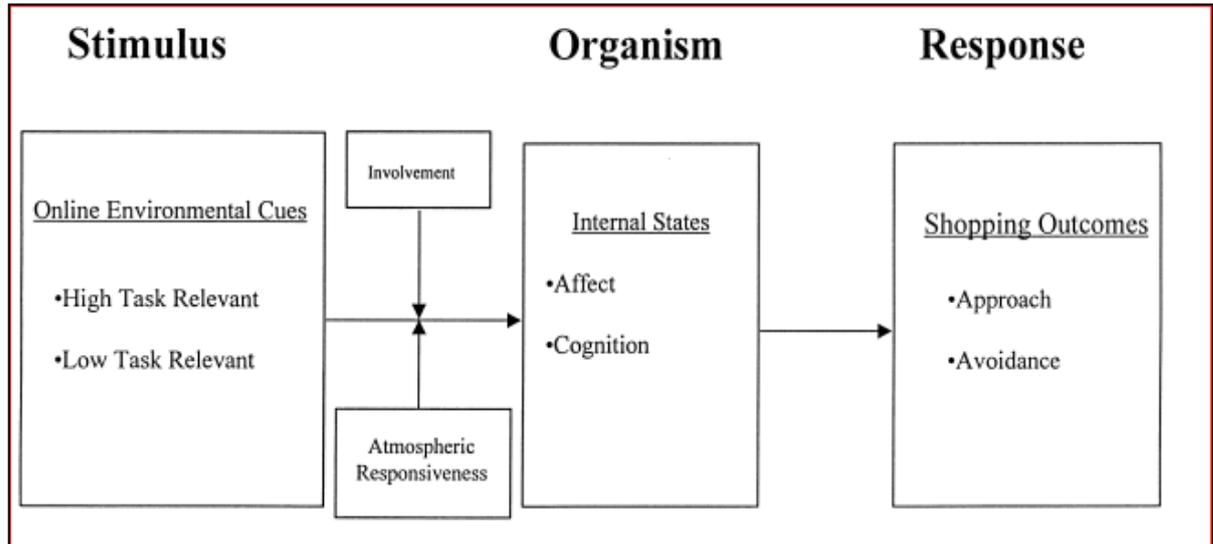
Figure 2.6: An S-O-R model of consumer response to online environments (Eroglu et al., 2003)

2.9.3 Technology Acceptance Model

One of the most commonly used models for understanding the use of the Internet as a means for business and trade, whether as a selling and purchasing medium, or as a communication and marketing medium, is the Technology Acceptance Model (TAM). Proposed by Davis et al. (1989), TAM is based on the theory of reasoned action (Ajzen, 1985), is linked to the Diffusion of Innovation Theory (Rogers, 1995) and has quickly become one of the most common base and referent models for the research of individual and corporate behaviour toward new technology and innovation. This is perhaps due to its parsimony and the wealth of recent empirical evidence in support of it (Han and Jin, 2009).

TAM attempts to predict and explain future user behaviour in terms of attitude formation from initial perceptions of use and ease of use, and subsequent intentions of use. TAM posits that behaviour is determined by user intentions, but intentions are viewed as being jointly determined by perceived usefulness and attitudes, with the later jointly determined by perceived usefulness and

perceived ease of use. However perceived usefulness and perceived ease of use are themselves not truly exogenous, as they are theorised to be influenced by unknown externalities. According to Han and Jin (2009), application of TAM to e-commerce can help researchers understand consumers' attitudes and intentions in e-commerce environments, but in order to properly explain and predict consumers' acceptance behaviour, the externalities are enriched continuously. Lin and Lu (2000) proposed the use of TAM to explain consumers' acceptance of online shopping, while Jaw et al. (2011) investigated TAM by integrating perception and experience to explain users' acceptance of online payment systems. Similarly, Liao and Hsieh (2010) utilized TAM in their evaluation and analysis of online shopping behaviour and concluded that the TAM variables were applicable to online shopping, although in moderation with experience. However, while TAM has now been used numerously and adapted in the context of online shopping, its usefulness remains primarily in the explanation and prediction of acceptance, as opposed to explaining the actual behaviour once the technology or innovation has been accepted and adopted. Since the present research is focused on motivation, perception, and actual behaviour rather than perceived usefulness, ease of use, intentions or acceptance, TAM has not been found as a suitable and appropriate framework to undertake the research. Nevertheless, its underlying principles relating to consumer psychology are informative in defining this research.

2.9.4 Model of Intention, Adoption and Continuance

Based on the review of over 350 articles in the literature on consumer behaviour on the Internet, Cheung et al. (2000) concluded that an underlying base framework recurrent in the themes and models that were proposed could model overall consumer behaviour on the Internet. They identified the three components of the framework as intention, adoption and continuance, and also averred that extant literature has largely sought to explore how consumers adopt and use online purchasing along these dimensions. They contend that emphasis has been primarily in the areas of intention and adoption, and that continuance has only recently become more central to the study of online shopping consumer behaviour. Consequently, they proposed that a base model drawing on their identified dimensions as mentioned above was required to fully present an

integrated picture of online shopper behaviour as a whole. By integrating Fishbein's (1967) attitudinal model of behaviour and the expectation confirmation model (Oliver, 1997), they specified and described a new model termed the model of intention, adoption, and continuance (Figure 2.7).
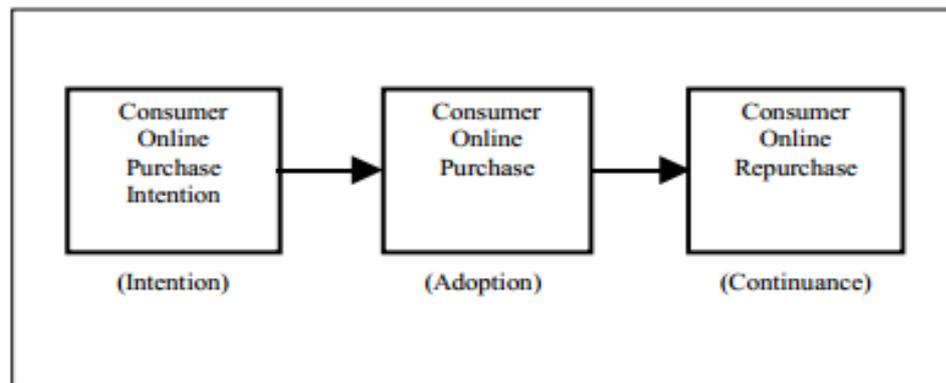
Figure 2.7: Model of online purchasing behaviour (Cheung et al., 2000)

Intention refers to the consumers' online purchase intentions, adoption refers to the taking up of online purchasing and continuance refers to online post-purchase/repurchase behaviour. Although as yet not exhaustively tested and verified, the MIAC model presents a step towards a unified and parsimonious base model for understanding consumer behaviour. However, its shortcoming is obvious in the sense that while it emphasises adoption and post-purchase behaviour, it does not clearly depict or elaborate on the actual behaviour that occurs once adoption has taken place. In this sense the model is asymptotic in the sense that it considers adoption as the overarching explanatory dimension for any and all other behavioural manifestations in online shopping – the model approaches an ideal model for describing online shopping, but falls short by not explicitly depicting usage behaviour. The deficiency of adopting proxy factors to explain actual behaviour in the online context may be considered a major shortcoming of many other studies. Yet, it has been acknowledged by various researchers that ultimately, understanding the actual behaviour may constitute the difference between success and failure in engaging consumers online. For example, Van den Poel and Buckinx, (2005, p. 558) state that:

> "…*a lot of research still needs to be done concerning Internet usage since Internet choice behaviour is in many respects substantially different from the behaviour that is already thoroughly explored in a traditional store-retail setting*."

To summarise, the MIAC model provides an important basis for this research's approach and informs the theoretical underpinning of the final research model. For example, the current research emulates MIAC by adopting a multiple-dimension model of pre-usage factors (perception of risk and benefits) and adoption stage factors (hedonic and utilitarian motivation). However in addition, the present research models regulatory focus as an antecedent overarching factor and considers actual usage behaviour rather than continuance behaviour.

2.10 BEHAVIOURAL DIMENSIONS OF ONLINE SHOPPING

Deriving from the previous research and as discussed in section 2.10, Internet shopping can be divided into a number of dimensions. Taylor and Strutton (2010) provide a summary of Internet shopping dimensions based on a review of marketing and Information Systems literature, and proposed a model of online shopping based on these dimensions: the Integrative Model of Online Purchasing Behaviour depicts behavioural Intentions as the outcome variable in relation to three dimensions involved in the online purchasing process. These dimensions are (i) "pre-purchase user intentions", (ii) "pre-purchase user attitudes" and (iii) "post-purchase user attitude", which is an alternative construal of satisfaction. But while Taylor et al.'s dimensions may be useful in predicting Internet shopping usage based on pre-usage intentions, their construction does not clearly indicate the formative basis for intention and subsequent usage. However the review of psychological constructs in section 2.9 shows that perception and motivation are fundamental factors underlying intention and behaviour. Therefore, direct and important questions to consider are:

In what ways does perception affect actual usage behaviour in online shopping? In what ways does usage motivation affect actual usage behaviour in online shopping?

Although the terminology may vary, various models (as introduced in section 2.10) underpin the relationships implied by the above questions (Cheung et al., 2003; Kimiloglu, 2004) leading to the emergence of a number of primary themes from the literature which may be grouped into four broad categories. These are (i) perception – which encompasses issues relating to initial perception and attitude towards the technology and medium attributes and characteristics; (ii) adoption and usage motivation - which looks at the factors or motivations that lead to the acceptance and use of online shopping, including intentions; (iii) usage behaviour – which looks at how online shopping is actually used by consumers, for example as a search or a purchase activity, as a frequent or occasional activity and the rationality of behaviour, as well as repeat behaviour in online shopping; and (iv) post-usage evaluation – which looks at post-usage evaluation, confirmation, satisfaction and subsequent intention to use.

However, whereas usage behaviour appears to be a frequent outcome of interest, several researchers, for example Taylor (2010) and Bosnjak et al. (2007), have found it expedient, or perhaps convenient to follow in the style of technology acceptance models in using intentions as a proxy for actual behaviour, thereby short-changing the field in terms of a critical evaluation and understanding of the behaviour dimension described above. Another study that promises but fails to deliver a clear and explicit explanation of actual behaviour in online shopping is Lim et al. (2012). Aptly titled "*Untangling utilitarian and hedonic consumption behaviours in online shopping,*" the study then focuses on satisfaction and evaluation, important post-usage variables, but not actual behaviour factors.

Therefore to redress these shortcomings, in this research, not only are we interested in fully modelling and testing actual behaviours that consumers exhibit in online shopping, but we aim to address the gap that also exists in specifying an appropriate structural model of the relationship between perception and motivation as intermediates on the one hand, and an underlying regulatory variable and actual usage behaviour as independent predictor and criterion variables respectively, on the other. Although the direction of the relationship between perception and motivation has long been contended (for example, see Postman, 1953), in online research literature, both constructs are generally

viewed as correlating and having a direct relationship on behaviour (cf. Lim and Dubinsky, 2004; Lim et al., 2012). This therefore buttresses the argument in this research that a common underlying variable influences perception and motivation, and that the effect of these two variables on any behaviour (for example online shopping behaviour) can best be understood when the underlying influence is explicitly modelled. This research proceeds on the assumption that both perception and motivation have direct and testable effects on usage behaviour in online shopping, while at the same time, their antecedent relationship with regulatory focus can also be empirically tested. In addition, the research assumes on the basis of present evidence that perception and motivation are not positioned in a linear hierarchy in relation to behaviour.

The dimensional classifications identified may also be likened to the five decision making stages of need recognition, information search, evaluation of alternatives, purchase decision and post-purchase processes (Engel et al., 1978) and render themselves to mapping onto the three-step model of motivation as described in the next subsection. In general, the decision making process is assumed or expressly modelled in popular models of consumer behaviour in online shopping. While the present research proceeds on the assumptive basis, it is important to briefly review the decision making process for background purposes.

2.10.1 Consumer Decision Making

The five-step consumer decision-making process outlines the steps a consumer goes through when reaching a consumption decision. This starts with recognising a need that needs addressing, and ends with evaluating the transaction after it happens. Consumers do not always engage in all five steps of this process, and routine or experience can cause them to bypass particular steps (Belch and Belch 2009).

- **Recognition of a need or want**
  Schiffman and Kanuk (2000) describe two "styles" of need: "actual state" types of need (i.e. an actual need) and "desired state" types of need (i.e. wants), each of which can trigger the decision-making process. Motives direct an individual "*toward a specific type of action that seems*

appropriate under the circumstances" (Walters 1978:216). From a purely process-oriented point of view, a three-step model of the motivational process (Figure 2.8) can be summarized as the identification of a need-based motive, which leads to an individual taking action to fulfil that need, which may lead to the eventual fulfilment of the need as the end goal (Wright 2006, Dugree et al.,1996:93).
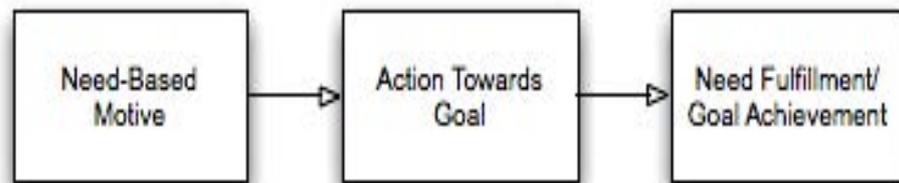
Figure 2.8: The simple motivational process (based on Wright, 2006)

But this simple model would be improved upon if it provided more detail about the human factors that underpin this motivational process. After all, as has already been explained, consumers are humans with different sources of motivation. It is therefore sensible to relate the simple model of the motivational process to the other dimensions affecting online shopping behaviour, that is, trait, perception and action, as developed in this research. In fact the simple motivational model presented here can be mapped directly onto a process of consumer behaviour in online shopping as shown in MIAC. The need-based motive underlies the perception that online shopping can satisfy a need and the intention to shop online, the action toward a goal underlies the adoption motivation, and the goal attainment underlies continuance. Therefore, along these same lines, an extension could be applied to explain overall behaviour in online shopping by accounting for the role of the underlying traits affecting motivation.

- **Information search**

The second decision making stage involves information searching. There can be internal and external search sources, but one's perception of risk is determinant of how extensive the information search process is, with a

high degree of perceived risk and low availability of information resulting in a more extensive search, and a low perceived risk and high availability of information typically resulting in a less rigorous search and evaluation process (Schiffman and Kanuk 2000). In this research, search behaviour is recognised as important because it is construed as an important manifestation of the behavioural differences arising from differences in regulatory focus. However, as the subject of online search behaviour has been thoroughly researched already, it does not form a primary concern in this research. Instead the recognition here that search behaviour can be impacted by risk perception provides substance to the subsequent argument in this research relating risk to other behaviours in online shopping.

- **Evaluation of alternative options**

Once information is gathered, an evaluation of the options takes place and this can involve some form of ranking and prioritisation. But oftentimes, what an individual perceives as the "right" choice is a subjective decision based on the choice being a good match with one's trait orientation or personality, as well as through the use of heuristics and externalities which may be considered forms of risk relievers (Schiffman and Kanuk 2000), for example, brand, guarantees and peer/social recommendations (Chisnall 1985, Williams 1981). Internally, evaluation of alternatives is influenced by perceptions, attitudes and one's intrinsic motivation, and for this reason this decision making step is of interest to this research. This is because it is expected that online consumers will differ in the level of alternatives evaluation based on the utilitarian or hedonic shopping objectives, as well as their perceived risk or perceived benefits orientation to online shopping, and this will further have consequences on the need for risk relievers during online shopping.

- **Carrying out the decision**

This is the action stage, where the consumer decides to proceed and act upon the decision. Schiffman and Kanuk (2000) describe three levels: trials (first-time transactions), repeat transactions, and a long-term commitment. The transaction state is modelled in this research as the outcome variable of behaviour, and represents the actions of the consumer in the context of online shopping, based on three surrogate

variables: how they respond to online marketing communications, shopping cart abandonment and the use of risk relievers.

- **Post-purchase evaluation**

   At this stage, the consumer evaluates the product, as well as overall shopping experience and post-purchase affect (Schiffman and Kanuk, 2000). This stage has also been described alternatively in expectation-disconfirmation paradigm as the (dis)confirmation stage, and has consequences on perceptions and attitudes that may influence customer repeat behaviour and retention in online shopping.

The decision making stages represent unique psychological states which can also be summarised as follows:

a) Perception – the need recognition stage
b) Motivation – the action inducement stage
c) Behaviour – the actual performance or implementation of the decided course of action
d) Evaluation – similar to the evaluation stage in the decision model.

The decision making model is informative, but as far as explaining consumer behaviour in online shopping is concerned, does not provide a convergent solution or conclusion to explain the actual behaviour that is exhibited and the mechanisms underlying it. In order to provide a holistic understanding of consumers in Internet shopping, this research adapts some elements of the decision making model appropriately to represent the processes underlying consumer online shopping behaviour in an initial four part solution (Figure 2.9). These dimensions are discussed next.
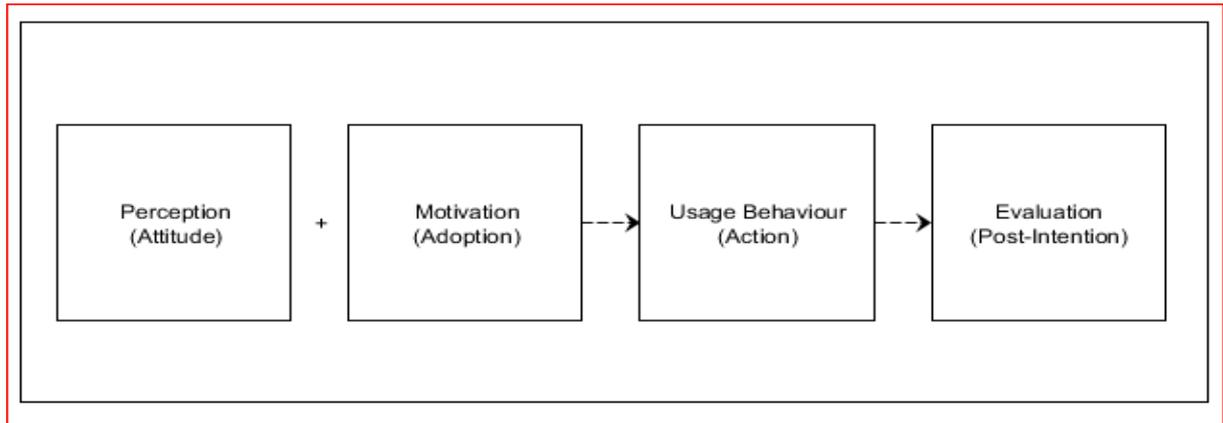
Figure 2.9: A four-dimension representation of the decision-behaviour process in online shopping

2.10.2 Perception and Online Shopping

2.10.2.1 Perceived behavioural control

It has been suggested that the motivation to adopt a particular channel of shopping is influenced by the perception of control that a consumer may have about this channel. According to Pookulangara et al. (2011) the level of control a consumer perceives is related to their channel choice possibilities. However perceived behavioural control (PBC) represents perceptions of control, not actual control, and the more accurate these perceptions are, the more likely they are to represent true control over the behaviour in question. The influence that PBC has upon a channel's selection and usage may be contingent upon other facilitating conditions, particularly on the time, money, information hedonic or utilitarian goals (Pookulangara et al., 2011). For example, a shopper that is interested in saving money or concerned about impulsive buying might perceive that by shopping online, they could better control the amount of spend and avoid temptations that they have associated with shopping instore. Similarly, if shoppers were short of time and perceived that they could better control the length of time they would take to shop by doing so online, this would lead to their making a choice to shop online. PBC is a sub construct of the theory of planned behaviour (Ajzen, 1991) and theory of reasoned action (Ajzen and Fishbein, 1980), along with attitude and subjective norms, and can be in turn determined from two subcomponents: (a) control belief − perception of obstacles

or resources affecting behaviour; and (b) perceived power – importance of these barriers or resources.

Although Pookulangara et al. (2011) found PBC as an influencing factor in the adoption of online shopping it is not clear how the perception of online shopping control as an adoption factor differs from consumer to consumer. Wolfinberger and Gilly (2001) argued that while some consumers adopt online shopping for the purpose of taking control over their shopping, others are more motivated by the perceived potential for enjoyment and freedom within this medium. Therefore perceived behavioural control appears to be a subset of the perceived risk/benefit valence framework. In this regard, consumers can perceive a high level of behavioural control in shopping online (a perceived benefit) or a low level of behavioural control in shopping online (a perceived risk), as a result of which their behaviour is affected. This perception of risk and benefit is elaborated upon next.

2.10.2.2 Benefits versus risk – the valence framework

A number of authors have approached online shopping adoption from the perspective that consumers view it from the point of view of value perceived rather than from the objectivity point of view. Lim and Dubinsky (2004) relate motivational factors to the shopping characteristics of the medium. Specifically they argue that Internet shopping attributes (Table 2.1) motivate shoppers in different ways as the value attached to these attributes differs by consumer motivation and orientation. Differences in attachment of value to Internet shopping attributes have been examined more recently by Lu at al. (2011), using the valence framework which posits that consumers perceive products, services and situations as having both positive and negative attributes, and that this perception affects their motivation to use the medium. The positive attributes are perceived as benefits while the negative attributes are perceived as risk. To this end, Lu at al. (2011) argue that perceived benefits of online shopping are motivators to usage while perceived risks of online shopping are inhibitors. Lu et al.'s motivators/inhibitors framework stems directly from the valence framework which balances the effect of perceived risk with the effect of perceived benefit. It argues that consumers' decision making is informed by a balancing act which is based on the balance of the two attribute groups to maximise the net valence

(Peter and Tarpey, 1975). Internet consumers are likely concerned about the security and risk associated with participating in online shopping due to its open infrastructure, but on the other hand, they are stimulated by the perceived benefits or greater value perceived in e-shopping (Lu et al., 2011).

a)   Perceived risk

In a contextual perspective, risk itself has been defined as the extent to which uncertainty abounds about whether potentially significant and/or disappointing outcomes of decisions will be realised (Sitkin and Pablo, 1992). Following from this approach Sitkin and Pablo (1992) define perceived risk as the assessment of the risk inherent in a situation. Although grounded in the field of traditional psychology, the perceived risk concept has enjoyed popularity within consumer behaviour theory due likely to its importance as a predictor of human behaviour. Early instances of definitions of the perceived risk concept within consumer behaviour can be traced to as far back as the 1960s. For example Cox and Rich (1964) defined it as the amount and nature of risk perceived by a consumer in contemplating a particular purchase decision, while more recently, Murray (1991) defined perceived risk as a consumer's uncertainty about loss or gain in a particular purchase undertaking.

The nature of perceived risk in consumer behaviour has been further illustrated by Akaah and Korgaonkar (1988) who examined perceived risk in mail order shopping, and Forsyth and Shi (2003) who studied its effect in the context of Internet shopping. These studies confirmed earlier findings that perceived risk is related to other consumer behaviour concepts, for example cognitive style (Cox, 1967) and self esteem (Schaninger, 1976). Jacoby and Kaplan (1972) identified five categories of risk perceived by consumers as financial, performance, psychological, physical and social, while Roselius (1971) proposed time as an additional category.

According to Mitchell (1999) consumers are constantly faced with completely new experiences upon which a risk assessment would be made; because of the difficulty in accurately estimating risk, such assessment is usually made on the basis of subjective impressions. This provides an important distinction between objective and subjective risk, specifically because the later constitutes what is

known as perceived risk. Thus any measurement of perceived risk in consumer behaviour must take into account the limitation that it is subjectively construed. Traditionally, perceived risk has been measured from an economic probability point of view, with a two component model, uncertainty about occurrence of event and importance of consequences, measured on four-point scales and collapsed either additively or multiplicatively to form the composite scale (Cunnigham, 1967; Peter and Ryan, 1976). Perhaps in recognising the similarity of perceived risk to other behavioural constructs that are best accessed via a consumer's multi-faceted responses, consumer researchers have increasingly employed the use of multiple indicator items to measure perceived risk (for example Stone and Gronhaug, 1993; Mitchell, 1999). Mitchell (1999) points out that the advantages of this approach include the possibility to test for reliability and validity, and the elimination of the need to brief respondents about what perceived risk means to the researcher.

The importance of perceived risk has been examined in information systems adoption research (Pavlou, 2003; Garbarino and Strahilevitz, 2004). But while the majority of research has found that perceived risk is high in Internet shopping due to attributes such as intangibility, uncertainty and uncontrollability (Poon, 2008), and that high risk perception negatively impacts on the intention to conduct e-commerce (Pavlou, 2003) or Internet shopping (Kim et al., 2007), some studies (Wu and Wang, 2005; Belanger and Carter, 2008) found that perceived risk has a significantly positive effect on the intention to use Internet shopping. These contradictions are interesting and point to the possibility that whereas some consumers are inhibited by perceived risk of online shopping, others are persuaded by it. One possibility for the differences observed may be associated with the type of product. For example, Rowley (2006) focused on e-service, which conceptually differentiates from e-retail of traditional products and therefore presents different considerations for risk and behaviour on the Internet. An important research question arising from this follows:

Why do some consumers perceive more risk in Internet shopping than others? Furthermore, what psychological factors lead to differences in consumers' sensitivity to risk in online shopping?

In this research, consideration is given to whether a specific psychological characteristic, regulatory focus, influences how different consumers perceive and react to Internet shopping risk. If regulatory focus affects the level of risk that an individual consumer associates with online shopping - and depending on whether this perceived risk serves as a persuader or inhibitor according to the regulatory focus - it should consequently affect the likelihood of their manner of participation in online shopping, as well as the manner in which they undertake and evaluate online shopping.

b)   Relative benefit

Lu et al. (2011) describe relative benefit as indicating the degree to which online benefits are perceived to be better than offline ones. Benefit is a subjective term closely related to perceived value, of which Zeithaml (in Taylor et al., 2010) states the following: "'perceived' value entails consumers' overall assessment of a product's utility based on perceptions of what is given and received." Some of the perceived relative benefits or value of online shopping are cost savings and convenience (Forsythe et al., 2006; Lim and Dubinsky, 2004). As Lu et al. (2011) state, the term relative benefit shows close resemblance to the construct of perceived usefulness in the Technology Acceptance Model (Davis et al., 1989) as both emphasise the performance improvement of a new service in comparison with an existing one. Perceived usefulness and benefit have been found to significantly affect the intention to use e-commerce (for example Kim et al., 2007; Pavlou, 2003), leading to the conclusion that the perception of relative benefit can encourage consumers to use online services, for example shopping and banking (Lu et al., 2011). Although perceived usefulness is not directly evaluated here because of its similarity to perceived benefits, this research is interested in the more immediate relationship between perceived benefits and usage behaviour in online shopping. A research question arising from the above is:

Why do some consumers perceive more benefits in internet shopping than others? And why are some consumers more or less sensitive to the benefits of online shopping than to its risks?

Where the balance of valence is positive and consumers proceed to accept and use online shopping, a secondary process of perception takes place that results from the evaluation and confirmation or disconfirmation of initial perceptions. This can be described by explaining the role of experience (Taylor and Strutton, 2010) as well as through the expectation-disconfirmation theory (EDT) (Oliver, 1980).

2.10.3 Motivation to Use Online Shopping

Variously referred to as motivation (Wolfinberger and Gilly, 2001) or adoption factors (Cheung et al., 2003) the subject of why consumers take up the use of the Internet as a shopping medium has been extensively researched. Some researchers have provided lists of adoption reasons (Mafe and Blas, 2007) while others have focused more on classifying these factors or segmenting consumers according to motivation typologies (Rohm and Swaminathan, 2004); yet others have been preoccupied with modelling the process of adoption, including its antecedents such as perception, attitude and intention formation (Chen et al., 2002; Xu and Paulins, 2005). These adoption reasons are explained below because they constitute an integral part of the motivational stage in a model of online shopping.

2.10.3.1 Adoption reasons

Mafe and Blas (2007) described the main reasons for consumers' adoption of OS shopping as:

- **Convenience and time saving**: consumers can shop anytime and almost anywhere. For this reason online shopping provides convenience and also saves the time required to make a trip to the shops (Kaufman-Scarborough and Lindquist, 2002). As a result, convenience and the ease of ordering from home from a worldwide market attract increasing numbers of consumers who value their free time or who consider shopping from both local and foreign companies. However, not all consumers shop online for convenience reasons. For others, situational necessity may warrant their shopping online. For example, Mafe and Blas (2007) identify access to products unavailable in the local market as a factor. They state that quick, economic and direct access to products that may not be

available in the local market is feature of online shopping. The Internet eliminates obstacles created by geographic and time zones, thereby placing at the reach of the consumer a greater quantity of products, services and information.

- **Variety and range of products**: consumers have access to a wider variety and range of products and services as a result of online shopping. By providing better quality information about goods and enabling consumers to find the products the desire, the Internet has the potential to increase overall shopping satisfaction.

- **Price reductions**: due to disintermediation that results from online shopping, it is possible for consumers to overcome intermediary barriers and purchase goods from the part of the world where these are at a lower cost. As a result, Reibstein's study (in Mafe and Blas, 2007) found that price was an important choice criteria used by most consumers in deciding where to shop online. This is because economically-motivated consumers see price as an important cost component and compare prices between different alternatives.

- **Customisation**: as the consumer's experience of the Internet increases, his or her involvement in the shopping process increases to include the design of the product and service. This ability to customise and personalise one's shopping is seeing as an important factor in the adoption of Internet shopping by some users.

However, consumers are not motivated in equal measures by the factors discussed above. This is because some of the adoption reasons discussed above are clearly utilitarian in nature, while others may be classified as hedonic, as a result of which the theories relating to utilitarian and hedonic motivation can be applied in this research to differentiate consumers' motivations. This is discussed next.

2.10.3.2 Utilitarian versus hedonic classification of online shopping motivations

Benefit and usefulness as described above could be considered as either hedonic or utilitarian whether deriving from a product's attributes or experience of channel use (Pookulangara et al., 2011). Although the consumption of many

goods and services involves dimensions that are both of hedonic and utilitarian benefits to varying degrees, it is clear that consumers characterise some benefits as primarily hedonic and others as primarily utilitarian (Wertenbroch and Dhar, 2000). Therefore this research is interested in knowing whether and how consumers' regulatory focus affects their perception of online shopping as either of relative hedonic or utilitarian benefit, and consequently which type of benefit primarily motivates them to shop online. A dual approach paradigm appears common in defining adoption behaviour for online shopping. Y Monsuwe et al. (2004) describe how the motivation to shop online can be classified simply as either utilitarian or hedonic. To this end they argue that whereas some Internet shopping consumers can be described as "problem solvers", others can be described as fun seekers wanting arousal, sensory stimulation, excitement and entertainment. Similarly, Wolfinbarger and Gilly (2001) aver that although online shoppers can be segmented and classified along numerous dimensions, their motivations can be seen primarily as either goal directed or experiential. The definitions of these terminologies bear similarity with Y Monsuwe et al.'s utilitarian and hedonic motivates.

Wolfinbarger and Gilly (2001) state that while some shoppers are online for control, others are there because it is fun and it provides freedom; the degree to which online shopping fulfils goal-oriented and/or experiential consumer needs will affect not only adoption but what consumers are willing to spend and buy online. For this reason: "clearly, understanding what motivates consumers to shop online can and should inform strategy, technology, and marketing decisions as well as website design." This view is supported by Kukar-Kinney and Close (2009) who state that consumers may shop online with experiential motives as well as goal-oriented motives; experiential motives will address fun and alleviation of boredom through entertainment and escapism, whereas goal oriented motives will address purposeful search and purchase of goods and services online. Hedonic motivations can also take the form of recreational shopping (Bellenger and Korgaonkar, 1980); for example Kaufman-Scarborough and Lindquist (2002) suggest that recreational shoppers are likely to virtually "stroll" through online shopping sites for learning, social and diversion related purposes without necessarily planning to make a purchase. This type of

consumer is likely to respond more positively to online marketing communication such as advertising.

In describing the two kinds of motivation for shopping online, Y Monsuwe et al. (2004) borrow from traditional descriptions of consumer shopping motivations (for example Hirschman and Holbrook, 1982; Babin et al., 1994; Holbrook, 1994) and state that utilitarian or goal oriented shoppers are problem solvers whose main concern for shopping online is to acquire a specific product or service, in which case shopping is considered an errand or work. They are preoccupied with purchasing products in a timely and efficient manner, and to achieving their goal with a minimum of distraction or irritation. In contrast, hedonically motivated shoppers see online shopping as an "enjoyment" and seek for the potential entertainment and fun resulting from the Internet shopping experience. Hence, they appreciate the online shopping experience for its own sake, regardless of any consequences, for example the resulting purchase or amount that may be eventually spent.

Babin et al. (in: Dittmar et al., 2004) developed a method for measuring utilitarian and hedonic values of shopping, finding that utilitarian values reflect concerns with efficiency and effectiveness, and hedonic values capture the fun and enjoyment of the buying behaviour. This method informs the development of a scale to measure online shopping motivation in this research. Pookulangara et al. (2011) referred to studies that had found that hedonic motivators play an important role in online shopping behaviour along with utilitarian predictors such as usefulness and ease of use. Additionally, they refer to the influence of exogenous factors such as consumer traits, situational factors, product characteristics, and previous experience. Specifically, they aver that while product characteristics can be classified according to inherited, conferred and perceived characteristics including tangibility, cost, homogeneity, differentiability and intensity, they may also be classified according to whether they are hedonic or utilitarian. Furthermore, both hedonic and utilitarian functions offer benefits to the consumer, the former primarily in the form of experiential enjoyment and the latter in practical functionality. But while the consumption of many products and services involves both dimensions to varying degrees, there is little doubt that

consumers characterise some products as primarily hedonic and others as primarily utilitarian (Wertenbroch and Dhar, 2000).

In the same vein, Chiou and Ting (2011) reference literature which supports the view that in the context of retail, shopping can be described as work, as opposed to fun. However they state that with respect to the Internet, more has been written about the utilitarian aspects of its shopping function while its entertainment and hedonic potential has only gained momentum recently. Yet as they argue, although the instrumental qualities of Internet shopping (for example, ease of use and convenience) are important predictors of consumers' attitudes and purchase behaviours, the hedonic aspects of the website play an equally important role in shaping these behaviours. In concordance with this description and the preceding literature, this research appropriately takes the view that it is useful to consider that the various factors influencing consumers' decisions to take up online shopping can broadly be classified into two motivational orientations - utilitarian and hedonic – and that consumers will belong more to one or the other depending on which attributes or factors influenced them the most. These motivations in turn should lead to online shopping behaviour that can be described similarly, either as utilitarian or hedonic, each leading to different outcomes. In this respect the research question to be considered is:

Why are some consumers more motivated by hedonic factors of online shopping than others who are more motivated by its utilitarian factors?

In sum, the questions raised in this subsection suggest the relationships specified in Figure 2.10, which summarises the theoretical relationships between the constructs discussed. In addition, from the forgoing discussion, there is a logical covariant relationship suggested between perceived risk and perceived benefit on the one hand, and hedonic motivation and utilitarian motivation on the other, as specified in Figure 2.10, because as one increases, the other decreases. These relationships are further developed in the discussion following Figure 2.10.
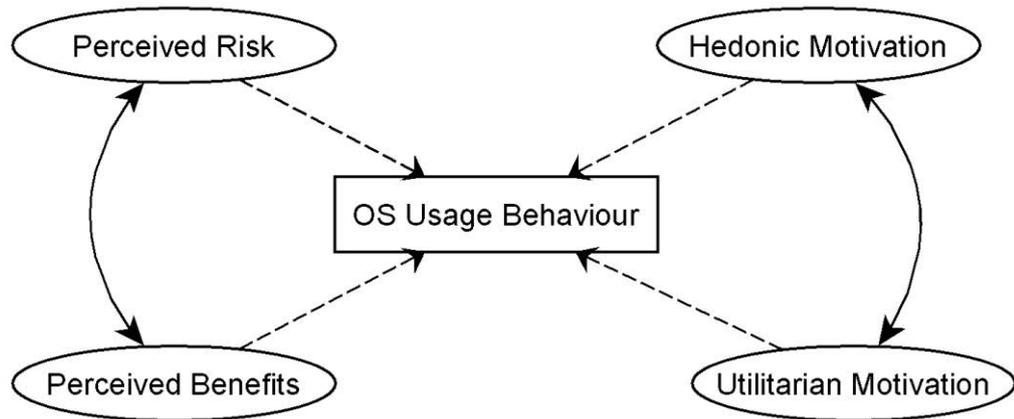
Figure 2.10: A dual-aspect model of the effects of perception and motivation on online shopping behaviour

2.10.4 Dimensions of Online Shopping Usage Behaviour

It is now well known that consumers behave differently when shopping online than when shopping in more traditional mediums, particularly in-store. As early as 2002, Bucklin et al. (2002) concluded that Internet choice behaviour is in many respects significantly different from the behaviour that is well researched in a traditional store-retail setting. They argued that Internet choice behaviour is more dynamic, which provides modellers with more and different types of consumer choices. Van den Poel and Buckinx (2005) suggest that the uniqueness of behaviour exhibited on the Internet could be explored further. Because consumers will behave differently based on a number of internal and external stimuli, the marketer has the opportunity to personalise the choice environment and respond in numerous ways at any moment in time. They further suggest that better models are needed for understanding Internet behaviour and being able to make predictions about it. There are many ways in which consumers behave differently. These differences are both at the level of the channel of shopping as well as at the level of individual differences, and many surrogate variables have been used to represent behaviour in online shopping, for example loyalty (Srinivasan et al., 2002), brand affiliation (Rowley, 2011), and search behaviour (Koufaris, 2002). However for the purpose of this research, three key behavioural components or dimensions will be utilised, to ensure parsimony and

comprehension. The three dimensions selected to facilitate this research are represented as in Figure 2.11. A description of each dimension variable, along with an explanation of its suitability for selection is provided subsequently.
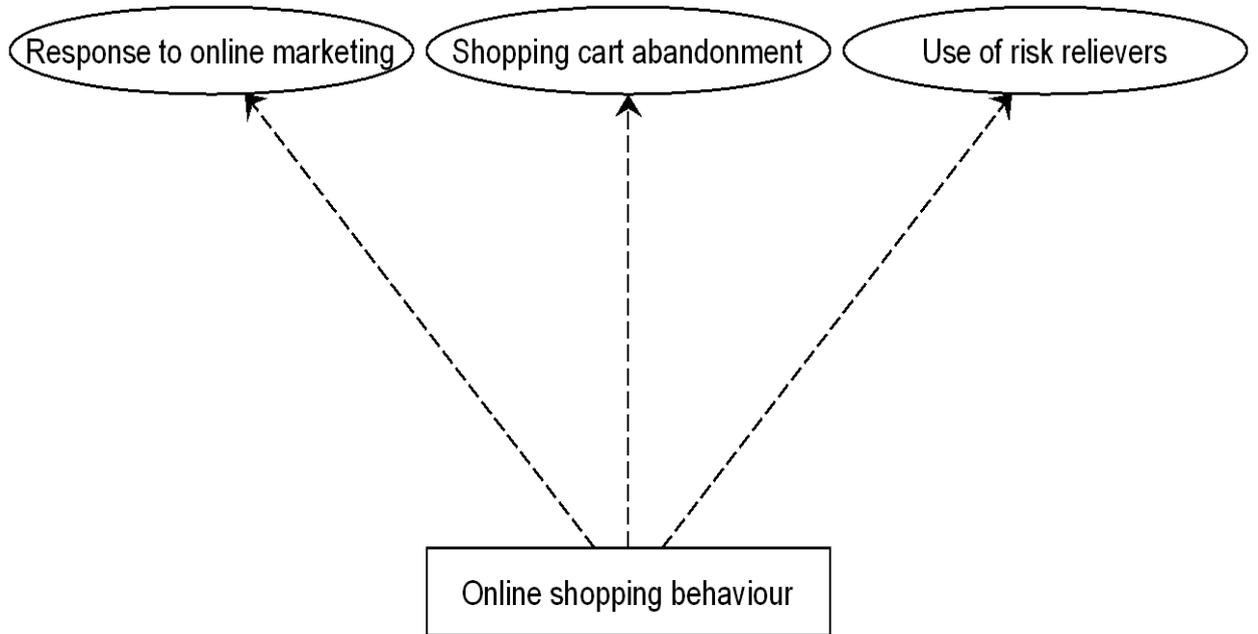
Figure 2.11: Three components of online shopping behaviour

Overall, the choice of these variables is based on the fact that these components have been extensively tested in previous research (although in isolation) and have proven to be robust estimators of behaviour in online shopping. Taken together, they represent new grounds for explaining consumer behaviour in online shopping. These components are important in describing online consumer behaviour because of their consequences for online retail success, and can be identified as shopping cart abandonment (Egeln and Joseph, 2012), response to online marketing (Orth et al., 2010), and behaviour relating to the use of risk relievers (Srinivasan et al., 2002). By measuring these three behavioural outputs, this research aims to capture an accurate and comprehensive representation of the dimensions of online shopping usage behaviour. While a few studies have primarily adopted a unitary philosophy and addressed various

aspects of online behavioural dimensions in isolation, the manner in which these dimensions have been combined to derive a composite construct of online shopping behaviour is one of the unique features of this research. This approach has been made possible only by the powerful ability of the structural equation methodology adopted in this research and explained fully in Chapter Three.

In the following subsections, the dimensions of online shopping behaviour utilised in this research are evaluated.

2.10.4.1 Response to online marketing (ROM)

It has been estimated that Internet marketing in the form of advertising alone will remain the fastest growing marketing medium, with a projected 18 per cent global growth to £37 billion in 2011 (Gill, 2008). Such phenomenal growth may be attributable to the Internet's potential to increase buyers' access to information and choice, as well as retailer opportunities (Varadarajan and Yadav, 2002). For example, this may be why a slowing down of economic activity as evidenced on the UK high street has nonetheless been countered by an increase in retail patronage online, accompanied by increases in marketing and advertising spend (Dennis et al., 2009). Therefore, understanding the mechanisms of online marketing has become a priority to both practitioners and researchers (Kiang et al., 2000), because many stakeholders still do not sufficiently understand the needs and behaviour of the online consumer.

Existing approaches to the evaluation of how consumers respond to online marketing have generally employed traditional tools associated with marketing, and although it has been acknowledge that this approach is appropriate (Kiang et al., 2000), it has also been argued that the Internet represents an idiosyncrasy which effect on consumers and marketing must be uniquely examined (Liang and Lai, 2002). Walsh (2010) states that although the Internet exhibits greater usage depth, it has at the same time witnessed more negative attitudes toward advertising and marketing communication in comparison to other media. The reasons for this paradox may range from consumers' utilisation of coping mechanisms toward information overload, to the relatively low cost associated with switching, avoidance and evasive behaviour in Internet shopping. In many instances, marketers have chosen to ignore evidence relating to negative affect

resulting from some consumers' exposure to advertising and marketing content, preferring instead to rely on the possibility that eventual benefits would arise as a result of the mere exposure effect (cf. Baker, 1999).

Previously, research has shown that the quantity of information and choice available to the consumer in the Internet environment can be overwhelming (Shankar et al., 2006), as the Internet is still a relatively new and sometimes disorientating place (Choi and Rifon, 2002). For example, consumers in the virtual environment are constantly presented with a variety of marketing messages, including various forms of advertising (Zeff and Aronson, 1999). The consequence of this is that consumers are forced to be selective in the number of messages upon which to act positively while ignoring or taking evasive action to avoid many others (Choi and Rifon, 2002). In general, this behaviour has been examined in terms of response to advertising (Orth et al., 2010; Kelly et. al, 2010) but may also be generalised to describe overall response to online marketing (ROM), as in the context of this research. As initially identified in the context of online marketing communications (section 2.9.3), ROM refers to a consumer's action and attention upon encountering an online marketing event or communication (for example a banner advert or promotion email), which may take the form of clicking on the advert, visiting a web retailer as a result of the email offer, accepting a cross-selling recommendation and so on. While Walsh (2010) has now demonstrated the relationship between locus of control and ad avoidance behaviour on the Internet, it is as yet not clear what role regulatory focus may play in the same circumstances.

The effects of perceived risk in Internet shopping are particularly insidious on consumer response to marketing stimuli, given that consumers oftentimes adopt extreme and severe risk reduction mechanism, for instance by applying techniques of filtering (Rieh, 2002), minimal usage and avoidance (Kiang et al., 2000) and preventive self-regulation (van Noort, 2009). While it is not possible to entirely eliminate perceived risk because consumers cannot always be certain about the achievement of their purchasing goals (Tan, 1999), it is important that marketers seek to reduce the effects of this factor by understanding how much weight different types of consumers attach to it. However, it has been shown that risk perception and risk tolerance differ among individuals according to

various characteristics, including those of a socio-psychological nature (Assael, 1995). These perceptual differences are consequential upon the behaviour of individuals (Chang and Chen, 2008). Therefore, it follows that one way of predicting how consumers feel about, and how they will respond to, the online marketing content and activity is to estimate their level of perceived risk and perceived benefits of responding to online marketing (Brown, 2003). For these reasons, it is important that this research measures the specific behaviour termed here as "response to online marketing (ROM)", as a component of the online shopping behaviour construct.

2.10.4.2 Shopping cart abandonment (SCA)

Shopping cart abandonment has been defined variously. It has been defined as the behaviour that occurs when a shopper begins the checkout process but does not complete it (Moore and Mathews, 2006), as a shopper's behaviour of putting items in their virtual shopping cart but failing to complete the transaction during the session (Moore and Mathews, 2006), and as when a customer visits an Internet shop to make a purchase, initiates the purchase flow, but hesitates and leaves it unaccomplished (Cho, 2004).

Current literature examines shopping cart abandonment from two perspectives: as a behavioural construct (Cho, 2004; Moore and Mathews, 2006) or as a technological construct (for example click stream data (Cho et al., 2006)) and sequence data (Wang and Wang, 2009)). Moore and Mathews stated that from a behavioural perspective, perceived risk appeared to have the most profound positive relationship with online shopping cart abandonment, while from a technological point of view, medium innovation and contextual factors were identified by Cho et al. (2006) and may be considered beneficial features by consumers because they minimise switching and delay costs. The behavioural output of shopping cart abandonment is important in this research because it represents an area that requires better understanding and because it is important in the success of online retail and marketing. By understanding how regulatory focus, perception and motivation relate to shopping cart abandonment, researchers and practitioners will be better positioned to find ways of minimising its occurrence and increasing conversion rates.

2.10.4.3 Use of risk relievers (RR)

A risk reliever can be described as anything that helps alleviate or reduce the effect of perceived risk on consumers' shopping behaviour. Realising the potential consequence of perceived risk on consumers' online shopping, retailers have taken many steps to reassure and persuade consumers to view online shopping as safe and secure. It is suggested that the use of risk relievers is a strong index for predicting consumers' online shopping behaviour, and retailers have invested significant amounts of money in providing website features that serve as risk relievers in online shopping. For example some e-marketers use expert endorsers, brand image (Tan, 1999) and the marketer's reputation (Kim and Kim, 2009). Others offer payment guarantees and product warrantees to relieve the concern for payment and product risk (Zheng et al., 2012).

However the use of risk relievers can take different forms depending on whether consumers are utilising implicit avoidance techniques and heuristics such as loyalty to known retailers, patronage of familiar and tested brands, and reliance on previous user endorsement (Tan, 1999); or it could take the form of retailer provided mechanisms as described above.

However, Zheng et al. (2012) state that marketers must know which risk relieving strategies are important to Internet consumers in order to help overcome their perceived risk concerns. This supports an earlier view by Mai (2001) that different risk relievers are effective for the different types of risk perceptions in the case of mail-order retail. They showed that the consumers' weighting of the importance of risk relievers is related to their level of perceived risk.

In online shopping, the relationship been perception of risk and the importance of risk relievers is not explicitly examined. In fact there appears to be an assumption that because online shopping is associated with heightened levels of perceived risk, as discussed before, it should follow that risk relieving strategies and mechanisms will be generally valuable to online consumers. However this research questions this assumption by explicitly treating the use of online risk relievers as a category of online shopping behaviour, which is in turn dependent on the effect of other variables, including perception, motivation and the

consumer's regulatory focus. Given that risk relieving mechanisms are not cheap and come at a cost to the retailer as well as to the consumer (Zheng et al., 2012), it is important to consider how they might better be utilised in relation to the consumers' usage behaviour, perception of them, and their characteristics. For example, retailers spend significant budgets to invest in secure transaction models, using such technical tools like secure socket layer (SSL) and extended site validations; consumers must also pay a price by using compliant browsers, lengthy authentication, and in some cases, restricted networks when shopping. It is therefore important for this research to consider how consumers' regulatory focus may affect their behaviour in relation to the use of different risk relievers by retailers, in order to make their provision appropriate to the consumer's needs.

2.10.4.4 Other dimensions of online shopping behaviour

In addition to the dimensions of online shopping behaviour utilised in this research, as discussed above, there are two important dimensions that are often discussed. These are e-loyalty and search behaviour. These dimensions are discussed below but not included in the present research as independent standing constructs because of their affinity to the other constructs, uniqueness and the fact that they are additionally made up of multiple dimensions. This unique characteristic makes them more appropriate for independent and separate consideration in future research.

a)   Loyalty

An early classification of loyalty (Brown, 1952) identified four categories of this concept as: (i) undivided loyalty, (ii) divided loyalty, (iii) unstable loyalty and, (iv) no loyalty. However this early classification of loyalty based on purchase patterns of consumers was later described and critisised as insufficient. Jacoby and Chestnut, (1978) suggested that a definition of loyalty based on behavioural patterns is not encompassing of the concept. It does not distinguish between true loyalty and spurious loyalty that may result, for instance, from a lack of available or suitable alternatives for the consumer. Consequently, it was suggested that loyalty should be extended to include attitudinal dimensions (Engel and Blackwell, 1982). Srinivasan et al. (2002) therefore define electronic

shopping loyalty or e-loyalty as a customer's favourable attitude toward the e-retailer that results in repeated buying behaviour. In addition to the e-retailer, consumers may also relate loyally with an e-brand, in a relationship which Park et al. (2005) suggest may be stronger than its equivalent within a traditional shopping setting.

However, electronic commerce consumers are rarely loyal to a specific website or brand. According to Johnson et al. (in: Van den Poel and Buckinx, 2005) clients or visitors of ecommerce websites do not display much loyalty when searching for a particular product or category. One of the reasons for this is that search costs are low, compared to costs associated with searching for products offline. For this reason, purchases may be delayed and conversion rates for retailers become affected (Moe and Fader, 2004). However, it appears that prior familiarity with a brand or retailer can reduce the negative impact of shopping online on loyalty behaviour. According to Doong et al. (2011) loyal consumers can maintain a positive attitude toward a brand to the extent that betrayal of the brand would be tantamount to betraying themselves. As such, brand loyal consumers do not merely search for their favourite brand name in the online channel, "they are determined to defend the brand fiercely and promote the brand to others with significant fervour." Chatterjee (in: Fagerstrom and Ghinea, 2011) examined the effect of negative reviews on retailer evaluation and found that the deleterious impact of negative consumer reviews is mitigated by the consumer's familiarity with the retailer – consumers patronising a familiar retailer are less receptive to negative reviews and seek less alternative information.

Not all consumers who shop on the Internet appreciate the extent of alternatives and choice available. For some consumers, unless this plethora of information and competing alternatives is carefully managed and presented, it could prove daunting, overwhelming and lead to escape/avoidance behaviour. As Srinivasan et al. (2002) averred, many consumers do not want to deal with multiple vendors when shopping, and therefore the presence of available alternatives at a single e-retailer can greatly reduce the opportunity costs of time and the real costs of inconvenience and search expended in virtual store shopping. They conclude that the ability to provide comparisons and choice is therefore a major incentive for consumer loyalty to an e-retailer. In addition to choice and

comparison capability, Srinivasan et al. (2002) identify a number of antecedents to e-loyalty. These include (1) customisation – the ability of the e-retailer to tailor products and the transaction environment to individual customers. Customers are more able to complete their transactions satisfactorily if the web packaging meets their goals and orientations; for instance some types of customers are in fact irritated or overwhelmed by large product selection and information, and can be driven to use simplistic decision rules to narrow down the alternatives. By customising and narrowing choices to individual preferences, an e-retailer can reduce the amount of time spent browsing through an extended product assortment. This could in turn create a repeat usage appeal for the customer, thereby encouraging loyalty. (2) Interactivity – Srinivasan et al. define interactivity in an e-context as the dynamic nature of the engagement that occurs between an e-retailer and its customers through its website, as enabled by the availability and effectiveness of customer support tools on a website, and the degree to which two-way communication with customers is facilitated. They state that interactivity can have positive effects on the perceived value of a website by reducing customers' reliance on memory and increasing the quality of information that can be presented to a customer in terms of relevance, timeliness and accuracy. Interactivity also increases the freedom of choice and level of control that some customers desire when transacting online. Taken together, these factors potentially affect the consumer's loyalty to an e-retailer.

Unfortunately while Srinivasan et al.'s (2002) excellent research goes on to identify cultivation, care, community and character as other important e-retailing attributes for encouraging and fostering loyalty, it stops short of a discussion on how other consumer characteristics such as personality and generic orientation may affect their loyalty in the presence or absence of these factors, or how loyalty may affect another aspect of online retail, that is, online branding (Rowley and Bird, 2011). Yet, as mentioned elsewhere in this thesis, individual differences inherent within consumers coupled with the nature of the Internet mean that even in the presence of all prescribed good practices, outcomes and reactions would vary. It is for this very reason that Liu (2007) states that it is far more difficult to achieve a higher level of e-loyalty than to achieve a high level of traditional loyalty because of the unique nature of the Internet. In this research, although it is not a primary modelled variable, an understanding of loyalty is

important because it may be viewed as a potential outcome of the risk reliever variable: consumers who are averse to risk may remain loyal to a familiar brand/retailer out of necessity, but not necessarily choice.

b)   Search behaviour

Peterson and Merino (2003) describe consumers' search behaviour online as complex. Grant et al. (2007) examined the role of information source and product characteristics, and although they also identified personal characteristics in their research, their main goal remained an evaluation and analysis of the medium's technological impact. Similarly, Koufaris (2002) examined consumer search behaviour in the context of a technology acceptance and computer usage nomological framework, while Kulviwat et al. (2004) proposed, but did not test, a conceptual framework for studying the determinants of online search behaviour, including person specific characteristics. While the Internet has facilitated the availability of information and thus enabled consumers to search more widely and in depth for information on their purchases (Chen, et al, 2002), it has at the same time created demands on consumers' attention and time (Henry, 2005). This latter effect is particularly insidious on the phenomenon of information overload, which has at times led to bafflement in search (Nachmias and Gilad, 2002).

In this research, search behaviour is highlighted as an important behaviour, but not directly modelled given the specified scope and focus of the study. The numbers of studies addressing search behaviour on the Internet from the technical to the behavioural points of view has increased in the last couple of years; however, this subject continues to rightly attract attention and more research – one interesting question for the future is: does perceived risk lead to an increase or decrease in consumer pre and post-purchase search?

2.10.5 Post Usage Evaluation of Online Shopping

Prior to making a purchase and during the process of shopping, consumers form expectations about their intended acquisition which subsequently create a frame of reference against which consumers make comparative judgments, rating the outcome as better(positive disconfirmation) or worse than expected (negative disconfirmation) (Oliver, 1980; Taylor and Strutton, 2010). Satisfaction is a

product of positive disconfirmation multiplied by perceived quality and the ease of quality evaluation (Anderson and Sullivan, 1993) and captures an ongoing evaluation of the surprise inherent in the acquisition of a product or service (Oliver, 1997). Traditional marketing literature is well documented with respect to the relationship between satisfaction and subsequent patronage or repurchase loyalty (for example Anderson and Sullivan, 1993; Flavian et al., 2006). In the Internet environment, the importance of delivering world-class service and experience has been highlighted. Cheung and Lee (in: Turban et al., 2006) show that 80 percent of highly satisfied online customers would shop again with the same retailer within two months and 90 percent would recommend the online retailer to others.

Conversely, 87 percent of dissatisfied customers would permanently leave the Internet retailer without making a complaint. As a result of its importance, researchers have given enormous attention to satisfaction and its antecedents/consequences in the online shopping domain. For example, Cheung and Lee (in: Turban et al., 2006) proposed a framework for Internet satisfaction by correlating the end-user satisfaction perspective with the service quality viewpoint. However, in Trudel et al. (2011), it is argued that while there has been great support for the disconfirmation of expectations model of satisfaction, the literature is noticeably silent on how consumers' regulatory focus also affects satisfaction in the post-purchase stage of consumer decision making. Trudel et al (2011) therefore examine the effects of promotion and prevention focus on consumers and find that regulatory focus of the individual affects their level of satisfaction and overall evaluation of the online shopping experience.

However, post-usage evaluation becomes far more important to consider when the products or services in question are high value. For example, in the purchase of a car or house, the post-usage behaviour may be a key issue to the retailer because of the high value associated with these. Although the same argument for post-purchase behaviour may be made in relation to other lower value goods, for the purpose of this research, it was not considered essential to propose and evaluate the effect of regulatory focus on consumers' post usage evaluation. This dimension was however shown in the base model of online consumer behaviour in order to specify the holistic model of consumer engagement with this domain.

2.10.6 The Effect of Experience on Perception, Motivation and Behaviour

Experience has a modifying effect on subsequent perception of, and motivation to continue using online shopping. Whether a consumer continues to be motivated by hedonic or utilitarian attributes of online shopping may depend consequently on their post-usage evaluation and confirmation, as described by the expectation disconfirmation theory above. This post usage evaluation of online shopping bears similarities to the experience factor described by Lu et al. (2011). Internet experience refers to the knowledge and experience that users of Internet acquire as a result of their use of this technology. In a narrow but more relevant sense, it refers to the experience that users of online shopping have acquired following its use, and which may inform continuance, discontinuance or modification in use. Maenpaa et al. (2008) identify Internet experience and familiarity as precursors to the acceptance of Internet banking and online shopping. This is supported by other researchers who also find that previous experience subsequently influences attitudes toward a website (Bruner and Kumar, 2000) and has a moderating impact on consumers' perceptions, attitudes and behaviours regarding the online channel (Chang, 2004). This potential moderating effect of experience is illustrated in Figure 2.12.
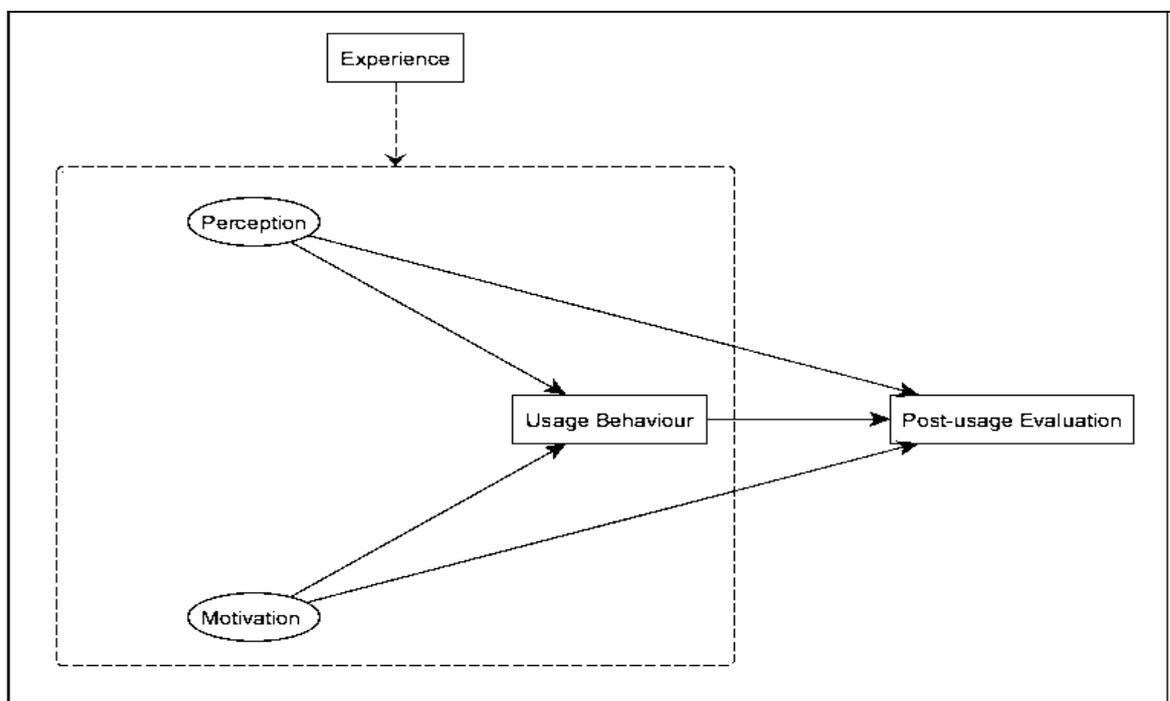
Figure 2.12: A summarised base framework, showing the grouping variable, experience

From the foregoing, it is clear to see how experience is implicitly influenced by post-usage confirmation and evaluation of expectations. For this reason, the present research does not explicitly model or examine the modifying effect of experience, but rather treats that relationship as theoretically implicit and apparent. This is made possible by the use of a structural equation technique that treats non-modelled factors as explicitly specified disturbance terms. Nevertheless, a number of writers have pointed out that experience is a by-product of initial use resulting from pre-formed perceptions and motivations; as a result, they argue that experience should be treated as a moderating variable (Castaneda et al., 2007; Kuan and Bock, 2007; Maenpaa et al., 2008). However this is out with the scope of the present research, and forms consideration for future research.

2.10.7 Other Factors Influencing Behaviour in Online Shopping

Various consumer characteristics have been identified in the literature as influencing consumers' motivation and behaviour toward online shopping, whether this motivation is of the utilitarian or hedonic type. These factors or influencers have been described variously as antecedent/posterior or mediatory/moderatory to utilitarian or hedonic orientations and fall into several categories. According to Dittmar et al. (2004) early research tended to focus on sociodemographic influences rather than psychological attributes; moreover the few articles that did address psychological influences tended to focus on the functional aspects of online buying such as concern about credit card security as well as price.

Other domain areas of influence in consumer behaviour online have been identified as environmental influences, product characteristics, medium characteristics (Cheung et al. 2003; Chang and Chen, 2008), shopping orientation (Girard et al. 2003) and situational factors (Hand et al. 2009). While the present research is interested in standard demographic information of the consumers, the focus is primarily on the psychological factors, specifically regulatory focus, motivation and perception.

For this reason, other potential influencing characteristics are discussed below, and illustrated in the base model (Figure 2.13); however only group differences

in experience and basic demographics are covered in subsequent descriptive analysis in this research. In general the factors discussed here are treated in this research as extant disturbance terms and their effects are accounted for in the specification of the structural equation model.

2.10.7.1 Sociodemographic factors

There are several studies focused on describing online consumers' demographics. Some of these studies show that demographic differences affect consumers' perceptions, motivation, behaviour and information processing on the Web (Purinton and Rosen, 2005). For example, age was an early variable in segmenting online shopping consumers (Mafe and Blas, 2007), while according to Carla and Carlos (2003), the difference between women and men shopping online may be disappearing. But as Mafe and Blas (2007, p. 153) state:

> "*since men and women differ in their shopping orientations and perceived shopping risks, it is likely that they have different shopping behaviour in online environments...*"

Location is also an important factor in online shopping, especially as it relates to adoption. Sim and Koi (2002) found that people in rural, less populated areas prefer traditional forms of shopping because they wish to interact socially. However, location outside of a metropolitan area may also increase online shopping if the products sought are not available or there is lack of enough variety locally, or access to a shopping facility are limited.

In contrast to the findings reported above, Vellido et al. (2000) reported that variables such as age and household income did not predict Internet purchasing behaviour. In this research, demographics are conceptualised as potential moderators but not tested due to reasons of parsimony, and in keeping with the research scope and objectives. Furthermore, the use of structural equation modelling as the analysis technique provides an umbrella means of estimating extenuating effects associated with demographic factors in an indirect manner.

2.10.7.2 Psychological factors

Factors that are categorised under the psychological dimension can further be divided into personality traits, cognition and affect. Dittmar et al. (2004) state that relatively few studies have considered the extent to which emotional and identity related factors are associated with buying online, even though such concerns have been shown to be powerful motivations for conventional shopping.
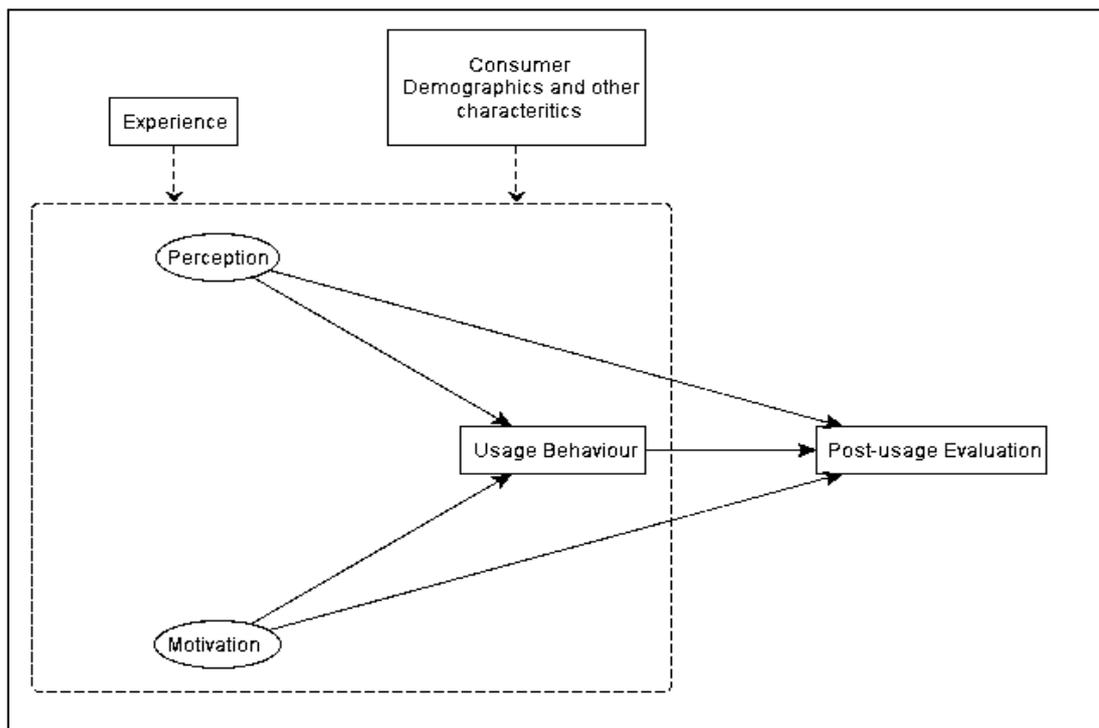
Figure 2.13: A summarised base framework, showing the grouping variables, "experience" and "consumer demographics and other characteristics."

To summarise, Novak et al. (2000) hypothesised and tested the relationship between online experiences and consumer behaviour using the flow theory. They incorporated some elements of the S-O-R framework and measured items such as arousal and positive affect. Their results show that Web characteristics affect arousal, flow, and exploratory behaviour during a Web shopping event. These are not modelled in this research, but are considerations for future research. The next section discusses regulatory focus and its relevance to consumer behaviour.

2.11 THE REGULATORY FOCUS THEORY AND CONSUMER BEHAVIOUR

Higgins' (1997) theory of regulatory focus (RFT) states that different psychological profiles exist in individuals which have a direct effect on how they approach goals and objectives: some individuals have a higher need for attainment of positive outcomes, thereby directing their attention to the maximisation of gains; other people have a higher need for protection against the occurrence of unpleasant states and the avoidance of negative consequences, thereby directing their attention to the minimisation of losses. To illustrate, an individual who is promotion focused would, according to RFT, be more receptive to messages that are positively framed (gains/non-gains) as against those that are negatively framed (losses/non-losses), whereas an individual that is prevention focused would be more affected by messages that are negatively framed than to those that are positively framed; this effect has been observed most prominently in advertising and extends to consumer behaviour situations where a promotion focused person's decision to purchase would be highly influenced by hedonic attributes of the object (product or service) as opposed to a prevention focused person's predominant consideration of the performance and reliability of the object (Werth and Foerster, 2007). Along the same lines, regulatory focus may be influential in predicting whether individuals are more persuaded by a peripheral route or a central route in their decision making and affect, as described in the elaboration likelihood framework previously described.

Trudel et al. (2011) state that consumer research has documented the effects of promotion and prevention focus in a variety of different domains, including information search, information processing and preference formation. They further demonstrate that consumers' regulatory focus (RF) can also influence their satisfaction with a consumption experience. They contend that the conservative bias among people with a prevention focus, relative to those with a promotion focus, has important implications for consumer satisfaction. Specifically, a prevention orientation should lead to protection against making errors, resulting in more reserved and conservative post-purchase evaluations. Consequently, they found that prevention focus consumers were less satisfied by positive outcomes and more satisfied by negative outcomes. Further evidence on

the implications of regulatory focus on consumers has been provided. For example, Crowe and Higgins (1997) showed that promotion focus individuals tend to generate more criteria and alternatives when making a purchase decision rather than prevention focus individuals. The consequence of this on consumer behaviour is that consumers who are promotion focused will be more likely to perform general searches and evaluate product features and attributes than consumers who are prevention focused, who will prefer to utilise heuristics such as familiarity, previous purchase experience and reliance on trusted third party sources.

Regulatory focus can represent an enduring personality feature - the dispositional or chronic view of regulatory focus (Higgins et al., 1997). It can also be determined by the situation, whereby it may be influenced by the environment, the decision making process or the magnitude of the consequences of the decision to be made (Forster et al., 1998). However, while it is an assumption of RFT that all individuals can be classified as chronically belonging to one focus or the other, it is not clear to what extent situational induced regulatory focus affects pre-existing dispositions: does the situation simply reinforce the chronic trait or are situational influences strong enough to completely moderate the enduring trait focus? For example does online shopping, by its acknowledged risky nature (see van Noort, 2009), induce a prevention focus irrespective of shoppers' natural predispositions? Or does online shopping, due to its very nature, reinforce promotion focus or prevention focus depending on the consumer's chronic disposition? While Zhou and Pham (2004) demonstrated that exposure to information about investment products such as common stocks can momentarily induce promotion (prevention) focus, Som and Lee (2012) note that dominant promotion focus and dominant prevention focus produce similar effects on the actions of individuals, regardless of whether they are chronically salient or have been made temporarily salient by administering a promotion or a prevention prime on individuals.

But promotion and prevention focus are not strict bi-polar constructs. That is, each type of focus is present in an individual and can become dominant as situations change or contexts evolve. However, the chronic view of regulatory focus assumes that over time and through learning, individuals become

dominated by one type of focus orientation and therefore automatically default to this focus in pursuit of objectives and decision making, as well as in their preference for competing approaches. The dispositional view of regulatory focus is that although there can be situations in which an individual shifts temporary from their dominant system of regulatory focus in order to attain a specific state or goal, they subsequently return to their natural state trait (Higgins et al, 1997).

2.11.1 Regulatory Focus and the Pursuit of Goals

The theory of regulator focus emanates from the domain of the theory of self-regulation toward desired end-states (Carver and Scheier, 1981), which examines how individuals regulate their behaviour internally. However regulatory focus is more closely aligned with the understanding of consumers' motives for obtaining certain goals and how this affects their behaviour. While the parent theory of self regulation neither distinguishes different means of approaching end-states nor identifies different types of desired end-states, the regulatory focus theory is unique in its clear distinction of two types of fundamental needs, namely nurturance and security, and two types of desired goals, namely, ideal goals and ought goals (Higgins, 1997). Ideal goals are those goals that people would ideally aspire to achieve, and are concerned with advancement, accomplishment and aspiration (for example desiring to be a recognised celebrity or be famous for something). On the other hand, ought goals are those goals that people feel an obligation (that is, they believe they ought) to achieve, for example the completion of a minimum qualification. Ought goals are oriented toward duty, obligation, and responsibility.

Nevertheless, whether chronic or situation-induced, the RF orientation of an individual at any one time has consequences for key behavioural determinants like information processing, motivation and decision making (Werth and Foerster, 2007), and this influences what aspects of a message or presentation an individual specifically seeks out or pays attention to and retains. Other researchers (for example Zhao and Pechmann, 2007 and 2006) have estimated that there is an approximately equal division of all consumers in a market at any given time, such that half are relatively promotion focused and another half are relatively prevention focused. Furthermore, RF can have consequences on

consumer satisfaction. Trudel et al. (2011) demonstrated that RF, through its interactions with expectations (as similar to motivation) and the consumption experience (as similar to usage behaviour) influences the consumer's satisfaction with the product. Satisfaction can be viewed as a dimensional aspect of post-consumption evaluation (Bhattercherjee and Premkumar, 2004) and therefore Trudel et al.'s (2011) findings are in line with this research's proposition that a three dimensional understanding of how regulatory focus affects online shopping is beneficial.

Regulatory focus states that there are two competing approaches to the attainment of goals, and the approach adopted is usually in line with whether the person aspires onto ideal goals or ought goals. These two approaches are described in terms of means as eagerness-related means and vigilance-related means (Higgins, 1997). The two different approaches are best described with an illustration of a consumer wanting to buy a new laptop. The consumer who is oriented toward eagerness in the attainment of the end state will likely search extensively for the product's details and information about performance, will compare the product's latest features with other similar products, will consider many other product criteria and search extensively for bargains on the product before purchasing. On the other hand, a vigilances-related means oriented consumer buying the same product will be primarily concerned about the quality of the product and whether it meets standard functional expectations. In goals pursuit, promotion focus individuals prefer the use of eagerness-related means because this is the type of means most suited to the achievement of ideal goals; in opposition, prevention focus consumers prefer to use a vigilance-related means to the attainment of goals because this is the type of approach best suited to the attainment of ought goals. Consequently, it has been concluded that for promotion focus consumers, the natural end-state objective is the ideal goal and the natural means for achieving this is to use an eagerness-related approach – this means that this type of consumer would deliberate less and be less controlled but more impulsive in their behaviour. But for the prevention focus consumer, the natural end-state objective is the attainment of ought goals and the natural means for achieving this is a vigilance-related approach (Pham and Avnet, 2004).

2.11.2 Regulatory Fit and Regulatory Pride

Various studies showing the effects of "regulatory fit", that is a match between the individual's regulatory state and the message frame and/or environmental heuristics, on product evaluation and motivation have been conducted. In both Aaker and Lee (2001) and Evans and Petty (2003) it was found that people with a chronic promotion orientation are more strongly persuaded by promotion-oriented information, while people with a prevention orientation were more strongly convinced by prevention-oriented information. Werth and Foerster (2007) and Wang and Lee (2006) also illustrated these effects on product valuation and purchasing decisions, while Camacho et al. (2003) found that chronic promotion individuals were more likely to be willing to pay a higher price for an experimental product than were prevention focused individuals. Regulatory focus also relates to the concept of cognitive dissonance, because when consumers encounter message frames out with their regulatory fit, they experience this dissonance and consequently will take steps to avoid these message frames.

In addition to the above findings some researchers suggest that the effects of RF on behaviour and motivation are moderated by experience. This is captured in the concept of regulatory focus pride (Louro et al., 2005) which describes the situation where outcomes arising from behaviours that fit one's regulatory focus are reinforced and repeated (Venkatesh et al., 2003). However, Miyazaki and Fernandez (2001) and Van Noort et al. (2008) found that level of experience did not materially alter the relationship between regulatory focus, perceived risk and overall OS behaviour. This points to the strength of the regulatory focus trait and pre-empts the temptation to hypothesise that over time, all consumers will come to view online shopping in the same light. Instead, the possibility of motive switching and mode (see Choi and Rifon, 2002), as well as psychological reversal (Walters et al., 1982) should be considered in relation to how an individual's enduring regulatory focus can sometimes temporarily alter. These factors can potentially create inconsistency in behaviour relative to an individual's RF, thereby moderating the online shopping motive-versus-outcome hypothesis. However, one shortcoming is that their influence on RF is not fully understood. Additionally, the model assumes that individuals' use of online shopping is out of

choice but not necessity, and that, as mentioned earlier, situational or circumstantial effects do not significantly impact on the chronic manifestation of RF. Nevertheless, the argument proffered here is that inconsistency in OS behaviour arising from situations, circumstances and previous experiences are likely to only represent temporal incongruity (see Hendrix and Martin, Jr., 1981) and, in the general context of OS, the discriminant influences (that is prevention and promotion) described by RFT will hold true.

Regulatory fit may also be viewed from the perspective of congruency between foci and the means used in the attainment of goals. According to Higgins (2002), compatibility between foci and the means used in the attainment of goals results in the sense of "feeling right", which creates additional value independent of the value of the outcome of goal pursuit (this is value-from-fit). According to the regulatory fit theory therefore, promotion focus individuals who utilise the eagerness means will value the goal process more than promotion focus individuals who use vigilance means, whereas prevention focus individuals who use vigilance means will value the goal process more than promotion focus individuals who use vigilance means.

This theory has consequences for consumer behaviour because it shows how regulatory focus does not only affect the outcome, but also how it is present in the evaluation of the process (for example in shopping and decision making) and how a process "fit" can result in feeling right after achieving the shopping goal. In order words, regulatory focus not only affects the consumer's choice of purchase or how the purchase is made, but also their feeling (or evaluation) post-purchase. In this sense, feeling right is considered as relevant information to judge the outcome of the decision.

The transfer of regulatory fit effects to consumers' subsequent judgements has been empirically documented. For instance it has been shown that consumers assign higher value to choice objects and reveal more motivation to pursue their goals if they experience regulatory fit (Higgins et al., 2003). Consequently, regulatory fit theory, together with regulatory focus theory, not only helps explain goal preferences of consumers and how they pursue different goals, but also can predict how they will evaluate the eventual outcome. This conclusion is

important in the shopping flow design of a Web site, and is therefore of interest in this research.

2.11.3 Measuring Regulatory Focus

As stated earlier, regulatory focus can be framed as either a dispositional trait or situational induced. According to Werth and Forster (2007), an enduring, chronic focus stemming from learning and values is seen as dispositional, whereas, a focus that is mediated by circumstances is considered situational. For this reason, and depending on the research approach, regulatory focus can be measured through a questionnaire (presumably, dispositional) or manipulated in an experiment (presumably, situational). In this research specific focus is on RF of the chronic orientation (that is, the dispositional view) and does not expressly address or evaluate RF that may arise from the manipulation or priming of the situation. This is to ensure that the research retains parsimony, and remains within its overall scope and stated objectives.

But how does one determine if an individual is promotion or prevention focused? The dispositional trait of regulatory focus has been accessed using various scales, the most common of which are the self-guide scale (Higgins et al., 1997) and the promotion and prevention goals measure (Lockwood et al., 2002). Higgins et al. (1997) created two scales, one to determine the extent of an individual's promotion focus and another to determine the extent of an individual's prevention focus. Individuals are scored on each scale and then the scores compared to determine if the individual is higher in one focus than the other. A higher score in the promotion scale, as opposed to the prevention scale, classifies the individual as promotion focused, and vice versa (Higgins et al., 1997).

2.11.4 Summary of Final Research Questions

The foregoing discussion on consumer online shopping relating to their perception, motivation, usage behaviour and underlying regulatory focus provides a framework upon which a model of online consumer behaviour in online shopping can be based. To fully understand the parameters for such a model, the questions and issues identified above are refined, rephrased and summarised below in form of specific research questions:

1. *Does regulatory focus affect consumers' behaviour in online shopping, so that it explains and predicts this behaviour?*
2. *Is the effect of regulatory focus on online shopping behaviour direct, or is it significantly mediated by the behavioural antecedents of perception and motivation?*
3. *What is the exact effect of consumer perception of risk and benefit on behaviour in online shopping?*
4. *What is the exact effect of consumer motivation for hedonic or utilitarian outcomes on behaviour in online shopping?*
5. *What are the implications of the nature and form of the joint relationships between regulatory focus, perception, motivation and online consumer behaviour on Internet based marketing and retail?*

To address these questions and the research objectives, the regulatory focus model of consumer behaviour in online shopping is proposed, described and discussed below.

2.12 A REGULATORY FOCUS CONCEPTUALISATION OF ONLINE SHOPPING (REFCOS)

2.12.1 A Three-Dimension Model of Online Shopping

In the previous sections, the various strands of existing literature were examined and this led to the summation of online shopping into four underlying dimensional aspects. In this section, three of these aspects are further developed to derive the model of online shopping behaviour. The first dimension identified was perception, which accounts for how customers perceive the medium of the Internet for shopping, including their perception of benefits and risk associated with the medium. The second dimension is the motivation dimension, which defines the stimulus and motivation for adopting the Internet's use as a shopping medium, whether as primarily for utilitarian or primarily for hedonic motives. The third dimension is behaviour, which captures the actual usage behaviour or actions of consumers in the Internet shopping domain, including purchase behaviour and the use of attributes such as decision aids and tools. Finally, the post-usage behaviour dimension was identified, addressing the behaviour that

consumers exhibit following their usage of Internet shopping. Although the base model in Figure 2.14 depicts all four dimensions and shows the effect processes linking these dimensions, only the first three dimensions will be utilised in the present model, for the reasons advanced previously.

As previously discussed, a dual form approach toward understanding the dimensions of online shopping is useful for providing comprehensive but comprehendible analysis of consumers' engagement with the Internet medium. Thus, the dual aspect approach is adopted in specifying the mediating variables in the base model.
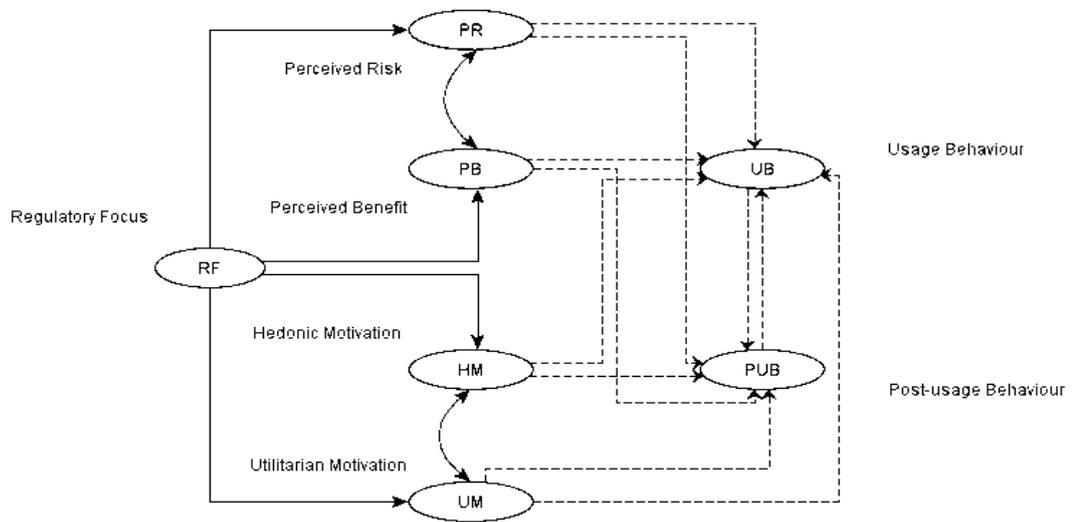
Figure 2.14: A working model of the underlying relationship among regulatory focus, perception, motivation, usage behaviour and post-usage behaviour in online shopping

The base model shows that in general, the effect of regulatory focus on consumers' online shopping behaviour and post-usage behaviour is mediated by the dual forms of perception of online shopping and motivation for online shopping. This model forms the foundation upon which the conceptual research framework is based, However, the main research model derived from this is shown in Figure 2.15. In the derived research model, the only difference lies in the exclusion of the post-usage behaviour construct, as shown in Figure 2.15. This figure also shows all the main variables in the research proposition, including the independent, intermediate and dependent variables, and their

associated dimensions. Each of the relationships specified in the research model relating to the three dimensions of interest can be described in terms of its representative hypothesis. The model in figure 2.15 is described fully in sections 2.12.2 to 2.12.4.
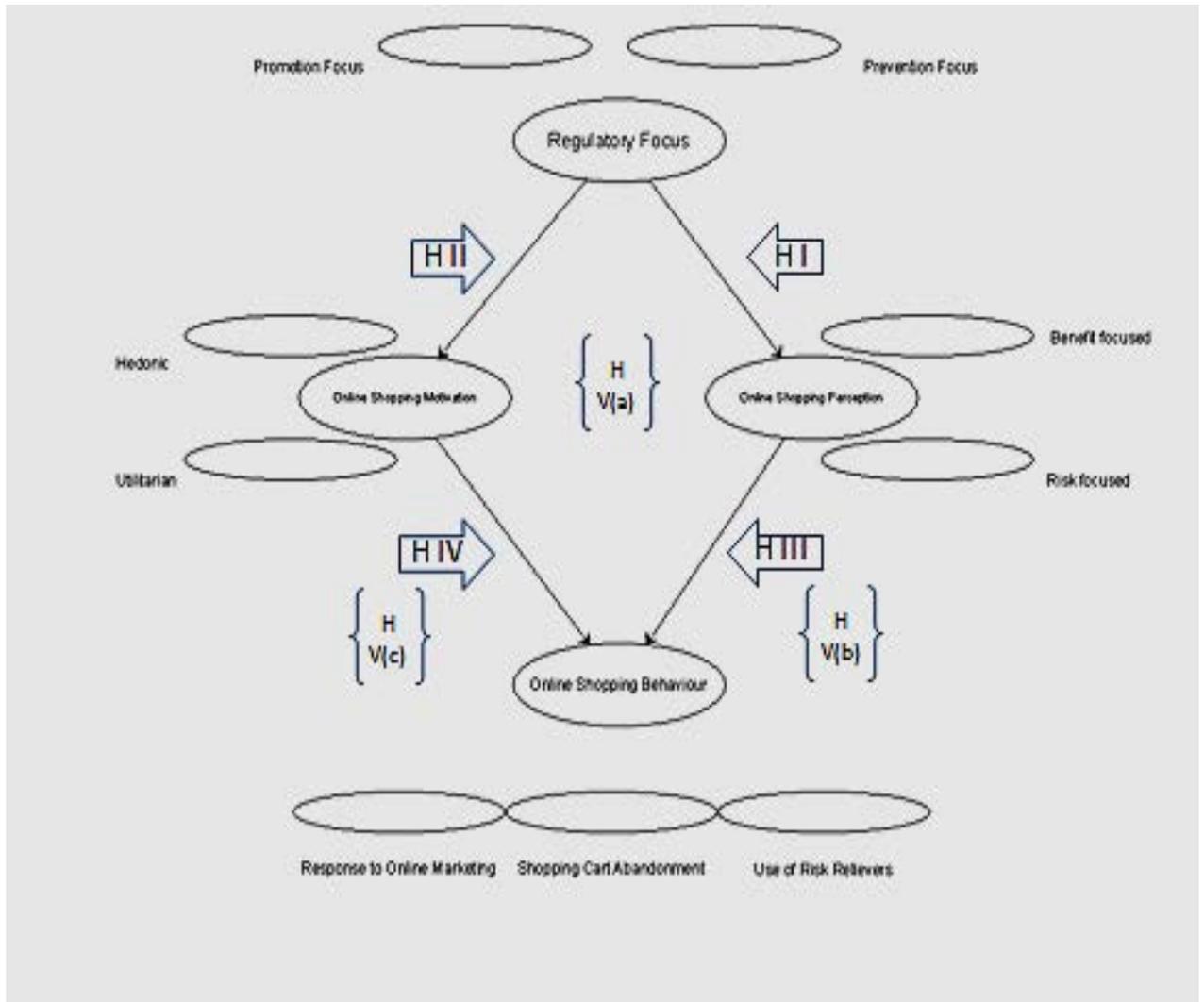
Figure 2.15: A regulatory focus model of online consumer behaviour

2.12.2 The Relationship between OS Perception and Regulatory Focus

The literature review has revealed research which shows that regulatory focus can affect how individuals perceive the risk of a situation or undertaking, relative to the associated benefits. The effects of prevention and promotion focus have been demonstrated in prospects theory (Chernev, 2004), business decision making (Roese et al., 1999) and consumer satisfaction (Trudel et al, 2011). Similarly, research by van Noort et al. (2008) has demonstrated the effect of

regulatory focus on perceived risk in the online retail domain, and Trudel et al. (2011) have extended this research to show that regulatory focus also affects post-purchase satisfaction and subsequent perception of the online medium. Following the direction established by the extant literature, and particularly as proposed by the valence framework (Peter and Tarpey, 1975), the present research proposes that given an inverse covariance between perceived risk and perceived benefit, the dimension of perception of online shopping is affected by regulatory focus because regulatory focus influences the perceived risk and perceived benefit experienced by consumers in relation to online shopping. The nature of the regulatory focus effect on risk and benefit perception can be specified: individuals with a prevention focus are more likely than those with a promotion focus to be wary and conscious of risk, as they seek to minimise loses rather than maximise gains (Kirmani and Zhu, 2007); conversely, individuals with a promotion focus are more likely than those with a prevention focus to be aware and conscious of benefits, as they seek to maximise gains rather than minimise loses (Aaker and Lee, 2001). These effects are particularly insidious in situations where there exist the potential for both high losses and high gains, as is the case with the relatively new shopping medium of the Internet (Tong, 2010). Hence the following hypothesis is drawn:

> **Hypothesis I –** Regulatory focus affects consumers' perception of online shopping such that promotion focus consumers are more perceptive of the benefits associated online shopping and prevention focus consumers are more perceptive of the risks associated with online shopping.

2.12.3 The Relationship between OS Motivation and Regulatory Focus

Consumers adopting online shopping do so for a variety of reasons. Although several reasons may be identified, it has become common practice to classify the various adoption reasons in line with traditional classifications in the marketing literature, for example the classification of the determinants of store choice on the levels of functional and non-functional motivations (Sheth, 1983). As the review in the previous sections also shows, this dual mode approach to technology and innovation adoption reasons is common in marketing practice, with one of the common basis being the differentiation between hedonic and utilitarian motivations for adoption and utilisation of an innovation (Bridges and

Florsheim, 2008). Wolfinberger and Gilly (2001) for example, have argued that the distinction in hedonic and utilitarian motivation can manifest in the form of adoption of Internet shopping for the reasons of fun, freedom or control, while Bridges and Florsheim (2008) state that when shopping online, consumers seek utilitarian benefits, such as ease-of-use and satisfactory outcomes, or hedonic benefits, which provide enjoyment of the online experience. However the relationship between regulatory focus and motivational orientation, whilst established elsewhere (for example in Wang and Lee, 2006), is not clear in relation to hedonic versus utilitarian adoption of online shopping. Given that prevention focus individuals are known to be more goal oriented toward security and responsibility and are therefore mainly occupied with the task completion (the utilitarian experience as discussed by Trudel et al., 2011) while promotion focus individuals are known to be more fun oriented and mainly occupied with the task process (the hedonic experience, for example in Idson et al., 2000), a reasonable argument can be proffered in relation to regulatory focus and the adoption motivation, specifically because the literature indicates a correlation between bias for hedonic motives and bias for utilitarian motives. Consequently, this research hypothesises as follows:

> **Hypothesis II –** Regulatory focus affects consumers' motivation for online shopping such that promotion focus consumers are more motivated by hedonic features of online shopping and prevention focus consumers are more motivated by utilitarian features of online shopping.

2.12.4 The Relationship between OS Behaviour, Perception, Motivation and Regulatory Focus

The relationship between regulatory focus and individuals' behaviour has been established in numerous studies. As discussed in 2.12, people will react differently and display different behavioural patterns in various encounters according to their regulatory focus (Higgins, 1997). This relationship between regulatory focus and behaviour has been evidenced in research on health, for example eating and dieting (Vartanian et al., 2006), smoking (Zhao and Pechmann, 2007), exercise (Jin, 2010), and choice making behaviour (Som and Lee, 2012). Furthermore, it has been shown that regulatory focus has an effect on the behaviour that consumers exhibit in buying an investment product (Zhou

and Pham, 2004), in information search (Pham and Chang, 2010) and preference formation (Wang and Lee, 2006). On the basis of this evidence, this research proposes that regulatory focus is a potentially powerful basis for predicting and/or explaining behaviour that consumers display when shopping online. Such behaviour could range from frequency of purchase to choice preferences. Specifically, the research proposes that consumers will display behaviour that is either predisposed to controlled and restrained shopping or they will display behaviour that is predisposed to impulsive and enthused shopping, based on their regulatory focus. However, while regulatory focus is clearly an underlying factor in the reported literature, it is also clear that its consequences are not direct on usage behaviour in online shopping but are indirect and jointly mediated through the secondary process involving perceptions of risk and benefits (van Noort et al., 2007) and hedonic versus utilitarian motivation (Zhou and Sengupta, 2006). Because they are mediating variables, the effects of perception and motivation on consumer behaviour in online shopping can be specified as direct and may first be hypothesised before considering the indirect impact of regulatory focus, as follows:

> **Hypotheses III –** Consumers' perception of online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more perceptive of online shopping benefits or online shopping risks.

> **Hypotheses IV –** Consumers' motivation for online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more motivated by hedonic features of online shopping or by utilitarian features of online shopping.

Previous regulatory focus research has shown that prevention focus individuals are mainly occupied with the avoidance of losses, and thereby are more likely to avoid circumstances of uncertainty and more likely to act in circumstances where the outcomes are certain. That is, prevention focus consumers have a conservative bias and are more sensitive to losses than to non-gains (Crowe and Higgins, 1997; Higgins, 2002). It can be argued that in order to ensure certainty

of behavioural outcome, prevention focus individuals will seek to exert maximum control over the situation and context, and this will be evident in behaviour that is controlled and measured, and which is characterised by avoidance of uncertainty and the retention of control and focus. Furthermore, this group of consumers will value and utilise features that enable them to be (or feel) more in control of their online shopping actions (for example the ability to avoid marketing content such as recommendation engines). This will generally result in avoidance of online marketing content or initiatives, high use of online risk relievers, but little shopping cart abandonment, as this type of consumer will be focused on the task completion during online shopping.

Conversely, promotion focus individuals are more interested in the fun and pleasure that an experience brings, and are less concerned about potential negative outcomes (Chernev, 2009). Consequently, it is expected that promotion focus individuals will act more impulsively, for example, for the purpose of discovering the outcomes as the event unfolds – this would be more fun and adventurous, but also represents an approach that is less controlling and more risky. This group of consumers will value and utilise features that encourage fun and discovery when shopping online (for example recommendation and bidding engines). However this will also result in characteristic behaviour relating to factors such as high levels of shopping cart abandonment and little use of online risk relievers.

Although Wolfinberger and Gilly (2001) demonstrated that some consumers specifically seek to exert control when shopping online while others are more interested in the adventure that this represents and are therefore more likely to act impulsively, they did not relate this to regulatory focus. This study extends the research on behaviour in online shopping to include the influence of regulatory focus. In specifying hypotheses for the indirect effects of regulatory focus, it is important to clearly evaluate the joint mediation effects as well as the partial mediation effects relating to perception and motivation. Based on this expected indirect influences, the following hypotheses are drawn:

> **Hypothesis V (a) –** Regulatory focus affects online shopping behaviour, but its effect is jointly mediated by online shopping perception and online shopping motivation.

Hypothesis V (b) - Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping perception.

Hypothesis V (c) - Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping motivation.

Further to the hypothesis on the antecedent influence of regulatory focus on usage behaviour, specific hypotheses may be drawn on the components of behaviour on the basis that the influence of regulatory focus through perception and motivation extends from the high order construct level (i.e. usage behaviour) to the lower order component level (i.e. shopping cart abandonment, response to marketing and the use of risk relievers). In this research, the possibilities for these extensions are discussed but not analysed, given the scope of study. However, these effects are implied and may be considered as partially proven if the effect of regulatory focus on the key criterion variable of online shopping usage behaviour is established.

2.12.5 Summary of the Research Model

The regulatory focus model of consumer behaviour in online shopping, as presented in Figure 2.15 and described by the hypothesised relationships depicts three related dimensions to online shopping, of which two are directly affected by regulatory focus (i.e. perception and motivation) and one is indirectly affected by regulatory focus (i.e. behaviour).

These dimensions have been discussed variously by previous research and reported in numerous literatures, as reviewed here; however the current model depicts the direct and indirect role that regulatory focus plays in influencing these dimensions and the inter-relationships between them. For ease of reference and comprehension, the proposed model, drawn from the literature and theoretically framed, is termed the regulatory focus conceptualisation of online shopping (REFCOS). In Chapter Three, this model is elaborated upon to provide the structural and measurement level details required in SEM analysis.

2.12.5.1 Summary of model variables

- **Regulatory Focus: Promotion versus Prevention**

  Regulatory focus as a chronic and enduring trait can differentiate individuals (i.e. consumers) according to whether they are promotion focused or prevention focused.

- **Perception: Perceived Risk versus Perceived Benefit**

  Based on the valence framework, consumers' perception of online shopping (as depicted in this model) can be either more risk imbued or more benefit imbued.

- **Adoption Motivation: Hedonic versus Utilitarian Motivation**

  The motivation to purchase online is influenced either mainly by the desire for control or the enjoyment of the experience and these factors are captured by the utilitarian and hedonic objectives (Dholakia and Uusitalo, 2002) and precedent to the usage behaviour (Wolfinbarger and Gilly, 2001), as represented in this research model.

- **Usage Behaviour**

  Usage behaviour is described by multiple attributes, and in this research is accessed by the use of three commonly cited behavioural manifestations in online retail: response to online marketing (ROM), shopping cart abandonment (SCA) and use of risk relievers (RR). The strategy of the research here is to determine how these attributes, describing behaviour, are exhibited differently by consumers as either more utilitarian/risk biased or hedonic/benefit biased and to correlate these with differences in their regulatory focus, perceptions and motivations either as direct or indirect effects.

2.12.5.2 Model assumptions

One of the main assumptions in deriving this model is that regulatory focus is a chronic trait that is stable and changes little over time once it has been formed in early life. This assumption is important because variability resulting from situational and circumstantial contexts can be ignored or treated as residual disturbance influences. Furthermore, the model assumes the existence of choice and alternative mediums of shopping. To this extent the research does not specifically consider situational and contextual circumstances of the consumer.

2.13 SYNTHESIS AND SUMMARY OF THE LITERATURE REVIEW

The review in this chapter has drawn on a wide array of theories and extant literature to provide a fundamental framework for advancing the research. In the first instance, a number of seminal theories and models of consumer behaviour were considered. For example the research considered the differing approaches adopted to the definition and study of consumer behaviour, and while the five main approaches as identified by Kotler (1965) were considered, it was argued that a more encompassing approach based on a multi-disciplinary focus (cf. Wright, 2006) was the most suitable to be adopted for this research. On the basis of this, a number of models were considered to examine the key issues in this research.

The Hoyer-McInnis (Hoyer and McInnis, 1997) and Howard-Sheth (cf. Wright, 2006) models of buyer behaviour were both found useful as providing essential precedence to the application of psychological variables in describing consumers in marketing, but were also considered to be unnecessarily cumbersome and complex in relation to the current research. Other models were considered for describing consumer behaviour, including the elaboration likelihood model and the five-step model of decision making (proposed and described by Bernstein et al., 1997 and Belch and Belch, 2009, respectively), the stimulus-organism-response model (Mehrabian and Russell (1974), the technology acceptance model (Davis et al., 1989) and the model of intention, adoption and continuance (Cheung et al., 2000). While these models all provided useful backgrounds and building blocks for the current research, it was found that their overall focus was either too specific to an aspect of consumer behaviour in online shopping or overly negligent of the overall systems of relationships as described in the introduction in this research. As a result, in their present form and on their own, these models were not considered adequate for adoption and application towards answering the research questions.

One theory that was found to be particularly appealing to this research in terms of its explanatory precedence was the theory of regulatory focus (Higgins, 1986). As described in section 2.11, the regulatory focus theory, compared to the other relevant theories considered, provided the most appropriate and convincing framework within which a comprehensive model of consumer behaviour in online

shopping could be specified and described. Hence, building upon the previous research in the areas of regulatory focus, consumer behaviour and the Internet as a shopping medium, and the conclusions and questions arising therein, the current chapter has developed, presented and described a model of consumer behaviour in online shopping, showing clearly the effects of regulatory focus on a three-dimensional model of online shopping. The chapter further describes other conditions which are present in the phenomenon in question and also identifies some extenuating factors which may have an effect on the conclusions in the model.

This chapter concludes the model development and specification section of this thesis. Having developed and described a conceptual model for the research, the next section presents the methodology chosen, and describes in extensive detail, the measurement model and its related structural form. The concepts identified in the foregoing section are more specifically stated for the purpose of measurement, and thereafter, the research methods, instruments and techniques are fully discussed and applied. In conclusion, the following is a summary of the research hypothesis:

Hypothesis I – *Regulatory focus affects consumers' perception of online shopping such that promotion focus consumers are more perceptive of the benefits associated online shopping and prevention focus consumers are more perceptive of the risks associated with online shopping.*
Hypothesis II – *Regulatory focus affects consumers' motivation for online shopping such that promotion focus consumers are more motivated by hedonic features of online shopping and prevention focus consumers are more motivated by utilitarian features of online shopping.*
Hypotheses III – *Consumers' perception of online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more perceptive of online shopping benefits or online shopping risks.*
Hypotheses IV – *Consumers' motivation for online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more motivated by hedonic features of online shopping or by utilitarian features of online shopping.*
Hypothesis V (a) - *Regulatory focus affects online shopping behaviour, but its effect is jointly mediated by online shopping perception and online shopping motivation.*
Hypothesis V (b) - *Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping perception.*

Hypothesis V (c) - *Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping motivation.*

CHAPTER THREE

METHODOLOGY AND FIELD STUDY

3.1 INTRODUCTION

In the preceding chapter the literature review was presented and analysed, and from this analysis the conceptual framework was derived and the hypotheses proposed. This chapter identifies how the research was done, and its aim is to describe the research strategy and methods applied in this study, and to discuss their suitability within the context of various research philosophies, paradigms and methodological approaches. This includes a general overview of the overall research philosophy employed in carrying out the research, justification of the chosen approach, provision of operational construct definitions and specification of their indicators, and a discussion of the data collection and analysis methods. It is useful to state at this point that due to the confirmatory nature of the research objectives, the questions that emerged in chapter two and previous research foundations reported in the literature, the approach used in this research is predominantly informed by a positivist philosophy based on the deductive approach of enquiry. This has been made possible by the richness of existing literature which enabled the derivation of a new model based on a robust framework. In line with general practice within research of a management nature, some elements of inductive-based qualitative techniques are incorporated in achieving the objectives of this research; hence, it is important to evaluate the range of research approaches and possible methodologies that were at the researcher's disposal, in order to show how these were considered and to justify the methodological choices made.

3.1.1 Chapter Structure

In section 3.2 the main philosophical research paradigms are presented and discussed in terms of ontological, epistemological and methodological perspectives; section 3.3 centres on the research design drawing from the

preceding discussion of philosophical approaches; section 3.4 presents a discussion of data gathering techniques, including the specification of concepts; and section 3.5 discusses the questionnaire instrument. Section 3.6 describes the research implementation and also discusses initial data preparation and checks; section 3.7 presents an overview of the structural equation modelling technique and its application in this research; and section 3.8 concludes the chapter.

3.2 PHILOSOPHICAL PERSPECTIVES AND RESEARCH METHODOLOGY

Creswell (2003) states that in order to formulate a suitable research strategy that explains how data will be collected and analysed and knowledge gained, a clear research philosophy should first be established. This is primarily because any philosophical assumptions regarding the topic of interest impact upon how the phenomena can be understood, and therefore such assumptions must remain constant throughout the research exercise (Creswell, 2003). Ontology, Epistemology and Methodology represent the top level perspectives when discussing a chosen research philosophy as they respectively represent Essence (or the nature of existence (Jankowicz, 2005)), Knowledge and Method (Corbetta, 2003). In this section the most commonly applied paradigms in management research along with their associated methods are discussed.

As stated above, ontology deals with the nature of existence and considers the question of what constitutes social reality. It therefore informs what counts as events and noticeable phenomena in the course of research (Jankowicz, 2005); it is concerned with the question of whether there exists an external objective reality independent of its subjects, or on the other hand whether reality is a subjective norm of the individual's mind. Therefore ontology deals with the set of basic beliefs that represent the world view of the holder, or as referred to in the practice of research, a paradigm (Guba, 1990). In management and social science research many paradigms have emerged, such as postpositivism, pragmatism, and constructivism , although according to Easterby-Smith et al. (2002) these paradigms are variations of the three most common: positivism, interpretivism and realism. However, as depicted in Figure 3.1 the use of these paradigms and their attendant strategies in marketing research is not classified

along strict demarcations (Saunders et al. 2003). Rather certain approaches, strategies and data collection methods may simply tend more towards a particular philosophy than to another. The main philosophies and their associated methods are discussed below.

The research process 'onion'
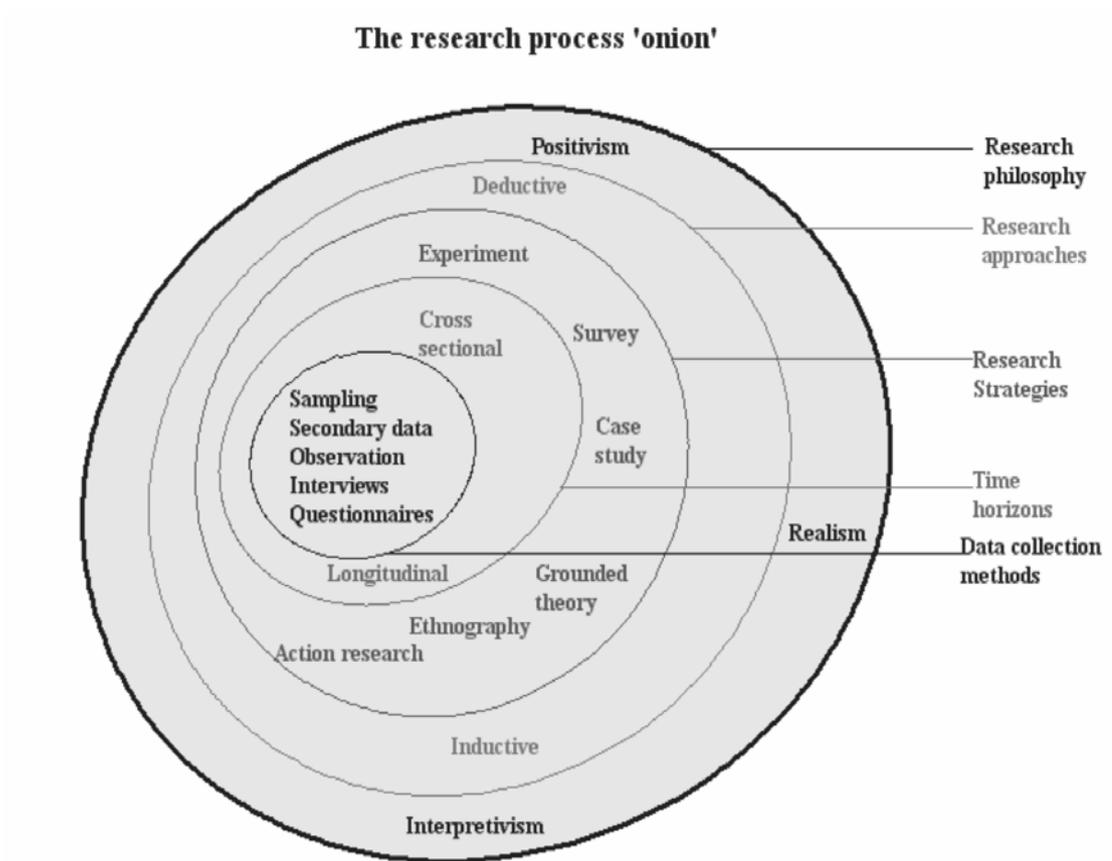
Figure 3.1: The research process 'onion' (Saunders et al., 2007)

3.2.1 Positivism and Postpositivism

The positivist philosophy is represented in its extreme by quantitative purists (Johnson and Onwuegbuzie, 2004). This school of thought believes that social observations can be likened to physical phenomena, and can therefore be studied in the same way as pure scientific inquiry: the observation constitutes a separate entity, the observer is separate from the entity that is observed and it

is possible to establish cause and effect reliably and validly. In positivism, a researcher begins with a theory as a result of previous findings or personal observations, formulates a hypothesis to be tested, and collects data that either supports or rejects the hypothesis; depending on the outcome revisions and subsequent tests may be conducted. Data collection within the pure positivist paradigm follows quantitative method (Silverman, 2000) involving the representation of holistic phenomena in measurable, observable reductive variables. However while positivism has proved very popular within social science and management research, its purist derivative has been criticised for giving rise to barriers in research robustness due to a narrow definition of "the concept of science" (Johnson and Onwuegbuzie, 2004). Onwuegbuzie (2009) states that while positivism promotes the idea of objectivity towards confirmation and falsification, this position disregards the fact that many human decisions are made in the course of carrying out research, and that researchers are themselves members of a social context susceptible to subjectivism, for example in deciding what to study, developing research instruments and interpreting findings.

In social science research, positivism has been largely replaced with *postpositivism* (Guba, 1990), the difference between the two being that the researcher makes no assumptions about the infallibility of the findings for their theory but rather holds these findings as conjectural. The main tenets of postpositivism are that there is no single shared reality, nor is there a distinct separation of knower from the known; these assumptions attempt to reconcile criticisms of the positivist philosophy. Therefore while positivism advocates the use of theory-free observed data to formulate theory, postpositivism advocates that theory can be formulated prior to data and then tested or confirmed using scientific data. From a postpositivist perspective, the researcher begins research by knowing what will be studied and how the study will be carried out, clearly stating the hypothesis and defining the methods, and deriving knowledge from the research which can then be transferred to practice.

Both positivism and postpositivism rely on a deductive epistemology that requires the formulation of theory and specification of hypotheses followed by a period of data collection. This data is then used to test and confirm or refute the

hypotheses (Figure 3.2). This process of deductive approach usually employs quantitative and traditional scientific methods such as surveys and experiments. In this research a post-positivist process was primarily followed due to the confirmatory nature of the research objectives.
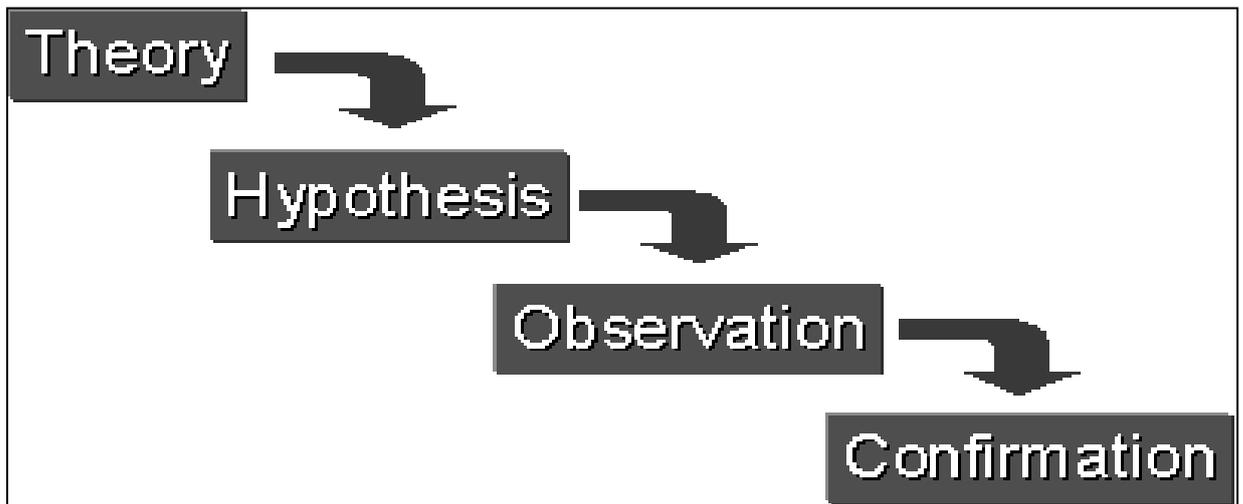
Figure 3.2: The deductive research process (based on Saunders et al., 2003)

3.2.1.1 Experiment

An experimental research is useful for examining the effect of one variable - the independent or explanatory variable - on another, the dependent variable (McGivern, 2006). The main application of experiments is to determine whether a causal relationship exists between a pair or group of variables while ruling out or controlling for the effects of extraneous variables. While experimental designs have been used widely in medical and pharmaceutical research and psychology studies, they are also applicable in marketing where marketing experiments have been employed to study decision making, advertisement effectiveness and consumer behaviour (McGivern, 2006).

According to Chisnall (2005), although marketing experiments may be difficult to plan and execute, they are the definitive way of establishing cause and effect and should therefore be considered where a change in one variable is predicted to precede a change in another. Experimental designs can be grouped into three

major categories which are true experimental designs, quasi experimental designs and action research. Within any of these designs the actual experiment could either be a field experiment, conducted in natural settings or environment, or laboratory experiments, conducted in an artificial setting.

In addition, the classification of design typology can be made according to how and when the experiment subjects are treated: the "after with a control group", and the "before and after (with a control group)" which are both used when one variable is being examined; however where there are more than one independent variable at a time, a factorial design is applied.

As McGivern (2006) notes, experimental designs are difficult to use in the real world of marketing as it is not always possible to account for the complexity of variables, and cautionary interpretation of the results is counselled. For example as it is not always possible to completely isolate the variables of interest, the outcome may be affected by a disproportionate effect of external factors on the subjects. In addition conditioning, where respondents become aware of the research objectives, may also be an issue – respondents may remember the answers they gave in the pre-test and offer matching post-test answers. This may be overcome by the use of a buffer activity sandwiched between the two experiments (McGivern, 2006).

3.2.1.2 Survey

Surveys are a common method of collecting quantitative data in social and marketing research. A survey is a systematic method of gathering data from a population, by sampling a portion of that population and subsequently generalising the attributes of the population from this sample. Baker and Foy (2003) state that a survey is concerned with fact finding by asking questions of persons representative of a population of interest to determine attitudes, opinions and help understand behaviour. The survey content and form will differ depending on the objective and the intention, and these considerations will lead to the type of survey to be undertaken, whether factual, opinion or interpretive. Factual surveys are concerned with actual behaviour and attributes while opinion surveys are concerned with the respondents' views. Interpretive surveys on the other hand are concerned with explaining the why of actions, beliefs or opinions

(Mayer, 1965, in: Baker and Foy, 2003). While interpretive survey is considered analytical, factual and opinion surveys are generally classed as descriptive.

The survey technique is popular within the quantitative methodology because of its advantages in providing a basis for gathering factual, attitudinal and behavioural data, as well as its ability to provide the researcher with great scope in terms of reach, sample size and costs (Hart, 1987, in: Baker and Foy, 2003). On the other hand surveys may be disadvantageous where, sometimes due to poor design, respondents provide misleading and inaccurate information or where respondents are unwilling to respond – this could lead to non-response error and could potentially invalidate the research. Surveys are also weak in internal validity because they rely heavily on the use of statistical measures to control for extraneous variables, and as a result it is difficult to reliably prove causation in the relationships between variables. To limit the effect of these disadvantages, careful attention must be paid to the design and execution of the test instrument while the data analysis must also allow for error.

In marketing research surveys are used to gather data on various topics and are particularly useful for researching attitudes, lifestyle, behaviours, decision making and demographics. This empirical precedence as well as other considerations such as costs, time and accessibility, were major factors and considerations in the valuation of the survey method's suitability for this research which focused on aspects of consumer behaviour involving attitudes, perception and motivation in an online shopping context.

3.2.2 Interpretivism

The interpretivist philosophy is represented on the opposite end of the spectrum by qualitative purism, which in its basic form rejects the positivist ideology and globally encompasses several forms of qualitative research, for example constructivism (Samdahl, 1999). According to Kent (2007) the interpretivist paradigm views research from the perspective of seeking to explore and understand peoples' perceptions, attitudes and behaviours by constructing a social reality through collecting, analysing and interpreting data that are largely qualitative in nature. Qualitative purists argue for the superiority of the varying interpretivist paradigms of constructivism, idealism, relativism, humanism and

hermeneutics (Johnson and Onwuegbuzie, 2004), and contend that context-free generalisations are neither desirable nor possible.

Thus from a pure interpretivist point of view, logic flows from the specific to the general (Figure 3.3) through an inductive process of explaining phenomena, with the subjective knower as the only source of reality (Guba, 1990). Common qualitative methods of data collection used within the interpretive paradigm are in-depth interviewing and observation in ethnography.
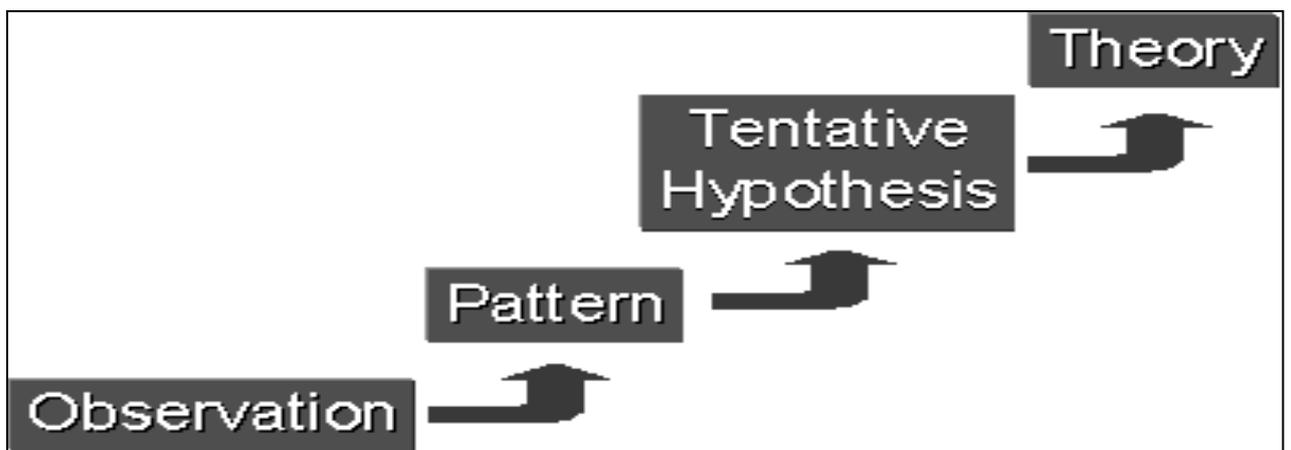
Figure 3.3: The inductive research process (based on Saunders et al., 2003)

3.2.2.1 Interviewing

Qualitative interviewing is a flexible and generally non-standardised means of collecting data. It can be distinguished from the quantitative interview that is usually more structured and formatted. Thus if the purpose of the study is explorative or descriptive and the objectives can be clearly predefined, this lends itself to qualitative interviewing – semi structured or free from structure. Interviews can be in-depth or in the form of focus groups. In-depth interviews involve the researcher on a one-on-one basis with the respondents while focus groups involve interviewing small groups of respondents with the aim of both achieving individual perspectives and obtaining a range of views. Qualitative interviews have been frequently employed as an item generation tool at the preliminary stages of many quantitative studies, and this has proved useful in

increasing validity and reliability in both instrument design and measurement scales (Johnson and Onwuegbuzie 2004).

3.2.2.2 Ethnographic Observation

Observation in ethnography involves the study of a person or group of people (subjects) in their own environment over a period of time (McGivern, 2006). Ethnography usually involves more than one element of data collection, typically observation and interviewing. The researcher immerses himself in the target group in order to achieve a holistic understanding or to provide a detailed description of a specific issue. Although it is useful in providing in-depth perspectives on how and why consumers behave the way they do, the use of ethnography is expensive and time consuming. It may also suffer unduly from the "observer effect" where knowledge of being observed affects the behaviour of those being observed (Laine, 2000; McGivern, 2006); however this can be overcome by applying covert observations, although these too may raise ethical concerns relating to non-disclosure and explicit consent (Laine, 2000).

3.2.3 Realism

Realism is the philosophical view that the world and reality exist independently and innately of the observer's perceptions of them. Therefore what one knows about an object exists independently of one's mind. Epistemological realism and critical realism are the philosophies underpinning realism and are loosely related to the view in management and business that there exist social forces which influence people without them knowing about or having control over them (Barley and Tolbert, 1997; Costello, 2000). These forces affect the way human beings perceive the world, and therefore realism emphasises their understanding and implications in human acts and behaviour (Saunders et al., 2003). Critical realism is derived from transcendental realism and critical naturalism; however the main difference between realism and its variations on one hand and positivism on the other is that the first argues for the understanding of research as the process of improving concepts that are used to understand the underlying mechanisms of interest whereas the latter is concerned with identification of coincidences between postulated independent variables and dependent variables (Sayer, 2000). Therefore the rejection of a hypothesis cannot be taken to signify

the non-existence of the hypothesised effect. A major shortcoming of realism is its open systems ontology which is "*unnecessarily dismissive in rejecting research methods that draw inferences from stable empirical regularities and patterns*," (Downward et al., 2002). However, such inferences are pertinent to this research, thereby standing it in contrast to the realist philosophy.

3.2.4 Evaluation of Alternative Philosophies

Both positivists and interpretivists have been criticised in their extreme stance on research approach and method. For example, interpretivist purists such as Guba (1990) have attracted criticism for subscribing to unqualified relativism which according to Johnson and Onwuegbuzie (2004) "*hinders the development and use of systematic standards for judging research quality*"; and on account of a strong relativist claim that multiple contradictory accounts of a phenomena are equally valid and representative of multiple realities.

However in spite of the traditional differences and disagreements between the main philosophical schools, there currently appears to be basic agreement on several major points of philosophical differences, notably: that what appears reasonable can vary across persons and this is influenced by the value-ladenness of the observer; that what we notice and observe can be affected by our background knowledge, experience, imbibed beliefs and values – therefore observation is not a direct window into reality; that there exist alternate explanations because hypotheses are tested on the basis of underlying assumptions; and, that it is possible to fit several theories to the same data set (Johnson and Onwuegbuzie 2004).

As a result of the above general acknowledgement of different points of view between the extreme philosophical standards, and in an effort to deal with the disadvantages of each approach, there has been an increased use of multi-method and mixed methods research that combines techniques that are based on different philosophies, for example the use of quantitative and qualitative data collection methods or the application of quantitative techniques to qualitative data and vice versa (Niaz, 2008). In marketing research there is growing recognition that quantitative and qualitative methods of data collection are complementary and supportive approaches to the conduct of research (Baker

and Foy, 2003; Johnson and Onwuegbuzie, 2004; Niaz, 2008; Creswell and Plano Clark, 2011). For example even in a predominantly quantitative research, elements of qualitative techniques may be used to provide preliminary exploration of the issues, sorting and screening of ideas, developing explanatory models of behaviour and exploring quantitative data to further provide meaning. As a result, there has been increased advocacy for the use of mixed method approaches, for example based on a philosophy of pragmatism (Johnson and Onwuegbuzie, 2004).

3.2.5 Choosing a Research Approach and Design

Having reviewed the various research philosophies and paradigms as reported above, the research objectives for this study were primarily framed in a post positivist disposition based on the initial derivation of theoretical premises from existing literature, as summarised in Figure 3.4. This figure is based on Saunders et al. (2003) and shows that the researcher proceeds by defining or clarifying the research problem through a search and review of the body of knowledge. This leads to the specification of propositions or the statement of testable hypotheses, and the evaluation of suitable test techniques. The tests of the hypotheses result in evidence which must be interpreted and tested for fidelity (that is validity, reliability and generalisability to the domain of interest).

In general, the overarching design of the study involved confirming relationships in observable and unobservable psycho-cognitive variables of consumer behaviour. Although unobservable variables are by their nature intangible, and therefore do not represent direct universal reality, the ability to represent these variables as demonstrable reality through the use of latent constructs has enabled social science domains such as marketing to successfully apply empirical quantitative designs in their study (Byrne, 2010). This approach is useful in understanding consumer behaviour as it provides a basis for scientific-style model specification and testing with highly accurate results. As a consequence of this, the use of quantitative techniques was applied as the primary methods for gathering empirical data.
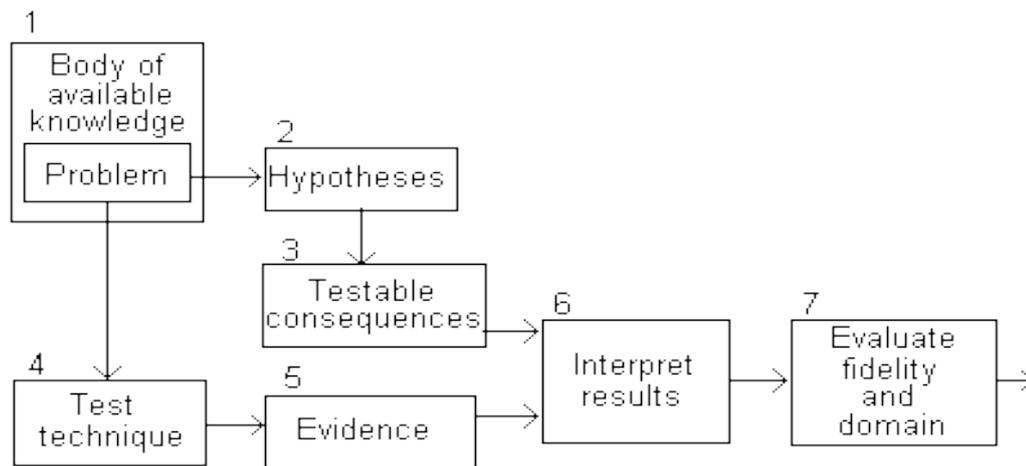
Figure 3.4: A framework for the deductive research approach (based on Saunders et al., 2003)

However, as stated earlier, some elements of qualitative techniques were also employed, for example, at the instrument design stages to clarify constructs, their latent indicators and to generate original questionnaire items. This is consistent with social scientific research practice, for example as advocated by Easterby-Smith et al. (2002) that "*one should attempt to mix methods to some extent, because it provides more perspectives on the phenomenon being studied.*"

Nevertheless this application of some qualitative techniques does not dilute the hypothetic-confirmatory nature of this study, as this remains the primary means by which the researcher accessed the required evidence to address the research questions and propositions previously raised. Based on this philosophical persuasion and the preferred approach, a research design was outlined and specified, as discussed next.

3.3 RESEARCH DESIGN

A research is designed in line with the nature of the problem identified and the questions to be addressed (McGivern, 2006). The stated objectives of this research are confirmatory and explanatory in nature, as they sought to describe and confirm the behavioural sequence of online shopping; and to establish, as well as explain, the nature of the effect of regulatory focus in consumers' online

shopping behaviour. As such this study employed a cross sectional self-administered survey design using a questionnaire instrument to collect data on consumers' perception and motivations in online shopping usage and their self-reported behaviour in online shopping situations – this addressed both the descriptive and explanatory aspects of the research. The data collected was then analysed by applying structural equation modelling (SEM) techniques to derive insights and conclusions – thereby addressing the confirmatory aim of the research.

While a survey is less powerful in proving causation compared to an experiment, a case can be made for predictive relationships in SEM survey designs by clearly establishing the path coefficients in the model using previous knowledge and clearly justified theory (Kaplan, 2000). The researcher acknowledges that an experimental design would be superior in meeting this objective, however, cost constraints made such a design impossible at this time, therefore warranting best use of a cross sectional survey design. Initial estimates for conducting an experimental study were estimated at nearly £10,000, and this was not achievable within the budget available.

3.3.1 The Cross Sectional Survey

An online self-completion questionnaire was used in a cross sectional survey design to collect data on Internet shopping usage motivations, behaviour and evaluation, as detailed in section 3.5.1. This is a cost-effective means of gathering data as it is not necessary to employ and train interviewers. According to McGivern (2006) self-completion surveys are an effective way of collecting data once steps have been taken to ensure that:

• The nature of the research and topic are suited to the method

• The topic is relevant and of interest to the target population

• The method is a suitable way of reaching and achieving a response from the target population

• The questionnaire is well designed, clear and easy to follow, and presented in a professional manner

The above steps were followed in ensuring that the survey method satisfied the objectives of this study. Details of how these conditions were satisfied are given throughout this chapter, particularly in section 3.5 which details the questionnaire development, and in section 3.6 which details the research implementation.

While interviewing could have the advantages of achieving depth and possibly increasing the response rate, if a self-completion survey is designed following the tips above, it would have the advantages of lower costs and greater reach as it is "…*an effective way of reaching people who would not otherwise take part in research – for example those in industry or busy professionals such as lawyers and doctors*," (McGivern, 2006). Furthermore, a self-completion survey would eliminate the major disadvantage of interviewer bias associated with interview based surveys.

3.3.2 Survey Distribution

Invitations to an online questionnaire page were sent by surface mail to all households from a selected sample, the method of which is detailed in section 3.4. The survey was then actualised through the completion of an interactive online survey questionnaire by research participants, based on individual self-completion.

3.3.3 The Unit of Analysis

The unit of analysis is individual, selected on the basis of householder, as this is a research aimed at understanding aspects of consumers' individual behaviour in relation to online shopping. Participants were informed in the questionnaire instruction that their responses were sought on the basis of individual opinion and view, although it was not possible to subsequently verify that questionnaires had been completed in this manner.

3.3.4 The Area of Study

The survey was administered to a nationally selected sample from population clusters in the United Kingdom (UK) based on an Office of National Statistics

(ONS, 2005) classification. Details of the research sample coverage are given later in section 3.4.

3.4 DATA GATHERING

3.4.1 Sample

An entire population of interest does not usually need be surveyed, as this is neither always practical nor necessary. This is because the census of a population is not only cost intensive but in a large population, it is often unachievable; to the extent that in some circumstances, the results from an appropriately designed sample may be more accurate than an attempted census, (Baker and Foy, 2008). This research is focused on consumers and their behaviour in online shopping. Given the reported increases in numbers of people who shop online, it would be unrealistic and unnecessary for research at PhD level to survey the whole of this population; therefore it was necessary to derive the right sample so that population parameters could be inferred from it. In this section details of how the final sample was arrived at are given and justifications provided for the choices made in achieving the required sample.

3.4.1.1 Sample population

The sample was drawn from a population of United Kingdom (UK) adults of over 18 years based on household and householder configuration. This population is considered suitable for the stated purpose of the research because the population should reflect the aggregate of all the elements which comprise the universe for the purpose of the marketing research problem (Malhotra and Birks, 2000). In this case, the research is aimed at understanding consumers' online shopping behaviour, and therefore the respondents of interest were persons legally qualified to shop online using all possible transaction means including credit, and who reside in an officially documented household, in this case as maintained through the UK postcode records system.

3.4.1.2. Sampling plan

There exists no documented list of the entire population of Internet users or even online shopping users in the UK, however, there exists a well-documented record of household addresses in the United Kingdom, and therefore the sampling unit of the individual was targeted on the basis of one response request per household. As it is not possible to specify a sampling frame for all users of online shopping, a household survey plan was utilised instead. From this, it was possible to define a sample frame by the homogenous parameter of the records in the National Statistics Postcode Directory (NSPD) as maintained on the EDINA UKBORDERS database and associated to the Royal Mail directory of UK addresses. This database was accessed at http://**edina**.ac.uk/**ukborders**/.

The ONS population segments are clustered geographies of the UK population based on neighbourhood homogeneity and similarity of characteristics with respect to economic circumstances, population density and lifestyle. This is described in detail in the following section.

3.4.1.3 ONS Output Area clusters

Output Areas are geographies designed by the ONS to enable the reporting of area statistics (ONS, 2005). The Output Area Classification (OAC) has been constructed by creating a hierarchy of clusters based on three layers of classification, which together typify the characteristics of a given area. The three layers in the hierarchy are

- Supergroup – layer 1
- Group – layer 2
- Subgroup – layer 3

The Supergroup layer is constructed by applying an algorithm to each individual Output Area across the UK. The members of one Supergroup are distinguished from members of another Supergroup by their unique combination of characteristics captured during the Census. For instance, one Supergroup may possess characteristics that are typical of, or may be expected from city areas, such as large proportions of flats and private sector letting, whilst another Supergroup may have a combination of characteristics similar to those that may

be considered typical of a rural dwelling, such as large proportion of owned property and households with two or more cars. The combination of these characteristics generates the distinct differences between the Supergroups.

From within each Supergroup, the remaining two layers of population cluster are generated by reapplying the algorithm on the Supergroup to derive the Group, and then on the Group to derive the Subgroup. The Groups and Subgroups within a Supergroup provide increasing levels of detail specific to members of that Supergroup. As an example, a Supergroup describing the characteristics of a city area may further contain a Subgroup that describes the ethnic makeup of specific areas in that Supergroup.

Supergroups, Groups and Subgroups are best represented using cluster summaries. The ONS utilises a seven part summary of clusters, thereby creating 7 Supergroups with 21 Groups and 52 Subgroups as represented in Table 3.1.

This approach may be described as a top-down method of clustering the population and helps to highlight the most important level of the hierarchy. In this design, the Supergroup can be considered the most important for a nationwide study as it highlights the characteristics that are present across the whole of the UK. One of the main advantages of utilising a Supergroup is that by picking any neighbourhood from any part of the UK that is classed in that Supergroup, the characteristics of all neighbourhoods in any part of the UK within the same classification may be deemed to have been accessed.

Take for example, a neighbourhood in Aberdeen (Scotland) named "A" belonging to Supergroup "1" is sampled. It can statistically be assumed that on the basis of shared characteristics, a neighbourhood named "B" in Coventry (England) belonging to the same Supergroup has also been theoretically sampled; similarly, a neighbourhood named "C" located in Swansea (Wales) and belonging to Supergroup "1" would be deemed to have been represented.

This greatly reduces the logistical problem of sampling wider over a specific population parameter in order to access representativeness of the population's characteristics, and eliminates the need for the researcher to undertake primary clustering which can be cumbersome. Examples of studies in which Supergroups were assessed and applied for sampling purposes are Singleton et al. (2007) and

Williams and Botterill (2006). A summary of the Supergroups and their characteristics is presented in Appendix 1.

Supergroup ID	Supergroup Name	Group ID	Group Name	Sub-groups
1	Countryside	1.1	Countryside communities	a,b,c
1	Countryside	1.2	Rural economies	a,b
1	Countryside	1.3	Farming and forestry	a,b,c,d
2	Professional city life	2.1	Educational centres	a,b
2	Professional city life	2.2	Young city professionals	a,b
2	Professional city life	2.3	Mature city professionals	a,b,c,d
3	Urban fringe	3.1	Urban commuter	a,b
3	Urban fringe	3.2	Affluent urban commuter	a,b
4	White collar urban	4.1	Well off mature households	a,b,c
4	White collar urban	4.2	Young urban families	a,b
4	White collar urban	4.3	Mature urban households	a,b,c
5	Multicultural city life	5.1	Multicultural inner city	a,b,c
5	Multicultural city life	5.2	Multicultural urban	a,b
5	Multicultural city life	5.3	Multicultural suburbia	a,b,c
6	Disadvantaged urban communities	6.1	Struggling urban families	a,b
6	Disadvantaged urban communities	6.2	Blue collar urban families	a,b
7	Miscellaneous built up areas	7.1	Suburbia	a,b,c,d
7	Miscellaneous built up areas	7.2	Resorts and retirement	a,b
7	Miscellaneous built up areas	7.3	Urban terracing	a,b,c,d
7	Miscellaneous built up areas	7.4	Small town communities	a,b

Table 3.1: Division of Supergroups, Groups and Subgroups (source: ONS, 2005)

3.4.2.2 Cluster summaries

To understand the basis upon which neighbourhoods or Output Areas are assigned to any particular cluster, it is important to describe the Cluster

Summaries which underpin this. A cluster summary is a way of summarising information about a particular cluster within a classification scheme, in order to provide useful information about the characteristics of that population, for example as in Figure 3.5.

Number	Name		
v1	Age 0-4	v21	No central heating
v2	Age 5-14	v22	Rooms per household
v3	Age 25-44	v23	People per room
v4	Age 45-64	v24	HE Qualification
v5	Age 65+	v25	Routine/Semi-Routine Occupation
v6	Indian, Pakistani or Bangladeshi	v26	2+ Car household
v7	Black African, Black Caribbean or Other Blac	v27	Public Transport to work
v8	Born Outside the UK	v28	Work from home
v9	Population Density	v29	Liti (SIR)
v10	Divorced	v30	Provide unpaid care
v11	Single person household (not pensioner)	v31	Students (full-time)
v12	Single pensioner household	v32	Unemployed
v13	Lone Parent household	v33	Working part-time
v14	Two adults no children	v34	Economically inactive looking after family
v15	Households with non-dependent children	v35	Agriculture/Fishing employment
v16	Rent (Public)	v36	Mining/Quarrying/Construction employment
v17	Rent (Private)	v37	Manufacturing employment
v18	Terraced Housing	v38	Hotel & Catering employment
v19	Detached Housing	v39	Health and Social work employment
v20	All Flats	v40	Financial intermediation employment
		v41	Wholesale/retail trade employment

Figure 3.5: Cluster Summary Radar (sourece: ONS, 2005)
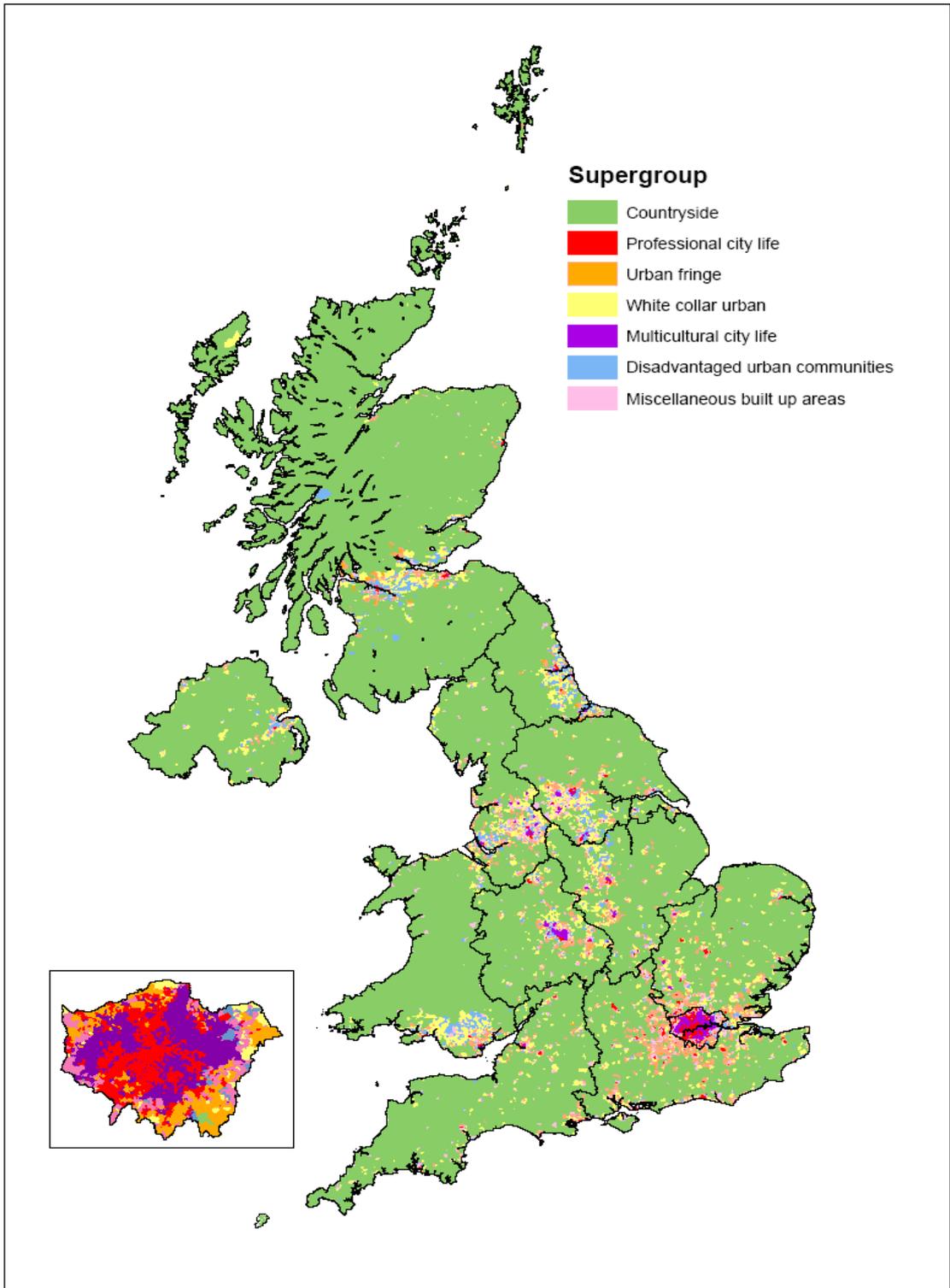
Figure 3.6: A visual geography of Supergroups (source: ONS, 2005)

A common cluster summary may describe the socio-demographics of a population and also indicate how the variables in the summary compare to the group average. Figure 3.5 shows the variables summaries for Supergroup "1" in the form of a radar and how this group compares to the national average (represented by the red circle). A visual geography of the Supergroups is also presented in Figure 3.6.

3.4.2.3 Membership of Supergroups for sampling purposes

Limitations were applied to the Supergroups by including only wards that had 75% of their output areas classified within that Supergroup in the sampling plan. Consequently, the wards in Table 3.2 were randomly selected and from these, the first sixty addresses from each ward were selected based on an alphabetic ordering of their postcodes. The rationale for selecting sixty addresses is given in the calculation of sample size as described in the next section.. In addition, the selection method was used in order to simplify the process at this stage and to specify a useful criterion in order to retain normality in population characteristics across the sample frame.

3.4.2.4 The sample size

Although there is no clear consensus about sample size for consumer behaviour research, it is recommended that the sample size is decided based on a combination of researcher's judgment, empirical precedence, study objectives and analytical tools to be employed (Kish, 1965; Miaoulis and Michener, 1976; Jankowicz, 2005).

Clearly a larger sample has its merits, however given the cost and time constraints imposed on this research study, consideration was given to what realistic sample size could be achieved, as well as the minimum required to achieve statistically meaningful conclusions. It has been suggested that for a robust application of SEM a sample size of about 100 to 120 is adequate for any desired independent sub-sample analysis (Loehlin, 1992); however this may also be dependent on the number of hypotheses or relationships to be tested.

Supergroup 1	Creggan South, Creggan Central, Greystone, Ballycolman, Farranshane, Whiterock,
Supergroup 2	Farringdon Without, Hillside, Queenhithe, Tower, Walbrook, Brunswick.
Supergroup 3	Wharrels, Ballymcbrennan, Glenshesk, Sandness, Hartside, Corve Valley.
Supergroup 4	Ponteland South, Park Farm South, Redwell West, Nunthorpe, Farnham Bourne, St Leonards and St Ives West
Supergroup 5	Parkhead (S), Kilbowie West, Faifley, Brothock, Craigy Hill, (all S); Whitehouse (NI)
Supergroup 6	Tresco, Pierremont, Howard Town, Copnor, Macclesfield Central, Clevedon South (all E)
Supergroup 7	Harlesden, Hackney Downs, Brunswick Park, Camberwell Green, Livesey, Peckham (all E)

Table 3.2: Sampled wards by Supergroup

Roscoe (1975) suggests that depending on the level of complexity, the desired precision, and the degree of confidence desired, a sample size of between 30 and 500 respondents is usually sufficient for most studies; in fact, larger samples may even disadvantage the research due to type II error, where large samples magnify the statistical significance of results (Sekaran, 2003). For the required statistics in the present research, a sample size of between 300 and 500 cases was deemed adequate based on precedence for structural equations modelling sample sizes (cf. Arbuckle, 2008; Smith et al., 2009).

Surveys based on postal questionnaires usually attract a response rate of around 18% to 20% while online surveys have been shown to attract comparative responses when preceded by an advance mail notification (Kaplowitz et al., 2004). While the survey in this study was to be completed online, invitations to the survey were sent out in the form of postcards, and therefore, the

conservative estimate of between 18% and 20% completion rates was assumed. Consequently, it was calculated that 2500 invitations were required to achieve a return of 500 responses at the 20% rate. The following calculations were applied to arrive at a sample size of 2520:

Number of Supergroups = 7

6 Wards/Supergroup = 6*7 = 42 wards.

60 households/ward = 60*42 = 2520 households.

Prior to implementation, the data base provider's access costs changed at short notice and this resulted in increased cost to the researcher and a budget shortage. As a result, it was necessary to make a downward revision of the target sample size. Consequently, only 2100 invitations were sent to prospective respondents across the sample frame. For simplicity purposes, the last ward in each Supergroup was dropped in order to achieve the final sample, resulting in a total reduction of 7 wards. Hence,

2520 households less (7*60 households) = 2100 households.

3.5 DEVELOPING THE QUESTIONNAIRE

Once the sample composition was specified and the target sample identified, it was possible to design a suitable questionnaire for the purpose of addressing the research questions and issues that were identified in the review of the literature. The process of planning and designing a questionnaire involved several steps, beginning with providing operational definitions of the measurement constructs; this is covered in the next section.

The objectives of this research aimed to establish categorisation between regulatory focus and consumers' relationship with online shopping based on the dimensions of perception, motivation and usage behaviour. The importance of such categorisation is to understand and possibly predict how consumers with different regulatory focus use and view the Internet as a shopping medium for a

variety of goods and services. In order to test for the existence of these relationships, an instrument was needed that would capture information from consumers on the variables identified ranging from determining individuals' regulatory focus to capturing self-reported accounts of online shopping perception, motivation, and usage behaviour. In addition information that classifies the consumers along demographic and situational dimensions was also of interest to the analysis as these have been shown in previous research (for example Bellman et al., 1999; Girard et al., 2003) to mediate the relationships that exist in various consumer variables. However while demographic and situational information may be accessed in a straightforward manner, the literature indicates that behavioural and psychometric parameters such as personal traits, motivation and perception are complex and multidimensional (Crouch and Housden, 2003). The challenge in designing an instrument was therefore to ensure that it did not only capture succinctly the varied information types but that it also met the commonly accepted tests of reliability, validity, interpretability and simplicity (Peterson, 2000). Particularly, reliability and validity are key factors to ensure that the results obtained from using an instrument are acceptable – for it is only when validity and reliability are satisfactory can the results of a study be considered to represent true empirical evidence confirming or refuting the hypothesis in question (Bagozzi et al., 1991; Corbetta, 2003; DeVellis, 2003). Peterson (2000) describes reliability and validity as follows:

Reliability

- Stability: refers to the ability of a measure to maintain consistency over time, irrespective of testing conditions or the state of the respondents themselves;

- Internal consistency: indicates how well the items 'hang together as a set' and can independently measure the same concept, so respondents attach the same overall meaning to each of the items.

Validity

- Face validity: That quality of an indicator that makes it seem a reasonable measure of a variable;

- Criterion related validity: The degree to which a measure relates to some external criterion;

- Construct validity: The degree to which a measure relates to other variables as expected within a system of theoretical relationships;

- Content validity: Refers to how much a measure covers the range of meanings included within a concept.

To achieve a valid and reliable questionnaire, the researcher adapted Peterson's (1978) recommendations and Radhakrishna's (2007) model for questionnaire development by following the process described below.

1. Select respondent groups
2. Specify and test the meanings of the constructs.
3. Clarify the information required.
4. Decide on question content.
5. Develop the question wording.
6. Put questions into a meaningful order and format.
7. Check the length of the questionnaire.
8. Pre-test the questionnaire.
9. Develop the final survey form.

The manner in which Item One was satisfied has been covered in the previous section where the respondent group was identified and specified. The remaining steps are covered in the following and subsequent sections. Each of these steps contributed to developing a robust instrument for the survey study carried out in this research.

3.5.1 Measurement Constructs

In this section operational definitions of the primary constructs and sub constructs are provided. Secondly, details of a construct modification exercise

using qualitative interviews are given. It is useful to provide clear operationalisation of constructs in order to ensure a common understanding of the basis by which the constructs were measured and questionnaire items were subsequently developed (Sekaran, 2003). The operational definitions provided here are based on the review of the literature that was carried out as part of this research and reported in Chapter Two. Although these definitions are derived from the literature review, they represent the researcher's interpretation and specification of the constructs for the purpose of measurement, and as such are presented without additional referencing of the literature.

3.5.1.1 Regulatory focus

Regulatory focus is a dispositional mechanism by which an individual's self-regulation orientation is either disposed to the maximising of positive outcomes (promotion), or the minimising of negative outcomes (prevention). Regulatory focus can be construed in two ways – as a dispositional trait (the chronic view) or as a situational trait (the temporal view) of regulatory focus. Consequently, it is necessary to clarify that for the purpose of this research, regulatory focus is construed in terms of the dispositional trait exhibited by individuals as a chronic behaviour.

3.5.1.2 Promotion focus

Promotion focus is the regulatory orientation associated with seeking advancement towards the maximising of rewards by focusing on gains and positive outcomes. Individuals with a predominant promotion focus are more motivated by expectations of positive outcomes than concerns about negative outcomes. Consequently, their actions are geared toward the goals of maximising positive outcomes and gains.

3.5.1.3 Prevention focus

Prevention focus is the regulatory orientation associated with concerns of safety and responsibility and the minimising of losses and avoidance of negative outcomes. Individuals with a predominant prevention focus are motivated mainly by concerns about negative outcomes and the prevention of these outcomes, than by potential positive outcomes. Consequently, they undertake actions

geared toward the prevention of negative outcomes and the minimisation of loss. This approach is often to the detriment of gains that could potentially be maximised were a higher risk tolerance available. Prevention focus individuals are also task oriented and focused on completion and outcome.

3.5.1.4 Online shopping perceptions

Online shopping perception is defined in this research as the perception of a consumer prior to adoption and continued usage, which informs their motivation and usage of online shopping. This research focuses on two aspects of perception based on the valence framework, which are perceived risk and perceived benefit, and assumes that consumers will perceive one or the other as greater in online shopping.

3.5.1.5 Perceived risk

Perceived risk is the risk that the consumers generally perceive as associated with or present in online shopping, for example with respect to product, privacy, transaction safety, reliability and retailer.

3.5.1.6 Perceived benefit

Perceived benefit is the reward outcome that consumers perceive as associated with, and expect to derive as a result of, shopping online, and this could be in the form of its convenience, variety, choice, availability and entertainment features. It is the opposite of perceived risk in a valence framework. In this research perceived benefit is construed as existing in opposition to perceived risk, although both can coexist to some degree.

3.5.1.7 Online shopping motivations

Online shopping motivation is defined here as the objective for shopping online, including initial adoption and on-going motivation to continue usage. On the basis of the framework developed, motivation is construed in this research as either hedonic or utilitarian, and can be measured by factors classified in accordance with this construction.

3.5.1.8 Hedonic motivation

Hedonic motivation is motivation that results from pleasure, fun and thrill seeking objectives, for example using Internet shopping prevalently because of its novelty, variety and entertainment attributes and characteristics.

3.5.1.9 Utilitarian motivation

Utilitarian motivation results from task and goal oriented objectives, for example being primarily motivated to shop online because of its convenience, functionality and controllability features.

3.5.1.10 Online shopping behaviour

Online shopping behaviour is the actual behaviour that the consumer manifests in the online environment, including search behaviour, purchase behaviour (product and amount), frequency and level of involvement with the shopping task (for example completion rates and shopping cart abandonment), and response to features like advertising, recommendation engines and comparison engines. Behaviour can be in the form of goal directed (convenience/function oriented) or experiential (entertainment/process oriented) directed as well as either controlled or impulsive.

3.5.1.11 Goal-directed behaviour

Goal directed behaviour is behaviour that maximises the shopping task completion by focusing on early achievement of shopping objective and completion of the shopping activity. In this research, goal-directed behaviour is construed as reflecting those behaviours that will facilitate a straightforward and relatively unambiguous attainment of an online shopping goal, while at the same time minimising the amount of time spent on the task.

This research uses four specific behaviours to indicate goal directedness and these are high-loyalty to few retailers, high rate of shopping task completion in single instance (session), low rate of positive response to online shopping, low rate of search activity, and high affinity to risk-relievers. Goal directed behaviour is not measured as an explicit construct, but rather encapsulates the consumer's behaviour associated with the three components of online shopping behaviour:

response to online marketing, shopping cart abandonment and use of risk relievers.

3.5.1.12 Experiential behaviour

On the contrary, experiential behaviour is behaviour that primarily maximises the shopping task experience by focusing on the shopping processes and the overall achievement of a pleasurable and entertaining outcome from the shopping environment and shopping activity, generally irrespective of convenience and specific functional outcome of the shopping activity. In this research, experiential behaviour is indicated by the task and process behaviour/orientation of the online shopper, which is represented by five specific behaviours – low level of loyalty to any particular retailers, high rate of shopping session abandonment, high search rates, low utilisation of risk-relievers, and low level of negative response to online marketing. As with goal directed behaviour, experiential behaviour is not explicitly modelled in this study but is encapsulated in the three components of online shopping behaviour that are measured here.

3.5.2 Qualitative Interviews for Construct Refinement

A sound basis for developing structured questionnaires is to conduct preliminary exploratory work of a qualitative nature (Hoinville et al., 1978) to identify and clarify ranges of the constructs of interest. Oppenheim (1992) also states that unstructured and informal interviews can be conducted with key informants in addition to reviewing the literature, to provide an informed background upon which the structured questionnaire is built. Three steps were taken to clarify constructs, in addition to the literature review which provided the initial framework. The first was to conduct interviews with marketing and consumer behaviour experts and specialists for the purpose of face-validating the constructs. Secondly, feedback was received from journal reviewers of submitted articles, and this provided better understanding as well as modification of the constructs. Thirdly, the outcomes from the literature review, expert feedback and peer reviews were synthesised to provide the final construct definitions. In the next section, details of the interviews undertaken are given, while examples of papers in which the constructs were utilised are provided in the appendices (Appendix 10).

3.5.2.1 Interviewees

Six expert interviewees were drawn from the host university and other academic contacts within and outside the United Kingdom based on stated expertise in the area of study or the methodology applied. Personal details are not supplied here as interviews were conducted on the understanding that participants would remain anonymous. However, suffice to state that all participants are extensively published in one or more of the areas of marketing, consumer behaviour and psychology. The number of interviewees was determined by availability, as most of the interviews took place at three marketing conferences in the summer of 2009 – the Research Futures UK conference in St Andrew's (one interviewee), the Scottish Management Doctorate Conference in St Andrew's (one interviewee) and the Academy of Marketing Conference in Leeds Metropolitan University (three interviewees). One interview took place with a marketing faculty member of the host university. Following the interviews, the researcher utilised a time of about six months to reflect upon and refine the constructs as part of the questionnaire development.

3.5.2.2 Interviews

Short structured interviews were conducted lasting approximately half an hour and took the form of open ended discussions about the meanings of the constructs (a sample proforma is included as Appendix 11). The researcher introduced the construct and discussed with the interviewee its existing understanding in the literature. The researcher then asked the interviewee to reflect on each construct for a total of five minutes, after which their understanding and interpretation of the constructs was sought. Thereafter, the researcher explained how the construct has been operationally defined for the present study and sought the respondent's assessment as to the fit of the operational (plain English) definition with the literature definition of the concept – that is, was the construct defined such that questions could be generated that were sensible to the ultimate respondent?

Where there was consensus on fit among majority of respondents, the existing operational definition was maintained; where there was no majority consensus then a modification was carried out based on the feedback of respondents and

researcher judgement as informed by the literature – in one instance, an additional expert opinion was sought within the host university. A written record of the discussions was obtained in all cases and an example transcript is included as Appendix 11.

3.5.2.3 Interview outcomes

A free form qualitative analysis of the interview records was conducted and this showed that there was consensus across all construct operationalisations, and this provided further credence to the literature review process as well as the care which had been taken to first critically evaluate, and then define the constructs. Participants were agreed in their interpretations of the research model constructs, although there were suggestions for semantic and phrasing modification. As these modifications were minor and did not materially alter the meanings of the constructs, they were undertaken immediately, and without the need for further testing.

3.5.3 Questionnaire Objective and Information Requirements

The questionnaire for this study is designed to elicit information from the target respondents in a convenient, simple and cost-effective manner, in order that the objectives of the survey may be achieved. In general terms, the types of information that are gathered using a questionnaire can be divided into three categories, namely fact, opinion and motive (Shelton, 2000).

Factual information consists of those features and attributes of the respondent that are readily observable or that are specific behaviours, for example demographic and situational information and self-reports of previous habits (Shelton, 2000). According to Crouch and Housden (2003), factual information is relative easy to ask and to answer, in so far as the respondent knows and can remember. However this may be limited by the level of information sensitivity.

Opinion information encompasses underlying beliefs and perceptions – including perceptions of self and personal traits (psychometrics), attitudes and feelings as well as knowledge of the respondents. Opinion information is therefore critical in marketing and consumer behaviour research where these constructs are fundamental in predicting consumer responses and decision making. For example

opinion data can be extremely helpful in identifying satisfaction with service and product (Crouch and Housden, 2003).

Motive information answers the question of why consumers have certain opinions, behave in certain ways and hold certain beliefs and perceptions. Motives are relatively difficult to elicit and capture because the subjective nature of why people behave or think in a particular way means that it is difficult to provide explanations for these behaviours and beliefs. Yet it is important to try to capture this information because of its explanatory power to a greater understanding of consumers in marketing (Rhom and Swaminathan, 2004).

A questionnaire was designed to capture the required information. The research instrument was not designed to elicit information on the basis of a particular product. Rather the interest was on overall generic behaviour in the domain. However to create a context in the respondent's mind, respondents were instructed to consider a context which related to purchases of a low to mid level value. In addition, to provide robust analysis and facilitate comparisons among subgroups, demographic and situational information was required. In the following sections, the elements for which information was required for the research are described, as a precursor to the development of questionnaire items to elicit this information.

3.5.3.1 Personality and trait information

The primary trait of interest in this research is the consumer's regulatory focus as operationalised above. This research utilised a modified form of the Regulatory Focus Questionnaire (Higgins, 2002) to access the respondents' regulatory focus. This questionnaire has been tested and validated in a variety of settings and is the industry and research benchmark tool for measuring regulatory focus. The order and format of its presentation was adapted to suit the present research's design.

3.5.3.2 Factual information

This is information relating to respondents demographics and observable circumstances. The questionnaire contained elements to capture information of a factual nature on respondents' demographics, situation (for example access to

transport and Internet facilities), history and experience with the Internet, and recall of behaviour.

1. **Demographics**
   a. Age: to provide useful information about whether motive and opinion differ along age groups;
   b. Gender: the gender of the respondent can provide information about whether this variable relates with motive and opinion;
   c. Education: helps develop a profile of respondents and can provide information about possible differences in behaviour and opinions on the basis of formal learning.

2. **Situational information**
   a. Transportation: ownership of a vehicle could relate to respondent's choice of shopping channel;
   b. Home Internet Access: availability of Internet access at home could relate to respondent's choice of shopping channel – while the consumer may be reluctant to use publicly accessed Internet facilities for shopping, having access at home could encourage online shopping;
   c. Location proximity: proximity to suitable shopping facilities may influence whether people shop online, for example are products required locally available and in close proximity?

3. **Historic information**
   a. Internet Shopping History: establishes that the respondent has shopped/shops online, and for what length of time; also serves as a screening question for participant qualifying criteria;
   b. Frequency of shopping online/non-online: provides information on respondent's behaviour with relation to online shopping frequency and non-online shopping frequency.

4. **Behavioural information**

   This is information relating to the actual behaviours that consumers exhibit in terms of responding to online marketing communications, shopping cart check out and abandonment, and the use of risk relievers. Although this is factual information, it should be noted that in the case of this research, its

collection is based on self-reported accounts of behaviour, which may be affected by the level of recall accuracy on the part of the respondents.

3.5.3.3 Perception information

The information provided here captured consumers' perception of online shopping along the valence framework in terms of their level of perceived risk and perceived benefits.

1. Does the consumer generally perceive online shopping as having more benefits than risks or vice versa? Compared to other forms of shopping, what level of benefit and risk is perceived online?
2. What is the consumer's level of agreement with perceived risk factors as opposed to their level of agreement with perceived benefit factors?

3.5.3.4 Motivation information

The information provided in this section answered questions about motives and expectations for shopping online, and also for why respondents behave in certain ways or not when they shop online. Therefore as an example, why do respondents not shop more frequently online, or why do they purchase some categories of products online but not others? One of the questions this research sought to answer was whether online shopping motive and expectations were related to the consumer's regulatory focus.

1. **Initial and current motivation**: what were the respondent's initial reasons for using online shopping, and what are their reasons for current levels of online shopping?
2. **Expectations:** what benefits did respondent expect to derive from shopping online?
3. **Online shopping attributes preferences**: what attributes of shopping online influenced the way the respondent used online shopping?

3.5.4 Dimensions and Itemised Subscales

To develop measurement items for the questionnaire, the construct dimensions were first identified based on the review of the literature and the initial qualitative interviews. Each dimension was then assigned elements relevant to it,

and these elements formed the basis for questionnaire items or indicators. Some of the items were derived from previously tested and validated questionnaires, with modifications to suit the present study, while other items were developed directly as a combined result of preliminary interview, literature review and information needs. In the tables below, each measurement theme is presented in the form of a sub-scale and shows the dimensions as well as indicators or items measuring the dimension in the questionnaire; it is evident that while some factors require a straight forward one item measurement, other factors are more complex and require multi-item indicators.

Two types of constructs have been measured: observed constructs are those constructs that can be measured directly or which are factual, for example gender and age, and that can be measured by direct questionnaire items, while latent constructs are unobserved variables or factors which require to be measured by an indicator or reflector. Where indicator variables are used, using SEM requires that constructs should have at least three indicator items measuring them in order to reduce error. This requirement has been met in this research.

In the following tables, the questionnaire's indicative content is presented in the form of subscales, with one table per subscale. In general the questions presented below constituted the content of the questionnaire, although modifications were made following testing and piloting, as discussed in section 3.5.6.3. There are four subscales reflecting the types of information required; and to reflect the questionnaire structure, these are presented in the order of: (i) regulatory focus subscale (Table 3.3), (ii) online shopping perception subscale (Table 3.4), (iii) online shopping motivation subscale (Table 3.5), (iv) subscales for the three dimensional aspects of behaviour in online shopping (Table 3.6a,b,c), (v) subscale for factual information relating to demographics, situation and online shopping experience (Table 3.7).

The first table (3.3) presents questions derived from Higgins et al. (1997) and which address the regulatory focus construct by measuring the level of prevention focus versus promotion focus. These appear on page 1 and 2 in the questionnaire. It should be noted that the respondent to these questions is not made aware of which question measures what aspect of the construct and only

post-treatment of the responses reveals the type of regulatory focus that the respondent exhibited.

REGULATORY FOCUS SUBSCALE					
Subjective recall information adapted from the Regulatory Focus Questionnaire (Higgins et al., 2001)					
IITEM NO	STATEMENT	Never or seldom		Sometimes		Very often
		1	2	3	4	5
1	Not being careful enough has gotten me into trouble at times					
2	Growing up, would you ever cross the line by doing things your parents did not approve of?					
3	Growing up, did you ever act in ways that your parents thought were objectionable?					
4	Compared to most people, are you typically unable to get what you want out of life?					
5	How often have you accomplished things that got you psyched to work even harder?					
6	How often did you get on your parents' nerves when you were growing up?					
7	How often did you obey rules and regulations that were established by your parents?					
8	Do you often do well at different things that you try?					
9	When it comes to achieving things that are important to me, I find that I don't perform as well as I would like to do.					
10	I usually feel that I have made the most progress toward being successful in my life.					
11	I fee that very few hobbies and activities capture my interest and motivate me to put effort into them					

Table 3.3: Regulatory focus subscale

The statements in Table 3.4 measure the level of perceived risk versus perceived benefit in online shopping and appear on page 3 of the questionnaire. The scale is rated from -2 to +2 in order to provide a neutral zero point, for statistical accuracy. It should be noted however that this rating system was not shown to

the respondents, in order to avoid judgmental bias, as well as to avoid second-guessing of the correctness of one answer over another.

	ONLINE SHOPPING PERCEPTION SUBSCALE Level of online risk/benefit perception information, as adapted from Forsythe et al. (2006); Bhatnagar and Ghose (2004)					
ITEM NO	**STATEMENT**	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	To me, the advantages of shopping online far outweigh the concerns	-2	-1	0	1	2
2	I find the convenience in online shopping most appealing					
3	I worry a lot about dubious retailers online					
4	When I shop online, I am usually conscious of potential risks associated with my financial details					
5	I sometimes worry that the product I will receive may not be the same as described online					
6	I am absolutely confident that everything will go smoothly when I shop online					
7	The availability of choices in online shopping makes the potential risks worthwhile					
8	But for the risks, I would shop more online					

Table 3.4: Online shopping perception subscale

The following questions (Table 3.5) provide information on the consumers' motivation for shopping online, encompassing motivations for initial adoption and continued usage motivation and appear on page 4 of the questionnaire. The criteria are rated from -2 to +2, with a neutral zero point.

ITEM NO	STATEMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	ONLINE SHOPPING MOTIVATION SUBSCALE Level of online hedonic/utilitarian motivation information, as adapted from Rhom and Swaminathan (2004); Liu and Forsythe (2011)					
1	I like shopping online mainly because it's fun to do so	-2	-1	0	1	2
2	I like shopping online mainly because there are many bargains					
3	Online shopping is really for convenience, not for adventure					
4	The variety and choice available online can often be confusing					
5	I like online shopping mainly because I can search and discover new products or deals					
6	When I go online to buy, I like to know beforehand what I want and where to go					
7	I like being able to compare products and prices from many vendors before buying					
8	The thing I like most about online shopping is that it enables me to shop without bother from sales people					

Table 3.5: Online shopping motivation subscale

The following three tables (3.6a,b,c) are related and contain questions that are aimed at eliciting information about consumers' behaviour in online shopping, in respect of the three behaviour dimensions: response to online marketing; shopping cart abandonment; and use of risk relievers. These appear on pages 6, 7 and 8 of the questionnaire.

ONLINE SHOPPING BEHAVIOUR SUBSCALE DIMENSION 1 (RESPONSE TO ONLINE MARKETING)						
Response to online marketing, based on Wolin and korgaonkar (2003)						
ITEM NO	Instruction: For each of the statements below, imaging that you are referring to purchases of average value to you: that is, in case of loss, they would cause you only a little degree of grief. STATEMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		-2	-1	0	1	2
1	I am quite happy to accept suggestions for additional products when shopping online.					
2	I am quite happy to accept recommendations for alternative when shopping online					
3	I regularly click on online advertisement links when I search for a product/service					
4	I usually click on pop-up adverts that I find relevant.					
5	I usually visit an e-retailer as a result of receiving a marketing email.[1]					
6	I usually take notice of advert banners when shopping online.[1]					
7	I normally turn off all forms of pop-up/pop-under advertising when online*					
	[1] Wording modified in final questionnaire					
	*Removed in the final questionnaire					

Table 3.6a: Online shopping behaviour subscale dimension 1

ONLINE SHOPPING BEHAVIOUR SUBSCALE DIMENSION 2 (SHOPPING CART ABANDONMENT)						
Online cart abandonment, adapted from Kukar-Kinney and Close (2009)						
ITEM NO	STATEMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		-2	-1	0	1	2
1	It's not like me to add items to my online shopping cart without checking out during the shopping session					
2	It is common for me to do one piece of shopping beyond one online shopping session					
3	It is normal for me to save items in my online shopping basket for several days before paying for them					
4	I often add items to shopping carts on different websites before settling for one					
5	I usually try to complete my shopping once I have spent time adding items to my cart					

Table 3.6b: Online shopping behaviour subscale dimension 2

ONLINE SHOPPING BEHAVIOUR SUBSCALE DIMENSION 3 (USE OF RISK RELIEVERS)						
Level of online hedonic/utilitarian motivation information, as adapted from Forsythe et al. (2006)						
ITEM NO	Instruction: For each of the statements below, imaging that you are referring to purchases of average value to you: that is, in case of loss, they would cause you some degree of grief, but you could easily bear this. STATEMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	When shopping online, I buy from any retailer that offers me the best deal	-2	-1	0	1	2
2	When buying from unfamiliar vendors/retailers online, I normally check for third party guarantees					
3	I usually read the terms and conditions before making a purchase					
4	I won't usually buy online without checking that the transaction is encrypted (that is – electronically coded)					
5	When shopping online, I hardly notice any privacy seals or guarantees					
6	When shopping online, I prefer to stick with retailers that I know in the real world					

Table 3.6c: Online shopping behaviour subscale dimension 3

The final scale in Table 3.7 was aimed at obtaining demographic and related profiles of respondents, and appeared on page 10 to 13 in the questionnaire. Although this information was not of direct primary application in this research, it was nevertheless deemed useful for validation purposes, for example, in checking for systematic non-response bias, and potential compounding factors.

ITEM	STATEMENT	ANSWER OPTIONS				
	ONLINE SHOPPING DEMOGRAPHICS AND CATEGORIES SUBSCALE Generated by author from literature review					
1	How often do you shop online?	Rarely	Sometimes	Often	Always	
2	How long is your experience of shopping online?	Less than 1 yr	More than 1 yrs, less than 3 yrs	More than 3 yrs, less than 5 yrs	Over 5 yrs	
3	What is your gender?	Male	Female	Other	Prefer not to say	
4	What is your age group?	18-28	29-39	40-50	51-65	Over 65
5	What is your educational background?	Secondary	College	Undergraduate	Postgraduate	
6	What is your employment type?	Student	Employed (full/part time)	Self employed	Homemaker	Unemployed
7	In what type of location do you live?	Rural	Semi-Urban	Small/Medium City	Large/Mega City	
8	How close are you to a major shopping area?	Very close	Somewhat close	Average	Somewhat far	Very far

Table 3.7: Online shopping demographics and categories subscale

In addition to the above, the researcher also included items in the questionnaire on search behaviour and post-usage behaviour, but these were not made available to the respondents (that is, suppressed) as they were reserved to support future expansion of the questionnaire. These are included in the appendix for advisory benefit to the reader – for example, an interested reader may wish to consider these scales in building upon the present research.

3.5.5 Measurement

3.5.5.1 Level of measurement

As the above section shows, the questionnaire was intended to collect data of a quantitative nature. Therefore another important consideration in its design was the level of measurement. The level of measurement utilised in a questionnaire or any measurement instrument is important to a research study because it helps interpret the data from the variable and is determinant of the type of statistical procedure that may be applied to the data. The commonly used levels of measurement (Trochim, 2009) are:

- **Nominal** – this is the measurement scale for categorical and classification data. The attributes are only named but do not have a statistic meaning beyond the ability to group them in frequencies, percentages and modes.
- **Ordinal** – this is the measurement scale that provides the capacity to rank order items or objects according to some defined characteristic. It is most commonly utilised in social science and business research because often, research in this area is concerned with ranking of preferences and choices. The distance between two ranks is not meaningful.
- **Interval** – In interval measure, the distance between two attributes is meaningful because this measure actually rates the attributes and provides a statistical interpretation of the rating. However the zero-point and unit of measurement in interval scales are arbitrary, for which reason it is considered a lower form of measurement compared to a ratio scale. However the distance between two scores are equal and, in social science research, the interval level scale is one of the most important and has enabled researchers in this domain to undertake scientific analysis of data using appropriately designed parametric tests.
- **Ratio** – this is the most powerful and scientific form of measurement that provides true values between distances in a scale. It also has a true point at its origin (that is the zero point) and differences between numbers have meaning. This scale can incorporate tests and analysis that utilise the most powerful parametric tools, but it is mainly useful in the "pure" sciences where precise measurements are required and utilised.

3.5.5.2 Measurement scales utilised

The type of scale used in a research study depends on the objective of the study. If the study is purely concerned with the summarisation and description of data, then categorical nominal measurements may suffice. However, if the study is interested in measuring levels or making comparisons (for example in attitudes to something) then the minimum level to be considered would be the ordinal scale. Where the study also has an interest in examining associations and relationships that include non-categorical variables, then the interval or ratio scale may be considered as appropriate. The choice of analysis for the data will be affected by the type and level of scale employed. It is also important to note that in reality, the underlying construct or variable being measured defines the scale of measurement, not the numbers assigned themselves.

In this research, three types of scale were required. A nominal scale was used to obtain data on the categorical variables in the study, for example gender, level of education and age. An ordinal scale was used to obtain ranked order data, for example the frequency of use of Internet and online shopping, and an interval scale as used to obtain measurements of the psychological constructs. To achieve the interval measurement, the Likert scale and a semantic differential scale were utilised

The Likert scale can be treated as an interval scale on which parametric statistics can be applied. Several studies have demonstrated the robustness of the Likert scale by applying it as a special case of interval level measurement (for example, Allen and Seaman, 1997); however, there is disagreement about this interpretation and other researchers consider and treat Likert scales purely as ordinal level measurements (for example Clark and Wood, 1998). Brown (2011) argues that there is a difference between Likert scales and Likert items, and that most of the argument is as a result of a lack of this basic understanding. According to Brown, Likert items (ordinal in nature) combine to make up an item scale (treated as interval) and this is the underlying assumption by which most social science research currently treats the Likert scale. Hence, Brown (2011) concludes that: "Likert scales contain multiple items and can be taken to be interval scales so descriptive statistics can be applied, as well as correlational

analyses, factor analyses, analysis of variance procedures, etc. (if all other design conditions and assumptions are met)," (p. 13).

Rasmussen (1989) argued that as long as a multi-item scale contains at least five points, the precision of statistics will not likely be compromised, and the application of parametric procedures on the scale does not have serious implications for the study's conclusions. For this reason, most modern rating scales, including Likert scales and other attitude and opinion scales, contain either five or seven response categories, with the middle point usually a neutral and the extreme points representing extreme degrees of polar differences in what is measured (Preston and Colman, 2000). The researcher agrees with the view that Likert scales, where properly constructed, are useful as interval measurements as applied in this research.

The debate about the optimum number of responses is as yet unresolved as contradictory findings continue to show that both the 5-point and the 7-point scales can be utilised with varying degrees of reliability. In an experiment, Preston and Colman (2000) found that the 10-point scale was the most preferred by respondents based on several criteria, closely followed by the 7-point scale, while the 5-point scale was preferred on the basis of ease-of-use. The adapted regulatory focus questionnaire (Higgins, 2002) utilises a 5-point scale; for the purposes of consistency, respondents' ease-of-use, and economy, the 5-point scale was preferred in the present study.

3.5.6 Questionnaire Validity and Reliability

3.5.6.1 Questionnaire validity

According to Norland-Tilburg (1990), validity is the amount of systematic or built-in error in measurement. It can be established using a panel of experts and/or field test, and, depending on the nature of the study, can take the form of content, construct, criterion, or face validation. Radharkrishna (2007) underpins the questionnaire development undertaken previously when he states that questionnaire validity seeks to answer the following questions through the combined use of an expert panel and a field test:

- Is the questionnaire valid? In other words, is the questionnaire measuring what it intended to measure?
- Does it represent the content?
- Is it appropriate for the sample/population?
- Is the questionnaire comprehensive enough to collect all the information needed to address the purpose and goals of the study?
- Does the instrument look like a questionnaire?

Having already established content, criterion and construct validity with team of experts at interview stage, validity at the pretest stage was mainly confirmatory, ensuring that questions reflected their underlying constructs, and that the questionnaire was fit for purpose. The questionnaire was pretested prior to piloting for the purpose of ensuring the highest level of accuracy, comprehension and consistency. The pretest was carried out using a panel of internal experts (faculty members of the business school where the research was carried out). This approach was chosen and considered adequate for the purpose of this research because the overall questionnaire design process had been informed by theories in cognitive psychology and the question content was based mainly on pre-validated items that had been tested and upheld in consumer behaviour, as reviewed in chapter two. But even though the questionnaire content was informed by previous research, the application of constructs in the context of online shopping required that wider pretesting for validity be conducted in addition to the formative interviews that had been conducted prior to the questionnaire development. Other methods of pretesting could have been used, including cognitive interviewing, respondent debriefing, behavioural coding and questionnaire appraisal. However, the advantage of an expert panel was savings in time and resources while maintaining the quality and standard of the research. On the other hand, the disadvantage of not pretesting with a subsample of the target population was that the response behaviour could not be ascertained at the ultimate primary level by the researcher.

The following were the specific objectives for pretesting the questionnaire:

- to determine if the constructs and concepts were interpreted as intended by the researcher;
- to detect any sources of confusion, misunderstanding or task difficulty;

- to identify errors in grammar, punctuation and spelling; and
- to ensure that the questionnaire content was adequate, not spurious and not offensive.

Following from Fowler (2002), participants were selected on a purposive basis using the researcher's judgement and understanding of their expertise in the areas of statistical techniques, research methods, and marketing literature. In total, 14 academics were sent a link to an online questionnaire and once they had provided their responses, the researcher personally contacted them to ask their opinions on the questionnaire. The feedback showed that in general, the questionnaire was found to be comprehensible, logical, easy to complete, and to have been designed with clarity. Three academics suggested changes to the wording for instructions in sections one and four of the questionnaire, and once these were made, the research supervision team provided final feedback and ratification of questionnaire items.

In drafting the final questionnaire, cosmetic improvements were made in the overall presentation and layout, a main introduction was included to the questionnaire and some minor spelling style changes were made. However, the pretest showed that the questionnaire was easy to comprehend, simple to complete and and did not constitute a level of complexity above conventional marketing questionnaires.

3.5.6.2 Questionnaire reliability

Reliability refers to random error in measurement (Radharkrishna, 2007), and also indicates the accuracy or precision of the measurement instrument (Norland-Tilburg, 1990). The need for reliability test arises out of the nature of questionnaire designs, which are usually in the form of multiple measurements per criterion. The use of multiple measurements for a variable or criterion item is a statistical means of reducing or cancelling out error and obtaining the true score for a variable. At the pilot stage, the researcher can determine what measurements add value (that is, truly reduce the random error element) in the questionnaire. While pretesting an instrument is essential in establishing its validity, reliability of the instruments is tested through a pilot of the research study. A reliability test exercise provides opportunity to choose questionnaire

items of optimum difficulty and internal consistency, and to examine the responses for problems like floor or ceiling effects and centrality tendency (Peterson, 2000). For example, if all respondents agree or disagree with an item, then this item is potentially not useful because it does not help discriminate between those agreeing and those not agreeing. On the other hand, there is an optimal proportion at which some respondents would agree or disagree and this proportion (of those answering a test item correctly) is usually referred to as item difficulty. Consequently, one aim during reliability testing is to determine true test difficulty and eliminate items that show extreme means, and zero or nearly zero variances.

A pilot study establishes the reliability of the interrelationships between disparate elements of the questionnaire such as data input, coding, processing, analysing and evaluating. It is at the pilot stage too that the research team is presented with an opportunity to review the entire project design based on a subset of the anticipated final data. The pilot can therefore inform the final implementation of the research study by answering the question: does the questionnaire consistently measure whatever it purports to measure? Ideally, the pilot should be carried out with a subsample of the sample that will be utilised in the final study. This will ensure that there is consistency in how it and the final study will be implemented as well as evaluated. However, Moser and Kalton (2005) suggest that the design as well as size of the pilot survey depends on convenience, time and money (p.51). Therefore, if these pose a problem, a substitute sample with similar characteristics to the final sample may be utilised.

In view of material considerations relating to available resources, the pilot test was undertaken with the help of 78 staff members (academic and non-academic) of four educational institutions in the UK, who were contacted using publicly available university emails. Initially, 125 participants – representing approximately 5% of the target sample - were asked to utilise their own experience of shopping online to complete the questionnaire. 61 responses were received at the end of the first week, and at the end of the pilot period of two weeks (including a reminder at the start of the second week) 83 responses were received, of which 78 were valid and useful, and five questionnaires were discarded on failing response credibility – that is, some of their answers showed

intra-conflict issues and did not pass inbuilt validity tests (for example one responded selected only the first option for all questions).

Rhadakrishna (2007) suggests that 20 to 30 cases are enough for the purpose of piloting a questionnaire and testing reliability. Although it would have been more appropriate to pilot the questionnaire on the original target population, the cost associated with this was considered prohibitive, and a decision was reached to prioritise accessibility for the purpose of the test – taking into account the potential research risks and limitations that could arise from this. For example, it is highly likely that the comparatively high response rates to the pilot test (over 50%) were achieved because of the pilot sample's affinity to an education institution. The next section describes how the pilot data was treated.

3.5.6.3 Pilot alpha and modification of questionnaire

There are many criteria by which reliability of a scale may be measured, but one of the most common concerns to researchers is the internal consistency and reliability of a scale. This measure is particularly important in a scale that has multiple items measuring each construct and which utilises interval or semi-interval scales like the Likert 5-point and 7-point scale or the semantic differential scale. Internal consistency refers to the notion that a reliable scale should be made up of items that proportionately measure mostly true score (as opposed to error), and the selection of items can be done by utilising a combination of statistical techniques. Commonly, a combination of item-scale correlation, squared multiple regression and Cronbach's Alpha are utilised to select items for retention or deletion. It should be noted here that deleting items alone does not solve the problem as the fewer the items measuring a construct, the less reliable it would be considered to be. Therefore, in addition to deletion, new items may have to be generated and retested in an iterative process. However the researcher will have to determine the level of reliability required in reaching a decision as to the final number of items to retain for a construct. Ideally, in order to preserve content, no more than 20% of the original items associated to a construct should be deleted (Rhadakrishna, 2007).

STATISTICAL RELIABILITY ANALYSIS Results for ROM subscale	Summary for Scale Mean: 40.4102 Stand. Dv 8.13112 Valid Cases: 78 Cronbach alpha: .789122 Standardised alpha: .799531 Average inter-item correlation: .300012					
ITEM	Mean if deleted	Var. if deleted	StDev. if deleted	Item to Total Corr.	Adjusted Squared Multiple R	Alpha if deleted
Item 1. I am quite happy to accept suggestions for additional products when shopping online.	36.26000	45.91822	7.351203	.6192816	.5770422	.779951
Item 2. I am quite happy to accept recommendations for alternative when shopping online	36.18000	46.20181	7.229121	.5463818	.5011267	.780004
Item 3. I regularly click on online advertisement links when I search for a product/service	35.99800	44.95811	7.350401	.5023551	.4577464	.790018
Item 4. I usually click on pop-up adverts that I find relevant	36.22000	43.99173	7.323002	.5404218	.4986335	.781226
Item 5. I usually visit an e-retailer as a result of receiving a marketing email	36.13000	45.28221	8.000249	.0911281	.0130985	.811002
Item 6. I usually take notice of advert banners when shopping online	36.11000	45.30028	7.919218	.1013139	.0194129	.809901
Item 7. I normally turn off all forms of pop-up/pop-under advertising when online	36.72000	45.62104	8.760022	.0900044	.0017126	.862417

Table 3.8: Reliability results for ROM

The data obtained from the pilot study was subjected to a reliability test using SPSS (a statistical package commonly used in social sciences), and based on recommendations in the literature (for example Radharkrishna, 2007) a cut off reliability coefficient of .70 was assumed. The analysis only showed three problematic items in the measurement of "response to online marketing" (ROM). This was not entirely surprising given that compared to other concepts in marketing ROM is a relatively new construct with untested measurement items. Alphas are shown in Table 3.8.

In the results above, the columns of interest are the last three which show per-item correlation to the total (excluding itself), the Adjusted R^2 and the alpha if item deleted statistic. The statistics for item 5, 6 and 7 are clearly out of sync with the overall scale, and especially, the last column shows that alpha can be

raised above .8 if any were deleted. This means that these items in their current form are not contributing effectively to the reliability of the scale. Following the above results, items 5 and 6 were examined, and it was found that the wording for the items was a potential source of confusion, and could be improved and modified to avoid the items being deleted. Item 6 was subsequently modified as follows:

Item 6: I usually avoid clicking on online advertising banners or links (reversed).

Item 5 and **7** were deleted as it was found that there was a potential lack of correlation with these items and the overall response to the construct. This is evident in the resulting alpha when item 5 and 7 are deleted. Therefore five items were retained in the final scale.

In addition to the above reliability analysis, a technical tool analysis was carried out to determine if the data collected was testable under the SEM method. Because only 78 cases were used, it was necessary to create additional dummy cases to ensure that the estimations could be successfully undertaken using the SEM package **Amos**. The tests showed model overidentification (a prerequisite for undertaking structural equation model analysis), with results also showing that the data generally fit the model as currently specified. While goodness-of-fit was not an essential consideration at this stage, model overidentification was good news as it meant that the questionnaire could be utilised to effectively assess the model without placing non-theoretic constraints on it. In structural equations a model that overidentifies and still fits well is the most desired.

The steps detailed above to enhance the quality of the field work and overall research were undertaken over a period of time, with the evaluation of pilot results culminating in the summer of 2010. Once these checks had been completed and the questionnaire modified as detailed above, the research was ready for full implementation. In the next sections, details of how the research was implemented are given, including details about the field work, timing, steps taken to improve response rates and the research monitoring.

3.6 RESEARCH IMPLEMENTATION

The execution stage of a research project is very important to its success. According to Creswell (2003), if a research study is well designed but improperly executed, it is likely to be unsuccessful. The implementation of this research was carefully undertaken, with specific steps taken to ensure that response rates were as high as could be achieved, attrition rates were minimised and data quality was maintained.

3.6.1 Invitation Postcard

Sending an invitation to participate in a survey can be likened to direct marketing. This is because many of the problems associated with direct mail marketing are also present in sending invitation mails to a survey. For example, the chances that the mail may not be opened and may be dumped as junk, and the possibility that even when opened, the content may not be acted upon. Therefore, as with direct mail marketing, it is important that the invitation is designed with the recipient in mind, in order to encourage the reading of the message and to elicit the desired action (Diamond and Gooding-Williams, 2002). The objective of the invitation should be to achieve the commonly used components of the AIDA model: attention, interest, desire and action (an extensive description of AIDA is provided in Ehrenberg, 2000).

To avoid the probability of unopened envelops, the invitation was sent as an open postcard to 2100 residential addresses across areas of the UK selected as described previously, and using semi-gloss textured paper with a photograph on the front side. The photograph was a picture of a happy shopper carrying a bag and browsing the Internet with a handheld electronic device. This picture was intended to create a cheerful mood in the recipient, with the expectation that this would increase their likelihood of completing the questionnaire. Research shows that the effective use of colour, pictures and fonts can increase the rate of response (Edwards et al., 2005).

On the reverse side, the postcard contained the invitation wording. The opening statement introduced the host university as the originator of the survey, and this was followed by an explanation of its nature, purpose and benefits. Recipients were then informed of the value of their participation and the compensatory

incentive (detailed in section 3.6.5) to be provided as a token of appreciation for their time and effort. The link to the survey was provided toward the middle of the postcard to maximise attention to it. And finally, a statement about confidentiality and privacy followed before a signoff by the researcher. A sample of the postcard is available as Appendix 2.

3.6.2 Use of Host University Logo

A logo and other brand credentials of the university were used by permission on the postcard invitation as well as on the questionnaire itself. The aim of this was to provide authentication and endorsement of the research. Endorsement by a reputable institution is important because this was expected to increase confidence in the potential respondents as well as assure them of the credibility and status of the research.

3.6.3 Web Questionnaire Design

A web-based questionnaire was designed and implemented using the free web questionnaire tool LimeSurvey version 1.92. LimeSurvey is an open source, customisable questionnaire development and deployment tool using php and mySql web development tools. It has many features, including the ability to customise questions, answer choices, and branding. It is also interactive and uses an encryption database to store responses. The following are the full features of LimeSurvey as given by the publisher, with a * indicating features that were used in this research:

- Unlimited number of questions in a survey (only limited by your database)
- Unlimited number of participants to a survey*
- Multi-lingual surveys
- User-management*
- 28 different question types
- WYSIWYG HTML editor*
- Quotas management
- Integration of pictures and movies into a survey
- Creation of a printable survey version
- Conditions for questions depending on earlier answers (Skip Logic / Branching)*

- Piping and Micro-tailoring using a powerful expression engine*
- Re-usable editable answer sets
- Anonymous and Not-Anonymous survey*
- Open* and closed group of participant surveys
- Optional public registration for surveys
- Sending of invitations, reminders and tokens by email*
- Option for participants to continue survey at a later time*
- Cookie or session based surveys
- Template editor for creating your own page layout*
- Extended and user-friendly administration interface*
- Back-office data entry possibility
- Survey expiry dates for automation
- Enhanced import and export functions to text, CSV, PDF, SPSS, R, Excel*
- Basic statistical and graphical analysis with export facility
- Screen Reader Accessibility
- W3C (Internet regulator) compliance*

This richness of features and functionality was the main attraction to use LimeSurvey. In addition, previous use in other research projects by the researcher had proven the tool's reliability and flexibility.

The questionnaire was divided into six pages and contained 29 questions, with an introduction page that contained the instructions for completion and average duration. The questionnaire was estimated to take between 10-15 minutes to complete, and on submission, the respondent was automatically transferred to the participating voucher scheme where they were requested to provide details for the purpose of receiving a shopping voucher. Participants were required to provide an email to access the questionnaire, but were assured that this did not violate their anonymity. The pilot test and custom test-retest undertaken by the university IT team revealed no problems with technical aspects of the questionnaire, such as navigation and data entry.

Respondents had the choice to navigate to any part of the questionnaire once they had completed mandatory screening information at the start, but no other part of the questionnaire was mandatory. Respondents could also save the questionnaire once started, for future completion and submission.

3.6.4 Question Arrangement

Questions were arranged in parts to reflect the subcomponent or construct that they were measuring, similar to the groupings presented in Tables 3.3 to 3.9. This was done to encourage logical flow and ease of focus on the part of the respondent. Reverse format questions were deliberately introduced at strategic points to ensure that the respondent's attention would be retained, and to test for cases of spurious responses, and in addition, question order was automatically randomised in order to eliminate presentation bias.

The question order was deliberately designed so that question sections relating to construct models were asked first, followed by categorical questions relating to respondents' circumstance (situation) and demographics. The reason for this design was to ensure that important information could be captured first, even in the case of partial completion by the respondent.

3.6.5 Use of Incentive

To encourage respondents to complete the questionnaire and thereby increase response rate, it was decided, after consultation with the ethics authority of the university and the supervisory team, to offer a non-monetary incentive to respondents.

There were two incentives offered. The first was in the form of an automatic online voucher worth £5 on completion and submission of the questionnaire, which respondents could, if they wished, donate to a nominated charity. Working in partnership with the Internet incentives provider ValuedOpinion.co.uk, respondents were offered a choice of a National Lottery ticket or an Amazon voucher. On questionnaire submission, the respondent was automatically redirected to ValuedOpinion where they could register their details and claim their voucher. As an additional incentive, respondents could optionally register their details with ValuedOpinion to be entered for a draw to win an e-reader worth £100, in exchange for participation in future research.

Research in Australia by Kalantar and Talley (1999) showed that incentives can improve the response rates to research participation, especially during the first wave, as a result of which a small upfront cost toward an incentive could be a

wise investment and save subsequent costs associated with following up. The incentives also had a secondary objective of encouraging respondents to provide their email for the purpose of participation in future research, as this was the basis upon which ValuedOpinion had supported the researcher, although respondents were made aware that supplying their email would not violate their anonymity in respect of the present research..

3.6.6 Survey Timing and Duration

The survey was conducted over a period of four weeks in early 2011 (17th January 2011 to 11th February, 2011). The timing of the survey was designed to coincide with the post-festival period when people were likely to think more about their finances and shopping, as well as be interested in incentives having likely spent more than usual during the festivities. The duration of four weeks was considered adequate to allow for the delivery of first-class-stamped mail to the target group and for respondents to then register and complete the survey.

3.6.7 Monitoring and Reminders

From the backend, the researcher was able to monitor the questionnaire completion rates in real time. It was also possible to tell how many visits had been made to the questionnaire site and to view questionnaires that had been started but not completed. The advantage of this is that the researcher was able to monitor the completion behaviour and potentially detect problematic questions or navigation areas. The database was monitored daily during the completion period, and at the end of every week a check was made to detect any questionnaires that had been initiated but not completed. If the respondent had provided an email, then they were emailed with a request to complete and submit the questionnaire, and to claim their £5 voucher or lottery ticket. During the four week period, 41 reminders were sent for this purpose, resulting in 38 additional completions – representing a 90% success rate in reminders.

3.6.8 Response Rate

At the end of week four, 331 responses were received (15.8%) but only 306 responses were completed in sufficient detail to be useful (representing a 14.6% effective response rate), and although it would have been helpful to obtain more

responses, it was not logistically possible to attempt this because of the costs involved, and the consideration that a minimum sample of 120 cases is required to successfully undertake structural equation analysis (Garver and Mentzer, 1999). Furthermore, other studies of a comparable nature have successfully utilised similar numbers and rates of responses: Fagerstrom and Ghinea (2011) utilised 268 responses; Gauzente (2010) utilised 272 responses; and Bridges and Florsheim (2008) utilised 337 responses.

3.6.9 Data Preparation and Quality Diagnostics

The data obtained from the survey was recoded using automatic recoding techniques available in the SPSS software. The data was then visually checked for spurious cases and duplications, but these were not detected. Variables were also renamed appropriately for the purpose of visual clarity and software handling. In the case of income and age responses, binning was carried out to collapse and group categories and achieve understandable summaries of the data. Finally, variable types were manually selected in order to ensure that the software handling of the data was in line with the research objectives.

3.6.9.1 Handling missing data

The results obtained were initially checked for missing data. Out of the original 331 responses received, 25 cases had incomplete data. For ease of handling and to avoid compromising the results, the researcher decided to eliminate the cases from the analysis rather than handle missing data using statistical means. Even after eliminating the 25 cases, the number of responses obtained was sufficient for the purpose of the research. There was no systematic pattern detected in the missing data cases.

3.6.9.2. Checks for non-response bias

The distribution of data across geo-demographic parameters was assessed and an analysis of the results is presented in Chapter Four. Here, it is only necessary to point out that there was no apparent pattern of non-response bias across geographic spread or demographics. The response profile for data obtained appeared to generally fit the usage pattern for online shopping as reported by the Office of National Statistics in 2011 (ONS2011).

3.6.9.3 Accounting for common method bias

In addition to response bias and other parametric checks, it is important to check the data for method bias. In this section, common method bias and its estimation in this research are described. Common method bias is a result of common method variance, that is, variance that arises from the measurement method rather than from the constructs that are being measured (Podsakoff et al., 2003). This type of bias is a problem because it is one of the main sources of measurement error, and its impact on behavioural research has been well documented (cf. Bagozzi et al., 1991; Spector, 1987). The reason for this attention is because this measurement error in general threatens the validity of the conclusions that can be reached about the relationships between measures in a piece of research. Method variance is particularly serious because it constitutes systematic error which can invalidate the research results if not eliminated or properly controlled (Bagozzi et al., 1991).

Method variance is always present in behavioural research and cannot be completely eliminated. For example, Cote and Buckley (1987) found that on average, there is about 16% method variance bias in measurements in the field of marketing, and as much as 40% of this can be attributable to measurements relating to attitude.

Method bias can either deflate or inflate observed relationships between constructs, leading to both Type-I and Type-II errors. There are several potential sources of method variance bias, and the main sources have been discussed by Podsakoff et al. (2003) as:

- **Common source or rater effects**. The responses to the predictor and criterion variable are obtained from the same source (respondent), leading to artifactual covariance between variables. Common rater bias can be as a result of consistency motif, social desirability, rating leniency, acquiescence bias, and mood state. This can be eliminated by using different sources to obtain predictor responses and criterion responses. However this approach is not always possible and is very rare in questionnaire survey research due to the logistic issues and potential costs associated with it.

- **Item characteristic and context effects**. The form of the item or its presentation may lead to artifactual covariance, for example because the wording of the item creates social desirability influences, complexity and/or ambiguity. Even the scale format by which the item is measured, as well as scale anchors and reversed scales can lead to item related bias. In addition to characteristics, item contexts such as priming, embeddedness and context-induced mood can further confound the observed covariance in the study.

- **Measurement context effects**. Items measured at the same time point, in the same location, or via the same medium may produce effects that are artifactual in nature because they are influenced by their prevailing context, and independent of the underlying constructs. This can be overcome by varying the times, locations and medium of measurement, for example by using an electronic questionnaire together with a paper-based or telephone questionnaire. It is however not always possible to achieve this strategy because of the logistics and costs associated with the data gathering and handling requirements.

Given its potential influence on the validity of the data, it was important that common method variance be accounted for in the present research. A number of techniques have been identified to overcome common method bias in behavioural research. Some of these techniques are procedural and implementable at the design stage, and indeed were addressed during the survey instrument design and administration stages: question presentation was randomised, some items were reversed, face validity was checked, question wordings were tested and retested and overall instrument was pre-validated. Nevertheless, it was not expected that these measures would entirely eliminate common method variance, especially given that the measurement scale was standardised for ease of questionnaire completion. Podsakoff et al. (2003) caution researchers against sacrificing overall validity for the sake of reducing common method bias at the procedural stage. Instead they recommend that where it is not feasible to eliminate or significantly minimise common method bias using procedural remedies, the researcher should consider using one of several statistical remedies that are available. They identified these as:

- Harman's single factor test
- Partial correlation procedure
- Controlling for the effects of a directly measured latent methods factor
- Controlling for the effects of an unmeasured latent methods factor
- Multiple method factors
- Correlated uniqueness model
- Direct product model

Guidance on selecting the appropriate statistical control is that generally, the technique used to control common method variance should reflect the fact that it is expected to have its effects at the item level rather than at the construct level (Figure 3.7); however there may be cases in which it makes theoretical sense to also model the effects of method variance at the construct level (cf. Williams et al. 1996). Because the present research applies structural equation analysis with the use of measured indicators and unmeasured latent variables, the control for method variance was applied at the measurement level rather than at the construct level. Based on its suitability to structural equation modelling (Conger et al., 2000), a selection of the technique whereby an unmeasured latent factor is implemented in the measurement model and is compared to the non-controlled model was favoured. This was found to be most suitable because it allows items to load on their theoretical constructs, as well as on the latent common methods factor, effectively partitioning the variance of the responses to a specific measure into three components: (a) trait, (b) method, and (c) random error.

The common methods variance model is then tested to determine the difference in the significance of its chi-square and the research model chi-square. This model has been used in a number of previous studies (for example, Carlson and Perrewe, 1999; Conger et al., 2000). The common methods variance control was implemented in this manner as an integral part of the measurement and structural model analysis to minimise the effect of common method bias on the final parameter estimates.
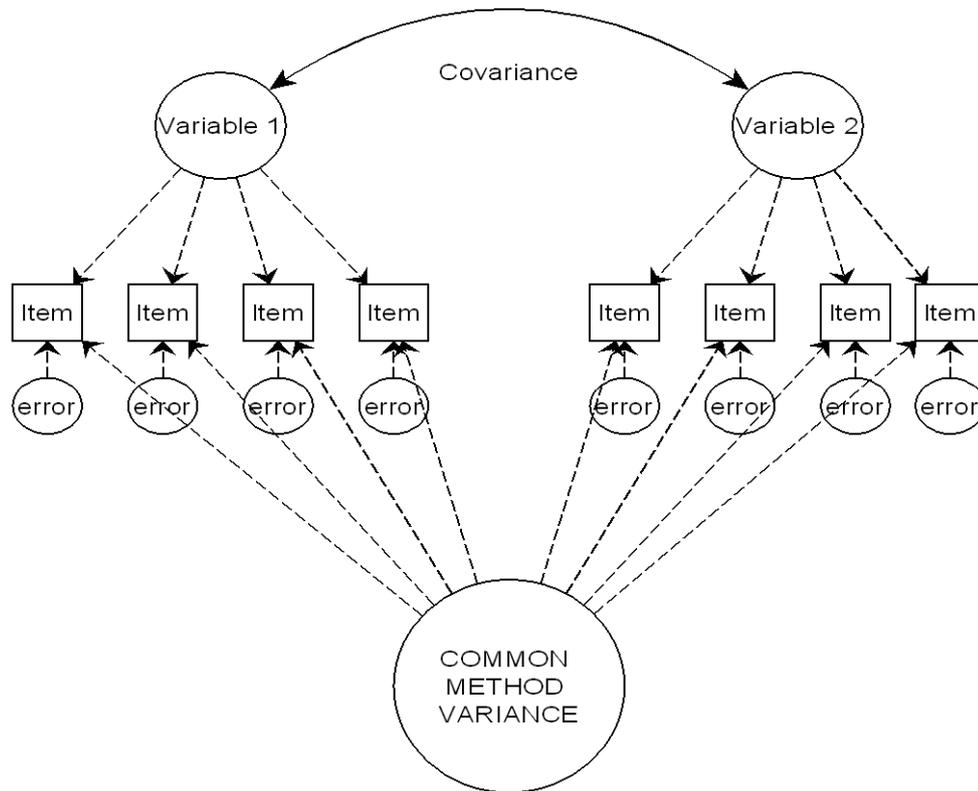
Figure 3.7: Common method with unmeasured latent variable (based on Carlson and Perrewe, 1999)

The results of this implementation are presented in Appendix 3 and show that common method bias was not a problematic factor in the data obtained as the chi-square obtained from the common methods model did not show any significant departure from that of the research model (CMIN/DF=1.587, compared to 1.422 for model). A departure of less than one and half times shows good comparative fit while a departure greater than one and a half times could signal a problem with common method bias (cf. Bagozzi et al., 1991).

3.6.9.4 Checks for normality/non-normality of data

An assumption of structural equation modelling is that the data being analysed comes from a normally distributed sample. A multivariate analysis of the distribution can help determine normality of a data set containing multiple variables. However, SEM analyses are asymptotic in nature and the results obtained from model estimations are said to be approximations of true values. Therefore it was only necessary to undertake simple visualisation of the data

distributions using Q-Q plots. On the basis of this, the data was found to be multivariate normal, although a slight skew was observed in the distribution of scores on the perception scale. No outliers were found to have any major influence on the outcomes. The Q-Q plots for all variables analysed are reported in Appendix 4. On the basis of the normality checks, maximum likelihood estimation with robust standard error analysis was used. Further details are discussed in the main analysis section.

Once the descriptive analysis and quality assurance checks were completed, it was now possible to undertake the main analysis using structural equation modelling with Amos. This technique is first described below for the purpose of providing clarity to the organisation of Chapter Four and facilitating the appreciation of the results presented.

3.7 AN OVERVIEW OF THE STRUCTURAL EQUATION MODELLING TECHNIQUE

This overview looks at how measurement and path relationships are treated in SEM. It will also look at how hypothesis are tested, what the acceptance criterion are, assumptions made, and factors to consider when undertaking data analysis by means of SEM. This overview is presented at this point so that it precedes the results chapter, in order to help the reader appreciate the SEM technique in proximity to its application to the results. The overview is based primarily on Teo (2011), Byrne (2010), Smith at al. (2009), Reilly (1995), and Davis (1993).

SEM is a statistical approach for testing hypothesis about the relationships among observed and latent variables. SEM is not one statistical technique for analysing data, but rather it is an integration of a number of different multivariate techniques into one model fitting process (Raykov and Marcoulides, 2006). SEM integrates:

- Measurement theory
- Factor analysis
- Regression
- Simultaneous equation modelling and

- Path analysis

3.7.1 The SEM Process

Generally, undertaking theory testing in SEM involves the following processes:

- model specification
- model identification
- model estimation
- model evaluation and
- (where appropriate) model modification

The SEM methodology takes a confirmatory approach to the analysis of a theory and is therefore very suited to the deductive philosophy of research which the present study utilises. Byrne (2006) compared SEM against other multivariate techniques and listed four unique features of SEM as:

1. SEM is a confirmatory technique for empirically testing pre-specified relationships. By comparison, other techniques are descriptive by nature, so that unbiased hypothesis testing is rather difficult to do;
2. SEM provides for modelling explicit estimates of error variance parameters, in contrast to other multivariate techniques which are not capable of either assessing or correcting for measurement error. For instance a regression analysis ignores the potential error in all the independent variables included in the model, which raises the possibility for incorrect conclusions due to misleading regression estimates;
3. SEM procedures incorporate both observed and non-observed variables, making it different from other multivariate techniques, like path analysis, which are based only on observed measurements.
4. SEM can model multivariate relations and estimate direct and indirect effects concurrently. These estimates are displayed diagrammatically and are therefore easier to visualise and comprehend than statistical estimates displayed by other methods in a purely numeric character form or mathematical formulae.

3.7.2 Software

There are many software tools for SEM analysis, however the most common software used in research are LISREL, MPLUS, AMOS and EQS. Apart from some fitting approaches and customisable options, the researcher's experience is that there doesn't appear to be much difference between available software. However in this research, AMOS was selected because of its availability at the host institution and because of the researcher's prior knowledge of this particular software package.

3.7.3 Latent Variables

SEM uses a special type of variable known as the latent variable. This variable is also referred to as unobserved, unmeasured or common. Indeed, it is the latent variable that distinguishes SEM from ordinary path analysis. The concept of a latent variable emanates from the reality of social research, which is that in social science research many variables are not directly observable, making them latent or hypothetical constructs.

3.7.4 Indicators and Error Terms

One of the main advantages of SEM is that it explicitly measures indicators and corrects a model's estimates for error factors (Smith et al., 2009). Latent variables are unobserved hypothetical constructs and cannot therefore be directly measured. Instead, in SEM, they are measured through the use of observed variables also known as indicator, measure or manifest variables - for example an item in a questionnaire (Byrne, 2010). These indicators are in turn not perfect measurements of the latent variable but rather are made up of the true variance that the indicator measures (true score), and the error variance that is caused by unmeasured factors. This relationship can be expressed in the form of the equation:

$$(i) \quad X = t + e$$

Where X = observed item (indicator), t = true score, and e = error. In SEM this relationship is expressed diagrammatically as shown in Figure 3.8. The arrows leading into the observed item indicate that the variance in this item can be explained in part by the underlying true score and in part by the error.
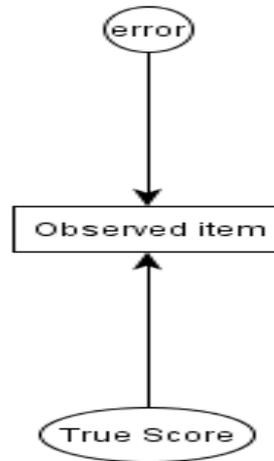
Figure 3.8 Composition of an observation (based on Smith et al., 2009)

However, when a construct is latent and therefore not directly observed but measured by indicator items, it is normal and theoretically expected that the measurement should involve several indicators rather than one indicator. This is because, the more indicators that are used, the more the dimensions of that construct that will be captured, and therefore the less the error. In addition, in SEM, it is necessary to use more than one indicator in order that the model can be identified – that is, true score and error can be separated (Smith et al., 2009).

Another type of error term is associated with dependent variables. That is any variable that is shown as caused by or predicted by another has an error term associated with it and this error term is known in SEM as the disturbance. The disturbance accounts for variance in the dependent variable that is not explained by the predictor variable(s), but is in all essence and nature similar to the other error terms (Byrne, 2010).

3.7.5 Additional Variable Terminology

In SEM, variables that depend on other variables (with arrows leading into them) are also known as endogenous variables while variables that are independent and are not predicted by another variable (with no arrows leading into them) are exogenous variables.

3.7.6 Identification

Identification refers to the number of known and unknown parameters in the structural equation. A statistical model is "identified" if the known information available implies that there is one best value for each parameter in the model whose value is not known. An unidentified equation refers to one in which there are fewer known parameters than unknown parameters, a just-identified equation refers to an equal number of known and unknown parameters and an over identified equation refers to one in which there are more known parameters than unknown parameters.

In SEM, it is preferred that a model or equation should be over identified, with more known parameters than unknown parameters (Byrne, 2010). The known information in SEM consists mainly o f variances and covariance of measured variables while the unknowns consist of the hypothesised model relationships (parameters) that are to be estimated. The SEM approach works by estimating relationships from the information available in the variance-covariance matrix, as obtained from the measurement indicators. The use of multiple indicators is similar to a standard factor analysis, in which the multiple indicators are used to estimate the factor loadings onto a variable of interest, and a subset of components is used to summarise the relationships.

Although a just identified model can be useful in obtaining estimates of parameters, Davis (1993) avers that models that are just identified yield a trivially perfect overall fit which does not provide true evidence of the model's strength or goodness. On the other hand, models that are over identified will theoretically fit less well, hence a good fit from such a model provides meaningful evidence in favour of the proposition that the model is a reasonable representation of the phenomenon in question.

An important aspect of SEM is the fixing or constraining of model parameters. While this is uncommon in more familiar branches of statistics, it is essential to have this capability in SEM in order to create models that are identifiable as well as to be able to create nested models that can be compared with one another (Smith et al., 2009). In a multi-indicator measurement model, at least one indicator should be identified (that is, constrained) or assigned a fixed loading of

"one" onto the underlying construct, in order to make the model over identified. The indicator with a fixed loading is called a marker variable. In the present research, the standard approach for achieving identification through parameter constraints was applied, with the selected marker variable based on the highest loading item as was identified in the initial factor analysis. In addition to the objective of identification, because a latent variable does not have a scale of its own, it needs to be assigned one by either constraining its variance (usually to 1) or through the constraint that is applied to the marker variable (usually 1) (Teo, 2011).

3.7.7 Benefit of Multiple Indicator Latent Variables

The main benefit of using latent variables with multiple indicators is that because most social concepts are complex and multifaceted, using single measures to capture them will not adequately cover their full conceptual map (Davis, 1993, Byrne, 2010). In addition, a single measure of a social abstract construct will inadvertently attenuate systematic error and stochastic error in the model (Smith et al., 2009). Systematic error biases descriptive and relationship inferences; stochastic error leaves estimates unbiased but less efficient in dependent variables and attenuates associational effect sizes and estimates in independent variables. In the present research, at least three items were retained per construct in both the independent and dependent variables.

3.7.8 Notation and Symbols

A structural equation model contains standard symbols in the path diagram, although these are not mandatory. However, because they are conventional and easily identified by SEM users, the symbols in Figure 3.9 are used in this research following existing convention in the literature (for example in Byrne 2010; Teo, 2011).
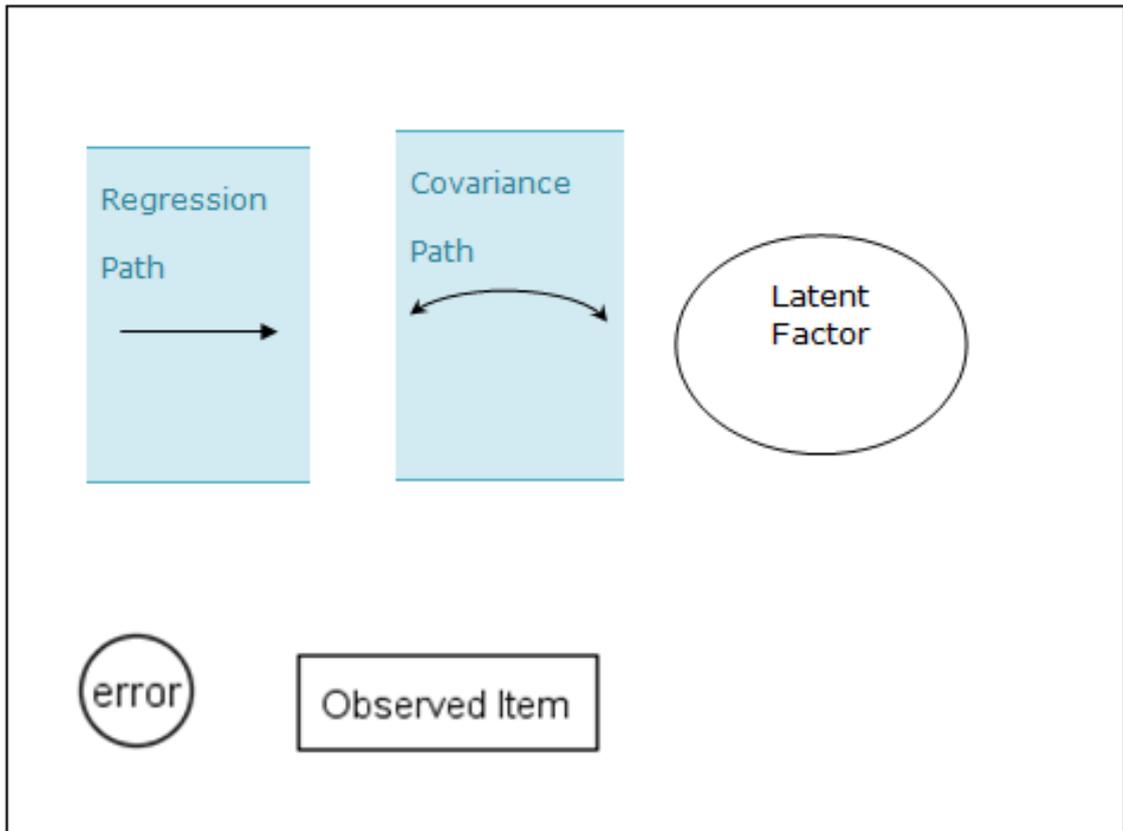
Figure 3.9: Conventional symbols in structural equation modelling (based on Byrne, 2010)

3.7.9 Variance-Covariance Matrix

SEM does not analyse the raw data directly but instead converts the data into a variance-covariance matrix of the observed variables, which is essentially a table of variances and multi-item correlations. By converting the observations into a variance-covariance matrix, the data is summarised into a simpler underlying structure (the observed matrix) which is compared to estimated parameters of an implied variance-covariance matrix based on the a priori specification of a structural model. The comparison of the implied and observed matrices shows whether the observed data fits very well to the implied model, and therefore whether the model should be accepted or rejected as fitting the data. The actual estimation of the model is done using one of a number of methods.

3.7.10 Methods of Estimation

Predominantly, SEM estimation is done using a method known as Maximum Likelihood. Byrne (2010) describes this as a method of estimating population parameters by maximising the likelihood (L) of a sample, where L is a mathematical function based on joint probability of continuous sample observations. Maximum Likelihood is asymptotically unbiased and efficient, assuming multivariate normal data. However, if the assumption of normality is violated, then this method is not appropriate and will produce spurious results that are either overstated or understated. In this case, there are alternatives for estimating model parameters in SEM which do not require the assumption restriction that the data be multivariate normal. These are:

- Generalised Least Squares
- Weighted Least Squares, and
- Markov Chain Monte Carlo

In this research, deliberate attempts were made at the design planning and implementation stages to ensure that data collected would be representative of the population and in general be normally distributed. Data normality was tested using Mardia's test for multivariate normality (cf. Bera and John, 1983). In addition, Q-Q plots of data were examined for visual verification of continuous variable normality (Appendix 4). As there were no issues with normality of the data, Maximum Likelihood was utilised for estimation.

3.7.11 Global Model Fit

One of the advantages of modelling data in SEM is that an overall fit of a model can be obtained. That is, it is possible to obtain an acceptance criterion of a model's fitness with the data for which it is hypothesised to represent. This, in addition to the significance and power of individual parameters, provides more information to the researcher than non-SEM techniques of analysis. Once the overall model is fit, this can then be appropriately compared across groups to check it for generalisability. The model can also be compared to alternative or competing models based on the theoretical justification. Model fit is assessed using a number of indices, and following the recommendations of Bollen and

Long (1993), a variety of global fit indices were utilised to test the model in this research. These included indices of absolute fit and indices of comparative fit.

3.7.12 Nested Models

The estimation of overall model fit involves nested models theory which can best be described as follows (Smith et al., 2009):

Two models, A and B, are said to be nested when A = B + parameter restrictions (constraints). For example,

Model B: yi = a + b1X1 + b2X2 + ei

Model A: yi = a+ b1X1 + b2X2 + ei (constraints: b1 = b2)

Model A is nested in B

But the following (model C) is not nested in B,

Model C: yi = a + b1X1 + b2Z2 + ei

Hence to determine model fit, based on (log) likelihood of models, where A is nested in B:

$$LL_A - LL_B = \chi^2, \text{ with } df_A - df_B$$

Where probability of χ^2 > 0.05, the more parsimonious model, A, is preferred.

Where B = observed matrix, then there is no difference between the observed and implied matrix; hence it can be accepted that the model fits.

Therefore the model fit test is of the difference between model-implied relative to the baseline model matrices, and this is an important distinction in SEM; because whereas significant χ^2 is to be desired in other statistical techniques, in SEM a model with overall significant p value for the χ^2 implies poor fit, as it shows that the likelihood of the baseline model is significantly different from the theoretical model.

3.7.13 Model Fit Indices

However, the chi-square significance test is an absolute fit index and is highly sensitive to sample size: larger samples produce larger chi-squares that are more likely to be significant (Type I error); small samples may be too likely to accept poor models (Type II error). Therefore the larger the sample size, the less likely it is to obtain model fit based on Chi square significance, and sample sizes larger than 200 are particularly likely to produce unacceptable Chi square fits, even when the fit of the data to the model is good (Schreiber, 2008). Chi-square and other absolute fit indices do not use an alternative model as a base for comparison. They are simply derived from the fit of the obtained and implied covariance matrices and the Maximum Likelihood minimization function. Chi-square is the original fit index for structural models because it is derived directly from the fit function [f_{ML}(N-1)]. However, Chi-square and the degrees of freedom are expected to be reported but are not typically used to justify the fit of the data to the model because of the sample size effect on chi square value and significance, as discussed above.

Other examples of absolute fit indices include goodness-of-fit index (GFI), Akaike's Information Criterion (AIC) and the root mean square residual (RMR). There are various recommendations as to which index to be used and what the cutoff points for model acceptance should be. However, in practice a combination of indices is produced to support the acceptance or rejection of the model (cf. Hu and Bentler, 1999).

Different indices of fit have been recommended and used by various researchers (cf. Bollen and Long, 1993; Tanaka, 1993, Murayama, 1998) in combination with indices of absolute fit, including chi-square, because they estimate approximate fit rather than absolute fit, and are less susceptible to sample size sensitive. Some of the most commonly used indices are described below.

- CMIN/DF: the minimum discrepancy $\hat{C}$ divided by its degree of freedom (that is $\frac{\hat{C}}{d}$). Several SEM researchers have suggested the use of this ratio as a measure of fit, and as a result it is commonly used as an alternative to absolute chi square fit where the sample size is large. For maximum likelihood estimation, the ratio should be close to 1 for correct models.

Although it is not clear how far from 1 the ratio should be before a model is considered unacceptable, research experience has led to the following recommendations. Wheaton et al. (1977) suggested a ratio of approximately 5 or less as beginning to be reasonable; Carmines and McIver (1981) suggested ratios in the range of 2 to 1 or 3 to 1 as being indicative of an acceptable fit between the hypothetical model and the sample data; and Byrne (2010) suggested a more conservative and strict ratio of not greater than 2 for acceptable fit, where CMIN is the minimum value Ĉ of the model discrepancy C.

- Comparative Fit Index (CFI): compares fit of baseline model (independence model) with theoretical research model. CFI > 0.95 indicates good approximate fit (Bollen and Long, 1993). CFI is based on the non-centrality parameter which tests the alternative hypothesis H_a, as opposed to centrality theory which tests H_o, the null hypothesis.

- Root Mean Square Error of Approximation (RMSEA): minimum discrepancy adjusted for model complexity which penalises model complexity by computing error per degree of freedom. Generally, RMSEA of < 0.05 indicates good approximate fit, although Hu and Bentler (1999) suggest that combined values of CFI ≥ .95 and RMSEA ≤ .6 be used to determine approximate model fit, while Bollen and Long (1993) suggest that RMSEA should be less than .08 to declare satisfactory fit. RMSEA is also based on a non-centrality theory.

- Root Mean Square Residual (RMR): Like the chi-square, RMR is an absolute fit index and is a variation on the chi-square statistic. It is the square root of the average squared amount by which the sample variance and covariance differ from their estimates obtained under the assumption that the research model is correct. It is recommended that RMR should be < .08 for good models (Hu and Bentler, 1999).

- Tucker-Lewis Index: This is a base line comparison index utilising the Tucker-Lewis coefficient P_2 (Kline, 2005). The typical range for the TLI lies between 0 and 1, but is not limited to that range. The closer to 1 the index is, the more indicative is the model's fit.

- Goodness of Fit Index (GFI): should be about to .90 for acceptable fit and above .95 for very good fit. It was originally derived by Joreskog and

Sorbom (1979) for maximum likelihood and unweighted least square estimation. GFI is always less than or equal to 1.

In this research, the sample size was relatively large (306 cases), warranting that model fit be assessed based on both absolute fit and comparative fit indices. Given the documented problems with large sample sizes and chi-square, it was decided a priori that chi-square significance would be obtained but would not be the absolute basis for model acceptance or rejection. Instead, to determine fit a robust combination of the discrepancy-to-degrees of freedom ratio (CMIN/DF), RMR and GFI was used to estimate absolute fit; in addition RMSEA, CFI and TLI were used to estimate comparative fit. The combined use of these estimates was deemed sufficient to provide substantive evidence of model fit based on historic antecedent. In addition, the full range of available indices and estimates for assessing fit for maximum likelihood estimations is reported in Appendix 5 and 7 for the measurement and research model results respectively.

In addition to the global fit indices, more focused tests of fit were pursued, including an examination of the standardised residual covariances to determine that they were within the accepted range of -2.00 and 2.00 (Schreiber, 2008), and the examination of parameter estimates for potential Heywood (overestimated, spurious correlation) cases. These checks did not reveal any problematic data.

3.7.14 Measurement Model and Structural Model

There are two main aspects of a structural equation model. These are the measurement model and the structural model (Smith et al., 2009). In simple terms, the measurement part of a SEM models the relationships between constructs and their measured or observed indicators, whereas the structural part of the SEM models the relationship between these constructs. In analysing SEM, the measurement model is first estimated using a confirmatory factor analysis (CFA) approach, and once this is seen to be fit and acceptable, the structural model is then estimated using the constructs that have been accepted from the measurement model.

The **confirmatory factor analysis** approach in SEM measurement analysis is different from traditional exploratory factor analysis (EFA) in several ways, but the most important two are:

- An EFA finds a set of factor loadings that most closely reproduce observed covariances, whereas a CFA confirms a measurement model that has been specified a priori.
- In EFA, all variables are modelled to relate to all factors before the "best fitting" variables are found; in CFA specific variables are modelled to underlie specific observed items (indicators).

Compared to CFA, EFA may be argued to be limited because it is inductive and atheoretical - it relies on subjective judgement and heuristic decision rules about which items relate to which constructs (for example eigenvalues, scree plots). But in practice, it is common to start with a prior theory about how indicators are related to particular latent variables, and to test this theory against sample data (Smith et al., 2009).

In this research, a CFA approach was adopted in analysing and estimating the measurement part of the SEM, with parameter constraints applied according to convention in SEM: factor loadings were fixed to zero for indicators that did not measure the factor; some parameters were constrained to enable model identification and to assign scales to the latent variables; and the measurement theoretic model, expressed in form of the constraints so placed, was tested on the basis of the probability of the observed data, given the model.

3.7.15 Modifications

In SEM, it is possible to modify a non-fitting or poorly fitting model using modification indices that are suggested post-estimation. There are two streams of thought on the subject of model modification in structural equation modelling. On the one hand, some researchers believe that a priori models based on theoretical justifications should not be modified in any way at all and should be rejected outright if they are not empirically confirmed by the data; on the other hand, several researchers are of the opinion that even in confirmatory analysis, some modifications can be justified and should be undertaken to improve the model insofar as there is post-hoc theoretical justification in doing so (Smith et

al., 2009). For example, a common reason for poor model fit can be unmodelled covariance between error variances, given that the error variance of an observed variable captures random error plus the effects of all unmeasured variables (Teo, 2011). When the same unmeasured variables influence different indicator variables, their error variance will be correlated. In many instances, modifications relating to error correlations and constraints for scaling purposes only result in trivial or unimportant corresponding alteration of the model's substantive meaning, and are therefore easily undertaken with little or no loss of theoretical consistency. Furthermore, correlating the residuals in SEM is justified theoretically if one can validly anticipate variables outside of the theoretical system that can serve as common causes of the constructs in question. For example in this research, some questionnaire items (latent variable indicators) were directly opposite to, or closely complementary of, each other, creating inherent correlations.

The error correlations in a multivariate design are not always possible to predict prior to testing the model with data. In some cases where error terms were not originally correlated, the SEM results suggested that they should be correlated. Therefore, wherever a post-hoc solution revealed a large correlation between residuals, these were examined for their theoretical balance and a modification accepted or rejected on this basis. Error covariance was however allowed only within residuals in a single variable system and not across variables.

Another type of modification does not relate to error covariance or item variance constraint but rather to model trimming, whereby non-significant paths are removed from the model in order to improve its fit, or re-specification, whereby paths are added to the model for the same purpose (Byrne, 2010). While trimming and re-specification to obtain superior model fit is common in exploratory model searches, it is not advisable to do so in a confirmatory study without first considering the theoretical and conceptual implications of doing this, mainly that any time a model is modified in this manner, there is an implicit and fundamental change of meaning (Smith et al., 2009). A second disadvantage with trimming or re-specifying the structural model in a confirmatory study is that such modification relies on the empirical data rather than the theory, making it less likely to replicate in new samples of data (Reilly, 1995). In this

research, model trimming and respecification were not undertaken, nor were they required.

3.8 CHAPTER SUMMARY

This chapter has discussed the research approach and design employed in this study. First an in-depth discussion of various philosophies and paradigms was made in order to provide clear rationale for the chosen methods and techniques to be applied to this research. Based on the objectives of the research, the cross sectional survey design was identified as the best means of obtaining primary data, following a comprehensive review of the literature to derive a strong theoretical underpinning and formulate a conceptually strong model for the study. Having provided the basis for the philosophy, study approach and methods adopted for this research in the first part of the chapter, details of the actual research methods and implementation were given in the second part, including population definition, sample plan and sample, questionnaire conception, design and implementation, and data collection.

The research was designed to support the objective of providing general understanding of consumers' behaviour in online shopping. For this reason it was important that a focus on particular products or product categories should be avoided. As discussed in section 3.5.3, respondents were clearly instructed to consider any product purchase when thinking of behaviour in online shopping. However to avoid extremities and outlier situations in which behaviour might be out of the norm, respondents were asked to consider average purchases (that is, low to mid range purchase values) as the context of the research.

In the next chapter, a description and analysis of the results obtained are presented. The analysis were undertaken by primarily utilising structural equation modelling (SEM) techniques; however, other statistical tools were applied as appropriate to provide additional corroboration and verification, as well as to ensure that all aspects of the results were comprehensible to the reader.

CHAPTER FOUR

RESULTS

4.0 INTRODUCTION

This chapter presents an analysis of the data that was collected using an online survey questionnaire. The analysis is generally presented following the steps of quantitative analysis popularised by Creswell and Plano Clark (2007). Firstly, the data is prepared and cleaned using the popular data handling software IBM SPSS. This exercise helps to transform the data from questionnaire codes to meaningful codes for the purpose of the research, while questions are truncated for the purpose of presentation clarity. The LimeSurvey questionnaire software utilised for this survey is capable of exporting the data in a formatted manner to SPSS, however it was still necessary for the researcher to scan and in some cases, modify the pre-coded data to facilitate decoding. Secondly, a general overview, incorporating visual scanning of the data was made possible by summarising the variables using SPSS. Thirdly, a descriptive analysis of respondents' profiles was undertaken using the publicly available visualisation software Tableau. The usefulness of a descriptive profile analysis is that it introduces the reader to the sample, and provides the background frame within which the overall research results can be understood. Following the descriptive analysis, the next step was initial statistical checks on the data for the purposes of checking reliability, validity, distribution normality and analysis of missing data. This step of the research is necessary for the purposes of providing fidelity and quality assurance of the data.

The above was then followed by preliminary exploration of the data through initial exploratory factor analysis. Although the objective of this research is not exploratory-factor analytical in nature, it is still useful to utilise such technique, for example through dimension reduction, to check for item suitability. The advantage of this is that some potential problems may be detected at this stage, which can greatly reduce effort during the main analysis.

Once preliminary checks, descriptive analysis and quality assurance analysis were concluded, it was then possible to proceed with structural equation analysis, including confirmatory factor analysis, overall model evaluation, hypotheses testing and the conclusion.

It is important to recall that there were 25 cases of missing data and these were excluded from the results in order to avoid any problems with estimations in SEM. An examination of the cases did not reveal any systematic patterns in the missing data cases.

4.1 PROFILE OF RESPONDENTS

This study utilised a powerful data visualisation tool to obtain the initial demographic descriptions of responses. Tableau Public is the free version of the powerful Tableau data visualisation software and is capable of performing the full analysis on a wide variety of data. Although Tableau can perform visualisations relating to analysis such as regressions and causations, it is particularly useful in general description of data in a visual form. In this research, the use of Tableau is focused on the demographic description of respondents and products they purchase online.

4.1.1 Geographic Distribution

Figure 4.1 compares the geographic distribution of responses to the areas sampled. A visual inspection of this comparison shows that responses were broadly spread across the sampled geographies and this spread is consistent with the population clusters in the UK. The highest percentage of responses was obtained from the South-east region of England, around the London area. The response rate for postcodes in this area accounted for about 10% of the total response.

There was also a high rate of responses in the Midland areas which accounted for about 8% of total response. On the other hand, the smallest number of responses was received from postcodes around the Perthshire area, with

responses representing less than 1% of total. This response distribution is reflective of the areas and geographies sampled.

The comparison in Figure 4.1 shows that responses were received from all areas sampled, although the number of responses received varied by region – with sparsely populated areas in Scotland and Northern Ireland returning fewer responses as expected.
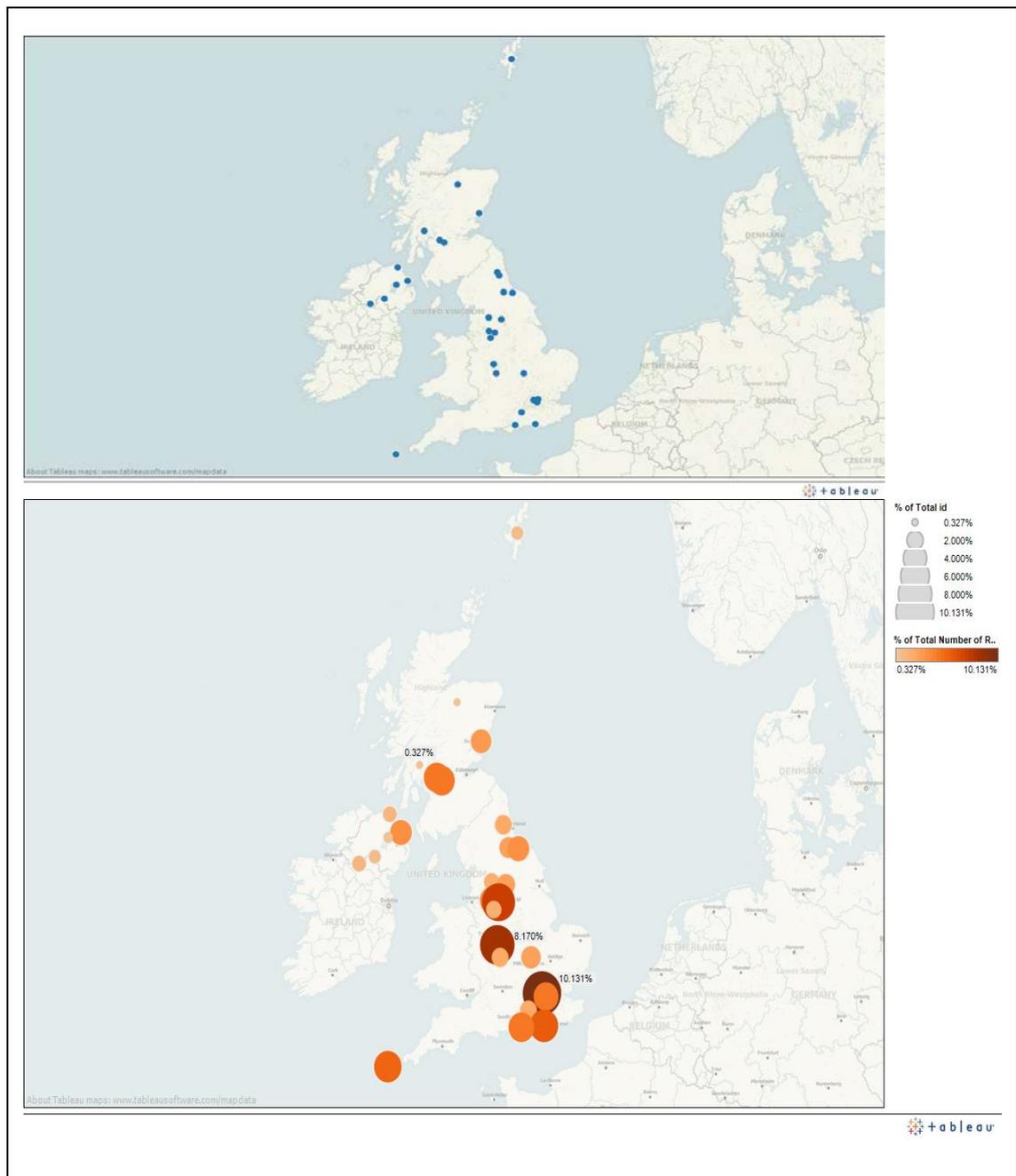
Figure 4.1: Comparison of sampled and response geographies

4.1.2 Demographic Distributions

Responses were received across a mix of demographics. Figure 4.2 shows how the final response sample is distributed across demographics, and it immediately becomes obvious that the highest number of responses was received from college and undergraduate qualified people, across age groups, employment, and gender.

Furthermore, Figure 4.3 shows that the highest single response group is employed females aged 28 to 37 years old with a college qualification (6.7%). The highest response cluster in terms of employment is full or part time employed across all demographic categories (Figure 4.4) and the highest response group in terms of age are 36-37 year old undergraduates (Figure 4.5).

Figure 4.2: Demographic classification of responses
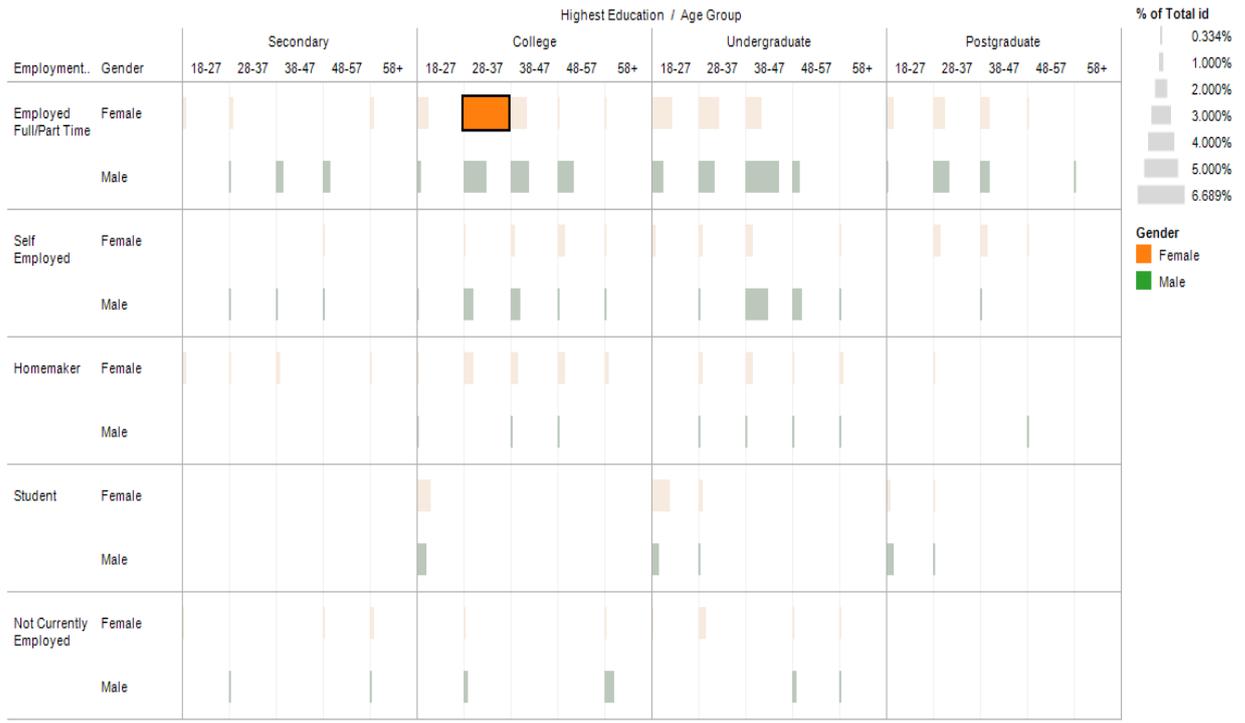
Figure 4.3: Highest response rate demographic
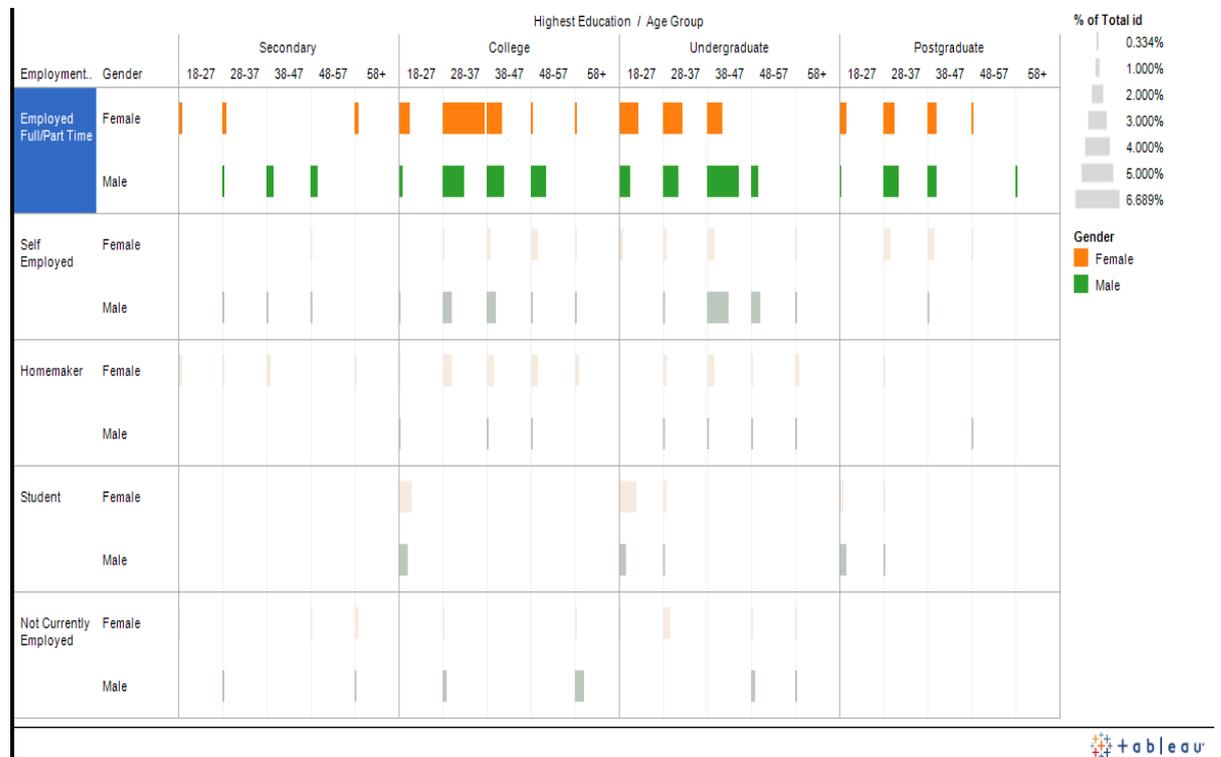
Figure 4.4: Highest demographic cohort

Figure 4.5: Highest number of responses by age group

In terms of general demographic composition, 53% of respondents are female and 47% are male (Figure 4.6); 9% have a secondary education, an equal 38% have college and undergraduate education, and 14% have a postgraduate education (Figure 4.7); 21% of respondents are aged between 18 and 27 years, 31% are aged 28 to 37 years, 28% are aged 38 to 47 years, 12% are aged 48 to 58 years, and 8% are aged over 58 years (Figure 4.8).

These results are generally in line with the ONS statistics for UK Internet shopping in 2011 which show that the main age group for online shopping is between ages 25 to 44 years. However there is a slight difference between the gender distribution obtained in this sample and the expected responses based on the ONS which show a higher usage percentage amongst men. Nevertheless, this discrepancy is minimal and is not considered material to the normality of the data.
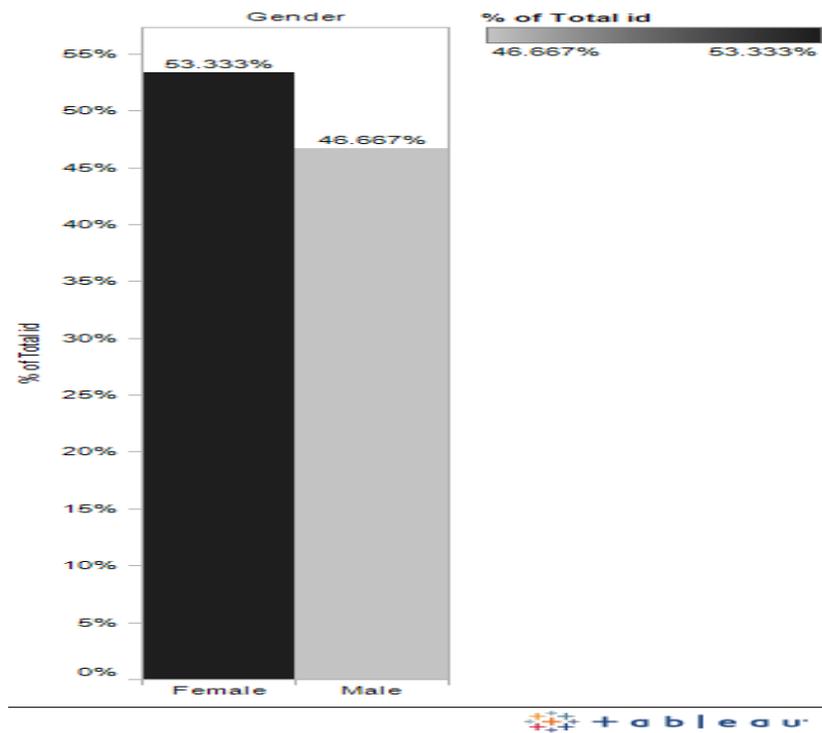
Figure 4.6: Gender profile
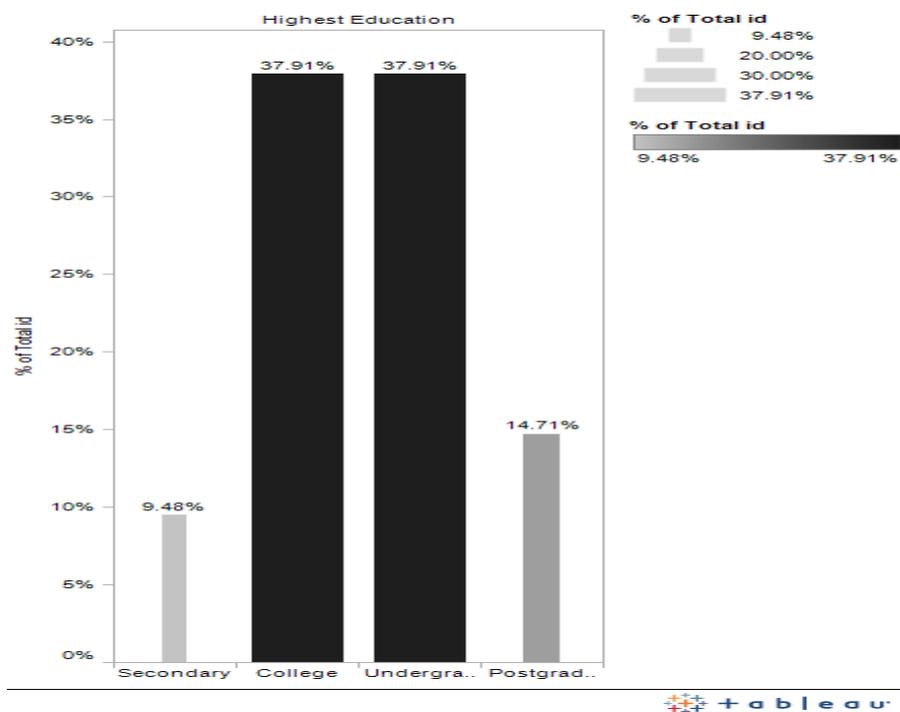
Figure 4.7: Education profile
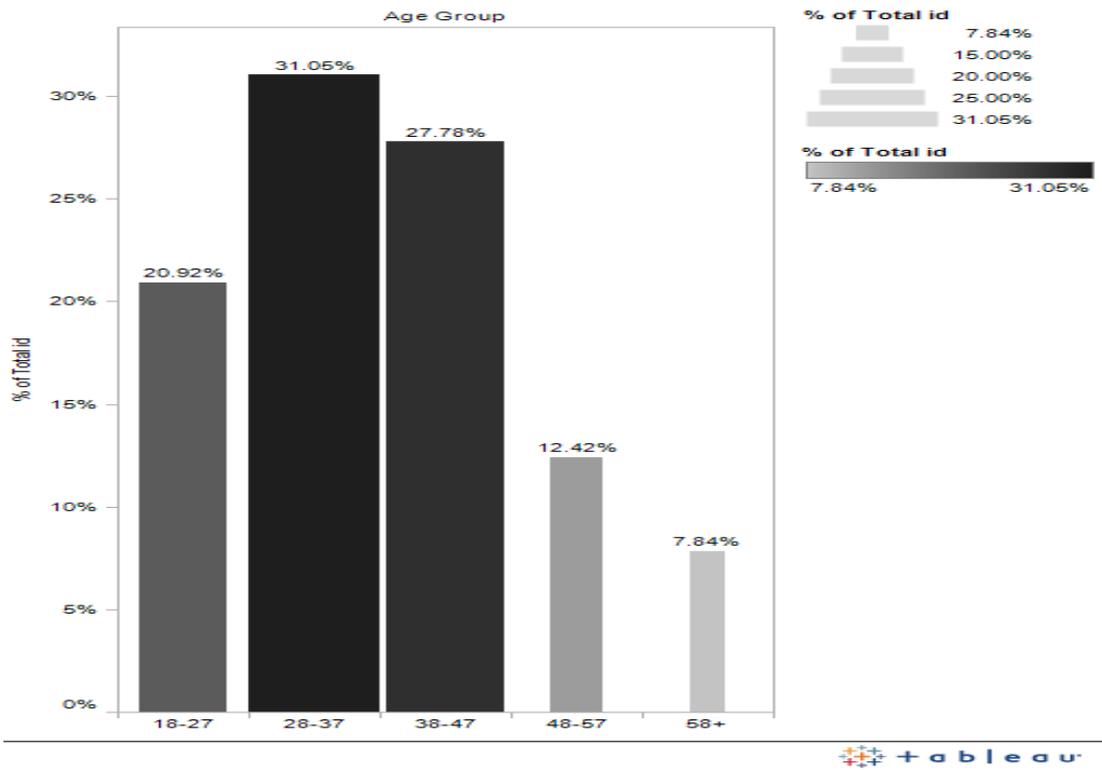
Figure 4.8: Age profile
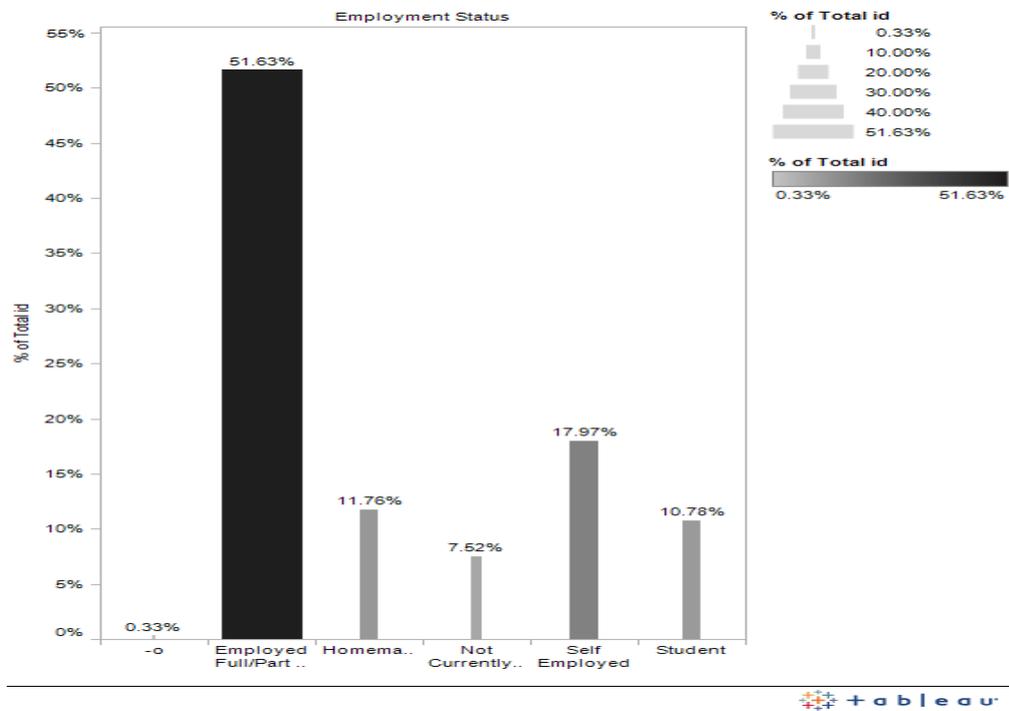
Figure 4.9: Employment status

4.1.3 Comparison of Key Demographic Variables

Online shopping experience, gender and items purchased online

A descriptive analysis of respondents' online shopping experience was undertaken, and compared to the frequency with which they purchased various items online. First, Figure 4.10 shows that most respondents to the present study had shopped online for more than five years, followed by those that had shopped for between one and three years. Only a small percentage of respondents had shopped online for less than one year.
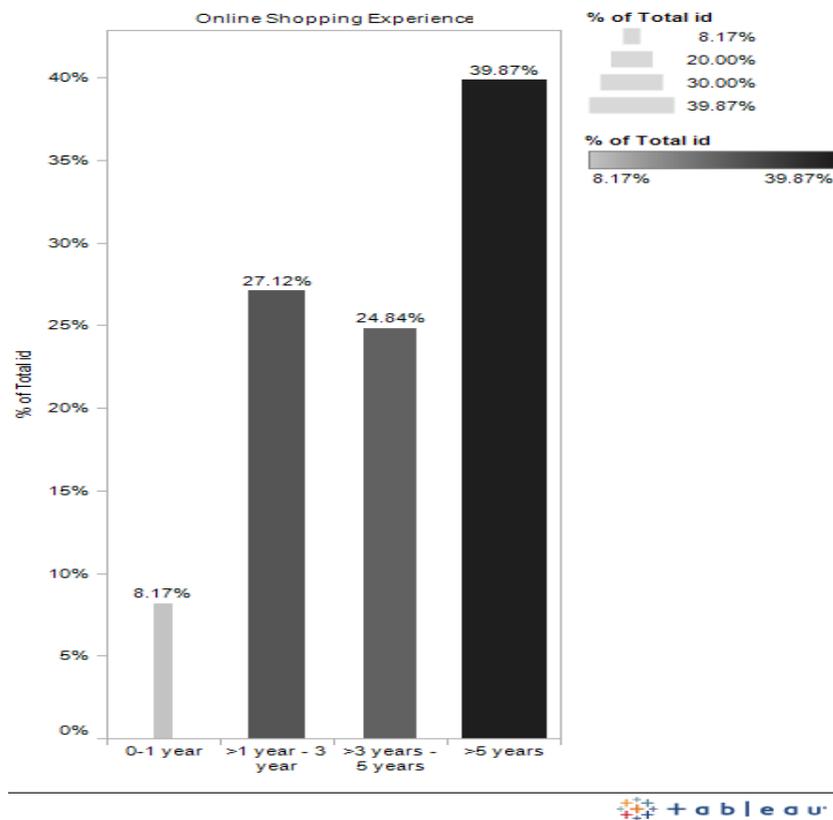
Figure 4.10: Breakdown of shopper by online experience

In general, it would appear that the more the years of online shopping experience, the more the frequency of online purchases. As Figure 4.11 also shows, the purchase frequency of those with one to three years' experience is below the overall purchase frequency average for the sample, while those with three to five years' experience have a higher average than the sample average,

and respondents with five years' experience and above had the highest average in the sample. Hence, an initial conclusion is that the more experienced the consumer is with online shopping, the more frequently they purchase products online.
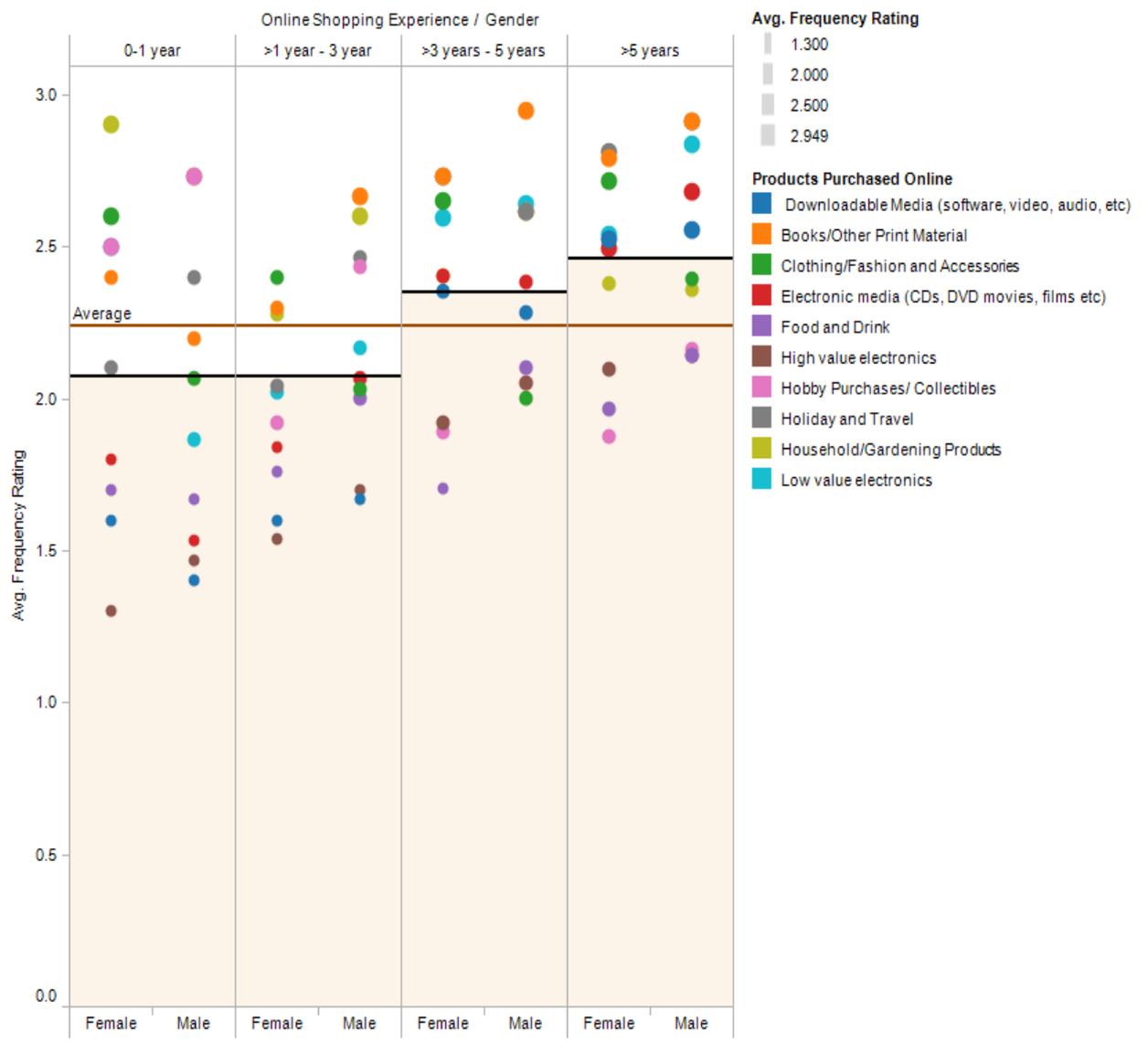
Figure 4.11: Online shopping experience and purchase behaviour by gender

Some products that appear to be particularly appealing to early users of online shopping are household and gardening products and hobby products or collectibles. With more experience however, books, electronics and clothing

appear to become more popular with online consumers. In general, food and drink products appear to be the least popular online category, and books and printed material appear to be the most popular product category across the experience spectrum. As Figures 4.12 and 4.13 shows, the purchase of food and drink is generally below the average for purchase frequency, even with more years of experience, while the purchase of books is consistently above average, even with fewer years of experience.
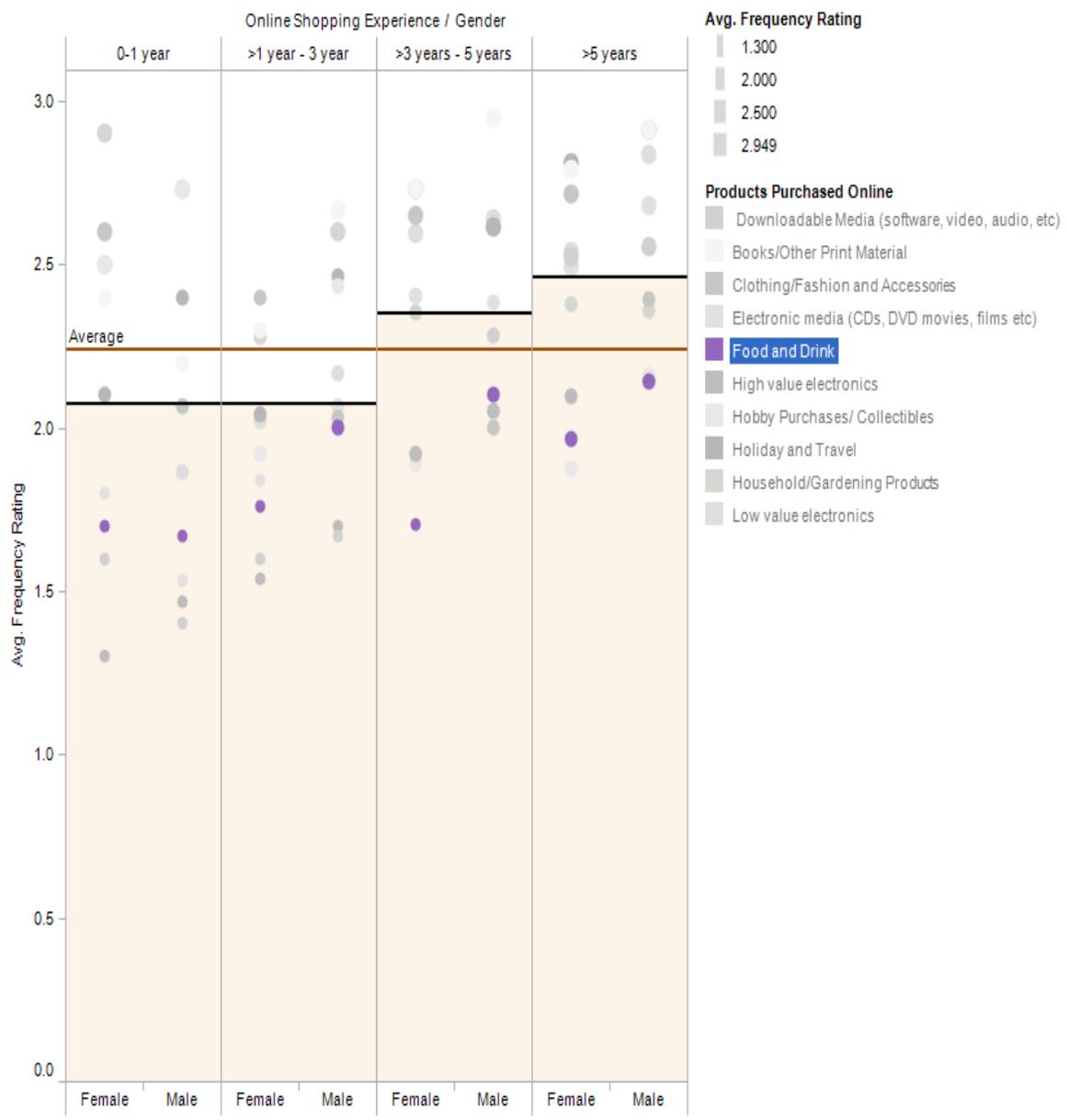
Figure 4.12: Food and drink purchases by experience and gender

In terms of gender, it would appear that the frequency of online purchases is generally higher for men than for women, but this difference has not been statistically established. However, there appear to be differences in terms of the popularity of some product categories. For example, men appear to be more willing to purchase food and drink products online than women (Figure 4.12); however women appear to be more willing to purchase clothing products online than men, as Figure 4.14 shows.

Figure 4.13: Book purchases by experience and gender
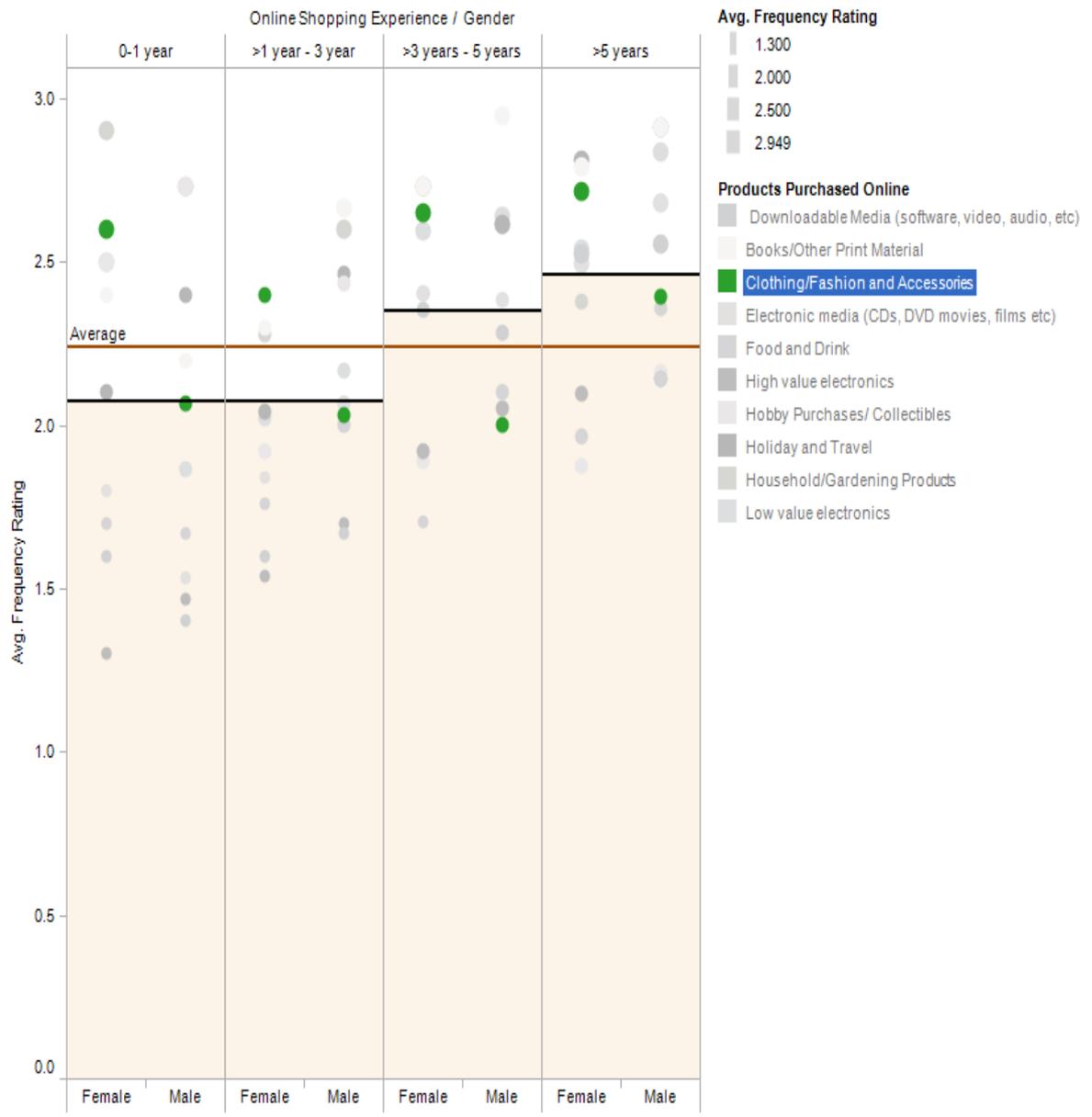
Figure 4.14: Clothing purchases by experience and gender

Finally Figures 4.15 and 4.16 summarise the dispersion of online shoppers according to the key demographic categories. In terms of the education-age-gender demography, undergraduate online shoppers appear to be the most loosely dispersed by age and gender while other education categories are tightly dispersed. Similarly, in terms of employment-age-gender, the employed online shopper group has the highest variability, compared to other groups in this demography.
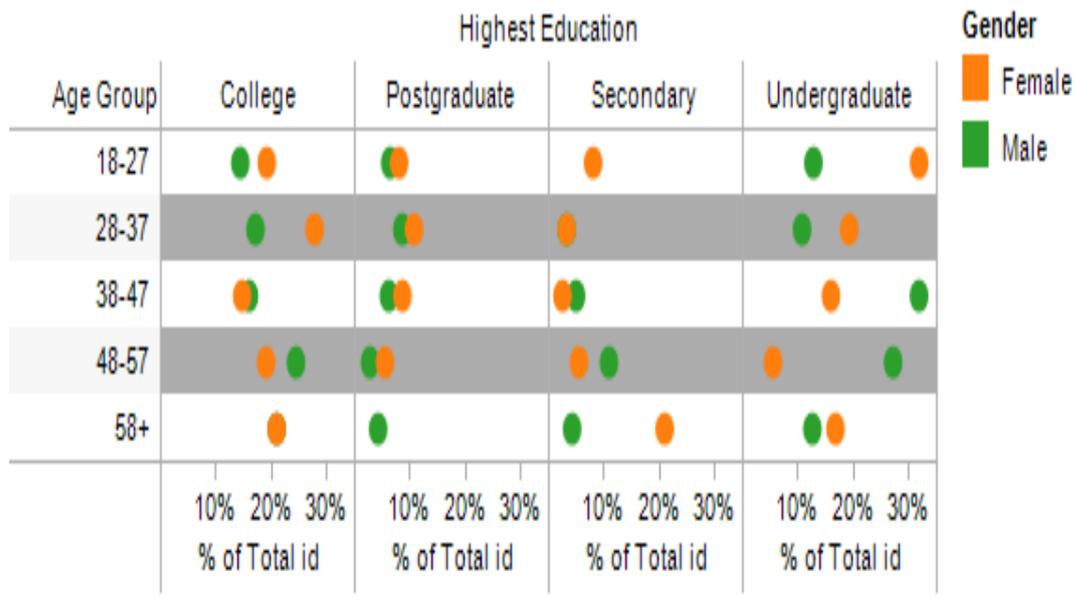
Figure 4.15: Dispersion by education-age-gender
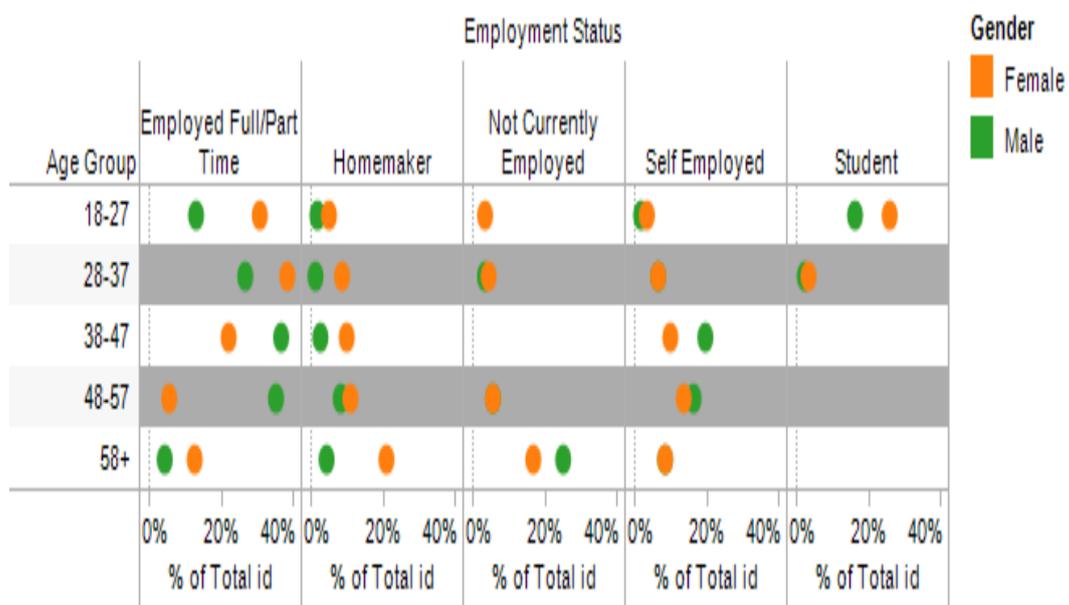
Figure 4.16: Dispersion by employment-age-gender

4.1.4 The Primary Predictor: Respondents' Regulatory Focus

Based on the previous literature on regulatory focus, a set of questions was utilised to establish respondents' regulatory focus dispositions, as detailed in the methodology chapter. There are two methods by which the RF subscale can be scored in order to categorise individuals into a regulatory focus group. These could be statistical or arithmetical in nature. By utilising both methods, it was possible to test the convergence of the scale as well as provide it with added validity and reliability. In the first instance, a cluster analysis was performed on the data to extract a visual composition of clusters based on scores. It was expected that if the scale actually measured prevention/ promotion focus, there would be two clusters derivable from the data. Figure 4.17 provides the results of a two-step cluster using SPSS, and this shows that two clusters can be obtained from the results of the regulatory focus scale. The quality of the cluster analysis is also tested and visually represented as a silhouette measure of cohesion and separation, that is, how well each cluster bonds internally and how well one cluster is distinct from the other. The cohesion/separation test shows good quality for two clusters (between 0.5 and 1.0).
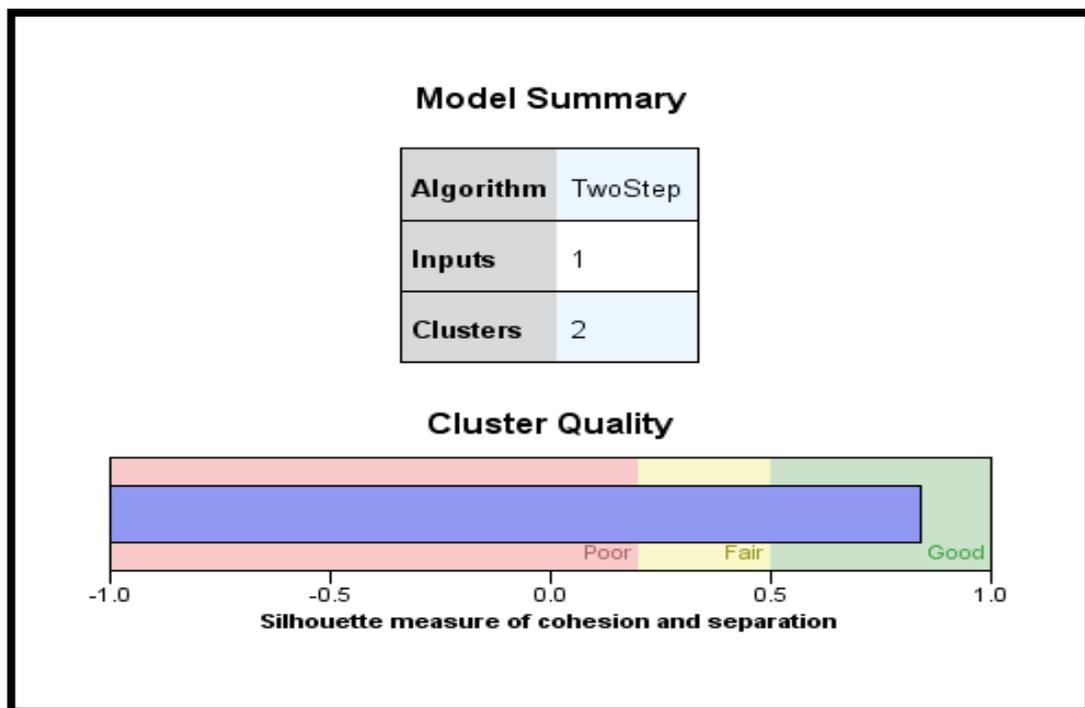
Figure 4.17: Regulatory focus clusters

Cluster details are summarised in Table 4.1. From the known direction of scores, Cluster 1 represents promotion focus (scores > 0), with 140 cases representing 47.7% of total response, and Cluster 2 represents prevention focus (scores ≤ 0), with 166 cases, representing 52.3% of total response.

RFGROUP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	146	47.7	47.7	47.7
	2.00	160	52.3	52.3	100.0
	Total	306	100.0	100.0	

Table 4.1: Summary of RF clusters

Table 4.2 gives a full breakdown of regulatory focus scale scores, an examination which indicates a double-bell shaped distribution curve, again pointing to the existence of two principal clusters from the data.

To facilitate robust evaluation of the data, some analysis were conducted using the categorical cluster variable while others were conducted using a continuous bipolar regulatory focus variable which utilised actual regulatory focus scale scores, as abridged in Table 4.2, which were first adjusted to be mean-centred for the purpose of eliminating potential outlier effects (Table 4.3) The distribution of these scores is visualised in Figure 4.18 and clearly shows two peaks representing the two group centroids (P1 for prevention focus and p2 for promotion focus).

RFSUMMED SCORE

		Frequency	Percent	Valid Percent	Cumulative Percent
	-13.00	1	.3	.3	.3
	-12.00	4	1.3	1.3	1.6
	-11.00	5	1.6	1.6	3.3
	-10.00	17	5.6	5.6	8.8
	-9.00	28	9.2	9.2	18.0
	-8.00	37	12.1	12.1	30.1
	-7.00	26	8.5	8.5	38.6
	-6.00	19	6.2	6.2	44.8
	-5.00	6	2.0	2.0	46.7
	-4.00	3	1.0	1.0	47.7
	2.00	6	2.0	2.0	56.2
	3.00	5	1.6	1.6	57.8
	4.00	3	1.0	1.0	58.8
	5.00	3	1.0	1.0	59.8
Valid	6.00	6	2.0	2.0	61.8
	7.00	5	1.6	1.6	63.4
	8.00	5	1.6	1.6	65.0
	9.00	7	2.3	2.3	67.3
	10.00	26	8.5	8.5	75.8
	11.00	29	9.5	9.5	85.3
	12.00	20	6.5	6.5	91.8
	13.00	17	5.6	5.6	97.4
	14.00	3	1.0	1.0	98.4
	15.00	3	1.0	1.0	99.3
	17.00	1	.3	.3	99.7
	18.00	1	.3	.3	100.0
	Total	306	100.0	100.0	

Table 4.2: Distribution of scores on RF scale

CENTRED_SCORE_RF

Score	Frequency
-13.66	1
-12.66	4
-11.66	5
-10.66	17
-9.66	28
-8.66	37
-7.66	26
-6.66	19
-5.66	6
-4.66	3
-3.66	3
-2.66	5
-1.66	4
-.66	2
.34	6
1.34	6
2.34	5
3.34	3
4.34	3
5.34	6
6.34	5
7.34	5
8.34	7
9.34	26
10.34	29
11.34	20
12.34	17
13.34	3
14.34	3
16.34	1
17.34	1

Table 4.3: Centred scores for RF

In the main, the descriptive analysis that follow were conducted utilising the categorical cluster membership, while the main analysis presented subsequently were undertaken using the continuous scale based on the research model proposed in Chapter 2. An advantage of using the bipolar continuous scores for the main analysis is that it minimises the effects of unequal sample-group sizes.

4.1.5 Unequal Sample Groups

It is common that when making comparisons in experimental samples or populations, researchers aim to achieve equal samples of the groups to be compared. But while this is common and pervasive practice, it is not necessarily essential. According to Schulz and Grimes (2002), this notion is a conceptual misunderstanding that can actually lead to biases as the investigator tries to force equality, especially if through unscientific means, for example by arbitrarily reducing one group's size or assigning unequal weights. They argue that in truly simple, unrestricted randomised trials, it should be expected that the sizes of the group should indicate random variation, and therefore some discrepancy between the numbers in the groups being compared should be expected. They argue further that the appeal of equal group sets in randomised trials (or surveys) is cosmetic, not scientific, and therefore forcing equal group sizes potentially harms the unpredictability of the study variables.

This diminished predictability can allow biases to creep into the study. They also aver that equal group sizes can lead to overly predictable results and outcomes. In particular, Schulz and Grimes (2002) recommend that with samples greater than 200, investigators should accept proportional disparities in group sizes and treat these as a characteristic of the random nature of the sampling. The present research adopts this approach, especially considering that the sample size allows the division of cases into two groups of 166 (prevention focus) and 140 (promotion focus).
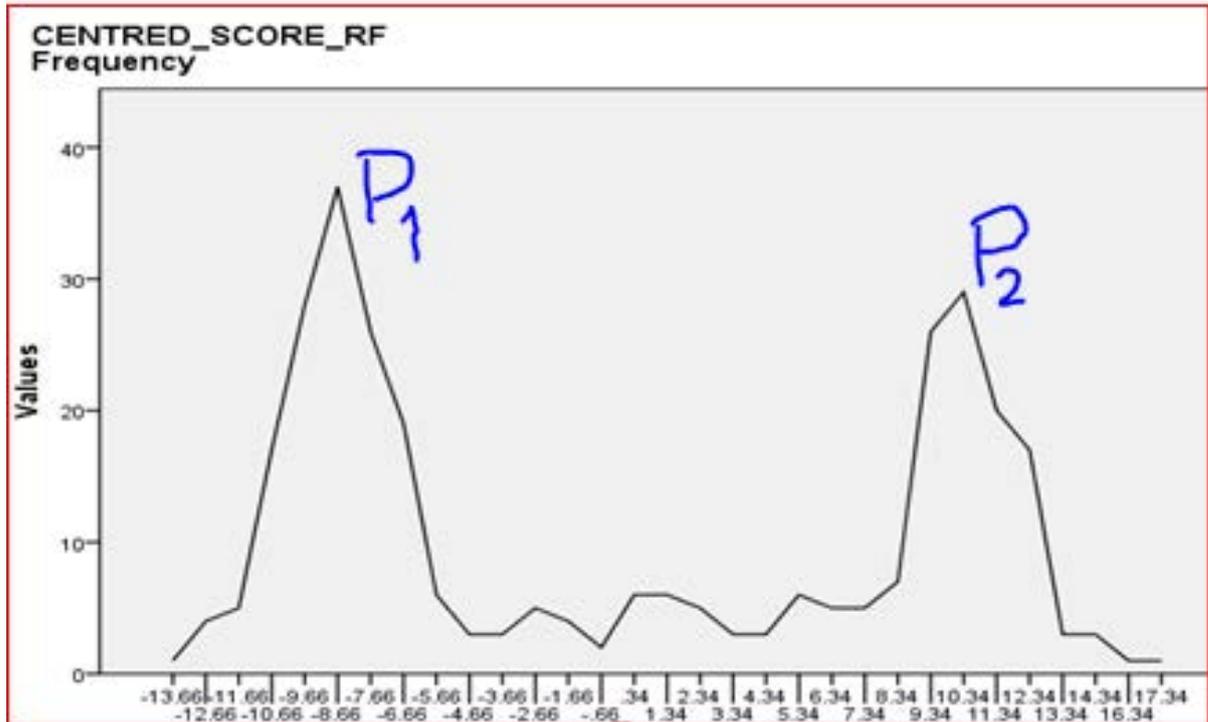
Figure 4.18: Cluster peaks for regulatory focus

On the basis of these sizes, each group in the sample can be independently assessed using structural equations, since this requires a sample of between 100 and 120. The breakdown of data was therefore considered acceptable for the purposes of this research. Furthermore, because the structural analysis was conducted using raw scores on a bipolar scale and not a grouping variable, comparison of parameter movements rather than group differences was the most important consideration, which consequently minimised the effects of unequal groups on the analysis and results.

4.1.6 Regulatory Focus across Gender and Age Groups

The main predictor variable in the current research is the consumer's regulatory focus. It was therefore important to undertake preliminary analysis to classify respondents according to one regulatory foci or the other. This analysis is important because it can help to establish from the outset whether there are enough cases for promotion and prevention focus to enable useful and acceptable comparisons for the purpose of the stated research objectives. Respondents were scored on their regulatory focus scale responses and based on

a median split, were categorised into promotion (higher scores) and prevention (lower score) focus. The two groups were then initially compared in terms of their demographic compositions, in order to establish any possible differences that could prove significant to the outcomes of the research.

Figure 4.19 shows the aggregated distribution of responses across the two regulatory focus groups, based on age and gender. A visual examination of the standard deviation bandings (deep shades) shows that respondents in the promotion and prevention focus groups were generally well matched across all age groups and gender. Further comparisons can be made using Figures 4.20 to 4.24, with the relevant category for comparison highlighted in colour.
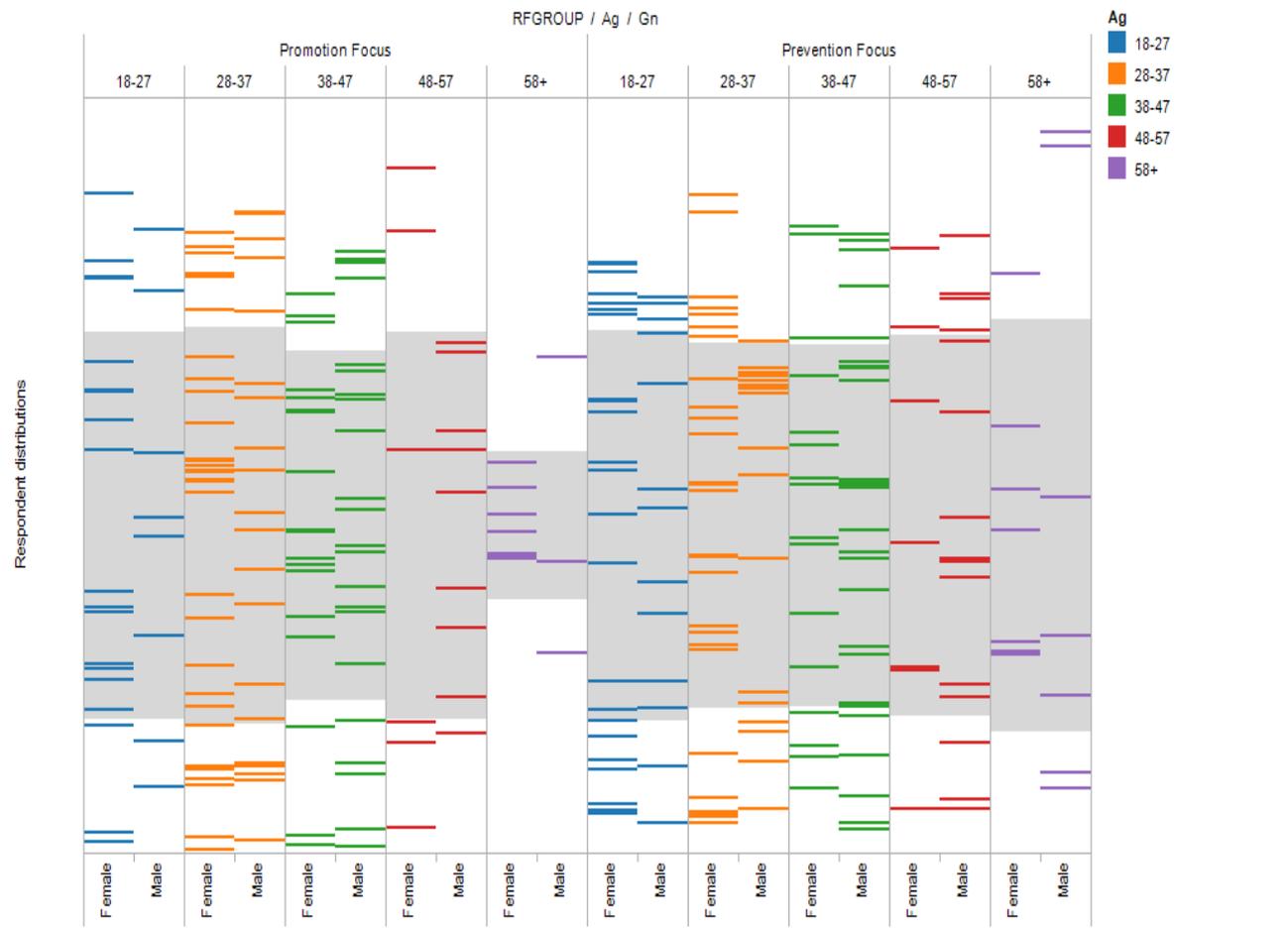
Figure 4.19: Distribution of responses by regulatory focus cluster
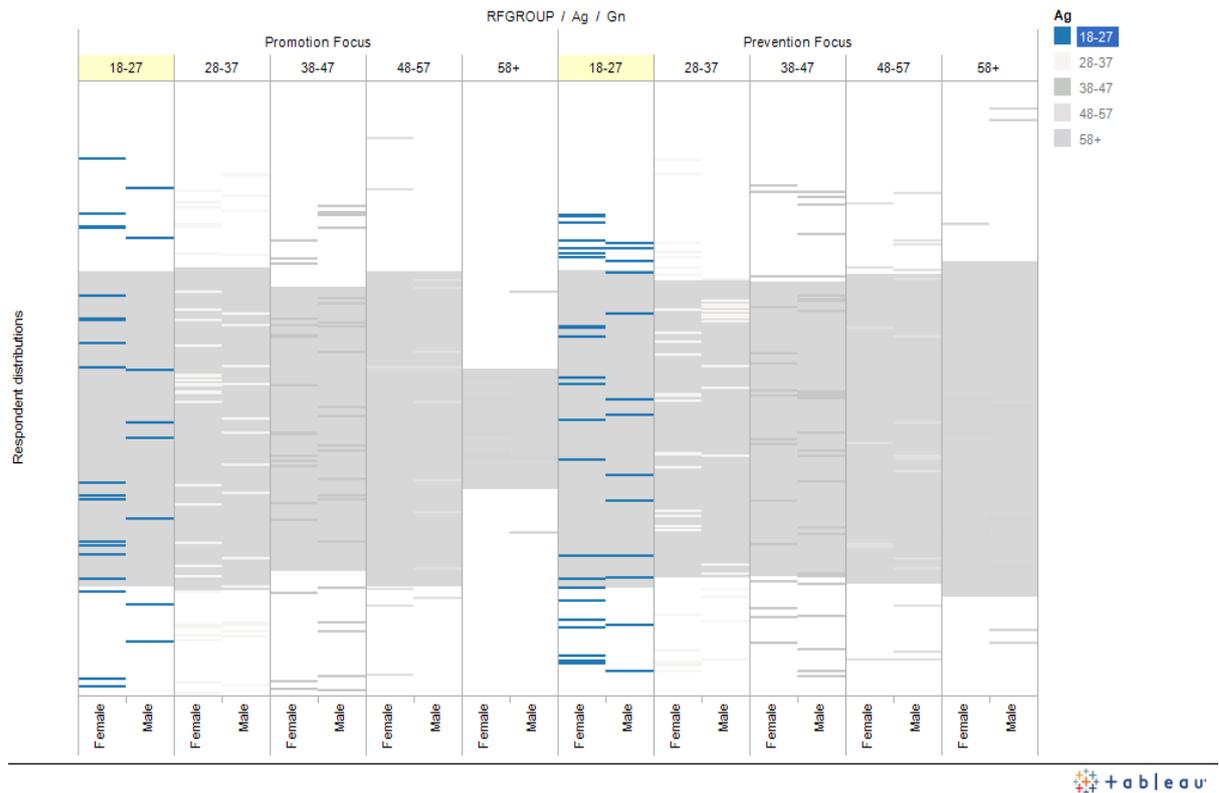
Figure 4.20: Regulatory focus comparisons by age bands – 18-27

In Figure 4.24, there is an apparent dissimilarity in the regulatory focus group distribution for the 58+ age group. It would appear that beyond the age of 58 years, most respondents to the study were of a prevention focus disposition. If this result is a general reflection of the overall population, then a preliminary inference may be drawn to the effect that there is a critical age after which in general people are more prevention focused than promotion focused.
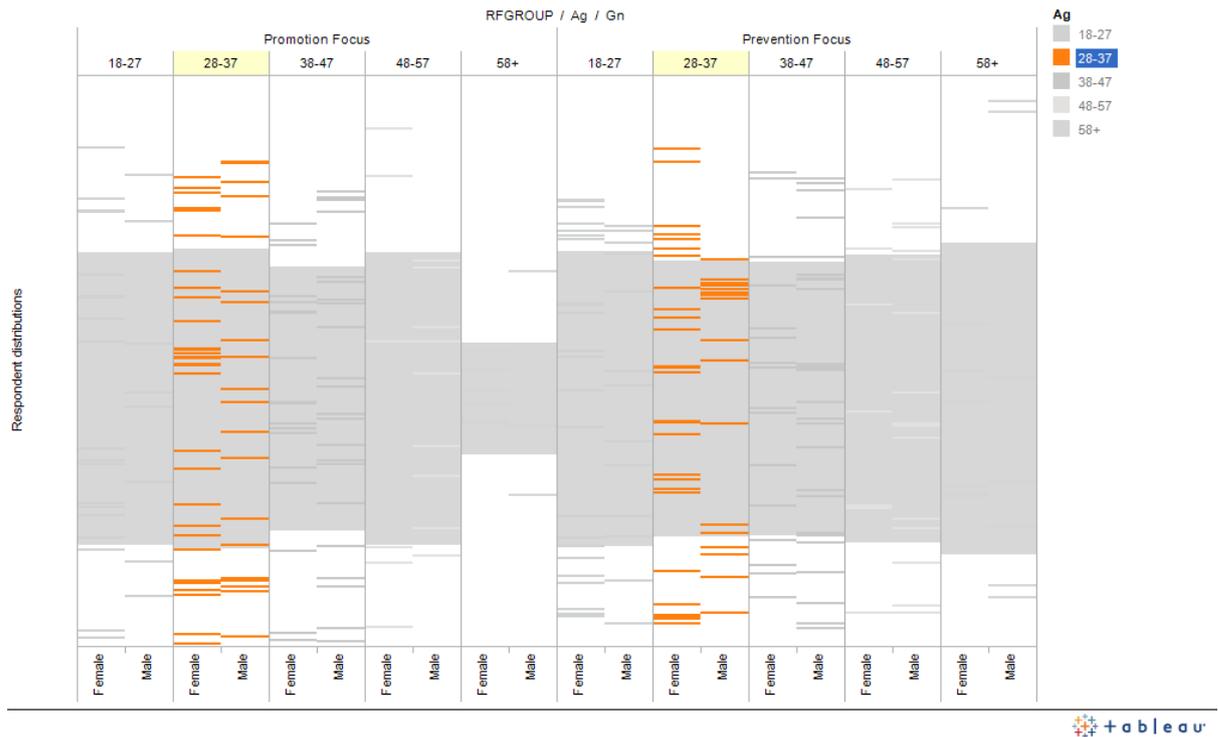
Figure 4.21: Regulatory focus comparisons by age bands – 28-37

These distributions suggest that regulatory focus orientation may, at least in part, be a function of age. But this suggestion cannot be investigated in this study as it is not part of the present focus or objective; however it is interesting and may warrant further study. The difference in regulatory focus distribution at this age group is also not considered relevant or instrumental to the current research analysis because the number of respondents in this age group represents only a small percentage of the total sample (7.8%) and was therefore not expected to be overly influential on the results.

Figure 4.22: Regulatory focus comparisons by age bands – 38-47
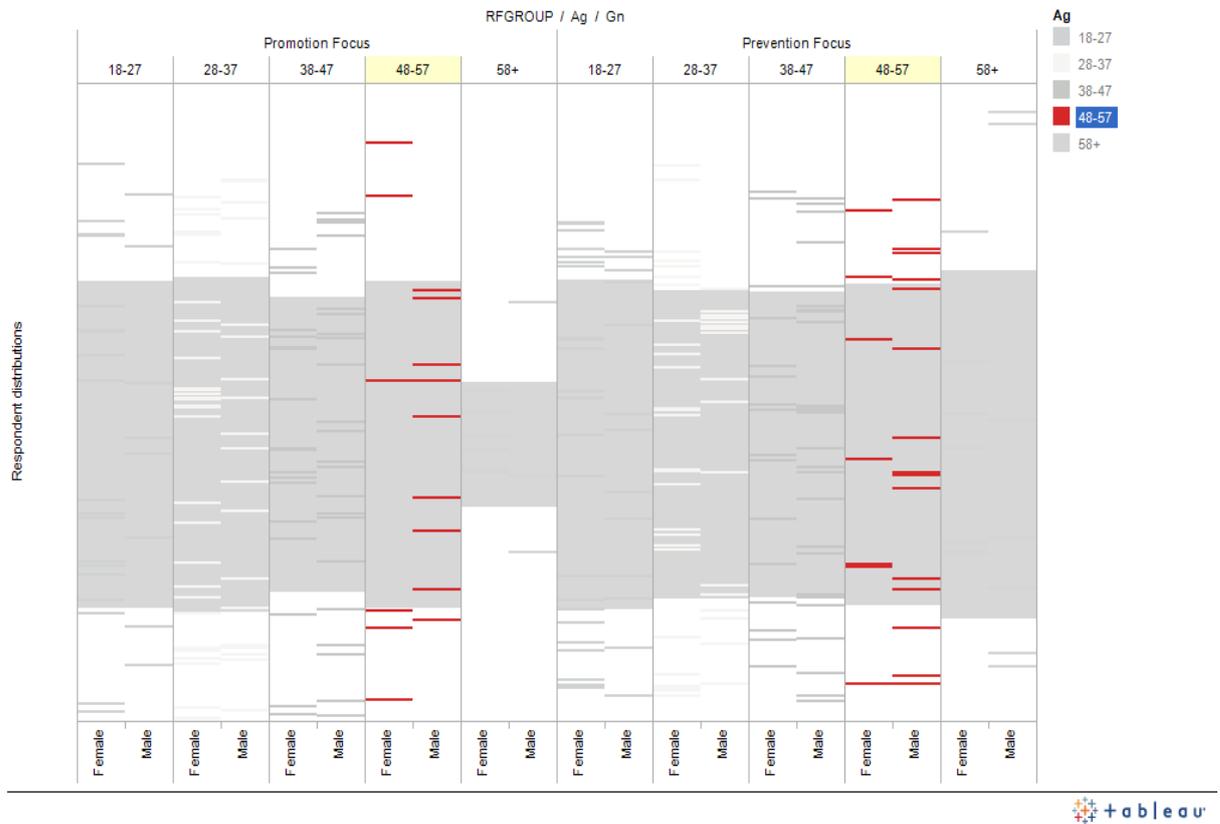
Figure 4.23: Regulatory focus comparisons by age bands – 48-57
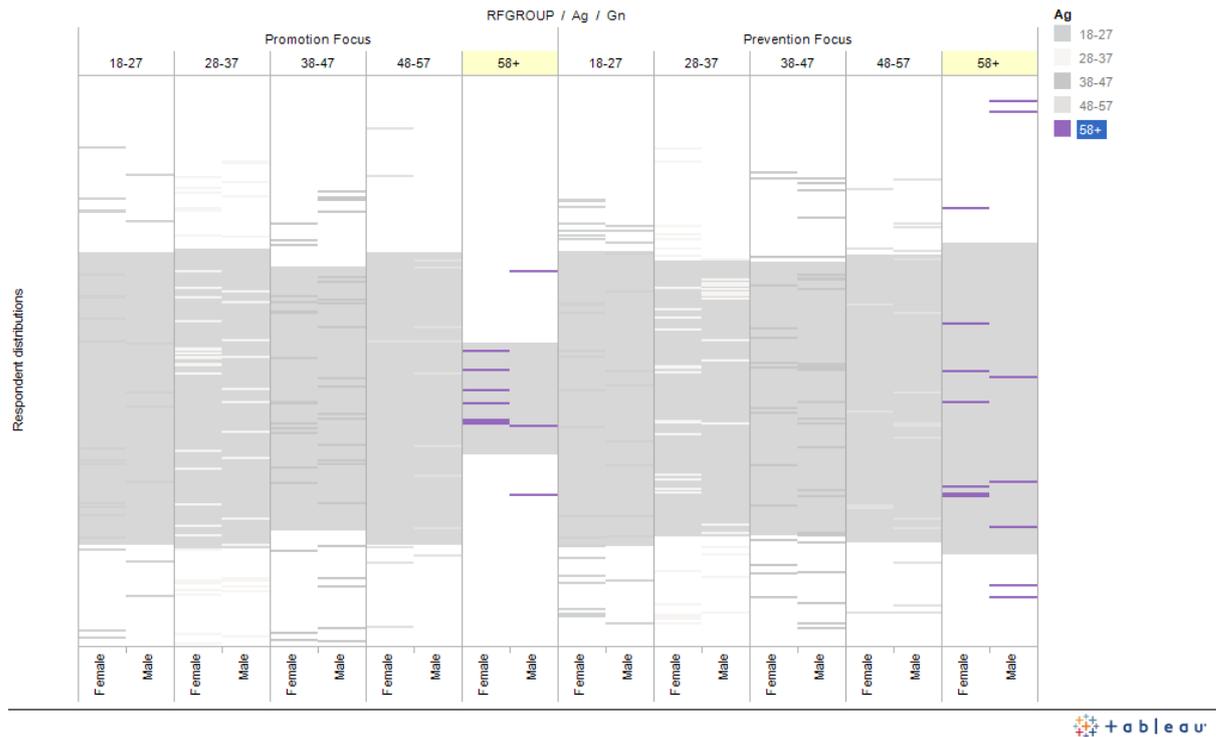
Figure 4.24 Regulatory focus comparisons by age bands – 58 and above

4.2 ANALYSIS OF SCALE RELIABILITY AND VALIDITY

At the research design and implementation stages, measures were taken to improve the quality of the measurement instrument and to ensure a high level of measurement reliability and validity. This section reports results of reliability checks and also discusses further validity considerations relating to common methods bias.

The research data was subjected to standard reliability tests utilising a common methodology for survey data reliability testing, otherwise known as the Cronbach's alpha (α). Details of this test were given in the Chapter Three along with the recommended thresholds as detailed in relevant literature. For the purposes of this study, the recommended minimum threshold of > .7 for reliability based on confirmatory factor analysis theory was adopted. This threshold is above the .6 threshold employed in exploratory factor analysis (Malhotra and Birks, 2003) and provides more validity and confidence in the acceptance of the data. Items were examined to determine the improvement in the reliability statistic if they were deleted, but care was taken to ensure that in

every case, enough items were retained to ensure validity and adequacy of structural equation analysis. The following sections and tables summarise the questionnaire subscales utilised in the study.

4.2.1 Regulator Focus Subscale

Although the regulatory focus scales have been validated and proven as reliable in previous studies, it was necessary to check reliability again given that some items were modified to suit the present study and for the purposes of eliminating semantic and social desirability bias. Table 4.4 shows the statistics for the reliability test for a combined promotion/prevention focus scale. Alpha for the scale is very good at .922, and if-item-deleted analysis suggests only one improvement on item 10 to α = .925. However this improvement is not considered essential given the achieved reliability statistic.

Reliability Statistics

Cronbach's Alpha	N of Items
.922	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [Compared to most people, I haven't got as much as I expect I deserve out of life]	.76	68.607	.712	.913
2. [Growing up, it was not uncommon for me to cross the line with my parents]	.77	65.635	.805	.909
3. [I have often accomplished things that "psyched" me up to work harder]	.11	72.175	.574	.920
4. [I often got on my parents nerves when I was growing up]	.80	66.193	.789	.909
5. [Growing up, I always obeyed rules and regulations set by my parents or other people in authority]	.88	66.747	.730	.912
6. [Growing up, I sometimes acted in ways that were objectionable to my parents]	.66	67.897	.683	.915
7. [I often do well at different things that I try]	.06	71.640	.619	.918
8. [Not being careful enough has gotten me into trouble at times]	.94	65.265	.760	.911
9. [When it comes to achieving things that are important to me, I find that I don't perform as well as I would like to]	.65	68.273	.669	.915
10. [I feel like I have made adequate progress toward being successful in my life]	.08	74.193	.442	.925
11. [There are few hobbies or activities in my life that capture my interest and motivate me to put a lot of effort into them]	.86	65.717	.763	.911

Table 4.4: Reliability for regulatory focus subscale

4.2.2 Online Shopping Perception Subscale

The reliability for the online shopping perception subscale was also good at α = .838 with eight items (Table 4.5). However improvement metrics suggested that deleting item 2 would improve reliability closer to .9 at α = .872.

Reliability Statistics

Cronbach's Alpha	N of Items
.838	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [To me, the benefits of shopping online are far more worth considering than the risks]	-.53	29.122	.548	.822
2. [To me, the convenience of shopping online balances out any potential risks]	-.25	34.007	.048	.872
3. [I worry a lot about dubious retailers when shopping online]	.49	25.274	.723	.797
4. [The availability of choices in online shopping makes the potential risks worthwhile]	-.18	27.400	.590	.816
5. [I am absolutely confident that everything will go smoothly when I shop online]	.21	25.348	.718	.798
6. [I sometimes worry that the product I will receive may not be the same as described online]	.84	26.163	.685	.803
7. [When I shop online, I am usually conscious of potential risks associated with my financial details]	.91	27.893	.602	.815
8. [But for the risks, I would shop more online]	.37	26.516	.620	.812

Table 4.5: Reliability for online shopping perception subscale

F structural equation analysis, items 4 and 8 were also deleted because they were creating unexplained negative variance, leading to a negative covariance matrix in the predictor variables. In SEM, if a covariance matrix is found to be not-positive-definite, a solution based on it is considered to be inadmissible. Consequently, five items were retained for this subscale in the final analysis, with α = .847.

4.2.3 Online Shopping Motivation Subscale

A high initial alpha loading was obtained from this scale (α = .890). Statistics for alpha-if-item-deleted did not reveal any improvements that could be obtained from deleting any items (Table 4.6).

Reliability Statistics

Cronbach's Alpha	N of Items
.890	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [I like shopping online mainly because it's fun to do so]	.41	33.481	.723	.871
2. [I like shopping online mainly because there are many bargains]	-.53	37.843	.554	.887
3. [Online shopping is really for convenience, not for adventure]	.82	34.489	.692	.874
4. [The variety and choice available online can often be confusing]	.59	33.017	.740	.869
5. [I like online shopping mainly because I can discover new products/services]	-.03	34.432	.706	.873
6. [When I go online to buy, I like to know beforehand what I want and where to go]	.77	34.300	.741	.869
7. [I like being able to compare offers/prices from many vendors before buying	-.27	36.554	.628	.880
8. [The thing I like most about online shopping is that it enables me to shop without bother from sales people]	.39	36.888	.536	.889

Table 4.6: Reliability for online shopping motivation subscale

However, full analysis of the measurement model again resulted in problems with items 4, 6 and 8 which were causing unexplained negative variance, leading to not-positive- definite covariance matrix. Such items are not reliable and it was found that deleting these items made the measurement model admissible without reducing the subscale reliability. Five items were retained for this subscale with α = .869, which was considered acceptable for the scale's reliability.

Reliability Statistics

Cronbach's Alpha	N of Items
.840	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [When shopping online, I buy from any retailer that offers me the best deal]	-.52	17.044	.647	.809
2. [When buying from unfamiliar vendors/retailers online, I normally check for third party guarantees]	.28	18.401	.601	.818
3. [I usually read the terms and conditions before making a purchase]	.20	19.177	.498	.836
4. [I won't usually buy online without checking that the transaction is encrypted (that is – electronically coded)]	-.46	19.377	.503	.835
5. [I hardly take notice of privacy warnings and guarantees when shopping online]	-.08	16.659	.709	.795
6. [When shopping online, I prefer to stick with retailers that I know in the real world]	.08	15.604	.751	.785

Table 4.7: Reliability for use of risk relievers subscale

4.2.4 Online Shopping Behaviour: Use of Risk Relievers Subscale

The use of risk relievers and avoidance strategies subscale showed good initial fit with α = .840 for six items (Table 4.7).

Again it was found that items 1 and 4 were sources of negative variance leading to not-positive definite covariance matrix in the measurement model. These items were deleted and the final scale retained four items, with alpha of .825.

4.2.5 Online Shopping Behaviour: Response to Online Marketing Subscale

The response to online marketing subscale showed good reliability at α = .836 with six items (Table 4.8).

Reliability Statistics

Cronbach's Alpha	N of Items
.836	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [I am quite happy to accept suggestions for additional products when shopping online]	-.45	16.839	.617	.808
2. [I am quite happy to accept recommendations for alternatives when shopping online]	-.88	19.294	.473	.834
3. [I regularly click on online advert links when I search for a product/service]	-.30	16.408	.685	.793
4. [I usually click on pop-up adverts that I find relevant]	.37	18.595	.586	.815
5. [I usually do my best to ignore online adverts]	.00	15.393	.741	.780
6. [It is rare for me to visit a web retailer in response to a marketing email I have received]	-.12	17.560	.566	.818

Table 4.8: Reliability for response to online marketing subscale

Any item deletion was not shown to lead to improvements in the reliability statistics and therefore no item was deleted on the basis of this. However, measurement model analysis led to the dropping of items 4 and 6 because these were creating inadmissibility in the covariance matrix as previously explained. The final scale contained four items for this measure with α = .829, which was considered adequate for testing this construct.

4.2.6 Online Shopping Behaviour: Shopping Cart Abandonment Subscale

The shopping cart abandonment subscale showed good fit at α = .819, with five measurement items (Table 4.9).

Reliability Statistics

Cronbach's Alpha	N of Items
.819	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. [I will not usually add items to my online shopping cart without checking out during the shopping session]	-.21	12.146	.679	.763
2. [It is common for me to do one piece of shopping beyond one online shopping session]	-1.17	13.014	.557	.798
3. [It is normal for me to save items in my online shopping basket for several days before paying for them]	-.39	11.865	.658	.768
4. [I often add items to shopping carts on different websites before settling for one]	-.75	11.954	.615	.782
5. [I usually try to complete my shopping once I have spent time adding items to my cart]	.17	13.560	.547	.801

Table 4.9: Shopping cart abandonment subscale

Improvement statistics did not suggest any item deletion, and therefore items were not deleted on this basis. However, the measurement model analysis showed that item 5 was cross loading on other constructs and this created an inadmissible solution. Item 5 was therefore deleted, leaving four items for the final analysis, with an alpha value of .811.

4.3   STRUCTURAL EQUATION ANALYSIS OF RESULTS

4.3.1   Introduction

Before proceeding to undertake the research's main analysis and empirical test of the relationships that were hypothesised in Chapter Two, it is necessary to recall the structural equation modelling process as described in Chapter Three. The purpose of this is to enable the reader who is not entirely familiar with this method or technique of analysis to understand how it addresses the questions raised in the research.

In the present research, some measurement items were dropped from the final measurement model due to contemporaneous effects and poor loadings, but the main structural model was not modified by way of trimming or re-specification. Dropping items in this manner resulted in a less complex and more admissible model without changing the fundamental form of the initial model proposed.

4.3.2 The Measurement Model

The first step in analysing a structural equation model is to analyse the measurement model. This is the portion of the SEM that specifies how the observed variables depend on the unobserved latent variables, as opposed to the structural model which is the portion that specifies how the latent or other main variables are related to each other (Arbuckle, 2008). In general, the researcher proceeds to fit the structural model once the measurement model has been estimated and accepted (Smith et al., 2009). The measurement model is a confirmatory factor analysis (CFA) which objective is to test the reliability of the observed variables and provide a rigorous test of convergent and discriminant

validity (Kline, 2005). In addition, it provides the opportunity to undertake preliminary examination of the extent of interrelationships, covariation (or lack thereof), among the latent variables themselves.

The measurement model tested in this research can be described in conjunction with Figure 4.25, which represents the relationship between the actual measurements (indicators) retained in the final study and their latent underlying variables. The central features of the measurement model are that first, it contains all research model's latent variables which depict the main hypotheses advanced in the research, and these are assumed to share some degree of variance within a covariance matrix, given that they are measured within the same framework. The covariance assumption is important in SEM, as it allows the measurement model to be assessed for admissibility and any potential spurious correlation effects like auto-correlation and multi collinearity relationships (Schreiber, 2008). In general, unless it is expected, very low correlations in the measurement model may be an indication of a problematic model and may even lead to the rejection of the model at the measurement stage. Furthermore, a fully-specified covariance matrix allows for the subsequent statistical control of common methods bias in the model, while providing initial evidence of association of variables measured in the research. The measurement covariance is an assumption, and therefore not a direct theory of the research. This is because the research model is more parsimonious and hypothesises fewer regressions than as implied by the measurement model covariance specification.

A second feature of the measurement model is that it shows all the indicators and their associated errors. The error loadings are all constrained to 1, showing that each error loads perfectly on its base item. A single referent item from each set of indicator items is constrained to 1 for scale identification, while all other item loadings on their respective variables are freely estimated. Consequently the measurement model is a confirmatory factor analysis for the research, with item loadings for each latent variable's indicators estimated.

A third feature of the measurement model is that following initial estimation, some error terms are allowed to covary based on SEM modification indices and re-examination of the theoretical basis. Indeed, in general, it is to be expected that error terms for measures of a single variable should share some covariance,

but this assumption is not always modelled in SEM unless a test of the model suggests such a modification. However, a common reason for poor model fit is unmodelled covariance between error variances, because the error variance of an observed variable captures random error and other unmeasured influences. When the same unmeasured influence affects different indicator items, their error variance will be correlated. In this case, a number of error terms showed a high modification index and an examination of the questionnaire item showed that the suggestions for a strong covariance between the identified items were justified. The assumptions of uncorrelated residuals is standard in SEM, but unlike traditional regression methods, it is not required to test residual correlations (auto-correlations) using a separate method like the Durbin –Watson statistic (Field, 2005), and uncorrelated residuals are included in the measurement model as a standard reporting practice.

Variable code	Name	Description	Number of measurement items
RF	Regulatory Focus	Exogenous, independent predictor variable	11
OSM	Online Shopping Motivation	Endogenous intermediate predictor variable	5
OSP	Online Shopping Perception	Endogenous intermediate predictor variable	5
OSB	Online Shopping Behaviour	A second order, endogenous, dependent variable containing ROM, SC, RR	3 latent variables and 1 disturbance term
OSB1: ROM	Response to Online Marketing	First order endogenous dependent outcome variable	4
OSB2: SC	Online Shopping Cart Abandonment	First order endogenous dependent outcome variable	4
OSB3: RR	Use of Online Risk Relievers	First order endogenous dependent outcome variable	4

Table 4.10 Characteristics of variables contained in the measurement model

A fourth feature of the measurement model is that all latent variable residuals (D and d terms) were construed to be equal. This methodology is designed to control for all other unmeasured factors affecting variables in the model, such as

age, gender and experience, so that the true coefficients (effects) between the model's variables can be observed. This is particularly important in this research where no explicit modelling of moderator effects (demographics, experience, etc) was made. The measurement model contains the following set of variables, as shown in Table 4.10.

Figure 4.25 is the final solution for the measurement model, showing the parameter estimates for each predicted relationship and the error terms.
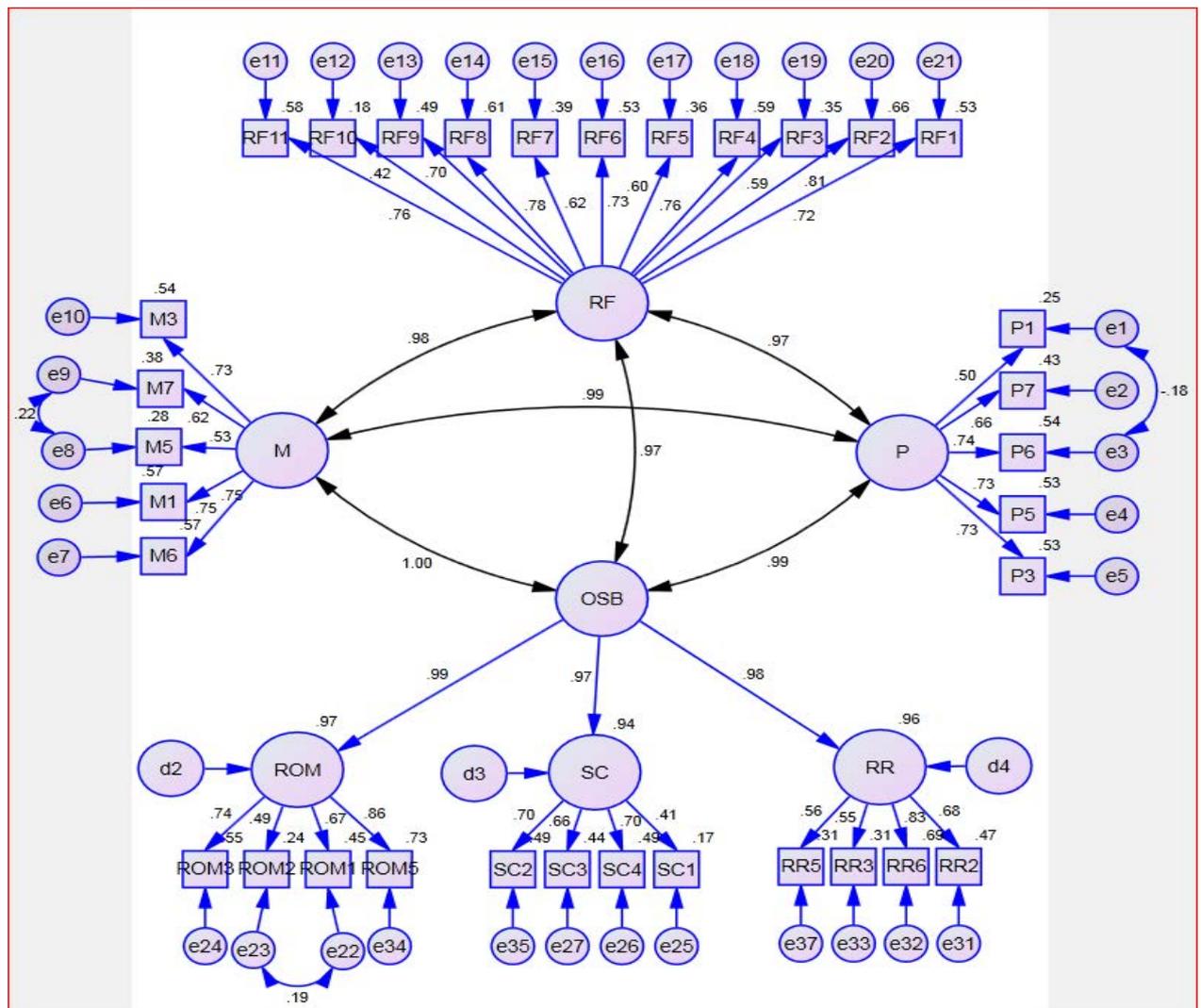
Figure 4.25: Measurement model for the mediated effect of regulatory focus on online shopping behaviour

For better comprehension, estimates are reproduced in Table 4.11. Each group of indicators has one referent indicator item which was constrained for model identification as explained earlier.

The focus of the measurement model is on the blue-coloured sections in Figure 4.25, where the parameter estimates show the loadings of items on their respective underlying latent variables. For all multi-item measures, the factor structures were evaluated to ensure that they were loading and behaving in a way that one would expect based on their psychometric histories. The results obtained showed that the p-values for all estimate loadings were significant for indicator items (Table 4.11). In addition to primary indicators, the first order variables also loaded very well on the second order (OSB) variable (coefficients for ROM = .99, SC = .97, RR = .98).

All items showed strong loadings on their respective underlying latent variables with the lowest standardised loading of .414 above the recommended threshold of .4 for modification purposes (cf. Arbuckle, 2008). Therefore the factors retained in the research model can be said to have good fit with their underlying latent variables. The model also shows error estimates (S.E.) and critical ratios (C.R.) for each variable in Table 4.11 and these are generally within the expected limits for multi item variables (cf. Shreiber, 2008)

Another important result from the measurement model is the variance structure of all items (variables and indicators) and their error terms. Table 4.12 shows these estimates, with the important point to make about the results being that all estimated variances are significant. This outcome is important because it shows that all items contained in the research have adequate internal variance to enable the comparison of variable behaviour.

Finally the covariance matrix is normal, based on the psychometric histories of the variables in the model. Their estimates indicate that the constructs measured in the research behave in a correlated manner and can therefore be estimated within the single model structure. At the same time the covariance estimates are generally above .9, indicating strong correlation behaviour consistent with the hypotheses, and error terms are generally below an absolute value of 0.10,

indicating that the model is strongly explanatory of the data (cf. Schreiber, 2008). Full covariance and error estimates are produced in Appendix 6.

It should be noted here that the strong correlation between RF and OSB, and P and M does not imply significant regression between the two variables, but rather shows that these variables are strongly interlinked within the covariance matrix. The actual nature of this interlinking however could only be established during the structural model estimation (*** indicates a significant relationship).

Item	Variable		Standardised Estimate	S.E.	C.R.	P-value
ROM	<---	OSB	.986			
SC	<---	OSB	.967	.094	6.916	***
RR	<---	OSB	.982	.081	10.851	***
P1	<---	P	.502			
P7	<---	P	.658	.180	8.225	***
P6	<---	P	.738	.227	8.125	***
P5	<---	P	.730	.197	8.676	***
M6	<---	M	.752			
P3	<---	P	.729	.210	8.668	***
M1	<---	M	.752	.079	13.790	***
M5	<---	M	.531	.084	9.405	***
M7	<---	M	.616	.069	11.029	***
M3	<---	M	.734	.075	13.413	***
RF1	<---	RF	.725			
RF11	<---	RF	.759	.090	13.286	***
RF10	<---	RF	.419	.071	7.203	***
RF9	<---	RF	.699	.085	12.177	***
RF8	<---	RF	.780	.093	13.669	***
RF7	<---	RF	.623	.069	10.820	***
RF6	<---	RF	.730	.086	12.756	***
RF5	<---	RF	.604	.093	10.464	***
RF4	<---	RF	.765	.087	13.393	***
RF3	<---	RF	.589	.070	10.200	***
RF2	<---	RF	.809	.087	14.216	***
ROM1	<---	ROM	.672			
ROM2	<---	ROM	.485	.067	8.806	***
ROM5	<---	ROM	.856	.100	13.480	***
ROM3	<---	ROM	.741	.141	11.913	***
SC1	<---	SC	.414			
SC4	<---	SC	.701	.230	7.111	***
SC2	<---	SC	.699	.207	7.103	***
SC3	<---	SC	.663	.215	6.965	***
RR2	<---	RR	.685			
RR6	<---	RR	.828	.112	13.365	***
RR3	<---	RR	.555	.089	9.205	***
RR5	<---	RR	.560	.105	9.284	***

Table 4.11: Standardised factor loadings for measurement model

In addition to obtaining parameter estimates in the measurement structure, it is important to evaluate the measurement model's overall fit using common indices as described previously. Although overall fit is not the precise objective at the measurement stage, it gives an indication of the likely fit of the final structural model. Overall model fit is normally reported for three variations of the specified model. These are a) the default (hypothesis model), b) the saturated model - which represents a variation where all of the model's possible paths or links are estimated, and c) the independent model - which hypothesises that all possible paths or links in the model have a zero coefficient. The results in Table 4.13 show that the Chi square for the estimated model is 687.688 with 485 degrees of freedom (DF). Although this in itself does not return good fit of the model to the data, with a p value = .000, this is to be expected given the number of parameters estimated, the number of variables in the model and the sample size. However the CMIN/DF ratio shows good fit at 1.418, below the judgement criteria cut off of CMIN/DF ≤ 2.00 (cf. Byrne, 1989).

Other indices also provide acceptable measurement-level fit as recommended by Hu and Bentler (1999) and Schreiber (2008). For example GFI = .875, RMR = .048, CFI= .963, RMSEA = .37 and PCLOSE = 1.000. The overall fit results can also be evaluated by comparing the default model's values with the values for the saturated and independence models, also reported.

For example, compared to the independence model which posits a zero relationship between the items and variables, and between variables, the proposed (default) model shows comparatively better fit on all criteria. On the other hand, the saturated model shows perfect but spurious fit on several criteria, because it is estimated without any model parsimony and restrictions and does not reflect theoretical underpinning or the hypothesis of the research.

To check for further confirmation of the measurement model fit, the model was retested with a reduced (sub) sample representing 120 random cases from the main sample and this showed excellent fit and improved estimates across the indices (p > .05, CMIN/DF = 1.033; RMSEA = .08), thus illustrating the sample effect on the present results.

Based on the these results, the measurement model was considered to have adequate and acceptable fit, and was adopted as the basis for undertaking analysis of the research's structural model and hypotheses.

.....	Estimate	S.E.	C.R.	P
P	.232	.051	4.572	***
M	.699	.092	7.583	***
RF	.579	.080	7.248	***
OSB	.607	.094	6.452	***
d2	.018	.009	2.064	.039
d3	.018	.009	2.064	.039
d4	.018	.009	2.064	.039
e1	.689	.057	12.100	***
e2	.670	.057	11.780	***
e3	.662	.059	11.302	***
e4	.596	.052	11.415	***
e5	.682	.060	11.425	***
e6	.643	.057	11.316	***
e8	1.101	.091	12.116	***
e9	.657	.055	11.959	***
e10	.599	.052	11.458	***
e11	.605	.052	11.522	***
e12	.708	.058	12.222	***
e13	.658	.056	11.774	***
e14	.607	.053	11.401	***
e15	.514	.043	11.967	***
e16	.612	.052	11.657	***
e17	.956	.080	12.005	***
e18	.553	.048	11.491	***
e19	.563	.047	12.031	***
e20	.464	.042	11.182	***
e21	.523	.045	11.679	***
e22	.759	.065	11.740	***
e23	.698	.058	12.118	***
e24	1.442	.126	11.412	***
e25	1.339	.110	12.124	***
e26	.766	.069	11.037	***
e27	.796	.070	11.331	***
e31	.552	.048	11.595	***
e32	.502	.050	10.137	***
e33	.729	.061	11.977	***
e34	.415	.041	9.998	***
e35	.625	.057	11.057	***
e37	1.019	.085	11.967	***
e7	.538	.048	11.320	***

Table 4.12: Item variances

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	76	687.688	485	.000	1.418
Saturated model	561	.000	0		
Independence model	33	5988.615	528	.000	11.342

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.048	.875	.855	.756
Saturated model	.000	1.000		
Independence model	.601	.134	.080	.126

Baseline Comparisons (CFI)

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.885	.875	.963	.960	.963
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA and PCLOSE

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.037	.030	.043	1.000
Independence model	.184	.180	.188	.000

Table 4.13: Global fit indices for measurement model

4.3.3 The Structural Model

The structural model (Figure 4.26) is the part of the SEM that estimates how a model's constructs or variables are related to one another. This is the main part of the model fitting and estimation process, and represents the structural hypotheses of the research. The structural model was specified as a result of the literature review in Chapter Two. A number of hypotheses were advanced in line with the proposed conceptual model, and these hypotheses are represented in the model by the paths linking each variable, as marked in the blue-coloured links. The model paths are not necessarily causal in nature but rather represent the hypothesis that one variable has an effect on another. Taken as a whole, the paths in the model also depict indirect relationships which may or may not be hypothesised independently but are implied in the model. Another feature of the structural model is that it contains an additional disturbance term for each

endogenous variable. This disturbance term is similar to the random error term in standard regression analysis and estimates the variance in the variable that is attributable to unknown random factors. The recursive sequential model of regulatory focus and online shopping behaviour predicts that the path coefficients from regulatory focus (RF) to perception (P) and from perception to behavioural outcomes (OSB {ROM, SC, RR}) on the one hand, and the path coefficients from RF to motivation (M) and from motivation to behavioural outcomes (OSB {ROM, SC, RR}) will be jointly and individually significant. Therefore it was important to examine overall model fit as well as the results of specific hypothesis as represented by individual path coefficients.
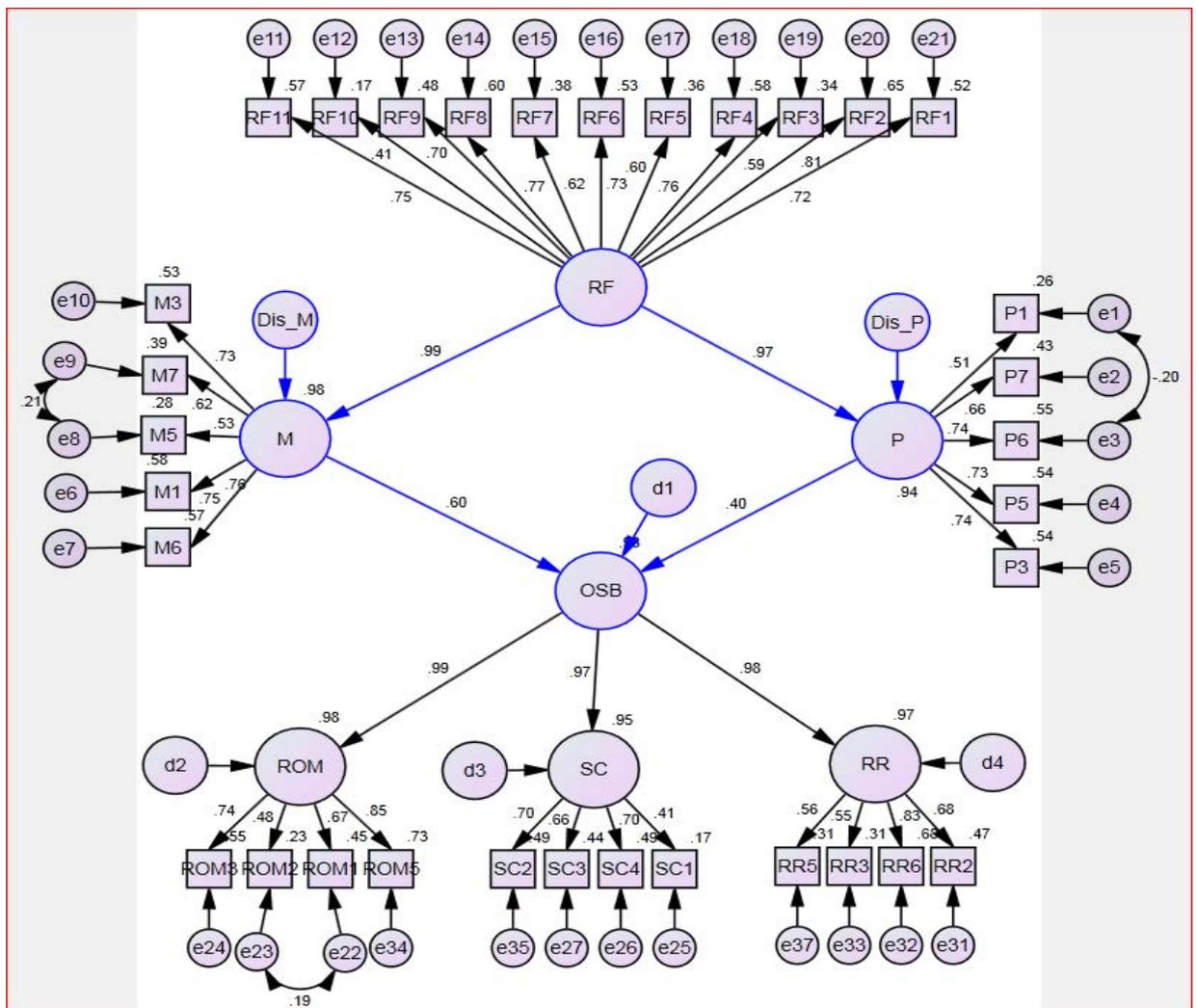
Figure 4.26: The structural equation model for mediated effect of regulatory focus on online shopping behaviour

First, the overall model fit was assessed, and then this was followed by analysis of individual path estimates as well as indirect and total effects, to confirm or reject the hypotheses advanced. The results for the SEM are described in conjunction with Figure 4.26. which shows the main hypotheses of the research.

4.3.3.1 Global Model Fit

The first step in the analysis was to consider overall model fit. As stated previously, there are several tests for model fit, in the form of fit indices, and these may be absolute or comparative. The use of a combination of fit indices is recommended, especially where the sample size is expected to adversely influence the Chi square fit statistic, so that it is no longer the most viable index for model acceptance (Hu and Bentler, 1999).

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	72	695.412	489	.000	1.422
Saturated model	561	.000	0		
Independence model	33	5988.615	528	.000	11.342

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.048	.873	.855	.761
Saturated model	.000	1.000		
Independence model	.601	.134	.080	.126

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.884	.875	.962	.959	.962
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.037	.031	.043	1.000
Independence model	.184	.180	.188	.000

Table 4.14: Global fit indices for structural model

The fit indices used are the CMIN/DF ratio, GFI, RMR, CFI, RMSEA and PCLOSE. The acceptance criteria for these indices were specified a priori as CMIN/DF ≤ 2, GFI ≥ .85, RMR ≤ .05, CFI ≥ .95, RMSEA ≤ .05 and PCLOSE (preferably) = 1, or close to 1. Additional fit indices are also reported in Appendix 7.

The model's results can be examined in Table 4.14. It shows that overall model fit is good on all the above criteria. Although Chi squared is significant at p= .00 as expected, the overall fit is good and the model can be accepted on the basis of the following: the CMIN/DF ratio = 1.422, GFI = .873, RMR = .048, CFI = .962, RMSEA = .037 and PCLOSE = 1. Based on research antecedent and the present evidence, the simultaneous research model was accepted as representing the data obtained in the study.

4.3.3.2 Residuals

To further confirm the strength of the theoretical model and therefore its acceptability, the residuals correlation matrix was examined. It should be recalled that the essence of SEM is to determine the fit between the restricted covariance matrix [Σ(θ)], implied by the hypothesised model, and the actual observations as obtainable in the sample covariance matrix (S); as such any discrepancy between the two is captured in the residual covariance matrix and each element in this residual matrix represents the discrepancy between the covariance of Σ(θ) and S (that is, [Σ(θ)-S]). There is one residual for each pair of observed variables; however the residuals are not independent of one another, therefore any attempt to test them statistically will be inappropriate, and only their magnitude is of interest in alerting the researcher to possible areas of model misfit (Byrne, 2010). It is standard practice to examine the magnitude of standardised residuals - which are fitted residuals divided by their asymptotically standard errors – with values greater than 2.58 considered to be large (Joreskog and Sorbom, 1979). There is no rule for how many residuals above the stated value indicate a problem, but Schreiber (2008) states that as the incidence of large residuals increases, the model's explanatory power deteriorates. In examining the standardised residuals for the model (fully detailed in Appendix 8) only one residual covariance, for P1<->ROM2 was found to be above the recommended value.

The results discussed above converge to a conclusion that the data fit the theorised model, and therefore the model was considered as empirically strong and representative of the underpinning theory. In the next section, results relating to the individual hypotheses in the research are presented.

4.3.4 Analysis of Individual Hypotheses

Following the analysis of global fit and the establishment of the overall structural model fit, it was then possible to proceed with analysis of individual hypothesis (paths) contained in the model. The standardised regression estimates are presented on the structural diagram (Figure 4.26) in the blue-coloured paths and in Table 4.15. In overview, the first thing to note about these estimates is that their p-values are all significant, indicating that all direct effect hypotheses are confirmed. However as the results show, the effect of perception on online shopping behaviour is not as strong as the effect of motivation on online shopping behaviour. Nevertheless, perception and motivation appear to have a significant effect, based on these results. Of particular note is the predictive strength of regulatory focus on both perception and motivation which, as the results show, is strong and significant. These findings are discussed further with reference to specific hypotheses. The following discussion of the results is based on the original hypotheses outlined in Chapter Two.

Outcome Variable		Predictor Variable	Unstandardised Estimates	Standardised Estimate	S.E.	C.R.	P
M	<--	RF	1.092	.989	.084	12.962	***
P	<--	RF	.638	.970	.072	8.864	***
OSB	<--	P	.630	.403	.317	1.989	.047
OSB	<--	M	.558	.599	.190	2.932	.003

Table 4.15 Standardised regression weights for the structural model

4.3.4.1 Hypotheses Based on Direct Effects

Hypothesis I – Regulatory focus affects consumers' perception of online shopping such that promotion focus consumers are more perceptive of the benefits associated online shopping and prevention focus consumers are more perceptive of the risks associated with online shopping.

Hypothesis I predicted that the relationship between consumers' regulatory focus and their perception of online shopping would be significant. That is, RF affected whether a consumer's perception of online shopping was higher on the risks than on the benefits, with promotion focus consumer perceiving higher benefits than risks and prevention focus consumers perceiving higher risks than benefits. It should be recalled that RF was assessed on a two way continuous scale representing promotion focus on the one end (high scores) and prevention focus on the other (low scores). Similarly, perception was construed as lying on a bi-polar continuous scale with one end representing perceived benefits (high scores) and the other end representing perceived risks (low scores). Therefore a non-negative non-zero coefficient between RF and P would represent a positive relationship indicating that the more promotion focused a consumer was, the higher their perceived benefits of online shopping and the lower their perceived risks of online shopping. Conversely, the more prevention focused the consumer was, the higher their perceived risk of online shopping and the lower their perceived benefit of online shopping.

To examine *Hypothesis I*, a regression path was specified between RF and P in the research model. The un-standardised regression coefficient for this path is shown and it represents the amount of change in Y (that is P) given a single raw score unit change in X (that is RF). The resulting standardised coefficient of .97 means that for any single unit change in RF, there is a corresponding change of .97 in P. Table 4.15 shows that this relationship is significant with $p < .05$ (S.E. = .051 and C.R. = 11.270). Therefore the hypothesis that regulatory focus affects consumers' online shopping perception such that the more promotion focused, the higher the perceived benefits of online shopping, and the more prevention focused, the higher the perceived risks of online shopping, is strongly confirmed.

Hypothesis II – Regulatory focus affects consumers' motivation for online shopping such that promotion focus consumers are more motivated by hedonic features of online shopping and prevention focus consumers are more motivated by utilitarian features of online shopping.

Hypothesis II predicted that the relationship between consumers' regulatory focus and their motivation (nature of objective) for shopping online would be significant. That is, RF affected whether a consumer's motivation for online shopping was more hedonic or more utilitarian, with promotion focus consumers more hedonically motivated and prevention focus consumers more utilitarian motivated. It should be recalled that RF was assessed on a two way continuous scale representing promotion focus on the one end (high scores) and prevention focus on the other (low scores). Similarly, motivation was construed as lying on a bi-polar continuous scale with the upper end representing hedonic motivation (high scores) and the lower end representing utilitarian motivation (low scores). Therefore a non-negative non-zero coefficient between RF and M would represent a positive relationship indicating that the more promotion focused a consumer was, the higher their hedonic motivation for online shopping and the lower their utilitarian motivation for online shopping. Conversely, the more prevention focused the consumer was, the higher their utilitarian motivation for online shopping and the lower their hedonic motivation for online shopping.

To test *Hypothesis II*, a regression path was specified between RF and M in the research model. The un-standardised regression coefficient for this path is shown and it represents the amount of change in Y (that is M) given a single raw score unit change in X (that is RF). The result's coefficient of .98 means that for any single unit change in RF, there is a corresponding change of .98 in M, and Table 4.15 shows that this relationship is significant with $p < .05$ (S.E. = .062 and C.R. = 15.340). Therefore the hypothesis that regulatory focus affects consumers' online shopping motivation such that the more promotion focused they are, the higher their hedonic motivation for online shopping, and the more prevention focused they are, the higher their utilitarian motivation for online shopping, is strongly confirmed.

Hypotheses III – Consumers' perception of online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart

abandonment and use of online risk relievers, is affected by whether they are more perceptive of online shopping benefits or online shopping risks.

The advancement in *Hypothesis III* is that a significant (mediating) relationship exists between online shopping perception and online shopping behaviour, such that consumers who perceive a higher level of benefit than risk in online shopping are also likely to a) respond more favourably to online marketing, b) abandon shopping cart more frequently, and c) make more use of online risk relievers as shopping decision heuristics. To test this hypothesis, the first order dimension variables ROM, SC and RR were regressed on the second order variable of OSB. The loadings for ROM, SC and RR on OSB may be viewed as factorial loadings similar to the indicator-to-latent variable loadings discussed in the measurement model section of this analysis. From the results, the variable loadings are strong and significant (Figure 4.29), indicating that the three variables estimated are valid and robust dimensions of the online shopping behaviour construct. Secondly, a regression path was specified between OSP and OSB, with the results showing a significant coefficient of .403 at p = .047, and providing confirmation of *Hypothesis III* (Table 4.15).

Hypotheses IV – Consumers' motivation for online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more motivated by hedonic features of online shopping or by utilitarian features of online shopping.

The basis of *Hypothesis IV* is that a significant (mediating) relationship exists between online shopping motivation and online shopping behaviour, such that consumers whose motivation is higher on hedonic factors than utilitarian factors of online shopping are also likely to a) respond more favourably to online marketing, b) abandon shopping cart more readily, and c) make more use of online risk relievers as shopping decision heuristics. To test this hypothesis, the first order dimension variables ROM, SC and RR were regressed on the second order variable of OSB. The loadings for ROM, SC and RR on OSB may be viewed as factorial loadings similar to the indicator-to-latent variable loadings discussed in the measurement model section of this analysis. From the results, the variable loadings are strong and significant (Figure 4.28), indicating that the three

variables estimated are valid and robust dimensions of the online shopping behaviour construct. Secondly, a regression path was specified between OSM and OSB, with the results in Table 4.15 showing a significant coefficient of .599 at p = .003, therefore providing confirmation of *Hypothesis IV*.

4.3.4.2 Hypotheses Based on Indirect and Total Effects

The hypotheses discussed thus far represent the estimated direct effects between predictor and predicted constructs in the research model. However, an interesting aspect of the analysis based on the central research question is the implied relationship between regulatory focus and online shopping behaviour, jointly mediated by online shopping perception and online shopping motivation. This overall effect of regulatory focus on online shopping behaviour can be evaluated using the total effect function, while each mediated path can be examined using the indirect effect estimates. The estimates for indirect and total effects are explained below.

The model's initial proposition was that the relationship between regulatory focus and online shopping behaviour is fully mediated by perception and motivation. Put another way, the effect of regulatory focus on consumers' online shopping behaviour was assumed to be indirect and only significant when mediated jointly by perception and motivation. The research findings appear to be consistent with these propositions given the estimates of the indirect and total effects as discussed below.

In the Amos software, it is possible to use a technique called Bayesian Estimation which utilises the Monte Carlo method (cf. Selig and Preacher, 2008) to calculate the confidence interval for the total effects. However there is no available technique in the software to estimate indirect effects associated with specific paths in the model. Consequently, additional software was required to estimate the confidence interval for specific paths relating to indirect effects. In addition, it was possible to calculate the p-values for indirect and total effects to give a more accurate assessment of the hypotheses.

The total effects reported indicate the overall effect sizes, given as:

$T = total\ effect = (RF \to Y_{...}\ mediated\ by\ P) + (RF \to Y_{...}\ mediated\ by\ M)$

Where, $Y = OSB$ (the criterion)

The above relates to the following central hypotheses:

Hypothesis V (a) – Regulatory focus affects online shopping behaviour, but its effect is jointly mediated by online shopping perception and online shopping motivation.

The combined coefficient of this hypothesis is given as:

$T_{osb} = .984$

Where, T_{osb} = total effect of RF on OSB.

To test whether the finding, T_{osb} could not possibly be zero and that the true value of T_{osb} (based on the mean) lay within a given degree of confidence, Bayesian Estimation in Amos was applied. The mean for the relationship between RF and OSB was estimated and compared against distribution values within a 95% confidence interval. The following results were obtained:

Mean of T_{osb} = .980 (note: this is very close to the α value of .984)

95% Confidence Upper Limit = 1.181

95% Confidence Lower Limit = .958

The most important inferences to draw from the results at this stage are that the confidence interval is positive and does not contain zero. Therefore it may be concluded that the true value of T_{osb} falls within this interval, is different from zero and the probability that this result is obtained by chance is < .05. This provides confirmation for *Hypothesis V (a).* As the Monte Carlo method is based on the assumption of a normal distribution on the variables in question, the posterior estimates were visually checked using Figure 4.27 which represents a distribution curve of the unstanderdised estimates for the total effects. This distribution appears to be normal.
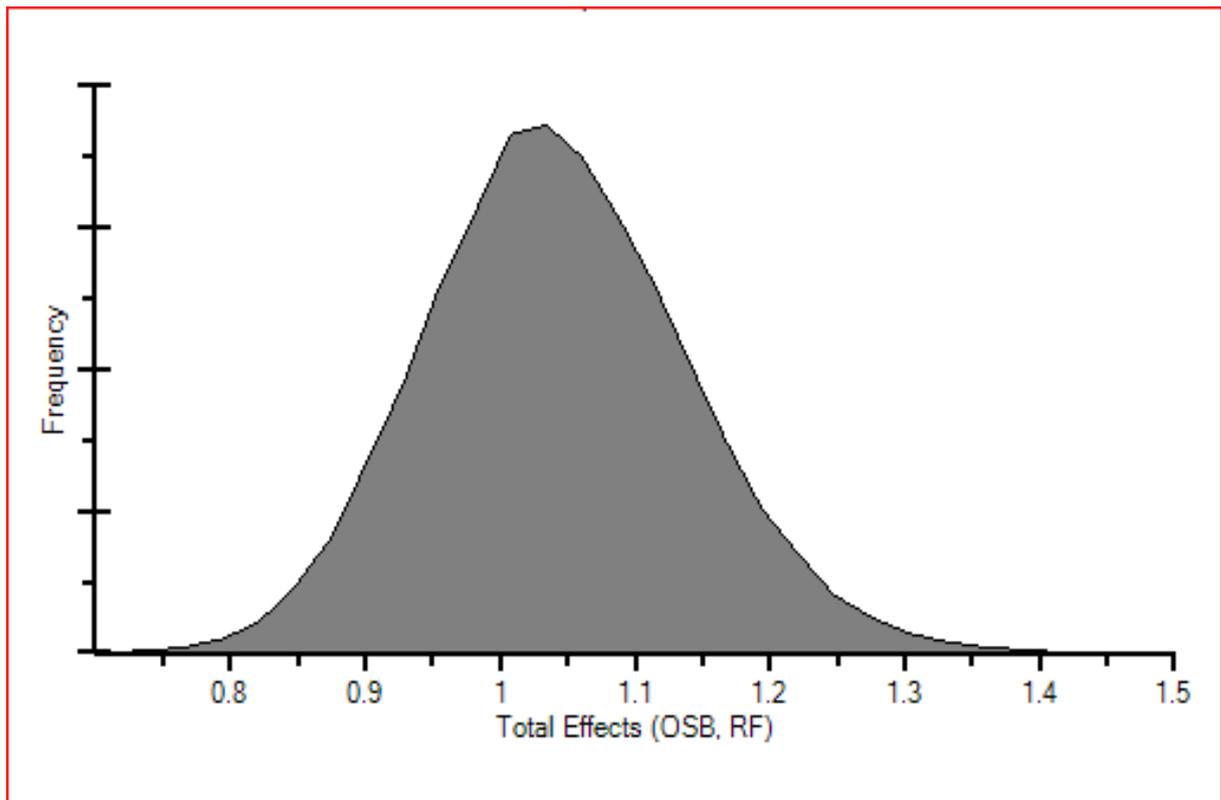
Figure 4.27: Confidence interval for total effect of RF on OSB

Hypothesis V (b) – Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping perception.

This hypothesis relates to the mediating effect of perception on the relationship between regulatory focus and the consumers' online shopping behaviour, independent of other variables. The test of this hypothesis was to determine whether there was indeed a significant relationship between RF and OSB when only P acted as the intermediary.

To test this hypothesis, the Sobel Test for mediation effects (Sobel, 1982; McKinnon et al., 2002) was applied. This test tells you whether a mediator variable significantly carries the influence of an independent variable to a dependent variable; that is, whether the indirect effect of the independent variable on the dependent variable through the mediator variable is significant. As the direction of the indirect effect was not hypothesised, a two-tailed

probability value was estimated. The reported *p*-value is based on the Goodman robust estimation (in McKinnon et al., 2002) - which uses the following formula to estimate the p-value - and is drawn from the unit normal distribution under the assumption of a two-tailed *z*-test of the null hypothesis that the mediated effect equals zero in the population:

$$Z\text{-}value = a {*} b / \sqrt{(b^2 {*} s_a^2 + a^2 {*} s_b^2 - s_a^2 {*} s_b^2)}$$

 +/- 1.96 are the critical values of the test ratio which contain the central 95% of the unit normal distribution. This is also visualised in Figure 4.28.

95 % Confidence Interval LL 0.01109 UL 0.8245
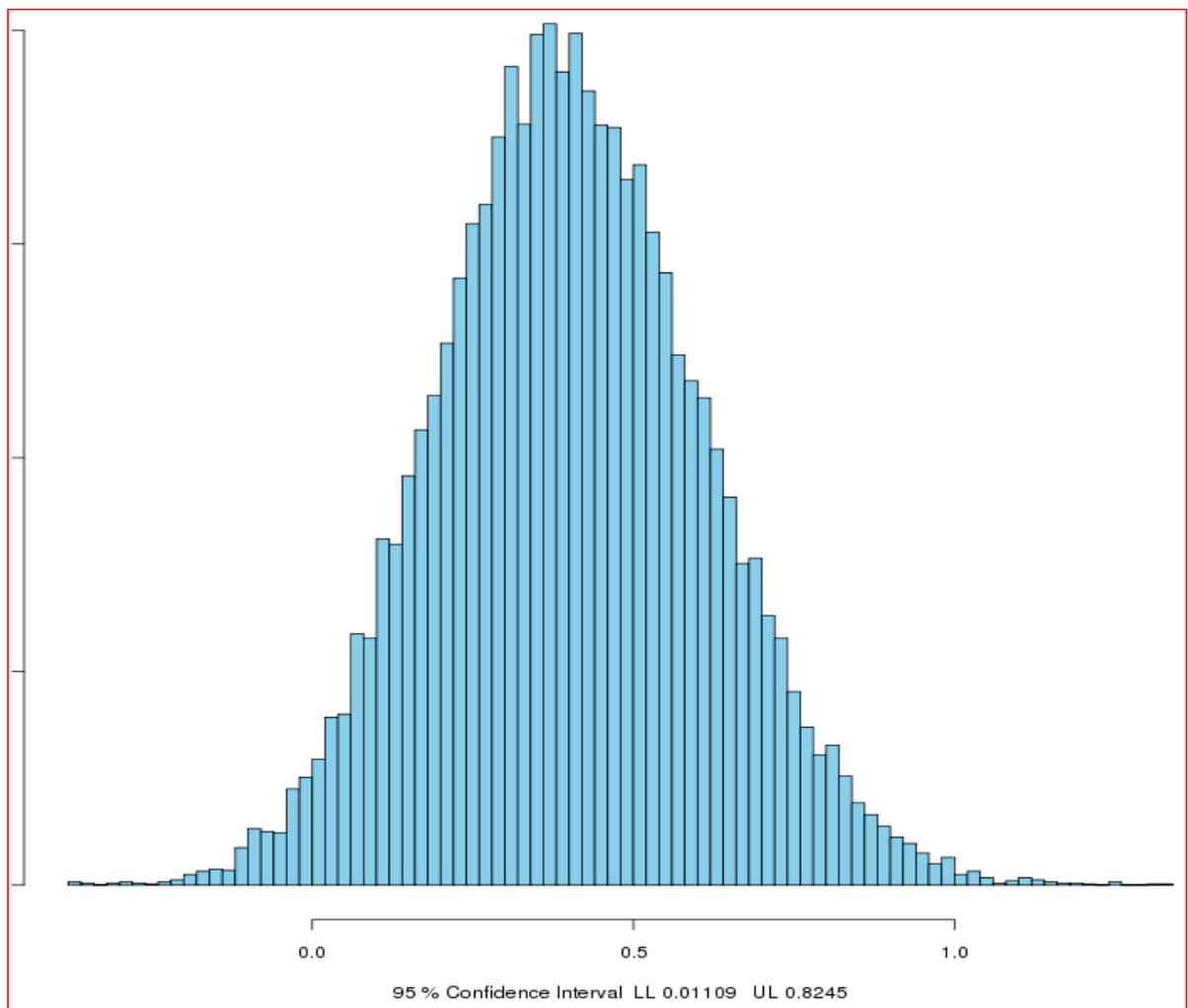
Figure 4.28: Distribution of indirect effect: RF to OSB through P

Recalling that the indirect effect (IE) a is the product of the coefficients of

RF -> P and P -> OSB, then from Table 4.15 the following is calculated:

IE a = .638*.630 = .401

95% Confidence Upper Limit = .825

95% Confidence Lower Limit =.011

P = .051 (rounding to .05)

As the interval contains no zero and the value of p ≈ .05, it may be concluded that the true value of a for the indirect effect of regulatory focus on online shopping behaviour through consumers' perception of online shopping lies within this limit and is different from zero. Therefore, *Hypothesis V (b)* is confirmed. It should be noted that the confirmation obtained for this hypothesis is borderline and should therefore be applied with a caveat in mind, until such a time when future research can provide further evidence.

Hypothesis V (c) - Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping motivation.

Similarly, the Sobel technique was used to test *Hypothesis V (c),* which predicted that the relationship between RF and OSB was indirect and partially mediated by online shopping motivation, and that it was significant even when the intermediation of perception was not considered. Figure 4.29 shows the distribution of the indirect effect within a 95% confidence interval as being normally distributed around the centrum. The following results were obtained:

IE a = 1.092*0.558 = .609

95% Confidence Upper Limit = 1.031

95% Confidence Lower Limit =.203

P = .004
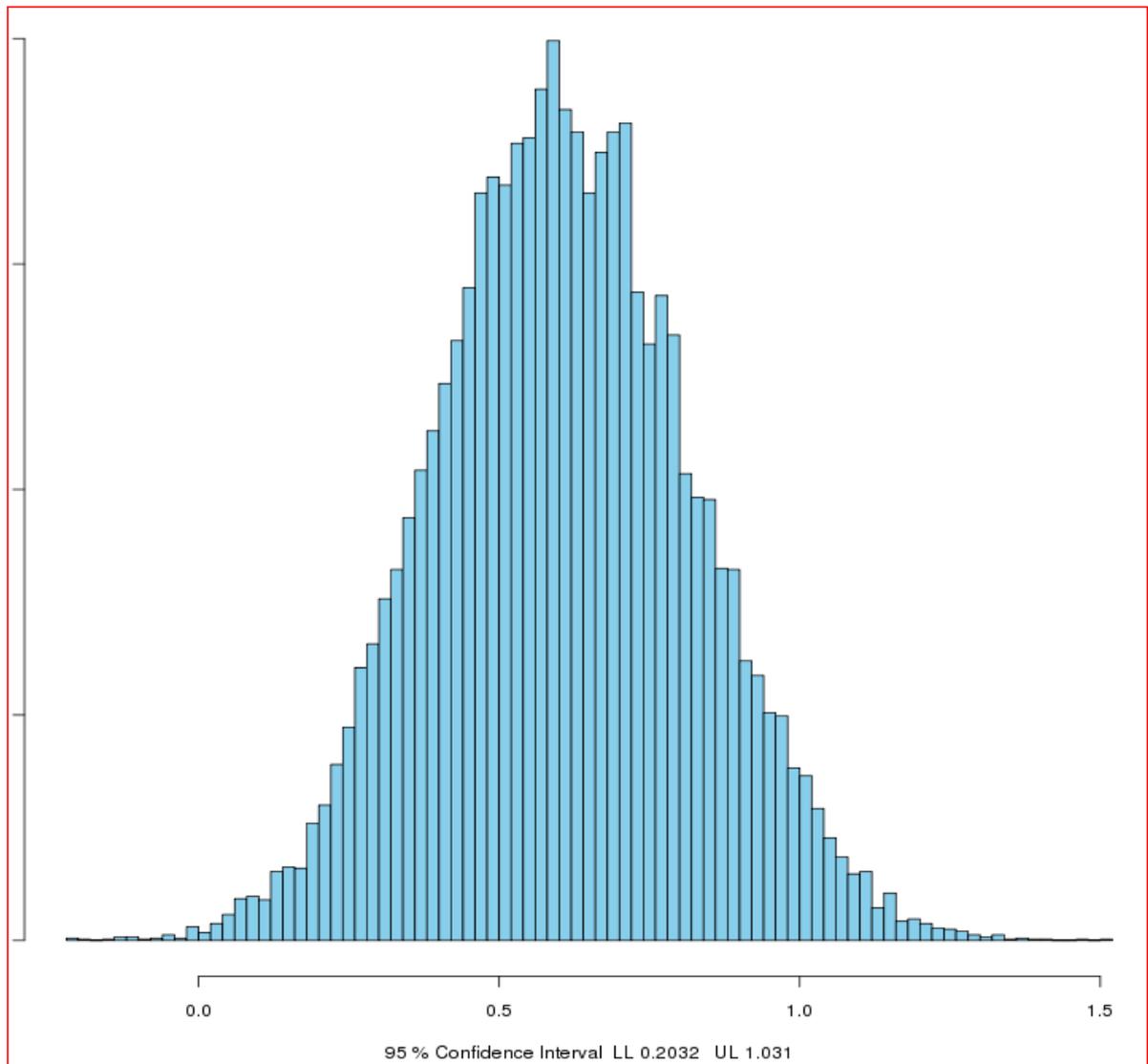
Figure 4.29: Distribution of indirect effect: RF to OSB through M

Based on the above results, there is 95% confidence that the true value of α for the indirect effect of regulatory focus on online shopping behaviour as mediated by online shopping motivation lies within the range of significance. The probability that the obtained alpha is out with the interval is less that 5% and this is also backed up by the p-value of .004. Therefore, it may be concluded that *Hypothesis V (c)* is upheld. These distribution graphs were generated with the aid of utilities developed by Selig and Preacher (2008).

4.3.4.3 Model Extensions

The results presented above can also be extended to evaluate their effects specific to the different dimensions of online shopping behaviour, again utilising the indirect and total effects equations. This is made possible by the logic that hypothesis for indirect and total effects on OSB dimensions can be simultaneously estimated in SEM. The advantage of this extension is that it provides explicit and clear evidence of the proposed model's suitability for each dimension of online shopping behaviour considered in the present research. The simultaneous mediation in this research can be summarised by the following equation:

$$Y_{1,2,3} = i + aXbP + cXdM + e$$

Where $Y_{1,2,3.}$ = individual OSB dimensions and X = the independent variable RF, i = intercept (explicit estimation not required for the testing of present hypotheses), a = the coefficient relating the independent variable and the first mediator variable P, b = the coefficient relating the mediator variable P and the criterion variables $Y_{1,...}$, c = the coefficient relating the independent variable and the second mediator variable M, d = the coefficient relating the mediator variable M and the criterion variable $Y_{1,...}$, and e = the residual or disturbance term. Let,

$$Y_1 = ROM,$$

$$Y_2 = SC,\text{ and}$$

$$Y_3 = RR$$

However, the extensions applicable to the above dimensional hypotheses are inherently assumed but not specified or evaluated in this research. This is because the extensions are without the scope of the present thesis, and should be considered for future research.

4.3.5 R-Squared and Adjusted R-Squared for Outcome Variables

The R-squared (R^2) statistic explains the percentage of variability in a dependent variable that is attributable to modelled relationships. The SEM results show that the variability in perception is strongly explained by the model. The explanatory

power of this sub-model is represented by R^2 = .95, meaning that the model explains 95% of the variability in online shopping perception, with the remaining 5% represented by the unique error term which may include measurement error as well as random error. Similarly, the results show that the variability in motivation is strongly explained by the model. The R^2 for M is .96, implying that 96% of online shopping motivation can be explained by its relationship with regulatory focus. Consistent with the propositions in the hypothesis, the model's explanatory strength is clearly evident in how well it explains the variability in the primary criterion variable (that is, OSB). R^2 for OSB is .98, meaning that the overall model explains as much as 98% of the variability in consumers' online shopping behaviour, based on the data collected. The confidence intervals for the criterion R^2 statistic can be computed using the known information. That is, the sample size which is 306, the observed R^2 which is .98, and the number of predictors for the criterion variable which is 3. The confidence interval is calculated using the following formula (Soper, 2013):

$$R^2 \pm t_{(\frac{1-\alpha}{2}, n-k-1)} SE_{R^2}$$

Where R^2 is the squared multiple correlation, a is the desired confidence interval percentage, $SE_R{}^2$ is the standard error for R^2, t is a t-value, k is the number of predictors in the model, and n is the total sample size.

Based on the above the confidence interval for the R^2 of OSB was calculated as follows:

@ 99% confidence interval: *0.97424 ≤ R2 ≤ 0.98576*

It may therefore be concluded that the R^2 for OSB is different from zero (reject null hypothesis) and that its true value in the sample has been accurately estimated as lying within the lower and upper limits with as much as 99% confidence and only a 1% chance of error. This finding is not in support of any specific hypothesis but it gives an indication of the strength of the overall predictive power of the research model, especially for application to future research.

But while R^2 accounts for outcome variability as a result of the model based on the sample, the Adjusted R^2 estimates the generalisability of the results beyond

the sample unto the population from which the sample was drawn. The Adjusted R^2 is therefore the population multiple squared correlation, calculated from the sample's multiple squared correlation, given an observed R^2, the number of predictors in the model and the total sample size. The formula to calculate this is given (Soper, 2013) as:

$$\bar{R}^2 = 1 - (1 - R^2)\frac{n - 1}{n - k - 1}$$

Where R^2 is the sample R-square, k is the number of predictors, and n is the total sample size. Based on the above, the Adjusted R^2 for the OSB variable was estimated as: R^2 = .979.

This value falls within the previously calculated interval for R^2 significance given a 99% confidence level, and can therefore be considered to represent the generalisability of the sample R^2 to that of the population.

4.3.6 An Alternative Model

To provide further evidence of a model in which the effect of the predictor on the criterion variable is fully mediated by two intermediate variables as hypothesised in this research, it is useful to consider an alternative model in which, in addition to the theoretically derived and specified model relationships, a direct path is specified between the predictor RF and the outcome variable OSB, raising the alternative hypothesis that RF directly affects OSB in spite of the presence or absence of the intermediaries, perception and motivation. Such an alternative model represents a less parsimonious version of the research model, with the test of significance aimed at proving whether it does not result in a significantly better overall model than the hypothesised research model, and whether the alternative path coefficient proves to be independently significant. Although there may sometimes be conditions of partial mediation, an important check in establishing full mediation is that theoretically, the effect of X on Y, controlling for Z (that is mediator) should be zero (that is, non-significant) (cf. Kenny et al., 2003).

The default position of this research is that the direct path between RF and OSB should be zero. In order words the default research model may be taken as the

null hypothesis parsimonious model which postulates that the true population value for the direct effect of RF on OSB is zero (that is, OSB <- RF = 0). Consequently, the alternative hypothesis to this may be expressed as OSB <- RF ≠ 0.

Given that more restrictive models are harder to fit, the models above can be compared using a chi square test of worst fit, with the aim of answering the question: does the more parsimonious model fit the data any worse than the alternative, less restrictive model? In SEM, the two competing models can be simultaneously estimated and compared. Figure 4.30 represents the alternative model showing the additional path, Alt_path. In the alternative hypothesis Alt_path ≠ 0, while in the null (default) hypothesis, this path is restricted as Alt_path = 0.
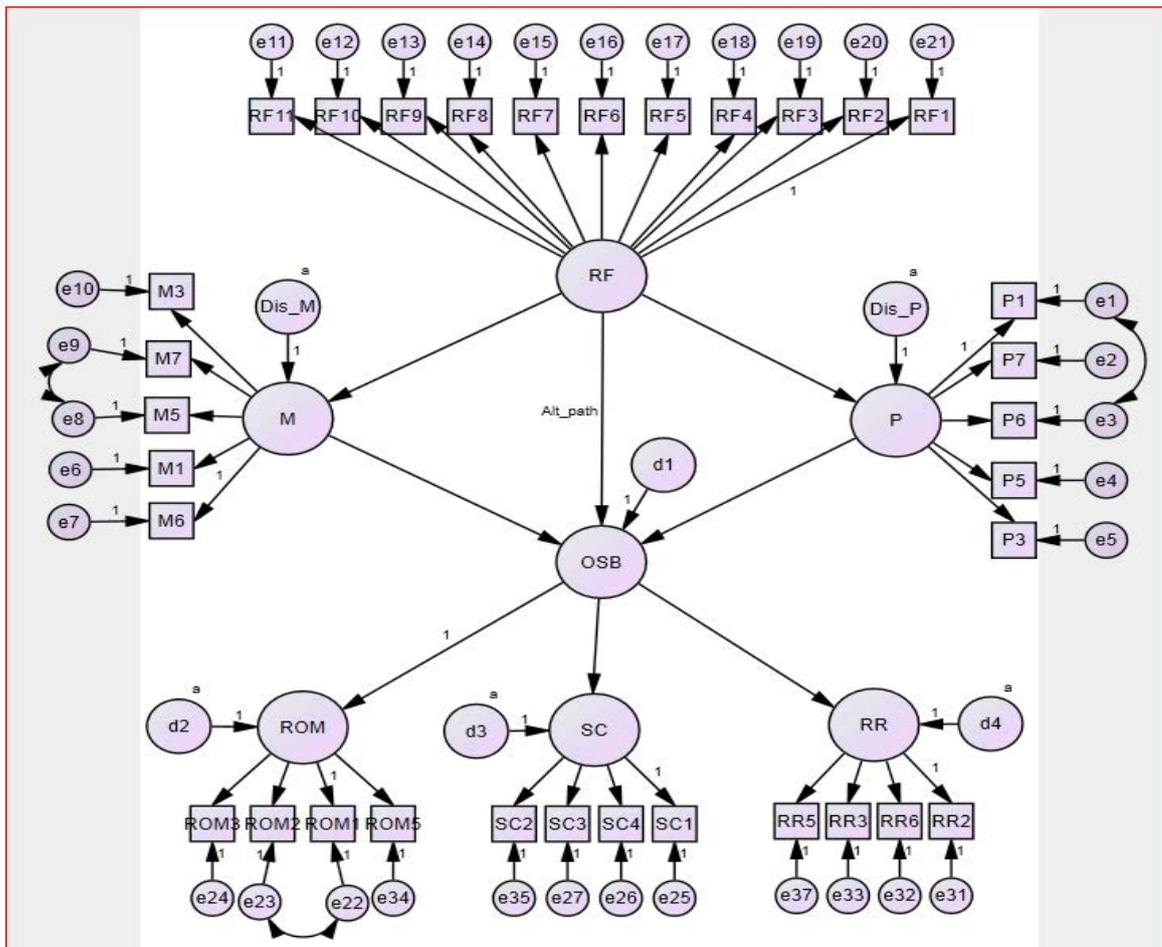
Figure 4.30: An alternative hypothesis model

In Table 4.16 an initial outstanding outcome about the alternative model is that the p-values for the alphas of OSB <- P, OSB <- M, and OSB <- RF (that is, the Alt_path) are all > .05, indicating that these paths are all non-significant. Therefore, in addition to Alt_path proving not to be a significant hypothesis, its inclusion has also led to the weakening of other path hypotheses.

			Unstandardised Estimate.	S.E.	C.R.	P
M	<---	RF	1.092	.084	12.972	***
P	<---	RF	.635	.072	8.814	***
OSB	<---	P	.851	.451	1.890	.059
OSB	<---	M	1.228	.785	1.565	.118
OSB	<---	RF	-.874	1.007	-.868	.385

Table 4.16: Regression weights for alternative hypothesis model

Furthermore, a global comparison of the two models is presented in Table 4.17. The inclusion of the Alt_path in the model has not materially improved the global fit indices, suggesting that this path is redundant (in statistical terms, = 0). In fact the CMIN/DF ratio is marginally better in the default research model. This outcome is further confirmed by the chi square statistic and p-value in Table 4.18. Assuming that the alternative model hypothesis is correct then the test shows that the research model (null hypothesis) does not fit significantly worse than the alternative model.

Consequently, the more parsimonious research model is acceptable and, again assuming that the alternative model is correct, we can accept the null hypothesis that the true population value of Alt_path = 0.

CMIN

Model			NPAR	CMIN	DF	P	CMIN/DF
Research Model Hypothesis: Alt_path = 0			72	695.412	489	.000	1.422
Alternative Model Hypothesis: Alt_path ≠ 0			73	694.303	488	.000	1.423
Saturated model			561	.000	0		
Independence model			33	5988.615	528	.000	11.342

RMR, GFI

Model			RMR	GFI	AGFI	PGFI
Research Model Hypothesis: Alt_path = 0			.048	.873	.855	.761
Alternative Model Hypothesis: Alt_path ≠ 0			.048	.873	.855	.760
Saturated model			.000	1.000		
Independence model			.601	.134	.080	.126

Baseline Comparisons

Model			NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Research Model Hypothesis: Alt_path = 0			.884	.875	.962	.959	.962
Alternative Model Hypothesis: Alt_path ≠ 0			.884	.875	.962	.959	.962
Saturated model			1.000		1.000		1.000
Independence model			.000	.000	.000	.000	.000

RMSEA

Model			RMSEA	LO 90	HI 90	PCLOSE
Research Model Hypothesis: Alt_path = 0			.037	.031	.043	1.000
Alternative Model Hypothesis: Alt_path ≠ 0			.037	.031	.043	1.000
Independence model			.184	.180	.188	.000

Table 4.17: Model fit summary for research model and alternative model

Assuming model Alternative Model Hypothesis: Alt_path ≠ 0 to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Research Model Hypothesis: Alt_path = 0	1	1.109	.292	.000	.000	.000	.000

Table 4.18: Nested model comparisons

4.4 CHAPTER SUMMARY AND CONCLUSION

This chapter presents, interpretes and explains the research results. The first part of the chapter presented a descriptive summary and analysis of the results and discussed initial considerations relating to the quality of the data obtained. In the second part of the presentation, the main research framework, including the model and associated hypotheses were discussed. The measurement model was first analysed as part of the main presentation, and following its validation, the main structural equation model was analysed. The analysis showed that the overall theoretical model was a good representation of the empirical data, based on several fit indices. With overall model established as acceptable and good, individual path relationships were examined in the form of hypothesis confirmation.

The results confirmed the central hypothesis that regulatory focus has an indirect effect on online shopping behaviour through the intermediary of the consumers' perception of, and motivation for, online shopping. In addition, the analysis confirmed individual hypotheses as proposed in the research model. In particular the results empirically confirm the essential role that perception and motivation play as intermediaries in the influence of regulatory focus on online shopping behaviour, based on the three dimensions of behaviour examined. Without the power of this intermediation, the effect of regulatory focus on online shopping behaviour was not found to be significant or to contribute to a better and improved model. In order words, only when P and M are present, does RF have a significant effect.

Following the analysis of hypothesised direct effects, the indirect mediated effects were also discussed, as these form the central propositions of this research. The indirect effects were found to be significant in all the main proposed model equations, leading to the conclusion that the effect of regulatory focus on consumers' online shopping behaviour is mediated jointly by perception and motivation. To further confirm the mediation hypothesis, an alternative hypothesis with direct effect from regulatory focus to online shopping behaviour was estimated and proved not to be significantly better than the research model. For this reason the more parsimonious research model was preferred.

In the next chapter, the results presented and analysed here will first be discussed and interpreted. Thereafter, the research implications and limitations will be discussed, and conclusions to the research will be made.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.0 INTRODUCTION

This research is one of a few to focus explicitly and primarily on testing a relationship that emphasises actual consumer behaviour in online shopping, as illuminated in the review of the literature in Chapter Two. Although there are several pieces of research that appear to express an aim to focus on consumers' behaviour (for example Cody-Allen and Kishore, 2006; Shih and Fang, 2004), the critical evaluation of these as undertaken in this research reveals that there is frequent use of surrogate variables to represent actual consumer behaviour in online shopping. Intention to use, evaluation of experience, and post usage satisfaction are some of the most frequently used surrogate variables.

This research set out to investigate a number of relationships associated with consumers and their behaviour in online shopping. Specifically, the research highlighted a number of research gaps identified from a comprehensive review of the literature which showed that aside from the limitations in the treatment of the usage behaviour variable, there was a significant gap in understanding relating to how the important trait variable of regulatory focus affects consumers behaviour in online shopping. The research investigated the question of whether the consumer's regulatory focus affects their online shopping behaviour, examining the nature of any such effect by drawing upon extant literature in the areas of consumer psychology, marketing and Internet retailing.

An empirical study utilising an online questionnaire instrument was employed to survey a random population of UK consumers based on householder configurations. Furthermore, the research attempted to provide unique insights into the question raised in relation to the nature of consumers' relationship with online shopping by using the structural equation modelling technique. Although this technique has become very popular in social and behavioural research due to its robustness and analytical strength, its application in the estimation of behaviour specific to online shopping is rare. This research demonstrates the

technique's validity, reliability and predictive capability in the context of online shopping behaviour.

In this chapter, the findings of the empirical study are discussed. The discussion focuses on the results presented and analysed in Chapter Four, and evaluates these findings in the context of the literature reviewed as well as the framework and hypotheses developed in Chapter Two. Following from this discussion, Chapter Five addresses the implications of the findings on marketing research and practice and proposes a number of strategies for marketers in the form of recommendations. Finally, the chapter discusses the limitations of the research, recommends areas for further research and concludes the thesis. In effect, Chapter Five provides a synthesis of the research findings and crystallises the results in relation to the research problem and objectives, as identified in Chapter One.

To recap, the research problems were identified in Chapter One as (i) the lack of research explicitly focusing on and accurately describing the online shopping behaviour construct, (ii) the inadequate existence of empirical evidence relating consumers' regulatory focus and their online shopping behaviour, and (iii) the unevaluated potential intermediation role of perception and motivation in the overall relationship. The general research questions associated with these problems were:

1. *Does regulatory focus affect consumers' behaviour in online shopping, so that it explains and predicts this behaviour*?
2. *Is the effect of regulatory focus on online shopping behaviour direct, or is it significantly mediated by the behavioural antecedents of perception and motivation?*
3. *What is the exact effect of consumer perception of risk and benefit on behaviour in online shopping?*
4. *What is the exact effect of consumer motivation for hedonic or utilitarian outcomes on behaviour in online shopping?*
5. *What are the implications of the nature and form of the joint relationships between regulatory focus, perception, motivation and online consumer behaviour on Internet based marketing and retail?*

The research objectives were also specified as follows

I. To review the literature on consumer behaviour in online shopping in order to clarify the existing knowledge gaps.
II. To develop a framework and derive a structural model of consumer behaviour in online shopping based on the effects of regulatory focus, perception and motivation.
III. To construct quantitative measures for the purpose of measuring the relationships proposed and developed in objective ii.
IV. To test the regulatory focus model of online consumer behaviour with structural equation modelling techniques, using field research methods for empirical verification.
V. To raise practical and theoretical implications for the results of the empirical work in objective IV.
VI. To suggest guidelines and recommendations for marketing practice in relation to online retail strategy and implementation
VII. To suggest areas for future research, as appropriate.

The discussion that follows is arranged in a structure that answers each of the research questions and at the same time covers the objectives of the research as achieved within that theme.

5.1. THE EFFECT OF REGULATORY FOCUS ON ONLINE SHOPPING BEHAVIOUR

Research question:

Q1. *Does regulatory focus affect consumers' behaviour in online shopping, so that it explains and predicts this behaviour*?

The central question asked in this research relates to whether regulatory focus affects consumers' behaviour in online shopping. As a first objective, the literature was reviewed and extant research utilised to examine this question and provide initial guidance. The review showed that regulatory focus is a situational variable as well as an enduring trait variable. For the purpose of this research,

regulatory focus was construed as a trait variable, implying that it is generally, if not consistently, invariant as a result of other factors such as experience, demographics or situations. On the basis of this conceptualisation and further review of the literature on regulatory focus in the domain of consumers and the Internet, a model to represent the role of regulatory focus in consumer behaviour was derived. The derived model is consistent with other similar models of Internet usage as a shopping domain (for example Cheung et al.'s 2003 MIAC model) in the sense that it relies on abstracting relationships between a set of unobservable psychological variables to represent consumers' relationship with online shopping.

However the model specified in this research specifically extends the current level of knowledge by depicting a relationship between regulatory focus and consumer behaviour such that the former affects the latter via a number of indirect channels, namely perception and motivation. A vigorous application of structural equation modelling along with a combination of research techniques and analytical tools produced confirmatory evidence to support the existence of this relationship. In Chapter Four, it was shown that the model as specified explains (predicts) as much as 90% of the total variability in online shopping behaviour.

This is a strong result by any account, and indicates that regulatory focus is a strong predictor of consumer behaviour – particularly in online shopping- when specified in this context. To illustrate, this model's predictive strength can be compared to other models aimed at explaining consumers' behaviour in online shopping, for example Park and Kim (2003) only found limited support for their online shopping purchase behaviour model as it accounted for only 46% of variability in the criterion variable (i.e. online shopping behaviour); although this model did demonstrate that a consumer's commitment to an online store is highly related to information satisfaction and relational benefit. Compare this to the present research model which explains as much as 98% of online shopping behaviour.

Significantly, the findings in this research as documented in Chapter Four provide fresh evidence of the validity and robustness of the trait-form regulatory focus as an underlying factor in the understanding of behaviour in general, and consumer

behaviour in particular. This is consistent with the findings which have been reported here in Chapter Two, for example by Crowe and Higgins (1997) and Trudel et al. (2011), and confirms the hypotheses advanced in this research.

Some of the weakness with previous research may be associated with how online shopping behaviour has been conceptualised. Previous research (for example Moon and Kim, 2001; Park and Kim, 2003) has focused on intention as a surrogate for actual behaviour, or viewed online shopping behaviour as composing of one behavioural dimension (for example search, loyalty or repeat shopping). In this research, online shopping behaviour was construed in terms of actual manifested outcomes, and as composing of three key behaviour dimensions, that is, response to online marketing, shopping cart abandonment and the use of risk relievers. The use of these explanatory dimensions in a combined framework represents a unique approach to the problem, and additionally explains the strong results that have been obtained.

But the manner in which regulatory focus predicts online shopping behaviour is not straightforward. The relationship is rather complex and contingent on the existence of mediation. Herein lies (one of) the problems with previous research which has failed to find stronger evidence or justification for considering regulatory focus as a valid and capable predictor of online shopping behaviour. By failing to specify and analyse the complex nature of the stated relationship, there has thus far been qualified success in finding adequate supporting evidence, which this research now provides. Specifically, this research finds evidence (as documented in Chapter Four) to confirm the model of regulatory focus derived on the basis of the argument that its relationship to online shopping is mediated by two important behavioural antecedents: motivation and perception. This is discussed in the next section.

The discussion in this chapter is structured along the research questions that were raised following the theoretical underpinnings provided in Chapter Two. In addition, the research hypotheses are discussed within the context of these research questions and the implications of the research for both practice and theory are comprehensively discussed. This Chapter also provides details of how each research objective has been achieved.

5.2 THE ROLES OF PERCEPTION AND MOTIVATION IN THE RELATIONSHIP BETWEEN REGULATORY FOCUS AND ONLINE SHOPPING

Research questions:

Q2. Is the effect of regulatory focus on online shopping behaviour direct, or is it significantly mediated by the behavioural antecedents of perception and motivation?

Q3. What is the nature of the effect of consumer perception of risk and benefit on behaviour in online shopping?

Q4. What is the nature of the effect of consumer motivation for hedonic or utilitarian outcomes on behaviour in online shopping?

It has been argued in this research following the review of extant literature, that a model of online shopping behaviour which indicates the predictive effect of regulatory focus is viable, but only strongly so if there is explicit specification of joint intermediation by perception and motivation. The reason for this is that perception and motivation were shown to be antecedent to behaviour in general, as indicated by the literature. For example, recall that perceived risk and perceived benefits as conveyed in the valence framework (Lu et al., 2007) were shown to affect how consumers consider an offer, in the decision making process, and in the actual behaviour that is exhibited toward the offer – in this case, the act of shopping online. However, it was not clear from the available literature how an important trait factor, in the form of regulatory focus, underlay the perception factor, and therefore consequent actions of consumers. Similarly, motivation was shown to affect consumers' consideration of shopping choice on the basis of whether they were biased toward hedonic or utilitarian attributes (Lim et al., 2012). Depending on whether their motivation was hedonic or utilitarian therefore, consumers were expected to exhibit behaviour consistent with this bias. But although the effects of hedonic and utilitarian motivation are clearly documented in the literature (for example, Wolfinberger and Gilly, 2001; Dhar and Wertenbroch, 2000) this research found that the links between motivation and online shopping on the one hand, and motivation and its underlying factors on the other, were not clearly defined and explained. Specifically, considering the level to which regulatory focus appeared to underlie

motivation, it was surprising that this link had not already been clearly established in research. This is where the key contribution in this research lies.

This research provides empirical evidence of the intermediation effects of perception and motivation in the relationship between regulatory focus and online shopping behaviour. In the anterior relationships, the research results revealed a strong link between regulatory focus and perception on the one hand (coefficient = .97; p = 00) and regulatory focus and motivation on the other (coefficient = .99; p = .00), thereby confirming the following hypotheses:

Hypothesis I – Regulatory focus affects consumers' perception of online shopping such that promotion focus consumers are more perceptive of the benefits associated online shopping and prevention focus consumers are more perceptive of the risks associated with online shopping.

Hypothesis II – Regulatory focus affects consumers' motivation for online shopping such that promotion focus consumers are more motivated by hedonic features of online shopping and prevention focus consumers are more motivated by utilitarian features of online shopping.

 In the posterior links, the results also revealed good relationships between perception and online shopping behaviour on the one hand (coefficient = .40; p = .05) and motivation and online shopping behaviour on the other (coefficient = .60; p = .00), thereby confirming hypotheses on the nature of the relationships between perception, motivation and online shopping behaviour:

Hypotheses III – Consumers' perception of online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more perceptive of online shopping benefits or online shopping risks.

Hypotheses IV – Consumers' motivation for online shopping affects their online shopping behaviour, such that their response to online marketing, shopping cart abandonment and use of online risk relievers, is affected by whether they are more motivated by hedonic features of online shopping or by utilitarian features of online shopping.

The total effects for all links within the system of relationships modelled also showed that while regulatory focus affects online shopping behaviour, its effect is significantly mediated by perception and motivation (coefficient T_{osb} = .984). Without this mediation, the effect of regulatory focus on online shopping behaviour was shown to be weak and insignificant (p value = .39). Hence the regulatory focus model of online shopping behaviour is verified as:

T = total effect = (RF -> Y... mediated by P) + (RF->Y... mediated by M).

This outcome confirms the following hypotheses:

Hypothesis V (a) – Regulatory focus affects online shopping behaviour, but its effect is jointly mediated by online shopping perception and online shopping motivation.

However the results of this research also show that in addition to the joint mediation effect, each of prevention and motivation can partially and independently predict behaviour in online shopping. This is an important finding because it confirms previous research on the subjects of the relationship between perception and consumers' use of the Internet in general (cf. Pookulangara et al., 2011), and also between consumer motivation and their use of the Internet in general (Mafe and Blas, 2007). The results obtained from this research therefore confirm the following hypotheses:

Hypothesis V (b) – Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping perception.

Hypothesis V (c) – Regulatory focus has an indirect effect on consumers' online shopping behaviour which is partially mediated by their online shopping motivation.

The ability of this research to obtain the results discussed above and to clearly demonstrate the strength of the proposed model has been made possible by the application of structural equation modelling. Without the use of this methodology and its associated techniques, simultaneously estimating a multi-dimensional multi-mediated model such as specified in this research would prove very

complex, and complicated to interpret. This is because traditional approaches like multiple regression and other multivariate techniques do not provide capacity for simultaneous estimation of model equations. For this reason, the analysis methodology may be considered as another important contribution of this study. Although structural equation modelling is commonly used in consumer research as a whole, the actual number of studies utilising this methodology to analyse consumer behaviour on the Internet is surprisingly limited. This is perhaps one of the reasons why assessing the behaviour construct in a composite and concatenated manner has been problematic for many researchers, leading to the use of surrogate and single dimension variables to explain actual usage behaviour. In this research, thanks to the robustness of SEM, it was possible to simultaneously use three behavioural dimensions to construct and represent the high level factor: online shopping behaviour.

In the next section, this discussion focuses on the strength of individual relationships (path coefficients) and effect sizes, before proceeding to examine the implications of the findings in this research in general, and specifically the implications and consequences associated with the three dimensions of online shopping behaviour, which are: online marketing, the online shopping cart and online risk relievers.

5.3 IMPLICATIONS OF THIS RESEARCH FOR ONLINE SHOPPING PRACTICE

Research question:

Q5: What are the implications of the nature and form of the joint relationships between regulatory focus, perception, motivation and online consumer behaviour on Internet based marketing and retail?

The findings in this research have practical implications for marketers in the areas of online advertising and marketing, online retail and general business-to-consumer e business strategy. Currently, marketers and e-retailers are looking for answers to several questions relating to the manner in which consumers respond to, and engage with the Internet as a commercial and transaction

medium (Hsieh and Chen, 2011). This quest goes beyond a mere understanding of consumers for the purpose of, and the desire to, increase sales; it has become focused on how e-businesses could gain competitive advantage by ensuring that consumers are only offered what they want: that is online shopping attributes that are suited and customised to individual consumer differences, such as differences in circumstances or situations, differences in demographics, and increasingly, differences in personality and psychographics. In addition, by knowing what each type of consumer wants, and offering them only that, e-business marketers and retailers can minimise their costs. This is one of the advantages traditionally associated with segmentation. For example, rather than invest huge amounts of money providing risk relievers across the board, retailers may do better by providing context based risk relievers coupled with an understanding of whether the consumer's profile indicates a high need for risk relievers, and which type of risk reliever is appropriate for that consumer. For a promotion focused consumer, the best risk reliever may well be one that addresses maximum enjoyment of the product or service, rather than one that addresses safety and avoidance of risk. Similarly, for a prevention focus consumer, the best risk reliever may not necessarily be a third party seal but could relate to the ease of use and ease of decision making through the availability of central route cues.

The overall findings in this research relate to the effect of regulatory focus on consumer behaviour in online shopping, as mediated by perception and motivation. What this means is that if marketers are aware of the consumers' regulatory focus disposition, they can manipulate and influence their behaviour by also designing marketing and retail propositions that align with the perceptions and motivations associated with that regulatory focus. Unlike previous research which only estimated the direct effect of regulatory focus on behaviour (cf. van Noort et al., 2008; van Noort, 2009), this research proposes that in order to establish a stronger basis for predicting behaviour in online shopping, the influence of perception and motivation should also be accounted for. This also means considering associated factors liken attitude change, elaboration likelihood, decision making preferences, cognition and affect. Hence, using the model advanced in this research can provide a robust framework for marketing and retail practice in online shopping.

Establishing regulatory focus in the online shopping context may be challenging, but this can possibly be done by collecting pre-transaction information and by using historic behavioural data – for example frequency of purchase, length of time spent shopping online, types of goods purchased, and single amounts of money spent. This type of information could reveal a great deal about the consumer's approach or avoidance disposition, two elements of behaviour which are directly related to the individual's regulatory focus. Indeed, some retailers and advertisers like Amazon and Google already have dynamic and robust algorithms for collecting and analysing behavioural data. However theres is no evidence that such data is currently being utilised to suppress or propagate marketing and other web design content according to any established insights about the consumer's regulatory focus, online shopping perception, or motivation for online shopping. This research demonstrates the case for online retailers and marketers to strongly considering the incorporation of these behaviour-predicting variables into their consumer approach and communication strategies.

But how can the knowledge of consumers' regulatory focus, combined with their perception of risk or benefit, and hedonic or utilitarian motivation for online shopping, specifically help marketers and retailers? In this research, three outcomes of behaviour in online shopping were shown to be predictable from such knowledge. These are considered in turn.

5.3.1 Response to Online Marketing

The results of this research show that response to online marketing is an important dimension of the construct online shopping consumer behaviour. This dimension accounted for a significant portion of the variability in the behaviour construct as specified in the research model, with a coefficient of .99. What this means is that consumers' response to online marketing and advertising content, in general, can be strongly predicted, if their regulatory focus type is known. This is because by knowing their regulatory focus disposition, the nature of their perception and motivation as associated with online shopping can also be established. Therefore, assuming the correctness of the research model advanced, online marketers can design specific models and create algorithms which attempt to establish a consumers' regulatory focus disposition, and consequently determine the level of advertisement and marketing content that

will be suitable for any particular consumer. The findings in this research show that prevention focus consumers are more motivated by finishing the shopping task and achieving the utilitarian shopping objective. For such consumers, some advertisement and marketing content may present distractions and will therefore be viewed as detracting and obtrusive (the central routers). Retailers and advertisers will therefore need to consider to what extent they are willing to risk exposing these consumers to marketing and advertising content in their web offerings, considering that switching and decision making costs in online shopping are low, relative to alternative means of shopping and antagonised consumers may easily change retailer.

Of course, marketers may find it expedient to overlook the insights that this research model provides, and there may be two reasons for this: the first is that the marketer may prefer the risk of mass marketing to a broad and psychologically unsegmented market, in the hope that the returns will eventually outweigh the disadvantages of this approach, thus fulfilling the economic logic of scale; the second is that the marketer may be more persuaded by the arguments of the mere exposure hypothesis (cf. Baker, 1999) and conclude that even where there is initial negative response to online marketing and advertising content due to regulatory focus disposition of the consumer, there will be an eventual pay off arising from the effects of mere exposure to the content. Both these are potentially dangerous strategies and may lead to the generation of negative affect from prevention focus consumers, because as has been explained in section 2.11.2, consumers constantly learn from their experience and adapt their habits to suit their regulatory fit; for this reason, marketers should consider carefully the strength of the effect of regulatory focus on online shopping behaviour as presented in this research before deciding the way forward for their online targeting strategy. It is important to be clear that this research does not argue for the complete abandonment of marketing and advertising to prevention focus consumers. Rather, the implication discussed here relates to the nature, frequency and form of marketing and advertisement.

Although not explicitly analysed in this research, another factor to consider is the type of marketing communication that may work for some consumers but not for others. For example, static advertisements, as opposed to interactive or pop-up

formats are considerably less intrusive. Prevention focus consumers should therefore be more amenable to this form of advertising. On the other hand, promotion focus consumers should find interactive formats of advertising more fun, adventurous and therefore more interesting. Hence, understanding the consumers' regulatory focus can also help online marketers dynamically determine the most suitable format of marketing and advertising for the consumer. In this research, there was no attempt to explicitly determine whether type of marketing (for example emails, recommendations, interactive banners, pop ups etc) had different effects on consumer based on their regulatory focus. However this is important to consider because of its consequences on other aspects of online shopping behaviour such as shopping cart abandonment (discussed below), and e business marketers should seek information in this regard from other sources such as future research and experience.

5.3.2 Shopping Cart Abandonment

As consumers shop more online, a particular behaviour that has become increasingly frustrating to retailers is shopping cart abandonment, which was described in this research as the non-completion of the shopping task or failure to check out after a consumer has collected goods in their shopping basket (otherwise referred to as non-conversion, in retail parlance). This behaviour creates both strategic and practical issues for the retailer: potential purchases are not made and as a result are likely lost to the competition; and server resources are used up during the shopping event without making a purchase, thus resulting in net loss to the retailer. Because of the importance of understanding this behaviour, shopping cart abandonment was specified as one of the dimensions of online shopping behaviour in the regulatory focus model of online shopping.

The objective was to confirm first whether this dimension significantly explained variability in online shopping behaviour, and secondly to demonstrate therefore that the behaviour of shopping cart abandonment can be predicted from the consumers' regulatory focus, in combination with knowledge of their online shopping perception and motivation. The outcome of the empirical investigation provided strong support for these links: shopping cart abandonment contributed

significantly in explaining the variability in online shopping behaviour (coefficient = .97). The direction of the coefficient also provides important information. It means that shoppers with a promotion focus are more likely to abandon cart than shoppers with a prevention focus.

This outcome is consistent with other findings relating to regulatory focus and can be explained as follows: (i) promotion focus consumers are less motivated by utilitarian factors of online shopping like task completion during the shopping event. As a result, the completion of the shopping event by checking out is of less priority, and because of the relatively low cost associated with abandoning the shopping cart, this is easily done. On the other hand, prevention focus consumers are concerned with minimising loss (for example the loss of time and effort spent on the shopping event) as a result of which they prioritise task completion during the shopping event (central routing). Consequently, prevention focus consumers are more likely to complete their shopping once commenced or once they have added items into the shopping cart. Similarly, because prevention focus perceive a higher risk than benefit in online shopping, their use of online shopping will tend to be disciplined, controlled, and as a result aimed at completion, whereas because promotion focus perceive more fun and adventure than risk in the medium, their use of online shopping will be more sporadic and impulsive, resulting in high frequency of non completion.

Knowledge of this behavioural difference can help retailers design conversion mechanisms that target consumers according to their regulatory focus. In general, prevention focus consumers will need less persuasion but more reassurance to complete their shopping, whereas promotion focus consumers may need to be enticed or nudged toward shopping task completion by the use of rewards and the avoidance of any potential distracters. For example, the use of risk relievers at check out may provide additional assurance to prevention focus consumers and aid their decision to complete the shopping, but may prove distractive to promotion focus consumers and lead to shopping cart abandonment if the wrong type of risk reliever is utilised. Similarly, including marketing content and promotion at check out may particularly create distraction for promotion focus consumers, unless this content explicitly rewards the shopping task completion.

The relationship between regulatory focus and shopping completion (or shopping cart abandonment) has other implications for online marketing and the design of risk relievers. For example, retailers will need to carefully consider the use of promotions and advertising at checkout points, which may be viewed as critical decision points. For prevention focus consumers keen on the task completion, such advertising is likely to be ignored as it may prove distracting and even annoying; for promotion consumers focused on adventure and discovery, the wrong kind of marketing or advertising may elicit a positive response but will also distract from completing the task at hand and consequently lead to shopping cart abandonment. Of course these behaviours may be mitigated by the use of smart shopping technology, for example technology that allows consumers to save their shopping carts and return to them later, but this approach is still risky and without guarantee, and should therefore be considered carefully by retailers. For instance, there is no guarantee that a saved shopping cart will subsequently be checked out once the shopping "flow" is broken.

5.3.3 Use of Risk Relievers

Risk relievers are decision aids that help reduce the effect of perceived risk in consumers. In online shopping, risk relievers have become particularly important because of the high level of risk associated with shopping and retail activity in this medium. Recalling the relationship found between perceived risk in online shopping and regulatory focus as reported in Chapter Two (van Noort et al., 2008), the implications of the findings in this research as related to the use of risk relievers by consumers can be evaluated in perspective. Consumers' behaviour relating to the use of risk relievers was found to significantly contribute to the variability in the online shopping behaviour construct (coefficient = .98), thus indicating that regulatory focus, combined with the mediating effects of online shopping perception and motivation, is a significant predictor of how shoppers utilised online shopping risk relievers. Specifically, the research shows that prevention focus consumers are likely to rely more on risk relievers as decision making heuristics than promotion focus consumers. This conclusion is consistent with other studies which show that prevention focus consumers perceive a higher level of risk in online shopping than promotion focus consumers (van Noort et al., 2008; van Noort, 2009; Trudel et al., 2011)

and therefore have a higher need for risk relief. To the online retailer, this means that the provision of risk relievers should be aimed mainly at this consumer profile or segment. For example, risk relievers such as guarantees and favourable post-purchase policies can be particularly helpful in encouraging this type of consumer to make a purchase; similarly, the use of passwords and other security measures requiring the shopper's mandatory input may be effective risk relievers for these consumers. However, risk relieving strategies requiring mandatory input from consumers may also be counterproductive: for example, this would be the case if requiring input of sensitive or private information creates additional perception of risk rather than ameliorates it. And while short term risk relievers such as security seals may be sufficient with promotion focus consumers, the outcomes in this research suggest that because of their higher need for reassurance, prevention focus consumers will respond better to risk relieving strategies that aim to build long term trust and confidence in the online retailer. Retailers may use heuristics such as strong brand reinforcement, familiarity and established history to reinforce risk relief for this type of consumer. Another means for providing risk relief may be in the form of designing Web shops that enable task completion, minimise clutter and show only carefully considered and relevant marketing content – that context and content sensitive marketing communications.

5.4 RECOMMENDATIONS FOR ONLINE RETAIL AND MARKETING PRACTICE

The implications discussed above are of significant import to online marketers and retailers because they demonstrate how the findings in this research have potential consequences for online retail practice and consumer behaviour. The conclusions drawn from the research, and upon which the implications are based, are a small but significant contribution of this research to the existing body of knowledge about consumers engagement with online shopping. Continuing in this spirit of a small but nevertheless significant contribution, this research makes the following recommendations to support online shopping retail practice.

5.4.1 Online Marketing Communications

This research has shown how consumers differ in their usage of online shopping based on their regulatory focus and its consequent effects on the consumers' online shopping perception and motivation. As a result of these influences, consumers were shown to respond differently to exposure to online shopping marketing. While promotion focus consumers are generally more likely to respond to, and interact with,   online marketing content, prevention focus consumers are less likely to respond, or to respond positively to such content. As such, it is recommended that the inclusion of online marketing content should be carefully considered, and where possible customised on the basis of knowledge of the consumer's regulatory focus. Exposure to marketing content should be kept at a minimum for consumers known to exhibit prevention focus behaviours. For example, if in the past a consumer has been known to avoid recommendations, or to have set their preferences to avoidance of marketing and advertising content, retailers may utilise this knowledge to ensure that what the consumer is exposed to during online shopping is appropriately devoid of such content. And where it is deemed necessary to expose this kind of consumer to marketing content, care should be taken to ensure that such content is non-intrusive and does not thwart the consumer's task-oriented shopping objective.

On the other hand, marketers can also aim to target promotion focus consumers with sufficient marketing content and advertising variety. Particularly, content that encourages this type of consumer to be involved and be interactive in co-creation during the shopping event may be appropriate. For this type of consumer, variety is king, and should be an integral part of the online shopping retail offer. Marketers can therefore take advantage of the need for variety and interactivity by designing systems that present opportunities for consumer involvement in these areas, and at the same time satisfy the marketing objective.

For the above reasons, understanding the consumers' regulatory focus is important to retailers and marketers, as this enables them to also understand the perceptions of risk and benefits, the hedonic or utilitarian motives, and therefore the usage behaviour in relation to how they respond to online marketing.

5.4.2 Shopping Cart Design

This research has shown that regulatory focus and its consequences upon perception and motivation have an influence on consumers' behaviour related to online shopping carts. Because consumers with a prevention focus perceive online shopping as more risk than benefit imbued, and are concerned with minimising exposure to risk, their behaviour during online shopping is geared toward completing the shopping task with as little fuss and unnecessary distraction as possible. Similarly, for this consumer, effort and time spent in online shopping should be rewarded, in this sense with the successful completion of the online shopping activity. As a result, prevention focus consumers are less likely to abandon their shopping cart once they spend time sourcing and collecting goods, whereas promotion focus consumers are more likely to abandon shopping cart even after utilising time and effort filling it with goods. For this reason, retailers may wish to pay attention to the design of the shopping cart.

Shopping carts that facilitate a checkout system devoid of too many distractions (such as advertisements, suggestions, recommendations and reviews at the checkout stages) will be particularly suitable for promotion focus consumers, as this will minimise the likelihood of their abandoning shop to pursue another interest or distraction. Similarly, for prevention focus consumers - although the effect will be different - care should be taken in including these attributes at the checkout stages, ensuring for example that they do not constitute obstructions to the ultimate checkout goal of the consumer, as this may in turn lead to disaffection and negative affect for the retailer's web offering. Hence, display advertising may be appropriate in this case, but an advert that requires any form of interaction will not. Retailers and marketers should therefore carefully consider how to engage consumers at the web checkout, manoeuvring and adapting their content in real time.

5.4.3 Provision of Risk Relievers

It is common for online retailers to invest significant amounts of their budget toward providing risk relievers and creating a safe-environment perception for their web store. Typically, this is achieved through methods like third party endorsement seals, display of prominent terms and conditions which take up

valuable online estate, and the provision of expensive –and sometimes unsustainable – after sales policies. But as this research shows, not all consumers have a high need for risk relievers. While prevention focus consumers perceive a high risk in online shopping and therefore will be more persuaded by strategies to reduce risk perception, promotion consumers may not be so affected. In fact, from the evidence in this research, strategies to reduce risk perception may present a nuisance to some consumers who are promotion focused; this is because such consumers may find some strategies like registration requirements and use of special codes (for example CAPTCHAs) before transaction completion to be inhibitive of their fun directed objectives. This may constitute a source of disaffection and negative affect, resulting in abandonment of the shopping event and future patronage avoidance.

5.4.4 Other Considerations for Internet Retail and Marketing

Although this research focused specifically on three behaviours in online shopping, the findings in here can also be related to other aspects of online shopping consumer behaviour, with consequences for retail and marketing practices in the domain. For example, with the knowledge that this research has provided about the effect of regulatory focus on consumer perception of risk and benefit in online shopping, retailers can plan their web offering, emphasising fun, entertainment and adventure for promotion focused consumers, and emplacing security, safety and reliability for prevention focused consumers. Retailers can also aim specific strategies at the right segment of consumers: for example, because prevention focus consumers are risk-averse, strategies to win and retain their trust from the outset will be more important than strategies to increase their loyalty and patronage. This type of consumer, although unlikely to buy frequently or spend large volumes of money, is nevertheless more likely to remain loyal and reliant as a source of steady business. On the other hand, although the promotion focus consumers may, as an example, buy more, respond more positively to cross-selling and generally be more responsive to retailers attempts to increase sells, their propensity to explore and discover also means that they will, in the long run, be less loyal and therefore less lucrative, costing retailers more in replacing them. Retailers should therefore consider

which consumers they target for long term strategic loyalty and which they target for short term tactical gains.

The above recommendations are not exhaustive, but provide a basis for some initial application of the knowledge garnered from this research. Other explanations may be available to explain consumers' behaviour on the Internet, and these would no doubt result in other approaches that may be more appropriate.

5.5 ALTERNATIVE AND EQUIVALENT MODELS

It is important to acknowledge in this research that other possible explanations are possible and plausible in explaining the relationships hypothesised by the chosen research model. This is a particularly important acknowledgement in structural equation models where a number of equivalent but differently specified models may have provided similar statistical results, and therefore explanations (as explained in the example in section 4.3.6). However, although this is possible, the SEM researcher relies on a priori development of theory, and subsequently the use of a theory rich model to undertake the analysis and arrive at the conclusions. In this research, an alternative model was tested and compared to the research model, with the results showing that the research model as specified was better. With regards to equivalent models, their existence cannot be ruled out, however there is no known way of exhausting all model possibilities, and a more important consideration in this research was to ensure that the model advanced and tested was theoretically justified and empirically validated. In future, other models may emerge that will provide the same level of predictive validity and power, but until this is achieved, the present model constitutes an advancement of the subject.

5.6 CONTRIBUTIONS FROM THIS RESEARCH

This research has made important contributions to the emerging but increasingly popular subject of consumer behaviour on the Internet, in three key areas: conceptual, methodological and empirical.

Conceptually, the research developed a new model of consumer behaviour in online shopping, relying on the underlying effect of regulatory focus on a consumer's perception on online shopping as well as motivation for shopping online. Unlike previous models, this research's model specified that perception and motivation were not the primary predictor variables but were rather intermediate variables within which regulatory focus was the primary predictor, and online usage behaviour was the terminal criterion variable. As a result of this specification, it was possible to obtain strong empirical evidence of the effect of regulatory focus on online shopping usage behaviour. This comprehensive and yet parsimonious model is simple to understand and practical to apply, and will prove useful to both academic understanding of the subject and marketing practice. Another conceptual contribution was in the form of the constitution of online usage behaviour with a combination of three behavioural variables. This is in contrast to previous research which utilised surrogate variables or utilised single behavioural dimensions to describe online usage behaviour.

Methodologically, this research's contribution relates to the use of structural equation modelling to simultaneously estimate the relationships between regulatory focus, online shopping perception, online shopping motivation and online shopping behaviour. The advantage of this methodological approach over previous approaches that used multiple regressions is that the true strength and power of the joint, isolated, direct, indirect and total relationships were estimated and demonstrated in one comprehensive framework.

Empirically, this research obtained rich primary data to support the conceptual framework that was derived from extant literature. From this data, it was possible to utilise a robust structural equation model approach to test the fit of the research model to the data, thereby confirming the goodness of individual relationships as well as the overall model and framework. This confirmatory approach culminated in the drawing of research conclusions and recommendations for online retail and marketing practice. To the best of the researcher's knowledge, no other research has provided quite the same kind of contribution, not advanced the field's knowledge in this exact same manner.

5.7 LIMITATIONS OF THE STUDY

The contributions from this research can be improved upon with future research. In the first instance, it is important to point out that there is no consensus on the conceptualisation of the regulatory focus construct. Whereas a number of researchers prefer to conceptualise it as a dispositional trait (cf. Higgins et al., 1997), many others are more persuaded by its conceptualisation as a temporal state or situational induced variable (cf. Forster et al., 1998). On the basis of the assumptions in this research, regulatory focus was conceptualised as a dispositional trait variable, and this may constitute a limitation on the application of a model based on it. It would be interesting to evaluate how situational inducement of regulatory focus could potentially affect consumers' behaviour in online shopping, because if this were possible, then marketers may be able to manipulate the behavioural outcomes by controlling the situational regulatory focus variable.

The second limitation in this research relates to the model tested and empirically verified. Although it was shown from the literature review that a full model of online consumer behaviour consists of four dimensional constructs including pre-adoption perception, adoption motivation, actual usage and post usage evaluation, the eventual model tested and analysed in this research did not include the post usage evaluation construct. The reason for this was because the researcher sought to minimise the complexity of the model and elected to focus on the key aspect of online shopping that was interesting to the present research, which is actual usage behaviour. However, in doing so, the research has placed a limitation on achieving a full understanding of the reality of online shopping and its four dimensions. Had the fourth construct being included, it is conceivable that the results obtained would have been significantly different. For this reason, use of the model advanced in this research should be made bearing this limitation in mind.

The third limitation in this research is related to the methodology utilised. Although the regulatory focus instrument and scale adapted in this study have been previously tested and validated, there is always concern relating to the use of questionnaire scales and surveys in consumer behaviour, the most frequent issues arising from common method bias and reliability. Similarly, survey as a

research design has numerous problems, not least the appropriateness and representativeness of the sample chosen. For example, in this research, it was not possible to entirely achieve strict random samples in the final results – it is likely that although households were selected following a means of scientific random sampling, the final response was not necessarily random given that the researcher had no control on potential respondents' access to Internet facilities, and on who eventually responded to the online survey – did a valid and legitimate respondent complete the survey, and was it a single or joint effort? While some effort was made to address these issues in both the design and post data stages, there remains the possibility that some bias may have been overlooked, thereby compromising the results.

However the only known way to completely minimise bias issues in behavioural research is to undertake controlled experiments or observations of behaviour; but given the budget, time and scope limitations placed on this research, it was not possible to further test the hypotheses using appropriate experimental or observational techniques. In addition, this research could have benefited from in depth interviews of a qualitative nature to further establish shopping perceptions and motivation associated with online shopping, but this was also not possible because of the aforementioned constraints.

The fourth limitation in this research relates to the choice of dimensions utilised to assess the online behaviour construct. Although the three dimensions used are important and make significant contribution to the variability in the construct, there are other dimensions which may also have provided this explanation. For example, the dimension of search behaviour in online shopping has been shown previously to be a major component of the online shopping behaviour construct (Peterson and Merino, 2003). Similarly, more specific indicators of behaviour such as frequency of online shopping and type of product purchased could have been used to assess the online shopping behaviour construct. Consequently, this research does not provide an exhaustive understanding of the usage behaviour construct, but provides an indicative evaluation of the effect of regulatory focus based on the three dimensions utilised.

Finally, this research does not provide an evaluation of the potential effect of different products on online shopping behaviour, nor does it fully assess the

potential moderating effects arising from experience and demographic factors. Previous research has shown that the type and price of product or service being purchased is important (Rowley, 2001) and affects consumers' risk evaluation and possibly their risk perception (van Noort, 2009). Similarly research pointing to the potential impact of experience and demographic factors were highlighted in the literature review. Consequently, it is conceivable that the effect of regulatory focus on behaviour in online shopping is also moderated by the type of product or service in question, the consumer's experience of online shopping, and the consumer's demographics. In addition, a demographic such as relationship or family status may also have an effect, for example in the form of joint decision making. Where the decision makers are different in their regulatory focus, the effect of this trait on behaviour may not be so straightforward and requires investigation. A better understanding of these factors will be informative and beneficial to online retailers, as it will further explain differences in consumer behaviour online.

5.8 RECOMMENDATIONS FOR FUTURE RESEARCH

The limitations discussed above provide direction for future research. Specifically, in future, research into consumer behaviour in the online shopping domain will benefit from the following recommendations:

1. The use of more personality and trait based variables suchs as propensity to trust in evaluating consumer behaviour in online shopping, to provide a more comprehensive understanding of the underlying primary factors associated with such behaviour.

2. A broader conceptualisation of the regulatory focus orientation variable to include situational induced and temporal dimensions of the concept, in order to capture variability that may be attributable to potential conceptual differences or limitations.

3. Future research should consider building on the model developed in this research, and should specifically include and address the dimension of post-purchase behaviour. Although this dimension was not considered in this research due to scope limitation, it will be interesting and relevant for

marketers and retailers to understand consumers' behaviour in relation to the post-purchase post-usage stage of online shopping. This is important because previous research shows that this behaviour can have consequences for repeat patronage, recommendation to others, review of retailer and general consumer goodwill toward the retailer, brand or website.

4. Other methodologies should be considered in future research, for example to provide a more in depth understanding of the issues associated with perception and motivation for online shopping. While the present research has provided a good description of the model representing the comprehensive underlying factors affecting online shopping behaviour, it is limited by how much it has been able to answer the "why" questions. That is, the present research has shown how, but not provided enough explanation of why, regulatory focus, online shopping perception and online shopping motivation combine to affect the criterion variable of actual usage behaviour. A qualitative approach may address this limitation. Similarly, a methodology based on an experimental testing of the hypotheses may provide stronger and more reliable evidence to academics and practitioners about the robustness of the model and its wider applications. Therefore, in future research, the model proffered in this research should also be verified through the use of experimental designs and methodologies.

5. Future research should consider the use of a wider array of variables to represent usage behaviour. In this research only three dimensions were considered, but as previous research has shown, there are several other aspects of behaviour that may be utilised to represent online shopping behaviour, and the results and outcomes may vary depending on which dimensions are used, how they are combined, and what indicators are used to measure them. A future research effort addressing a comprehensive identification and documentation of what factors fully represent actual usage behaviour in online shopping would be highly valuable.

6. Finally, in future research, consideration should be given to the potential moderating role of other important factors like type and value of product in question, consumers' trust in, and experience of, online shopping, as

well as their demographic differences. These variables will no doubt affect the outcome of any research addressing consumer behaviour in online shopping, and may therefore provide a better understanding of this area of academic research and marketing practice.

5.9 REVISITING THE AIMS AND OBJECTIVES

This research set out to describe and explain the relationship between regulatory focus and online shopping behaviour, specifically showing how this relationship is not direct but rather mediated by perception and motivation. An aim of the research was to demonstrate that the effect of regulatory focus on online shopping behaviour was actually stronger than had been previously documented, but that this was only made clear when the mediating impact of online shopping perception and motivation was taken into account, and when the online shopping behaviour was conceptualised as actual usage behaviour rather than as represented by surrogate variables such as intention or post usage expression of satisfaction. Finally, the research aimed to provide a comprehensive model of the relationship between regulatory focus and online shopping perception, motivation and usage behaviour, to empirically test this model by collecting survey data from UK consumers, and to discuss implications and recommendations based on an analysis of the fitness of the model to the data collected.

Specific objectives were advanced in order to meet the above aims, and these objectives have all been met in the course of this research. Objective One was met by carrying out a comprehensive review of the literature on consumer behaviour in the domain of Internet and online shopping, as a result of which gaps were identified in terms of the level of depth of current understanding. Objective Two was met by developing an underlying framework and deriving a structural research model of consumer behaviour in online shopping, based on the antecedent effects of regulatory focus, and the intermediating effects of perception and motivation. Objective Three was achieved by developing a measurement instrument for the purpose of empirically validating the research model proposed and its associated hypotheses. Objective Four was achieved by undertaking a field study in the form of a UK wide survey of individuals with a household sample frame, thereby generating quantitative data to support the

research model and hypotheses advanced. Objective Five was achieved by analysing the data collected through the structural equation modelling technique, and then based on the results obtained, raising practical and theoretical conclusions and implications for the advancement of the subject. Objective Six was achieved through the making of specific recommendations toward improved practice in online retail and marketing, and the suggestion of best practice guidelines through specific understanding and application of the model advanced in this research. Finally, Objective Seven was achieved by advancing specific recommendations toward future research in the area of consumer behaviour in the Internet domain, following an analysis of the limitations found in this research. Table 4.19 summarises the objectives achieved in this research.

Objective	How this was met
1	A comprehensive review of relevant literature was undertaken and the knowledge gaps clarified.
2	An underlying framework was developed, upon which a structural research model was derived.
3	A measurement instrument in the form of a multi-scale questionnaire was developed.
4	A field study, composed of a UK-wide survey of online shopping consumers was conducted and data collected from over 300 respondents.
5	The data collected was analysed through the use of structural equation modelling and research results obtained.
6	Specific recommendations were made following a discussion of the results, for both marketing research and marketing practice.
7	Recommendations for areas of future research were made based on the findings and discussion of the limitations of this research.

4.19 Summary of Objectives Achieved

5.10 CONCLUSION

Understanding how consumers interact with the Internet for the purpose of shopping and buying online is an onerous task, but one that has recently become an important focus subject for marketing. The dictates of technology have broadened the focus of consumer behaviourists from traditional and more familiar terrains to the fast-growing and far reaching domain of behaviour on the

internet. Whether it be browsing, shopping, or merely researching, consumers' interaction with the Internet has become of paramount important to the success of the modern organisation. Initially, researchers focused on understanding issues associated with consumers' adoption and acceptance of the Internet for commercial related purposes. However, little attention was paid to the actual usage behaviour once adoption had occurred. Specifically in the area of consumer shopping online, little was understood about how consumers behaved.

A number of studies have begun to address this imbalance, focusing on explaining the behaviour, as well as evaluating the background to the behaviour, that is, the antecedents. However, an initial review of the subject showed that although several studies had sought to explain online shopping behaviour and its antecedents, these studies were either not comprehensive in their provision of models and frameworks toward this understanding, or did not utilise appropriate conceptualisations and methodologies, relying instead on methods that are traditional to consumer behaviour – for example, antecedents of online shopping behaviour have been frequently discussed without recourse to the variables underlying those antecedents, such as personalities and traits; similarly, behaviour has been explained by the use of surrogate variables such as intention. While there is nothing wrong with the use of established methods in traditional marketing and consumer behaviour research in examining consumers on the Internet, failure to adequately address the uniqueness of this domain through properly framed theoretical premises and customised methodologies has left a number of gaps in the existing knowledge.

The aim of this research was therefore to provide a comprehensive model that explained the consumer's behaviour in the domain of online shopping, including antecedents to this behaviour, as well as the variables underlying these antecedents. Based on the review of past contributions to the subject, the research proposed that online shopping usage behaviour was determined by consumers' regulatory focus disposition. However, building upon previous conclusions, this research also proposed that the effect of regulatory focus was not direct on behaviour, but that instead, usage behaviour in online shopping was preceded by consumers' perception of online shopping as well as their motivation for online shopping. These two variables were therefore

conceptualised as mediating the relationship between regulatory focus and online shopping behaviour. Furthermore, this research adopted a different conceptualisation of the online shopping usage behaviour construct, in which this construct was construed as containing three dimensional attributes: response to online marketing, shopping cart abandonment, and use of risk relievers. Finally, this research synthesised these various aspects discussed above into one comprehensive model of the indirect effects of regulatory focus on online shopping usage behaviour as mediated by perception and motivation, and this was simultaneously tested using a structural equation modelling analysis. The results of the analysis showed that regulatory focus - mediated by perception and motivation - is a powerful predictor of consumer behaviour in online shopping. These findings contribute to previous knowledge about regulatory focus and its effects on behaviour, and provide an alternative improved model, for analysing, evaluating and understanding consumer behaviour in the online shopping domain.

A challenge now is for researchers and practitioners to find a workable means of establishing consumers' regulatory focus, in order to be able to predict their behaviour, and therefore dynamically provide specific, targeted environments, content and options to suit each regulatory focus disposition. One way of doing this is to utilise historic behavioural information, where this is available, such as has been practiced by Google analytics for targeted marketing. However, new ways and methods must be found to establish a consumer's likely regulatory focus as early as possible in the relationship, so that the consumer's preferences may be utilised to facilitate early bonding and lock-in. The present research does not have scope to proffer a solution for doing this; however it has provided a descriptive model of consumers' behaviour in online shopping which is dependent primarily on regulatory focus and secondarily on perception and motivation. It is hoped that this contribution will help practitioners in the interim to design appropriate online retail systems, and at the same time stimulate interest in research towards regulatory focus as a basis for optimising the online shopping consumer-retailer relationship.

* * *

REFERENCES

AAKER, J.L. and LEE, A.Y., 2001. "I" seek pleasures and "We" avoid pains: the role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research,* 28(1), pp. 33-49.

AJZEN, I., 1991. The theory of planned behavior. *Organisational Behavior and Human Decision Processes,* 50(2), pp. 179-211.

AJZEN, I., 1985. *Action control: From cognition to behaviour*. New York: Springer-Verlag.

AJZEN, I. and FISHBEIN, M., 1980. *Understanding attitudes and predicting social behavior.* NJ: Prentice-Hall.

AKAAH, I.P. and KORGAONKAR, P.K., 1988. A conjoint investigation of the relative importance of risk relievers in direct marketing. *Journal of Advertising Research*, 3(3), pp. 38–44.

ALBA, J., LYNCH, J., WEITZ, B., JANISZEWSKI, C., LUTZ, R, SAWYER, ALAN., and WOOD, S., 1997. Interactive home shopping: Consumer, retailer, and manufacturer incentives to participate in electronic marketplaces. *Journal of Marketing, 61*(2), pp. 38-53.

ALLEN, I.E. and SEAMAN, C.A., 2007. Likert scales and data analyses. *Quality Progress,* 40(7), pp. 64-65.

ALLENBY, G., FENNELL, G., BEMMAOR, A., BHARGAVA, V., CHRISTEN, F., DAWLEY, J., DICKSON, P., EDWARDS, Y., GARRATT, M., GINTER, J., SAWYER, A., STAELIN, R. and YANG, S., 2002. Market segmentation research: beyond within and across group differences. *Marketing Letters,* 13(3), pp. 233-243.

ALLISON, R. I. and UHL, K.P., 1964. Influence of Beer brand identification on taste perception. *Journal of Marketing Research*, 1(3), pp. 36–39.

ANDERSON, E. W., and SULLIVAN, M. W., 1993. The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(1), pp. 125-143.

ARBUCKLE, J.L., 2008. *Amos 17.0 Users' Guide.* Chicago: SPSS Inc.

ASSAEL, H., 1995. *Consumer behavior and marketing action*. Cincinnati: South-Western College Publishing

BABIN, B. J., DARDEN, W. R. and GRIFFIN, M., 1994. Work and/or fun: measuring hedonic and utilitarian shopping value. *The Journal of Consumer Research*, 20(4), pp. 644-656.

BAGOZZI, R.P., YI, Y. and PHILIPS, L.W., 1991. Assessing construct validity in organizational research. *Administrative Science Quarterly,* 36(3), pp. 421-458.

BAKER, J., GREWAL, D. and PARASURAMAN, A., 1994. The influence of store environment on quality inferences and store image. *Journal of Academy of Marketing Science*, 22(4), pp. 328–339.

BAKER, M.J. and FOY, A., 2008. *Business and Management Research: How to complete your research project successfully.* 2nd edn. Argyll: Westburn Publishers Limited.

BAKER, W.E., 1999. When can affective conditioning and mere exposure directly influence brand choice? *Journal of Advertising,* 28(4), pp. 31-46.

BARGH, J.A., 2002. Losing consciousness: Automatic influences on consumer judgment, behavior and motivation. *Journal of Consumer Research,* 29(2), pp. 280-285.

BARLEY, S. R. and TOLBERT, P., 1997. Institutionalization and structuration: Studying the links between action and institution. *Organization Studies*, 18(1), pp. 93-117.

BELANGER, F. and CARTER, L., 2008. Trust and risk in e-government adoption. *Journal of Strategic Information Systems*, 17(1), pp. 165-176.

BELCH, G.E. and BELCH, M.A., 2009. *Advertising and Promotion: An Integrated Marketing Communications Perspective,* 8th edn. Boston: McGraw-Hill/Irwin.

BELLENGER, D.N. and KORGAONKAR, P.K., 1980. Profiling the recreational shopper. *Journal of Retailing,* 56(3), pp. 77-92.

BELLMAN, S., LOHSE, G. L. and JOHNSON, E. J., 1999. Predictors of online buying behavior. *Communications of the ACM,* 42(12), pp. 32-38.

BERA, J.A. and JOHN, S., 1983. Tests for multivariate normality with Pearson alternatives. *Commun. Statist. Theor. Meth*. 12(1), pp. 103-117.

BERNSTEIN, D. A., CLARKE-STEWART, A., ROY, E. J., and WICKENS, C. D., 1997. *Psychology, 4th ed*. New York: Houghton Mifflin.

BETTMAN, J.R., 1979. *An information processing theory of consumer choice*. Los Angeles, CA: Addison-Wesley.

BHATTACHERJEE, A. and PREMKUMAR, G., 2004. Understanding changes in belief and attitude toward information technology usage: a theoretical model and longitudinal test. *MIS Quarterly,* 28(2), pp. 229-254.

BLATTBERG, R.C. and DEIGHTON, J., 1991. Interactive marketing: exploiting the age of addressibility. *Sloan Management Review,* 33(3), pp. 5-14.

BOLLEN, K.A. and LONG, J.S., 1993. *Testing structural equation models.* Thousand Oaks: SAGE Publications, Inc.

BOSNJAK, M., GALESIC, M. and TUTEN, T., 2007. Personality determinants of online shopping: Explaining online purchase intentions using a hierarchical approach. *Journal of Business Research,* 60(6), pp. 597-605.

BRIDGES, E. and FLORSHEIM, R., 2008. Hedonic and utilitarian shopping goals: The online experience. *Journal of Business Research,* 61(4), pp. 309-314.

BRITT, S.H., 1966. *Consumer behaviour and the behavioral sciences: theories and applications.* New York: Wiley John & Sons.

BROWN, G.H., 1952. Brand loyalty: fact or fiction. *Advertising Age*, 23(2), pp. 53-55.

BROWN, J.D., 2011. Likert items and scales of measurement? *Statistics,* 15(1), pp. 10-14.

BROWN, M.T., 2003. An analysis on online marketing in the sport industry: User activity, communication objectives, and perceived benefits. *Sport Marketing Quarterly,* 12(1), pp. 48-55.

BRUNER, G.C. and KUMAR, A., 2000. Web commercials and advertising hierarchy-of-effects. *Journal of Advertising Research,* 40(1/2), pp. 35-42.

BRYMAN, A., 2006. Integrating quantitative and qualitative research: How is it done*? Qualitative Research*, 6(1), pp. 97–113.

BUCKLIN, R.E., LATTIN, J.M., ANSARI, A., GUPTA, S., BELL, D., COUPEY, E., LITTLE, J.D.C., MELA, C., MONTGOMERY, A. and STECKEL, J., 2002. Choice and the Internet: From clickstream to research stream. *Marketing Letters,* 13(3), pp. 245-258.

BUCY, E.P. and TAO, C.C., 2007. The mediated moderation model of interactivity. *Media Psychology,* 9(3), pp. 647-672.

BURNS, K.S. and LUTZ, R.J., 2006. The function of format. *Journal of Advertising*, 35(1), pp. 53-63.

BURNS, K.S. and LUTZ, R.J., 2008. Web users' perceptions of and attitudes toward online advertising formats. *International Journal of Internet Marketing and Advertising,* 4(4), pp. 281-301.

BUSSINESS DICTIONARY, 2010. Accessed on 15/3/2010 at http://www.businessdictionary.com/terms-by-letter.php?letter=I

BYRNE, B.M., 2010. *Structural equation modeling with AMOS: Basic concepts, applications, and programming,* 2nd edn, Hove: Routledge.

CAMACHO, C.J., HIGGINS, E.T. and & LUGER, L., 2003. Moral value transfer from regulatory fit: What feels right is right and what feels wrong is wrong. *Journal of Personality and Social Psychology,* 84, pp. 498-510.

CARLA, R.M. and CARLOS, L.N., 2009. Segmenting consumers by e-shopping behaviour and online
purchase intention. *Journal of International Business.* Accessed online 21/10/2009 at: http://jib.debii.curtin.edu.au/iss03_mafe.pdf

CARLSON, D. S. and PERREWÉ, P. L., 1999. The role of social support in the stressor–strain relationship: An examination of work–family conflict. *Journal of Management*, 25(2), pp. 513–540.

CARMINES, E.G. and McIVER, J.P., 1981. *Analyzing Models with Unobserved Variables: Analysis of Covariance Structures*. Thousand Oaks, CA: Sage Publications

CARRILLAT, F.A., RIGGLE, R.J., LOCANDER, W.B., GEBHARDT, G.F. and LEE, J.M., 2009. Cognitive segmentation: Modeling the structure and content of customers' thoughts. *Psychology & Marketing,* 26(6), pp. 479-506.

CARVER, C.S. and SCHEIER, M.F., 1981. *Attention and self-regulation: A control theory approach to human behavior*. New York: Springer.

CASES, A., 2002. Perceived risk and risk-reduction strategies in Internet shopping. *International Review of Retail, Distribution and Consumer Research*, 12(4), pp. 375-394.

CASTAÑEDA, J. A., MUÑOZ-LEIVA, F. and LUQUE, T., 2007. Web acceptance model (WAM): Moderating effects of user experience. *Information & Management,* 44(4), pp. 384-396.

CHANDON, J. L. and CHTOUROU, M. S., 2005. Factors affecting click-through rate. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 143-166.

CHANG, C., 2004. The interplay of product class knowledge and trial experience in attitude formation. *Journal of Advertising,* 33(1), pp. 83-92.

CHANG, H. and CHEN, S., 2008. The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator. *Online Information Review*, 32(6), pp.818 – 841.

CHEN, L., GILLENSON, M.L. and SHERRELL, D.L., 2002. Enticing online consumers: an extended technology acceptance perspective. *Information & Management,* 39(8), pp. 705-719.

CHEN, Q., GRIFFITH, D.A. and SHEN, F., 2005. The effects of interactivity on cross-channel communication effectiveness. *Journal of Interactive Advertising,* 5(2), pp. 30-44.

CHEN, Y.H. and CORKINDALE, D., 2008. Towards an understanding of the behavioral intention to use online news services: An exploratory study. *Internet Research,* 18(3), pp. 286-312.

CHERNEV, A., 2004. Goal-Attribute Compatibility in Consumer Choice, *Journal of Consumer Psychology,* 14(1/2), pp. 141-150.

CHERNEV, A., 2009. Choosing versus rejecting: the impact of goal-task compatibility on decision confidence. *Social Cognition,* 27(2), pp. 249-260.

CHEUNG, C.M.K., ZHU, L., KWONG, T., CHAN, G.W.W. and LIMAYEM, M., 2003. Online consumer behavior: a review and agenda for future research. *Proceedings of the 16th Bled eCommerce Conference, Bled* 2003, pp. 9-11.

CHIOU, J.S. and TING, C.C., 2011. Will you spend more money and time on Internet shopping when the product and situation are right? *Computers in Human Behavior,* 27(1), pp. 203-208.

CHISNALL, P.M., 1985. *Marketing: A Behavioral Analysis*. New York: McGraw-Hill.

CHISNALL, P., 2005. *Marketing Research*, 7th edn, Maidenhead: McGraw-Hill.

CHO, C. and CHEON, H.J., 2004. Why do people avoid advertising on the Internet? *Journal of Advertising*, 33(4), pp. 89–99.

CHO, C.H., KANG, J. and CHEON, H.J., 2006. Online shopping hesitation. *CyberPsychology & Behavior*, 9(3), pp. 261-274.

CHO, J., 2004. Likelihood to abort an online transaction: influences from cognitive evaluations, attitudes, and behavioral variables. *Information & Management,* 41(7), pp. 827.

CHOI, M., and RIFON, N., 2002. Antecedents and Consequences of Web advertising credibility: a study of consumer response to banner ads. *Journal of Interactive Advertising,* 3(1), pp. 14-24.

CLARK, M. and WOOD, R. 1998. Consumer loyalty in the restaurant industry – a preliminary exploration of the issues. *International Journal of Contemporary Hospitality Management* 10(1), pp. 139–44.

CODY-ALLEN, E. and KISHORE, R., 2006. An extension of the UTAUT model with e-quality, trust, and satisfaction constructs. *Proceedings of the 2006 ACM SIGMIS CPR conference on computer personnel research: Forty four years of computer personnel research: achievements, challenges & the future.* Los Angeles, CA: ACM Press.

CONGER, J.A., KANUNGO, R.N. and MENON, S.T., 2000. Charismatic leadership and follower effects. Journal of Organizational Behavior, 21(1), pp. 747-767.

CONSTANTINIDES, E., 2004. Influencing the online consumer's behavior: the Web experience. *Internet Research,* 14(2), pp.111-126.

CONNON, N.G., 2007. *Factors impacting on technology acceptance for the micro/SME electronics retailer*. Unpublished thesis – Robert Gordon University, Aberdeen.

CORBETTA, P., 2003*. Social Research: Theory, Methods and Techniques*. Thousand Oaks: Sage Publications.

COSTA, P.T., MCCRAE, R.R. and DYE, D.A., 1991. Facet scales for agreeableness and conscientiousness: a revision of the NEO personality inventory. *Personality and Individual Differences,* 12(9), pp. 887-898.

COSTELLO, N., 2000. Routines, Strategy and change in high technology small firms. In: FLEETWOOD, S., ed, *Realist Perspectives on Management and Organizations*. London: Routledge.

COTE, J. A., and BUCKLEY, M. R., 1987. Estimating trait, method and error variance: Generalizing across 70 construct validation studies. *Journal of Marketing Research*, 26(1), pp. 315–318.

COX, D.F., 1967. *Risk taking and information handling in consumer behavior.* Harvard: Division of Research, Graduate School of Business Administration.

COX, D.F. and RICH, S.V., 1964. Perceived risk and consumer decision making - the case of telephone shopping. *Journal of Marketing Research*, 1(1), pp. 32-39.

CRESWELL, J.W., 2003. *Research design: qualitative, quantitative and mixed methods*. Thousand Oaks: Sage*.*

CRESWELL, J. W. and PLANO CLARK, V. L., 2011. *Designing and conducting mixed methods research,* 2nd edn. Thousand Oaks, CA: Sage.

CROUCH, S. and HOUSDEN, M., 2003. *Marketing research for managers.* 3rd edn. Oxford: Butterworth-Heinemann.

CROWE, E. and HIGGINS, E.T., 1997. Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational behavior and human decision processes,* 69(2), pp. 117-132.

CUNNINGHAM, S.M., 1967. The major dimensions of perceived risk. In Cox, D.F., ed., *Risk taking and information handling in consumer behaviour.* Boston, MA: Harvard University Press, pp. 82-108.

DAVIS, F.D., BAGOZZI, R.P. and WARSHAW, P.R., 1989. User acceptance of computer technology: a comparison of two theoretical models. *Management Science,* 35(8), pp. 982-1003.

DAVIS, W.R., 1993. The FC1 rule of identification for confirmatory factor analysis - a general sufficient condition. *Sociological methods & research,* 21(4), pp. 403-437.

DELLAERT, B. and KAHN, B., 1999. How tolerable is delay? Consumers' evaluations of Internet web sites after waiting. *Journal of Interactive Marketing*, 13 (4), pp. 41-54.

DENNIS, C., MERRILEES, B., JAYAWARDHENA, C. and WRIGHT, L.T., 2009. E-consumer behaviour. *European Journal of Marketing*, 43 (9/10), pp. 1121-1139.

DEVELLIS, R.F., 2003. *Scale Development: Theory and Applications,* 2nd edn. Thousand Oaks, CA: Sage.

DHOLAKIA, R.R. and UUSITALO, O., 2002. Switching to electronic stores: consumer characteristics and the perception of shopping benefits. *International Journal of Retail & Distribution Management,* 30(10), pp. 459-469.

DIAMOND, W.D. and GOODING-WILLIAMS, S., 2002. Using advertising constructs and methods to understand direct mail fundraising appeals. *Nonprofit Management and Leadership,* 12(3), pp. 225-242.

DIGMAN, J.M., 1990. Personality structure: Emergence of the five-factor model. *Annual Review of Psychology,* 41(1), pp. 417-440.

DITTMAR, H., LONG, K. and MEEK, R., 2004. Buying on the Internet: gender differences in on-line and conventional buying motivations. *Sex Roles,* 50(5/6), pp. 423-444.

DONALDSON, W.G., 2009. *The busy manager's guide to marketing*. Oxford: Goodfellow.

DONOVAN, R.J. and ROSSITER, J.R., 1982. Store atmosphere: an environmental psychology approach. *Journal of Retailing,* 58(1), pp. 34-57.

DONTHU, N. and GARCIA, A., 1999. The Internet shopper. *Journal of Advertising Research,* 39(3), pp. 52-58.

DOONG, H.S., WANG, H.C. and FOXALL, G.R., 2011. An investigation of consumers' webstore shopping: A view of click-and-mortar company. *International Journal of Information Management,* 31(3), pp. 210-216.

DOYLE, P., 2002. *Marketing Management and Strategy*. London: Prentice-Hall.

DOWNWARD, P., FINCH, J.H. and RAMSAY, J., 2002. Critical realism, empirical methods and inference: a critical discussion. *Cambridge journal of economics,* 26(4), pp. 481-500.

DUGREE, J. F., O'CONNOR, G. C. and VERYZER, R. W., 1996. Observations: translating values into product wants. *Journal of Advertising Research*, 36(1), pp. 90–100.

EAGLY, A.H. and CHAIKEN, S., 1993. *The psychology of attitudes.* Austin, TX: Harcourt Brace Jovanovich.

EASTERBY-SMITH, M., THORPE, R., and LOWE, A., 2002. *Management Research: an introduction.* London: Sage.

EDINA UKBORDERS (database). Accessed 15/11/2009 at http://**edina**.ac.uk/**ukborders**/.

EDWARDS, P., ROBERTS, I., CLARKE, M., DIGUISEPPI, C., PRATAP, S., WENTZ, R., KWAN, I. and COOPER, R., 2005. Methods to increase response rates to postal questionnaires. *BMJ,* 324(7347), pp. 1183-1185.

EGELN, L.S. and JOSEPH, J.A., 2012. Shopping Cart Abandonment in Online Shopping. *Atlantic Marketing Journal,* 1(1), pp. 1.

EHRENBERG, A.S.C., 2000. Repetitive advertising and the consumer. *Journal of Advertising Research,* 40(06), pp. 39-46.

ELLIOT, A.J. and CHURCH, M.A., 1997. A hierarchical model of approach and avoidance achievement motivation. *Journal of personality and social psychology,* 72(1), pp. 218-222

ELLIS-CHADWICK, F. and DOHERTY, N.F., 2011. Web advertising: The role of e-mail marketing. *Journal of Business Research,* 65(6), pp. 843-848.

ENGEL, J.F. and BLACKWELL, R.D. and KOLLAT, D.T., 1978. *Consumer Behavior, 3rd edn,* Hinsdale, Ill.: Dryden.

EROGLU, S. A., MACHLEIT, K. A. and DAVIS, L. M., 2003. Empirical testing of a model of online store atmospherics and shopper responses. *Psychology & Marketing*, 20(2), pp. 139–150.

EVANS, K.R., CHRISTIANSEN, T. and GILL, J.D., 1996. The impact of social influence and role expectations on shopping center patronage intentions. *Journal of Academy of Marketing Science,* 24(3), pp. 208-218.

EVANS, L.M. and & PETTY, R.E., 2003. Self-guide framing and persuasion: Responsibly increasing message processing to ideal levels. *Personality and Social Psychology Bulletin,* 29(3), pp. 313-324.

FABER, R.J. and VOHS, K.D., 2004. To buy or not to buy? Self-control and self-regulatory failure in purchase behavior. In: K.D. VOHS and R.F. BAUMEISTER, eds, *Handbook of self-regulation: Research, theory, and applications.* New York: Guilford Press, pp. 509-502.

FAGERSTRØM, A. and GHINEA, G., 2011. On the motivating impact of price and online recommendations at the point of online purchase. *International Journal of Information Management,* 31(2), pp. 103-110.

FASOLO, B., MCCLELLAND, G.H. and LANGE, K.A., 2005. The effect of site design and interattribute correlations on interactive Web-based decisions. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 325-342.

FESTINGER, L., 1957. *A theory of cognitive dissonance.* Stanford: Stanford University Press.

FIELD, A. 2005. *Discovering statistics using SPSS*, 2nd edn, London: Sage.

FISHBEIN, M. and AJZEN, I., 1975. *Belief, attitude, intention and behaviour: An introduction to theory and research.* NY: Addison-Wesley.

FISHBEIN, M.E., 1967. *Readings in attitude theory and measurement*. London: John Wiley.

FLAVIAN, C., GUINALIU, M. and GURREA, R., 2006. The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information & Management*, 43(1), pp. 1-14.

FLORACK, A., SCARABIS, M. and GOSEJOHANN, S., 2005. Regulatory focus and consumer information processing. In: F.R. KARDES, P.M. HERR and J. NANTEL, eds, *Applying social cognition to consumer-focused strategy.* New Jersey: Lawrence Erlbaum Associates, pp. 235-263.

FLORACK, A. and HARTMANN, J., 2007. Regulatory focus and investment decisions in small groups. *Journal of experimental social psychology,* 43(4), pp. 626-632.

FOLKES, V.S., 1988. Recent attribution research in consumer behavior: A review and new directions. *Journal of Consumer Research,* 14(4), pp. 548-565.

FORSTER, J., HIGGINS, E.T. and & IDSON, L. C., 1998. Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect. *Journal of Personality and Social Psychology,* 75(5), pp. 1115-1131.

FORSTER, J., HIGGINS, E.T. and BIANCO, A.T., 2003. Speed/accuracy in performance: Tradeoff in decision making or separate strategic concerns? *Organizational Behavior and Human Decision Processes,* 90(1), pp. 148–164.

FORSYTHE, S., LIU, C., SHANNON, D. and GARDNER L., 2006. Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing*, 20(2), pp. 55-75.

FORSYTHE, S.M. and SHI, B., 2003. Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research,* 56(11), pp. 867.

FOWLER, F. J., 2002. *Survey research methods: Fundamental principles of clinical reasoning and research*. Thousand Oaks: Sage.

FOXALL, G.R. and GOLDSMITH, R.E., 1994. *Consumer psychology for marketing.* Hampshire: Thomson Business Press.

FOXALL, G., 1990. *Consumer psychology in behavioral perspective.* New York: Beard Books.

GARBARINO, E. and STRAHILEVITZ, M., 2004. Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation. *Journal of Business Research,* 57(7), pp. 768-775.

GARDNER, M.P., 1985. Mood states and consumer behavior: a critical review. *Journal of Consumer Research,* 12(3), pp. 281-300.

GARVER, M. S. and MENTZER, J.T., 1999. Logistics research methods: Employing structural equation modeling to test for construct validity. *Journal of Business Logistics*, 20(1), pp. 33-57.

GAUZENTE, C., 2010. The intention to click on sponsored ads--A study of the role of prior knowledge and of consumer profile. *Journal of Retailing and Consumer Services,* 17(6), pp. 457-463.

GHOSE, S. and DOU, W., 1998. Interactive functions and their impacts on the appeal of Internet presence sites. *Journal of Advertising Research, 38*(2), pp. 29-43.

GILL, C., 2008. Restoring consumer confidence in financial services. *International Journal of Bank Marketing*, 26(2), pp. 148-152.

GIRARD, T., KORGAONKAR, P. and SILVERBLATT, R., 2003. Relationship of type of product, shopping orientations, and demographics with

preference for shopping on the Internet. *Journal of Business and Psychology,* 18(1), pp. 101-120.

GOLDSMITH, R.E. and LAFFERTY, B.A., 2002. Consumer response to web sites and their influence on advertising effectiveness. *Internet Research-Electronic Networking Applications and Policy*, 12 (4), pp. 318-328.

GRANT, R., CLARKE, R.J. and KYRIAZIS, E., 2007. A review of factors affecting online consumer search behaviour from an information value perspective. *Journal of Marketing Management,* 23(5-6), pp. 519-533.

GUBA, E.G., 1990. *The paradigm dialog.* Thousand Oaks: Sage.

GUNTER, B. and FURNHAM, A., 1992. *Consumer Profiles: An Introduction to Psychographics.* New York: Routledge.

HA, L. and McCANN, K., 2008. An integrated model of advertising clutter in offline and online media. *International Journal of Advertising,* 27(4), pp. 569-592.

HAND, C., RILEY, F.D.O., HARRIS, P., SINGH, J. and RETTIE, R., 2009. Online grocery shopping: the influence of situational factors. *European Journal of Marketing,* 43(9/10), pp. 1205-1219.

HART, C., DOHERTY, N. and CHADWICK, F.E., 2000. Retailer adoption of the internet. *European Journal of Marketing*, 34(8), pp. 954-974.

HÄUBL, G. and TRIFTS, V., 2000. Consumer decision making in online shopping environments: The effects of interactive decision aids. *Marketing science,* 19(1), pp. 4-21.

HENDRIX, P.E. and MARTIN JR., C.R., 1981. Temporal incongruency in consumer behaviour. In: MONROE, K.B and ABOR A., eds, *Advances in Consumer Research*, 8, pp. 182-86.

HENRY, P., 2005. Is the Internet empowering consumers to make better decisions, or strengthening marketers' potential to persuade. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 345-359.

HERZBERG, F., 2008. *One more time: how do you motivate employees?* Boston, Mass.: Harvard Business Press.

HERZBERG, F., 1968. *Work and the nature of man.* London: Crosby Lockwood Staples.

HIGGINS, E.T., 1997. Beyond pleasure and pain. *American Psychologist,* 52(12), pp. 1280-1300.

HIGGINS, E.T., 2002. How self-regulation creates distinct values: The case of promotion and prevention decision making. *Journal of Consumer Psychology,* 12(3), pp. 177-191.

HIGGINS, E. T., IDSON, L. C., FREITAS, A. L., SPIEGEL, S. and MOLDEN, D. C., 2003. Transfer of value from fit. *Journal of Personality and Social Psychology*, 84(1), pp. 1140 - 1153.

HIGGINS, E.T., SHAH, J. and FRIEDMAN, R., 1997. Emotional responses to goal attainment: strength of regulatory focus as moderator. *Journal of personality and social psychology,* 72(3), pp. 515-525.

HIRSCHMAN, E.C. and HOLBROOK, M.B., 1982. Hedonic consumption: Emerging concepts, methods and propositions. *Journal of Marketing*, 46(2), pp. 92-101.

HOFFMAN, D.L., 2004. The impact on preferences of consumer access to information in online shopping environments. *Advances in Consumer Research,* 31(1), pp. 530-534.

HOFFMAN, D.L., NOVAK, T.P. and CHATTERJEE, P., 1995. Commercial scenarios for the web: opportunities and challenges. *Journal of Computer-Mediated Communication*, vol. 1(3), pp. 3-7.

HOINVILLE, G., JOWELL, R. and AIREY, C., 1978. *Survey Research Practice.* London: Heinemann Education.

HOLBROOK, M., 1994. The nature of customer value: an axiology of services in the consumption context. In: RUST, R. and OLIVER, R., eds, *Service Quality: New Directions in Theory and Practice,* Thousand Oaks: SAGE Publications.

HOWARD, J.A. and SHETH, J.N., 1969. *The Theory of Buyer Behavior*. New York: John Wiley and Sons.

HOYER, W. T. and MACINNIS, D., 1997. *Consumer Behaviour*. Boston: Houghton Mifflin.

HSIEH, Y. and CHEN, K., 2011. How different information types affect viewer's attention on Internet advertising. *Computers and Human Behavior,* 27(2), pp. 935-945.

HU, L.T. and BENTLER, P.M., 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6 (1), pp. 1-55.

IDSON, L.C., LIBERMAN, N. and HIGGINS, E.T., 2000. Distinguishing gains from nonlosses and losses from nongains: A regulatory focus perspective on hedonic intensity. *Journal of experimental social psychology,* 36(3), pp. 252-274.

IMRG CAPGEMINI, 2011. *E-Retail sales Index*. Accessed 14/01/2012 at http://www.imrg.org/ImrgWebsite/User/Pages/IndustryStatistics.aspx?pageID=58&parentPageID=0&itemID=6493&pageTemplate=9&isHomePage=false&isDetailData=true&specificPageType=10.

INTERNET WORLD STATS – usage and population statistics. Accessed 10.01.2013 at http://www.internetworldstats.com/emarketing.htm

ISEN, A. M., ROSENZWEIG, A. S., and YOUNG, M. J., 1991. The influence of positive affect on clinical problem solving. *Medical Decision Making*, 11(1), pp. 221-227.

JACOBY, J. and CHESTNUT, R.W., 1978. *Brand loyalty measurement and management.* New York: Wiley.

JACOBY, J. and KAPLAN, L., 1972. The components of perceived risk. In VENKATESAN, M. (ed.), *Proceedings, 3rd Annual Conference, Association for Consumer Research*, Chicago, IL, pp. 382-93.

JACOBY, J., JOHAR, G.V. and MORRIN, M., 1998. Consumer behavior: A quadrennium. *Annual Review of Psychology,* 49(1), pp. 319-344.

JANKOWICZ, A.D., 2005. *Business Research Projects.* 4th edn. London: Thomson Learning.

JANSSEN, M. and MORAGA, J., 2000. Consumer search and the size of internet markets, *Tinbergen Institute Discussion Paper,* 1(1) 2000–0042.

JAW, C., YU, O.S. and GEHRT, K.C., 2011. Integrating user perception and experience into the technology acceptance model: An empirical investigation of online payment service innovation. *Technology Management Conference (ITMC), 2011 IEEE International*, pp. 134-143.

JAYAWARDHENA, C., WRIGHT, L.T. and DENNIS, C., 2007. Consumers online: intentions, orientations and segmentation. *International Journal of Retail & Distribution Management,* 35(6), pp. 515-525.

JENKINS, J.R.G., 1972. *Marketing and customer behaviour.* Oxford: Pergamon Press.

JIN, S.A.A., 2010. Does imposing a goal always improve exercise intentions in avatar-based exergames? The moderating role of interdependent self-construal on exercise intentions and self-presence. *CyberPsychology, Behavior, and Social Networking,* 13(3), pp. 335-339.

JOHNSON, R.B. and ONWUEGBUZIE, A.J., 2004. Mixed methods research: A research paradigm whose time has come. *Educational researcher,* 33(7), pp. 14-26.

JORESKOG, K.G. and SORBOM, D., 1979. *Advances in factor analysis and structural equation models*. Cambridge, MA: Abt Books.

KALANTAR, J.S. and TALLEY, N.J., 1999. The effects of lottery incentive and length of questionnaire on health survey response rates: a randomized study. *Journal of clinical epidemiology,* 52(11), pp. 1117-1122.

KALAPESI, C., WILLERSDORF, S. and ZWILLENBERG, P., 2010. *The Connected Kingdom: how the Internet is transforming the UK economy*. Boston: BCG.

KAPLAN, D., 2000. *Structural Equation Modeling: Foundations and Extensions. Illustrated edn.* Thousand Oaks: Sage.

KAPLOWITZ, M.D., HADLOCK, T.D. and LEVINE, R., 2004. A comparison of web and mail survey response rates. *Public opinion quarterly,* 68(1), pp. 94-101.

KASSARJIAN, H.H. and ROBERTSON, T.S., 1981. *Perspectives in consumer behavior.* Illinois: Scott Foresman.

KATONA, G., 1967. What is consumer psychology? *American Psychologist,* 22(3), pp. 219.

KAUFMAN-SCARBOROUGH, C. and LINDQUIST, J.D., 2002. E-shopping in a multiple channel environment. *Journal of Consumer Marketing,* 19(4), pp. 333-350.

KAY, J., 2010. *Obliquity. Why our goals are best achieved indirectly*. London: Profile Books.

KELLY, L., KERR, G. and DRENNAN, J., 2010. Avoidance of advertising in social networking sites: The teenage perspective. *Journal of Interactive Advertising,* 10(2), pp. 16-27.

KENNY, D.A., KORCHMAROS, J.D. and BOLGER, N., 2003. Lower level mediation in multilevel models. *Psychological methods,* 8(2), pp. 115-128.

KENT, R., 2007. *Marketing Research: Approaches, Methods and Application in Europe*, London: Thomson Learning.

KIANG, M., RAGHU, T. and SHANG, K., 2000. Marketing on the Internet - who can benefit from an online marketing approach? *Decision Support Systems*, 27(1), pp. 383-393.

KIM, D.J., FERRIN, D and RAO, H., 2008. A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk and their antecedents. *Decision Support Systems*, 44(1), pp. 544-564.

KIM, G., SHIN, B. and LEE, H.G., 2006. A study of factors that affect user intentions toward email service switching. *Information & management,* 43(7), pp. 884-893.

KIM, H.H. and KIM, J., 2009. The effect of offline brand trust and perceived Internet confidence on online shopping intention in the integrated multi-channel context. *International Journal of Retail & Distribution Management,* 37(2), pp. 126-141.

KIM, J., FIORE, A.M. and LEE, H. 2007. Influences of online store perception, shopping enjoyment, and shopping involvement on consumer patronage behavior towards an online retailer. *Journal of Retailing and Consumer Services*, 14(2), pp. 95-107.

KIMILOGLU, H., 2004. The e-literature: a framework for understanding the accumulated knowledge about internet marketing. *Academy of Marketing Science Review*, 2004(6)

KIRMANI, A. and ZHU, R., 2007. Vigilant against manipulation: The effect of regulatory focus on the use of persuasion knowledge. *Journal of Marketing Research,* 44(4), pp. 688-701.

KISH, L., 1965. *Survey Sampling*. New York: John Wiley and Sons, Inc.

KLINE, R.B., 2005. *Principles and Practice of Structural Equation Modeling*, 2nd edn, New York: Guilford Press.

KOO, D. and JU, S., 2010. The interactional effects of atmospherics and perceptual curiosity on emotions and online shopping intention. *Computers in Human Behavior*, 26(3), pp. 377–388.

KOTLER, P., 2003. *Marketing Management,* 11th edn, New Jersey: Prentice-Hall.

KOTLER, P., 1965. Behavioral models for analyzing buyers. *Journal of Marketing*, 29(4), pp. 37-45.

KOUFARIS, M., 2002. Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research,* 13(2), pp. 205-223.

KRAUS, S.J., 1995. Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin,* 21(1), pp. 58-75.

KUAN, H.H. and BOCK, G.W., 2004. Trust transference in brick and click retailers: An investigation of the before-online-visit phase. *Internet Research,* 14(3), pp. 245-253.

KUCHLER, H. (2012). UK 'leads the world' in e-commerce. *Financial Times*, Accessed 14/12/2012 at: http://www.ft.com/cms/s/0/ef3e1a04-71b4-11e1-8497-00144feab49a.html#axzz2PFDbdXTV

KUKAR-KINNEY, M. and CLOSE, A.G., 2010. The determinants of consumers' online shopping cart abandonment. *Journal of the Academy of Marketing Science*, 38(2), pp. 240-250.

KULVIWAT, S., GUO, C. and ENGCHANIL, N., 2004. Determinants of online information search: a critical review and assessment. *Internet Research,* 14(3), pp. 245-253.

LAROSE, R., LIN, C.A. and EASTIN, M.S., 2003. Unregulated Internet usage: Addiction, habit, or deficient self-regulation? *Media Psychology,* 5(3), pp. 225-253.

LAINE, M., 2000. *Fieldwork, Participation and Practice: Ethics and Dilemmas in Qualitative Research*, London: Sage.

LEE, J.H., SIN, J.K., KIM, M.H. and KONG, H.K., 2002. A study on web shopping attitude and purchasing intention of Internet self-efficacy. *Journal of Global Academy of Marketing,* 10(1), pp. 1-26.

LEHMANN, D.R. 1972. Preference among similar alternatives. *Decision Sciences*, 3(3), pp. 64-82.

LIAO, P. and HSIEH, J., 2010. Using the Technology Acceptance Model to explore online shopping behavior: online experiences as a moderator. *Management and Service Science (MASS), 2010 International Conference*, pp. 1-4.

LIANG, T. and LAI, H., 2002. Effect of store design on consumer purchases: an empirical study of on-line bookstores. *Information & Management*, 39(1), pp. 431-444.

LIM, E., CYR, D. and TAN, C., 2012. Untangling utilitarian and hedonic consumption behaviors in online shopping. *PACIS 2012 Proceedings.* Paper 94.

LIM, H. and DUBINSKY, A.J., 2004. Consumers' perceptions of e-shopping characteristics: an expectancy-value approach. *Journal of Services Marketing,* 18(7), pp. 500-513.

LIN, C., and Lu, H., 2000. Towards an understanding of the behavioral intention to use a web site. *International Journal of Information Management*, 42(4), pp. 197–208.

LINDQUIST, J.D., 1974. Meaning of image: survey of empirical and hypothetical evidence. *Journal of Retailing*, 50(1), pp. 29-38.

LIU, C., 2007. *Modelling Consumer Adoption of the Internet as a Shopping Medium: An Integrated Perspective.* New York: Cambria Press.

LOCKWOOD, P., JORDAN, C.H. and KUNDA, Z., 2002. Motivation by positive or negative role models: regulatory focus determines who will

best inspire us. *Journal of Personality & Social Psychology,* 83(4), pp. 854-864.

LOEHLIN, J.C., 1992. *Latent variable models.* NJ: Lawrence Erlbaum Publishers.

LOHSE, G.L. and SPILLER, P., 1998. Electronic shopping. *Communications of the ACM,* 41(7), pp. 81-87.

LOUDON, D.L. and BITTA, A.J., 1979. *Consumer Behavior: Concepts and Applications*. NY: McGraw-Hill.

LOURO, J., PIETERS, R. and ZEELENBERG, M., 2005. Negative returns on positive emotions: the influence of pride and self-regulatory goals on repurchase decisions. *Journal of Consumer Research,* 31(4), pp. 833-841.

LU, H. and JIN, Y., 2009. A review of technology acceptance models in the e-commerce environment. *Management of e-Commerce and e-Government, 2009. ICMECG '09. International Conference*, pp. 28-31.

LU, Y., JERATH, K. and SINGH, P., 2012. The emergence of opinion leaders in a networked online community: a dyadic model with time dynamics and a heuristic for fast estimation. *Management Science (online)*. Accessed 27/10/2012 at SSRN: http://ssrn.com/abstract=1562245

LUMPKIN, J. R. and DUNN, M. G., 1990. Perceived risk as a factor in store choice: an examination of inherent versus handled risk. *The Journal of Applied Business Research*, 6(2), pp. 104-118.

LUO, W. and NAJDAWI, M., 2004. Trust-building measures: a review of consumer health portals. *Communications of the ACM,* 47(1), pp. 109-113.

LYNCH JR., J.G. and ARIELY, D., 2000. Wine online: search costs affect competition on price, quality, and distribution. *Marketing Science,* 19(1), pp. 83.

MACKINTOSH, N.J., 1983. *Conditioning and associative learning.* Oxford: Clarendon Press.

MADDEN, T.J., ELLEN, P.S. and AJZEN, I., 1992. A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin,* 18(1), pp. 3-9.

MÄENPÄÄ, K., KALE, S. H., KUUSELA, H., and MESIRANTA, N., 2008. Consumer perceptions of Internet banking in Finland: The moderating role of familiarity. *Journal of Retailing and Consumer Services*. 15(4), pp. 266-276.

MAFÉ, C. and BLAS, S., 2007. Teleshopping adoption by Spanish consumers. *Journal of Consumer Marketing*, 24(4), pp. 242-250.

MAHAJAN, V. and VENKATESH, R., 2000. Marketing modeling for e-business. *International Journal of Research in Marketing,* 17(2/3), pp*. 215-225.*

MAI, L., 2001. Effective risk relievers for dimensional perceived risks on mail-order purchase: a case study on specialty foods in the UK. *Journal of Food Products Marketing*, 7 (1/2). pp. 35-51.

MAIGNAN, I. and LUKAS, B., 1997.The nature and social uses of the Internet: a qualitative investigation. *Journal of Consumer Affairs*, 31(2), pp. 346-371.

MALHOTRA, N. and BIRKS, D., 2000. *Marketing Research. An Applied Approach.* London: Prentice Hall.

MARKIN, R.J., 1970. Consumer motivation and behavior: essence vs. existence. *Business & Society*, 10(1), pp. 30–36.

MASLOW, A.H., 1968. *Toward a Psychology of Being.* New York: Nostrand.

McDANIEL, S.W. and BURNETT, J.J., 1990. Consumer religiosity and retail store evaluative criteria. *Journal of the Academy of Marketing Science,* 18(2), pp. 101-112.

McGIVERN, Y., 2006. *The practice of market and social research: an introduction,* 2nd edn. New York: Prentice Hall.

McGOLDRICK, P., 2002. *Retail marketing*. Hong Kong: MacGraw-Hill

McKINNON, D.P., LOCKWOOD, C.M., HOFFMAN, J.M., WEST, S.G. and SHEETS, V., 2002. A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods,* 7(1), pp. 83-104.

MEHRABIAN, A. and RUSSELL, J.A., 1974. A verbal measure of information rate for studies in environmental psychology. *Environment and Behavior,* 6(1), pp. 233-252.

MIAOULIS, G. and MICHENER, R.D., 1976. *An Introduction to Sampling*. Iowa: Kendall/Hunt Publishing Company.

MISCHEL, W., 1993. *Introduction to personality*, 5th ed. Fort Worth, TX: Harcourt Brace.

MISHRA, S. and OLSHAVSKY, R.W., 2005. Rationality unbounded: the Internet and its effect on consumer decision making. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising &*

Consumer Psychology Series. Mahwah: Lawrence Erlbaum Associates, Inc, pp. 361-378.

MITCHELL, A. and VALENZUELA, A., 2005. How banner ads affect brand choice without click-through. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 125-142.

MITCHELL, V., 1999. Consumer perceived risk: conceptualisations and models. *European Journal of Marketing*, 33(1/2), pp. 163-195.

MIYAZAKI, A.D. and FERNANDEZ, A., 2001. Consumer perceptions of privacy and security risks for online shopping. *Journal of Consumer Affairs,* 35(1), pp. 27-44.

MOE, W.W. and FADER, P.S., 2004. Dynamic conversion behavior at e-commerce sites. *Management Science,* 50(3), pp. 326-335.

MONROE, K. B., and PETROSHIUS, S. M*., 1981. Buyers' perceptions of price: An update of the evidence. IN H. H. KASSARJIAN and T. S. ROBERTSON, eds., Perspectives in consumer behavior* 3rd edn., Illinois: Scott, Foresman, pp. 43-55.

MOON, J. and KIM, Y., 2001. Extending the TAM for a World-Wide-Web context. *Information and Management*, 38(3), pp. 217-230.

MOORADIAN, T.A., MATZLER, K. and SZYKMAN, L., 2008. Empathetic responses to advertising: Testing a network of antecedents and consequences. *Marketing Letters,* 19(2), pp. 79-92.

MOORE, S. and MATHEWS, S., 2006. An exploration of online shopping cart abandonment syndrome – a matter of risk and reputation. *Journal of Website Promotion,* 2(1/2): 71-88.

MOSER, C. and KALTON, G., 1985. *Survey methods in social investigation*. Dartmouth: Dartmouth Publishing.

MOUSTAKAS, E., RANGANATHAN, C. and DUQUENOY, P., 2006. E-mail marketing at the crossroads: A stakeholder analysis of unsolicited commercial e-mail (spam). *Internet research,* 16(1), pp. 38-52.

MOWEN J., 2000. *The 3M Model of Motivation and Personality*. Norwell, MA: Kluwer Academic Press.

MUMMALANENI, V., 2005. An empirical investigation of web site characteristics, consumer emotional states and on-line shopping behaviors. *Journal of Business Research*, 58(4), pp. 526-532.

MURAYAMA, G. M., 1998. *Basics of Structural Equation Modeling.* Thousand Oaks, CA: Sage Publications.

MYERS, D.G., 1988. *Psychology*. London: Worth.

NACHMIAS, R. and GILAD, A., 2002. Needle in a hyperstack: Searching for information on the World Wide Web. *Journal of Research on Technology in Education*, 34(1), pp. 475-486.

NIAZ, M., 2008. A rationale for mixed methods (integrative) research programmes in education. *Journal of Philosophy of Education,* 42(2), pp. 287-305.

NICOSIA, F.M. 1966. *Consumer decision processes: marketing and advertising implications*. Englewood Cliffs: Prentice-Hall.

NORLAND, E.V.T., 1990. Controlling error in evaluation instruments. *Journal of Extension,* 28(2), pp. 1.

NOVAK, T.P., HOFFMAN, D.L. and YIU-FAI YUNG, 2000. Measuring the customer experience in online environments: a structural modeling approach. *Marketing Science,* 19(1), pp. 22-28.

OFFICE OF FAIR TRADING, 2010. Online markets: discussion paper. Accessed on 21/12/2010 at http://www.oft.gov.uk/shared_oft/market-studies/onlinemarketsdiscussionpaper.

OFFICE OF FAIR TRADING, 2007. Internet shopping: an OFT market study. Accessed on 15/05/2009 at http://www.oft.gov.uk/shared_oft/reports/consumer_protection/oft921

OFFICE OF NATIONAL STATISTICS, 2009. *Internet access households and individuals.* Accessed on 09/05/2010 at http://www.statistics.gov.uk/hub

OFFICE OF NATIONAL STATISTICS, 2005. *Area classification for output areas – cluster summaries.* Accessed on 14/04/2010 at www.statistics.gov.uk/about/methodology_by_theme/area_classification/oa/cluster_summaries

OLIVER, R.L., 1980. A cognitive model for the antecedents and consequences of satisfaction.*Journal of Marketing Research*, 17(3), pp. 460-469.

OLIVER, R.L., 1997. Satisfaction: A behavioral perspective on the consumer. *New York: MaGraw.Hill International Edition.*

ONWUEGBUZIE, A. J., JOHNSON, R. B., & COLLINS, K. M. T., 2009. A call for mixed analysis: A philosophical framework for combining qualitative and quantitative. *International Journal of Multiple Research Methods*, 3(1), pp. 114–139.

OPPENHEIM, A.N., 1992. *Questionnaire design, interviewing and attitude measurement*. London: Pinter Publishers.

ORTH, H.U., MALKEWITZ, K. and BEE, C., 2010. Gender and personality drivers of consumer mixed emotional response to advertising. *Journal of Current Issues & Research in Advertising,* 32(1), pp. 69-80.

PARASURAMAN, A. and ZINKHAN, G.M., 2002. Marketing to and serving customers through the Internet: An overview and research agenda. *Journal of the Academy of Marketing Science,* 30(4), pp. 286-295.

PARK, J., LEE, H. and LEE, H., 2005. Consumer relationships with an e-brand: implications for e-brand extensions. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 379-397.

PARK, C. and KIM, Y., 2003. Identifying key factors affecting consumer purchase behavior in an online shopping context. *International Journal of Retail & Distribution Management,* 31(1), pp. 16.

PARK, E.J., KIM, E.Y., FUNCHES, V.M. and FOXX, W., 2011. Apparel product attributes, web browsing, and e-impulse buying on shopping websites. *Journal of Business Research,* 65(11), pp. 1583-1589.

PAVLOU, P.A., 2003. Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International journal of electronic commerce,* 7(3), pp. 101-134.

PAVLOV, O.V., MELVILLE, N. and PLICE, R.K., 2008. Toward a sustainable email marketing infrastructure. *Journal of Business Research,* 61(11), pp. 1191-1199.

PERVIN, L. A., 1994. A critical analysis of current trait theory. *Psychological Inquiry*, 5(1), pp. 103-113.

PETER, J.P. and OLSON, J.C., 2005. *Consumer Behavior (McGraw-Hill/Irwin Series in Marketing)* 7th edn, London: McGraw-Hill/Irwin.

PETER, J.P. and RYAN, M.J., 1976. An investigation of perceived risk at the brand level. *Journal of Marketing Research*, 13(2), pp. 184-8.

PETER, J.P. and TARPEY SR, L.X., 1975. A comparative analysis of three consumer decision strategies. *Journal of Consumer Research,* 2(2), pp. 29-37.

PETERSON, R.A., 2000. *Constructing effective questionnaires.* Thousand Oaks: Sage Publications.

PETERSON, R.A. and MERINO, M.C., 2003. Consumer information search behavior and the Internet. *Psychology and Marketing,* 20(2), pp. 99-121.

PHAM, M.T. and AVNET, T., 2004. Ideals and oughts and the reliance on affect versus substance in persuasion. *Journal of Consumer Research,* 30(4), pp. 503-518.

PHAM, M.T. and CHANG, H.H., 2010. Regulatory focus, regulatory fit, and the search and consideration of choice alternatives. *Journal of Consumer Research,* 37(4), pp. 626-640.

PODSAKOFF, P. M., MACKENZIE, S. B., LEE, J.-Y. and PODSAKOFF, N. P., 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), pp. 879-903.

POOKULANGARA S., HAWLEY, J. and XIAO, G., 2011. Explaining consumers' channel-switching behavior using the theory of planned behavior. *Journal of Retailing and Consumer Services,* 18(1), pp. 311-321.

POON, W., 2008. Users' adoption of e-banking services: the Malaysian perspective. *Journal of Business & Industrial Marketing*, 23(1), pp. 59–69.

POSTMAN, L., 1953. Perception, Motivation, and Behavior. *Journal of Personality,* 22(1), pp. 17-31.

PRESTON, C.C. and COLMAN, A.M., 2000. Optimal number of response categories in rating scales: reliability, validity, discriminating power, and respondent preferences. *Acta Psychologica,* 104(1), pp. 1-15.

PURINTON, E. and ROSEN, D.E., 2005. Gendered information processing: implications for web site design. In: C.P. HAUGTVEDT, K.A. MACHLEIT and R.F. YALCH, eds, *Online consumer psychology: understanding and influencing behavior in the virtual world. Advertising & Consumer Psychology Series.* Mahwah: Lawrence Erlbaum Associates, Inc, pp. 303-323.

RADHAKRISHNA, R.B., 2007. Tips for developing and testing questionnaires/instruments. *Journal of Extension,* 45(1), pp. 1-4.

RASMUSSEN, J. L., 1989. Analysis of Likert-scale data: A reinterpretation of Gregoire and Driver. *Psychological Bulletin*, 105 (1), pp. 167-170.

RAYKOV, T. and MARCOULIDES, G.A., 2006. *A first course in structural equation modelling*, 2nd edn, New Jersey: Lawrence Erlbaum Associates.

REILLY, T., 1995. A necessary and sufficient condition for identification of confirmatory factor analysis models. *Sociological Methods & Research,* 23(4), pp. 421-441.

RIEH, S.Y., 2002. Judgment of information quality and cognitive authority in the Web. Journal *of the American Society for Information Science and Technology*, 53 (2), pp. 145-161.

RODRÍGUEZ-ARDURA, I., J. MARTÍNEZ-LÓPEZ, F. and LUNA, P., 2009. The consumer and the Web: a critical revision of the contributions to Web science from the marketing and the consumer behaviour discipline. *Proceedings of the WebSci'09: Society On-Line, March 2009, Athens.* Accessed 20/03/2009 at http://journal.webscience.org/135/

ROESE, N.J., HUR, T. and PENNINGTON, G.L., 1999. Counterfactual thinking and regulatory focus: implications for action versus inaction. *Journal of Personality & Social Psychology,* 77(6), pp. 1109-1120.

ROGERS, E.M., 1995. *Diffusion of innovations*. New York: Free Press

ROHM, A.J. and SWAMINATHAN, V., 2004. A typology of online shoppers based on shopping motivations. *Journal of Business Research,* 57(7), pp. 748-757.

ROSELIUS, T., 1971. Consumer rankings of risk reduction methods. *The Journal of Marketing,* 35(1), pp. 56-61.

ROSENBERG, M. J., 1956. Cognitive structure and attitudinal affect. *The Journal of Abnormal and Social Psychology*, 53(1), pp. 367-372.

ROWLEY, J., 2001. Remodelling marketing communications in an Internet environment. *Internet Research,* 11(3), pp. 203-212.

ROWLEY, J., 2006. An analysis of the e-service literature: towards a research agenda. *Internet Research,* 16(3), pp. 339-359.

ROWLEY, J. and BIRD, D., 2011. Online Branding: *e-novation for competitive advantage in collaborative globalization: technologies for emerging e-business strategies.* IGI Global (2011), pp. 122-142.

SAHNEY, S., GHOSH,K. and SHRIVASTAV, A., 2010. Consumer personality in online buying behavior: conceptualiszation and empirical testing in Indian context. *International Journal of Business, Management and Social Sciences*, 1(1), pp. 9-20.

SAMDAHL, D. M., 1999. Epistemological and methodological issues in leisure research. In: JACKSON, E.L and BURTON, T., eds, *Leisure studies: Prospects for the twenty-first century*, pp. 119 -133, State College, PA: Venture.

SAUNDERS, M., LEWIS, P., and THORNHILL, A., 2007. *Research methods for business students,* 4th edn*,* Harlow: Pearson Education.

SAYER, A., 2000. *Realism and social science*. Thousand Oaks: Sage.

SCHANINGER, C.M., 1976. Perceived risk and personality. *Journal of Consumer Research*, 3(3), pp. 95-100.

SCHIFFMAN, L.G. and KANUK, L., 1994. *Consumer Behavior*, 5th edn, London: Prentice Hall.

SCHREIBER, J.B., 2008. Core reporting practices in structural equation modeling. *Research in Social and Administrative Pharmacy,* 4(2), pp. 83-97.

SCHULZ, K.F. and GRIMES, D.A., 2002. Unequal group sizes in randomised trials: guarding against guessing. *The Lancet,* 359(9310), pp. 966-970.

SEKARAN, U., 2003. *Research Methods for Business: A Skill Building Approach.* 4th edn. New York: John Wiley and Sons.

SELIG, J. and PREACHER, K., 2008. *Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects* [Computer software]. Accessed on 15/04/2011 at www.quantpsy.org.

SHANKAR, A., CHERRIER, H. and CANNIFORD, R., 2006. Consumer empowerment: a Foucauldian interpretation. *European Journal of Marketing*, 40(9/10), pp. 1013-1030.

SHARMA, A. and SHETH, J.N., 2004. Web-based marketing: the coming revolution in marketing thought and strategy. *Journal of Business Research,* 57(7), pp. 696-702.

SHELTON, P.J., 2000. *Measuring and Improving Patient Satisfaction.* Gaithersburgh, MD: Aspen Publishers.

SHERMAN, E., MATHUR, A. and SMITH, R. B., 1997. Store environment and consumer purchase behavior: Mediating role of emotions. *Psychology & Marketing*, 14(2), pp. 361–378.

SHERN, S., 1998. *Internet shopping: an Ernst & Young special report*. USA: Ernst & Young

SHETH, J.N., 1983. An integrative theory of patronage preference and behavior. In: DARDEN, W.R. and LUSCH, R.F., eds, *Patronage Behavior and Retail Management*, New York: Elsevier Science pp. 9-28.

SHIH, Y. and FANG, K., 2004. The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research*, 14(3), pp. 213-223.

SHIM, S., MARY, A.E., LOTZ, S.L. and WARRINGTON, P., 2001. An online prepurchase intentions model: The role of intention to search. *Journal of Retailing,* 77(3), pp. 397.

SILVERMAN, D., 2000. *Doing Qualitative Research: A Practical Handbook*. London: Sage.

SIM, L.L. and KOI, S.M., 2002. Singapore's Internet shoppers and their impact on traditional shopping patterns. *Journal of Retailing and Consumer Services,* 9(2), pp. 115-124.

SIMONSON, I., CARMON, Z., DHAR, R., DROLET, A. and NOWLIS, S.M., 2001. Consumer research: In search of identity. *Annual Review of Psychology,* 52(1), pp. 249-275.

SINGLETON, A., DAVIDSON-BURNETT, G. and LONGLEY, P., 2007. University market area analysis for widening participation. *Centre for Education in the Built Environment Working Paper Series.London*.

SITKIN, S. B. and PABLO, A. L., 1992. Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, 17(2), pp. 9–38.

SKINNER, B. F., 1938. *The Behavior of Organisms: An Experimental Analysis.* New York: Appleton-Century-Crofts.

SMITH, A.E., JUSSIM, L., ECCLES, J., VANNOY, M., MADON, S. and PALUMBO, P., 1998. Self-fulfilling prophecies, perceptual biases, and accuracy at the individual and group levels. *Journal of Experimental Social Psychology*, 34(2), pp. 530-561.

SMITH, P. W. F., BERRINGTON, A. and STURGIS, P., 2009. A comparison of graphical models and structural equation models for the analysis of longitudinal survey data. In: Lynn, P., ed, *Methodology of Longitudinal Surveys*. Chichester: John Wiley & Sons

SOBEL, M.E., 1982. Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology,* 13(1982), pp. 290-312.

SOLOMON, M., BAMOSSY, G., ASKEGAARD, S. and HOGG, M., 2013. *Consumer Behaviour : A European Perspective,* 5th edn. Essex: Pearson Higher Education.

SOM, A. and LEE, Y.H., 2012. The joint effects of choice assortment and regulatory focus on choice behavior. *International Journal of Research in Marketing,* 29(2), pp. 202-209.

SOMMERS, M. and KERNAN, J.B., 1970. *The consumer in society: consumer behaviour in theory and action.* NY: John Wiley & Sons.

SONG, J. and ZAHEDI, F., 2001. Web design in e-commerce: a theory and empirical analysis, *Proceedings of the 22nd International Conference on Information Systems* 2001, New Orleans, pp. 205-220.

SOPER, D.S., 2013. Confidence Interval Calculator for the Population Mean (when population std dev is known) [Software]. Available from http://www.danielsoper.com/statcalc

SPECTOR, P. E., 2006. Method variance in organizational research: truth or urban legend? *Organizational Research Methods*, 9(2), pp. 221-232.

SRINIVASAN, S.S., ANDERSON, R. and PONNAVOLU, K., 2002. Customer loyalty in e-commerce: an exploration of its antecedents and consequences. *Journal of Retailing,* 78(1), pp. 41-50.

STEWART, D.W. and PAVLOU, P.A., 2002. From consumer response to active consumer: Measuring the effectiveness of interactive media. *Journal of the Academy of Marketing Science,* 30(4), pp. 376-396.

STONE, R.N. and GRONHAUG, K., 1993. Perceived risk: further considerations for the marketing discipline. *European Journal of Marketing*, 27(3), pp. 372-94.

SUNDAR, S.S. and KIM, J., Interactivity and persuasion: Influencing attitudes with information and involvement. *Journal of Interactive Advertising,* 5(2), pp. 6-29.

SZYMANSKI, D.M. and HISE, R.T., 2000. E-satisfaction: An initial examination. *Journal of Retailing*, 76(3), pp. 309–322.

TAN, S. J., 1999. Strategies for reducing consumers' risk aversion in Internet shopping. *Journal of Consumer Marketing*, 16(2), pp. 163-180.

TANAKA, J.S. (1993). Multifaceted conceptions of fit in structural equation models. In: BOLLEN, K.A. and LONG, J.S., eds, *Testing structural equation models.* Newbury Park, CA: Sage.

TAYLOR, C.R., 2009. The six principles of digital advertising. *International Journal of Advertising,* 28(3), pp. 411–418.

TAYLOR, D.G. and STRUTTON, D., 2010. Has e-marketing come of age? Modeling historical influences on post-adoption era Internet consumer behaviors. *Journal of Business Research,* 63(9), pp. 950-956.

TEO, T., 2011. Using structural equation modeling (SEM) in educational research: Practices and Issues. *International Journal of Applied Educational Studies,* 10(1), pp.49-65.

TEO, T.S.H. and YEONG, Y.D., 2003. Assessing the consumer decision process in the digital marketplace. *Omega,* 31(5), pp. 349-363.

TONG X., 2010. A cross-national investigation of an extended technology acceptance model in the online shopping context. *International Journal of Retail & Distribution Management*, 38(10), pp. 742-759.

TROCHIM, W. M., 2009. Evaluation Policy and Evaluation Practice. *New Directions for Evaluation*, 123, pp. 13-32.

TRUDEL, R., MURRAY, K.B. and COTTE, J., 2011. Beyond expectations: the effect of regulatory focus on consumer satisfaction. *International Journal of Research in Marketing,* 29(1), pp. 93-97.

TSAI, H. and HUANG, H., 2009. Online consumer loyalty: Why e-tailers should seek a high-profile leadership position. *Computers in Human Behavior,* 25(6), pp. 1231-1240.

TSAO, W. and CHANG, H., 2010. Exploring the impact of personality traits on online shopping behavior. *African Journal of Business Management*, 4(9), pp. 1800-1812

TURBAN, E., KING, D., LEE, J. and VIEHLAND, D., 2006. *Electronic Commerce - A managerial perspective*. New Jersey: Prentice Hall.

TVERSKY, A. and KAHNEMAN, D., 1981. The framing of decisions and the psychology of choice. *Science,* 211(4481), pp. 453-458.

VAN DEN POEL, D. and BUCKINX, W., 2005. Predicting online-purchasing behaviour. *European Journal of Operational Research,* 166(2), pp. 557-575.

VAN NOORT, G., 2009. *Validating the persuasiveness of online safety cues: The effect of multiple cues on online spending.* Proceedings of the 8th ICORIA Conference 2009.

VAN NOORT, G., KERKHOF, P. and FENNIS, B.M., 2007. Online versus conventional shopping: consumers' risk perception and regulatory focus. *CyberPsychology & Behavior,* 10(5), pp. 731-733.

VAN NOORT, G., KERKHOF, P. and & FENNIS, B.M., 2008. The persuasiveness of online safety cues: the impact of prevention focus compatibility of web content on consumers' risk perceptions, attitudes, and intentions. *Journal of Interactive Marketing,* 22(4), pp. 58-72.

VARADARAJAN, P.R. and YADAV, M.S., 2002. Marketing strategy and the Internet: an organizing framework. *Journal of the Academy of Marketing Science*, 30(4), pp. 296-312.

VARTANIAN, L. R., HERMAN, C. P., and POLIVY, J., 2006. Does regulatory focus play a role in dietary restraint? *Eating Behaviors*, 7(1), pp. 333–341.

VELLIDO, A., LISBOA, P. and MEEHAN, K., 2000. Quantitative characterization and prediction of on-line purchasing behavior: A latent variable approach. *International Journal of Electronic Commerce*, 4(4), pp. 83-104.

VENKATESH, V., MORRIS, M.G., DAVIS, G.B., and DAVIS, F.D., 2003. User acceptance of information technology: toward a unified view. *MIS Quarterly* 27(3), pp. 425-478.

VIJAYASARATHY, L.R., 2004. Shopping orientations, product types and Internet shopping intentions. *Electronic markets,* 13(1), pp. 67-79.

VROOM, V. H., 1964. *Work and motivation*. San Francisco, CA: Jossey-Bass.

WALSH, M.F., 2010. New insights into what drives Internet advertising avoidance behaviour: the role of locus of control. *International Journal of Internet Marketing and Advertising*, 6(2), pp. 127-141.

WALTERS, D. and COOK, D., 1991. *Retail marketing: theory and practice.* New Jersey:Prentice Hall.

WALTERS, J., APTER, M.J. and SVEBAK, S., 1982. Colour preference, arousal and the theory of psychological reversal. *Motivation and emotion*, 5(1), pp. 47-59.

WANG, H. and WANG, S., 2009. Adaptable algorithm for designed web process sequence data analysis. *Journal of Electronic Commerce Research*, 10(2), pp. 104-113.

WANG, J. and LEE, A.Y., 2006. The role of regulatory fit on information search and persuasion. *Journal of Marketing Research,* 43(1), pp. 28-38.

WANG, K., WANG, E. and FARN, C., 2009. Influence of Web advertising strategies, consumer goal-directedness, and consumer involvement on Web advertising effectiveness. *International Journal of electronic Commerce*, 13(4), pp. 67-96.

WARD, M.R. and LEE, M.J., 2000. Internet shopping, consumer search and product branding. *Journal of Product & Brand Management,* 9(1), pp. 6-20.

WEINBERG, B.D., 2001. Research in exploring the online consumer experience. *Advances in Consumer Research,* 28(1), pp. 227-232.

WEINSTEIN, A., 1987. *Market segmentation - using demographics, psychographics and other segmentation techniques to uncover and exploit new markets.* Chicago: Probes.

WERTENBROCH, K. and DHAR, R., 2000. Consumer choice between hedonic and utilitarian goods. *Journal of Marketing Research,* 37(1), pp. 60-71.

WERTH, L. and FOERSTER, J., 2007. How regulatory focus influences consumer behavior. *European Journal of Social Psychology,* 37(1), pp. 33-51.

WHEATON, B., MUTHEN, B., ALWIN, D., F. and SUMMERS, G., 1977. Assessing reliability and stability in panel models. *Sociological Methodology*, 8 (1), pp. 84-136.

WILLIAMS, L. J., GAVIN, M. B., and WILLIAMS, M. L., 1996. Measurement and nonmeasurement processes with negative affectivity and employee attitudes. *Journal of Applied Psychology*, 81(2), pp. 88-101.

WILLIAMS, R. and GRIMES, A., 2010. Involvement and the influence of online third-party endorsements. *International Journal of Internet Marketing and Advertising*, 6(1), pp. 65-84.

WILLIAMS, S. and BOTTERILL, A., 2006. Profiling areas using the Output Area Classification *Regional Trends,* 39.

WILLIAMS, T.G., 1981. *Consumer behavior: fundamentals and strategies*. St Paul: West Pub.

WILSON, E. O., 1975. *Sociobiology: The new synthesis*. Cambridge, MA: Harvard University Press.

WOLFINBARGER, M. and GILLY, M.C., 2001. Shopping online for freedom, control, and fun. *California management review,* 43(2), pp. 34-55.

WOLIN, L.D. and KORGAONKAR, P., 2002. Web usage, advertising, and shopping: relationship patterns. *Internet Research: Electronic Networking Applications and Policy*, 12(2), pp. 191-204.

WRIGHT, R., 2006. *Consumer behaviour.* New York: Cengage Learning EMEA.

WU, C.S. and CHENG, F.F., 2011. The joint effect of framing and anchoring on internet buyers' decision-making. *Electronic Commerce Research and Applications,* 10(3), pp. 358-368.

WU, G., 2005. The mediating role of perceived interactivity in the effect of actual interactivity on attitude toward the website. *Journal of Interactive Advertising,* 5(2), pp. 45-60.

WU, J.H. and WANG, S.C., 2005. What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model. *Information & Management,* 42(5), pp. 719-729.

XU, Y. and PAULINS, V.A., 2005. College students' attitudes toward shopping online for apparel products: Exploring a rural versus urban campus. *Journal of Fashion Marketing and Management,* 9(4), pp. 420-433.

Y MONSUWE, T.P., DELLAERT, B.G.C. and DE RUYTER, K., 2004. What drives consumers to shop online? A literature review. *International Journal of Service Industry Management,* 15(1), pp. 102-121.

ZEFF, R. and ARONSON, B., 1999. *Advertising on the Internet*. New York: John Wiley & Sons

ZHANG, P. and KIM, Y., 2008. Web advertising: what do we know about its acceptance and impacts? - a meta-analysis of the literature. *PACIS 2008 Proceedings.* Paper 246.

ZHAO, G. and PECHMANN, C., 2007. The impact of regulatory focus on adolescents' response to antismoking advertising campaigns. *Journal of Marketing Research,* 44(4), pp. 671-687.

ZHAO, G. and PECHMANN, C., 2006. Regulatory focus, feature positive effect, and message framing. *Advances in Consumer Research,* 33(1), pp. 100-107.

ZHENG, L., FAVIER, M., HUANG, P. and COAT, F., 2012. *Journal of Electronic Commerce Research,* 13(3), pp. 255-274.

ZHOU, R. and PHAM, M.T., 2004. Advances in the psychology of consumer investment. *Advances in Consumer Research,* 31(1), pp. 604-606.

ZHOU, R. and SENGUPTA, J., 2006. Motivational influences in consumer behavior: the role of regulatory focus. *Advances in Consumer Research,* 33(1), pp. 532-535.

Appendix 1

Summary of ONS Supergroups (example)

Appendix 2

Survey invitation postcard

Appendix 3

Common methods variance test

Appendix 4

Q-Q plots for multivariate normality (sample)

Appendix 5

Measurement model fit indices

Appendix 6

Covariance and error estimates for measurement model

Appendix 7

Structural model fit indices

Appendix 8

Standardised residuals for structural model

Appendix 9

Questionnaire

Appendix 10

Journal articles based on research

Appendix 11

Interview pro forma with sample transcript

Front of postcard

The Householder,
House #
Somewhere Street
Town
Postcode
United Kingdom

INVITATION TO PARTICIPATE IN RESEARCH

Understanding United Kingdom consumers' use of the Internet for shopping purposes.

ROBERT GORDON
UNIVERSITY·ABERDEEN

Back of postcard

Understanding Consumers' Use of the Internet for Shopping

Dear householder,

Happy New Year.

We are conducting surveys as part of a research study to increase our understanding of what influences people's use of the Internet for the purposes of shopping (that is, online shopping) in the United Kingdom. As a householder in the UK, your opinion is highly valuable and will be informative in helping us understand and better explain this issue.

The survey takes around 12 minutes and is designed to be very easy to navigate and complete. We are simply trying to capture your thoughts, perspectives and typical behaviour on the subject of online shopping. Your responses to the questions will be kept confidential and should be given in your capacity as an individual. Each respondent will be assigned a computer generated code to help ensure that personal identifiers are not revealed during the analysis and write up of findings. The code may also be used to automatically send you completion reminders where this is necessary.

Your participation will be a valuable addition to our research and findings could lead to greater academic understanding of consumers and Internet shopping behaviour. As a token of appreciation for your time, our partners ValuedOpinion.com are offering a £5 voucher to all participants and a chance to win an e-reader worth £100. Further details on how to claim these are contained in the questionnaire instructions.

If you are willing to participate please enter the following address in your browser and you will be presented with the questionnaire: www.internet-consumer-research.tk/lime#

If you have any questions please do not hesitate to contact me. Thanks you!

P.T. Atorough   03/01/2011
Email: p.t.atorough@rgu.ac.uk
Telephone: 01224262000
Postal: Aberdeen Business School, Aberdeen
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Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	132	965.161	608	.000	1.587
Saturated model	740	.000	0		
Independence model	74	7697.844	666	.000	11.558

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.875	.863	.950	.944	.949
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.913	.798	.867
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	357.161	276.503	445.738
Saturated model	.000	.000	.000
Independence model	7031.844	6752.771	7317.387

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	3.164	1.171	.907	1.461
Saturated model	.000	.000	.000	.000
Independence model	25.239	23.055	22.140	23.991

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.044	.039	.049	.975
Independence model	.186	.182	.190	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1229.161	1266.734		
Saturated model	1480.000	1690.637		
Independence model	7845.844	7866.908		

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	4.030	3.766	4.320	4.153
Saturated model	4.852	4.852	4.852	5.543
Independence model	25.724	24.809	26.660	25.793

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	211	219
Independence model	29	30

Normal Q-Q Plots

Normal Q-Q Plot of [To me, the benefits of shopping online are far more worth considering than the risks] To what extent do you agree or disagree with the following statements?
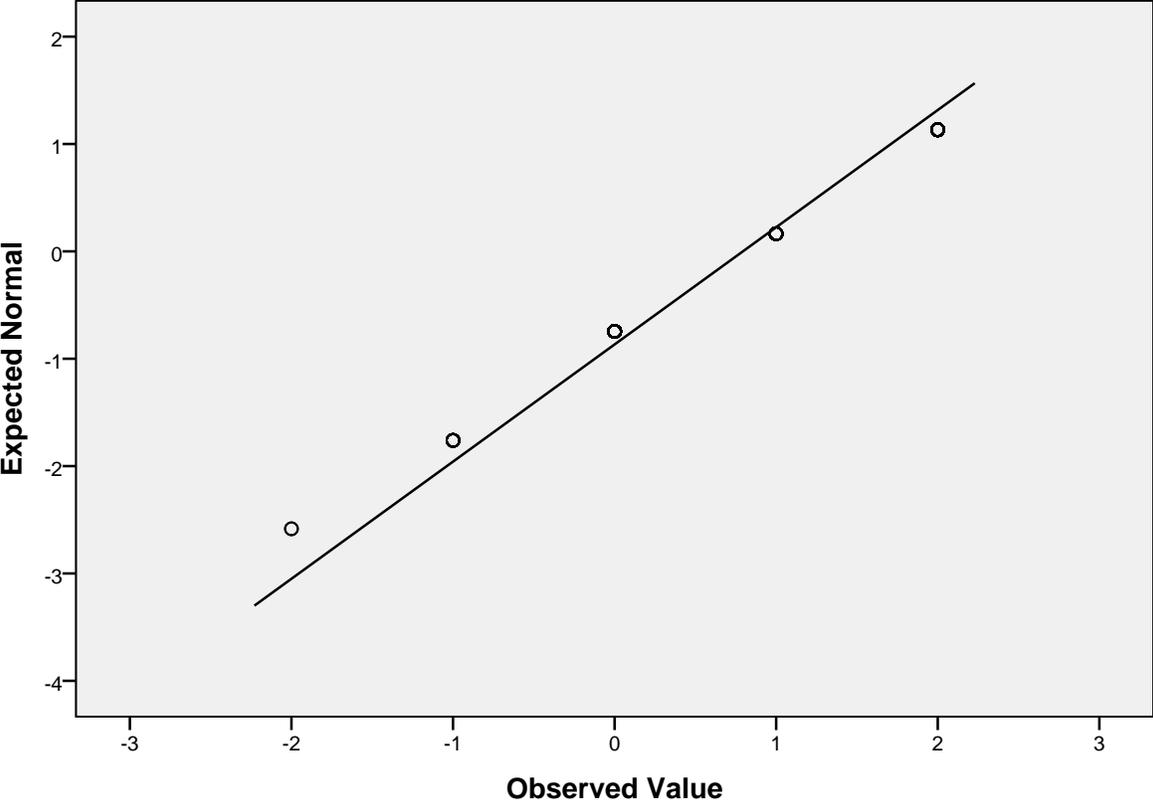
Normal Q-Q Plot of [To me, the convenience of shopping online balances out any potential risks] To what extent do you agree or disagree with the following statements?
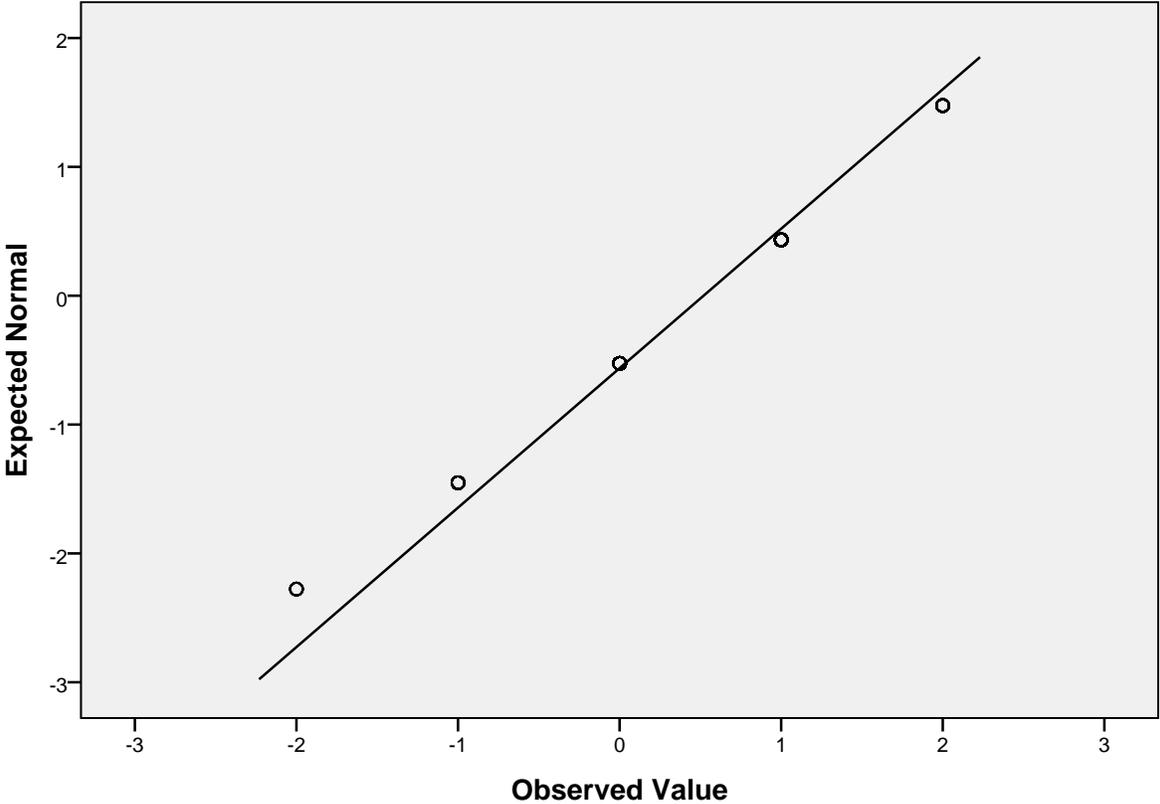
Normal Q-Q Plot of [I worry a lot about dubious retailers when shopping online]
To what extent do you agree or disagree with the following statements?
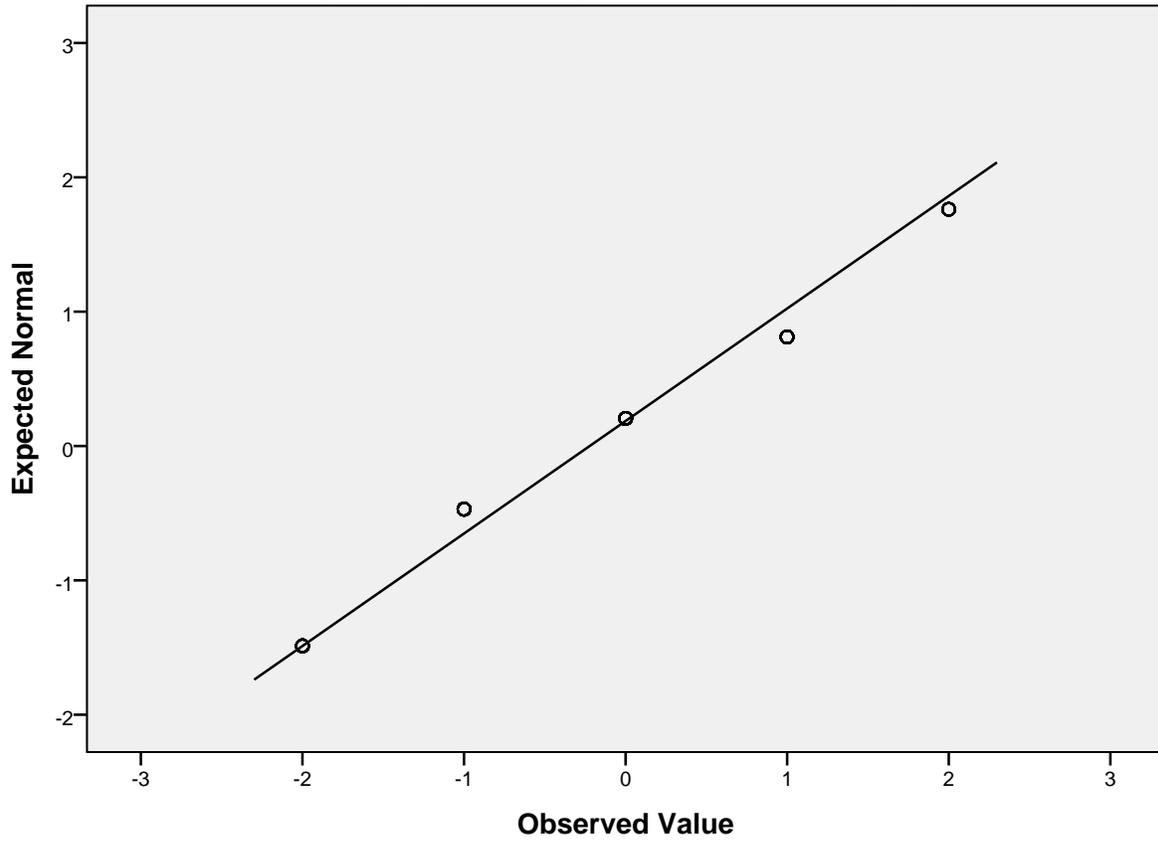
Normal Q-Q Plot of [The availability of choices in online shopping makes the potential risks worthwhile] To what extent do you agree or disagree with the following statements?
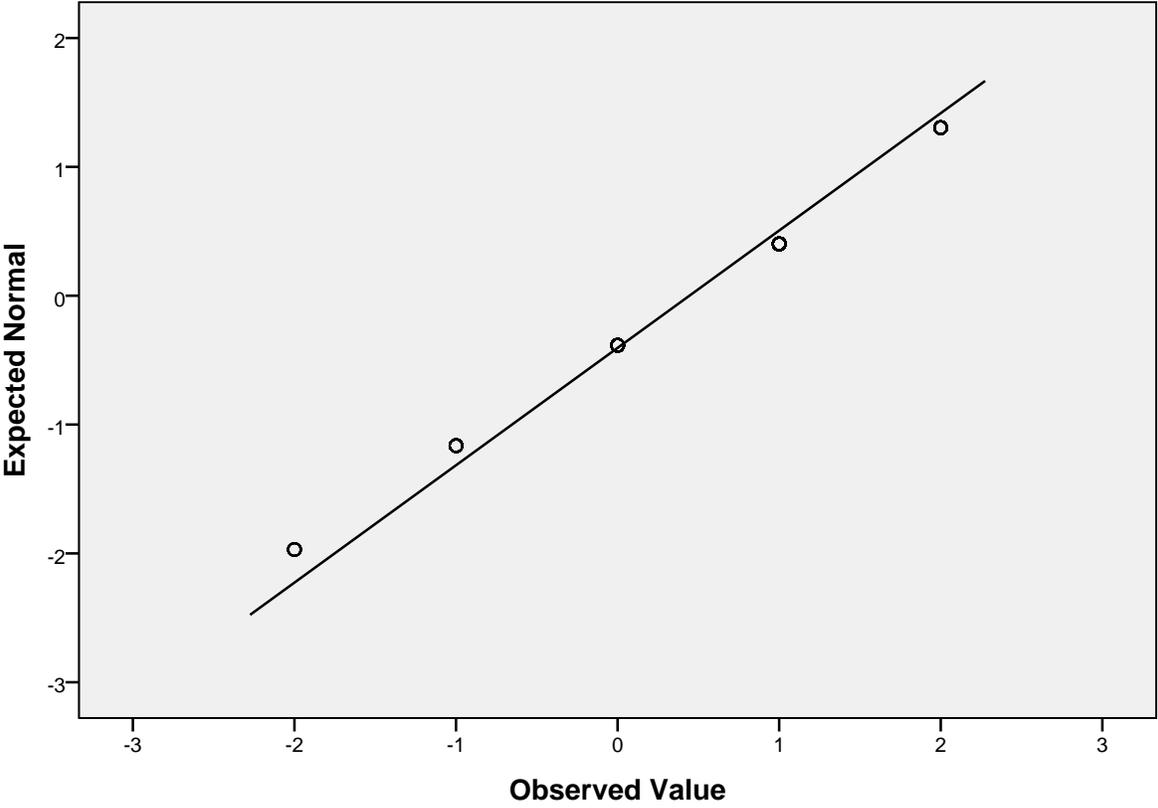
Normal Q-Q Plot of [I am absolutely confident that everything will go smoothly when I shop online] To what extent do you agree or disagree with the following statements?
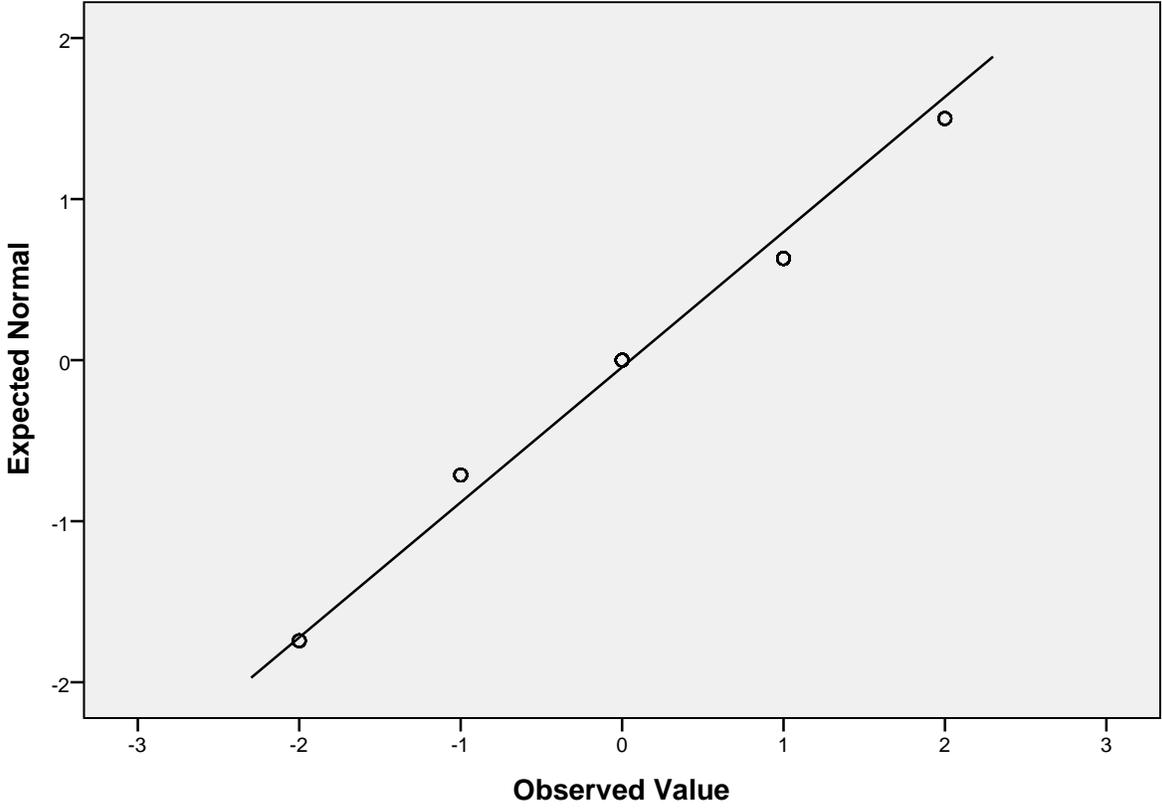
Normal Q-Q Plot of [I sometimes worry that the product I will receive may not be the same as described online] To what extent do you agree or disagree with the following statements?
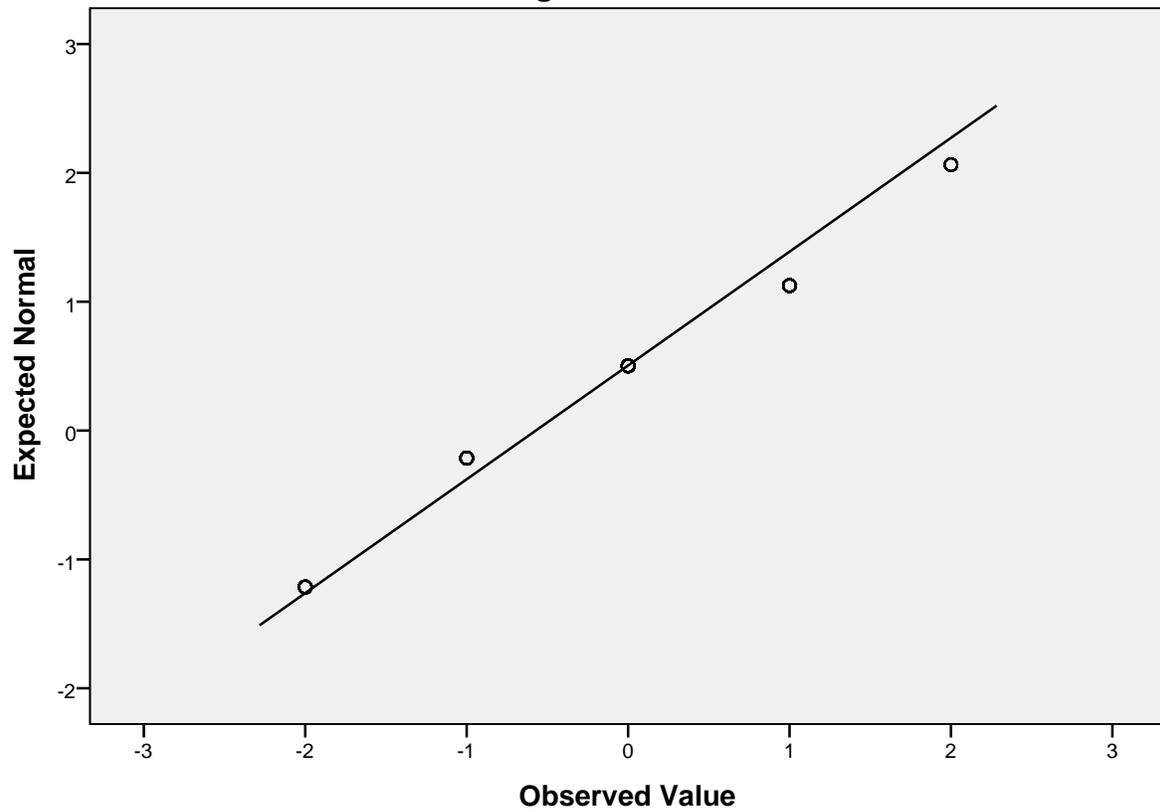
Normal Q-Q Plot of [When I shop online, I am usually conscious of potential risks associated with my financial details] To what extent do you agree or disagree with the following statements?
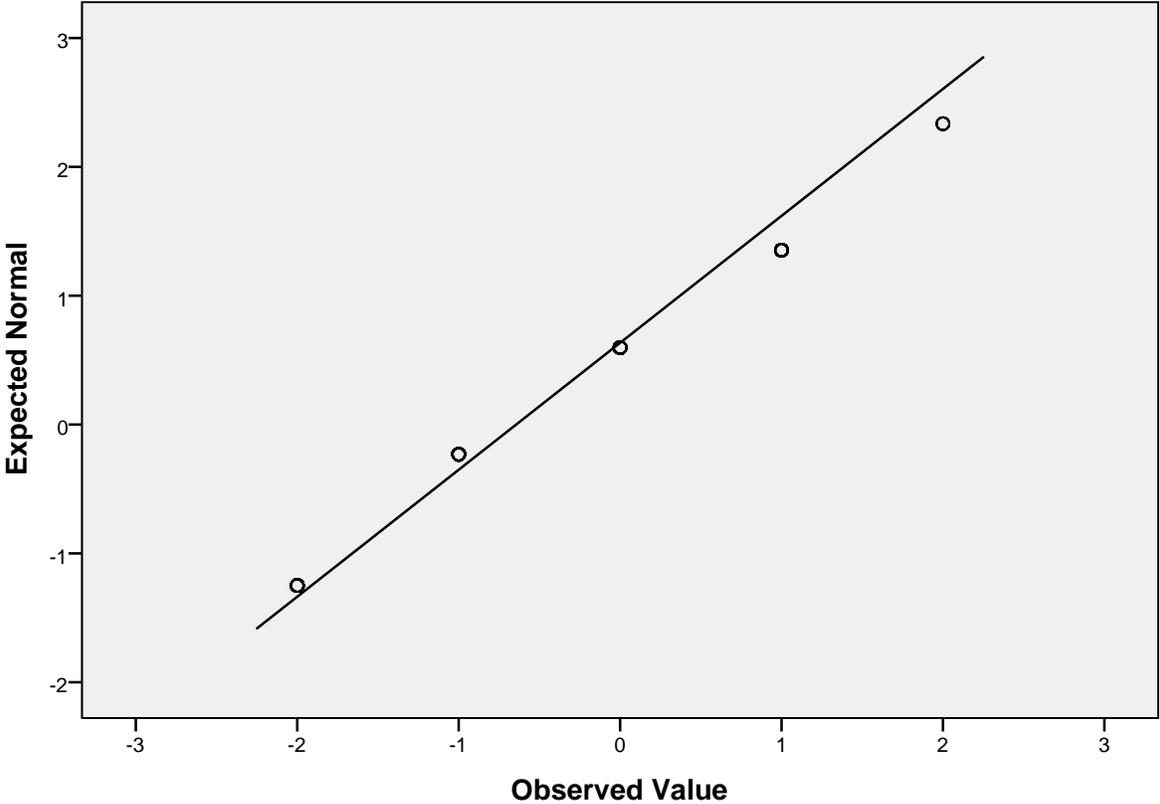
Normal Q-Q Plot of [But for the risks, I would shop more online] To what extent do you agree or disagree with the following statements?
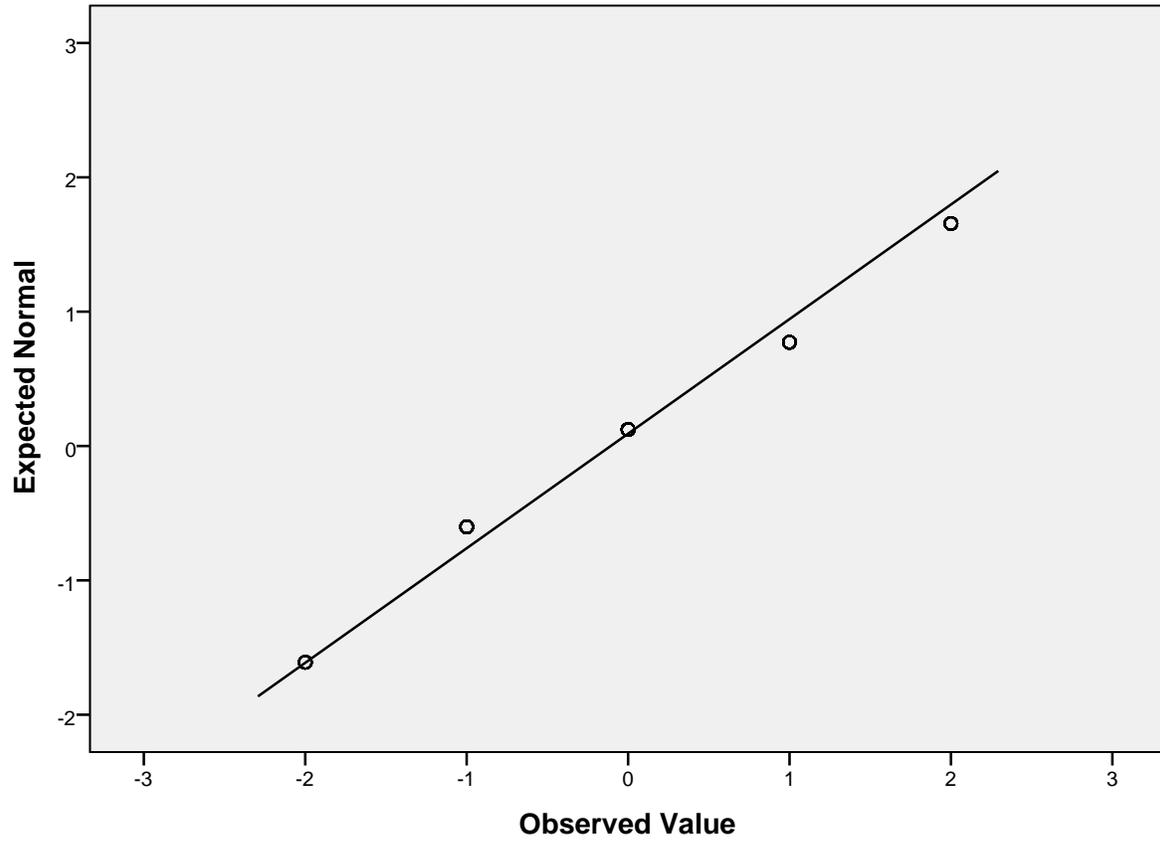
Normal Q-Q Plot of [I like shopping online mainly because it's fun to do so] To what extent do you agree or disagree with the following statements?
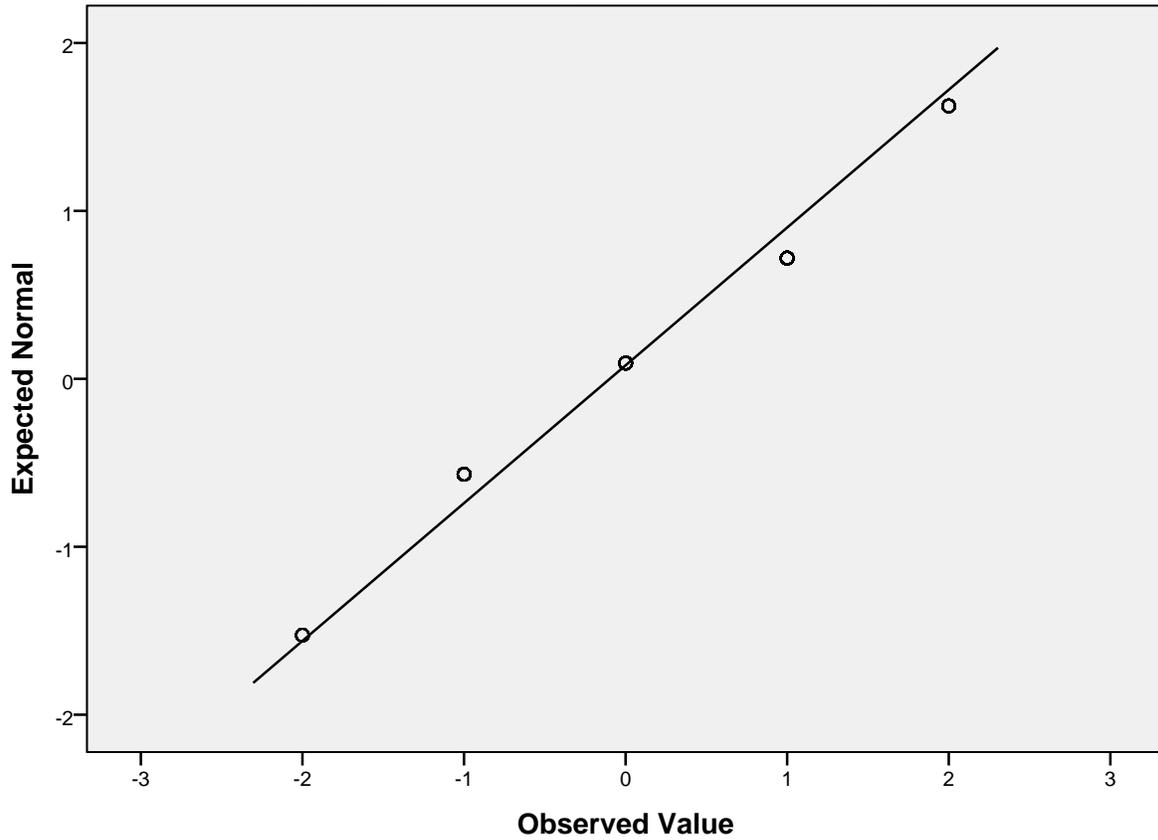
Normal Q-Q Plot of [I like shopping online mainly because there are many bargains] To what extent do you agree or disagree with the following statements?
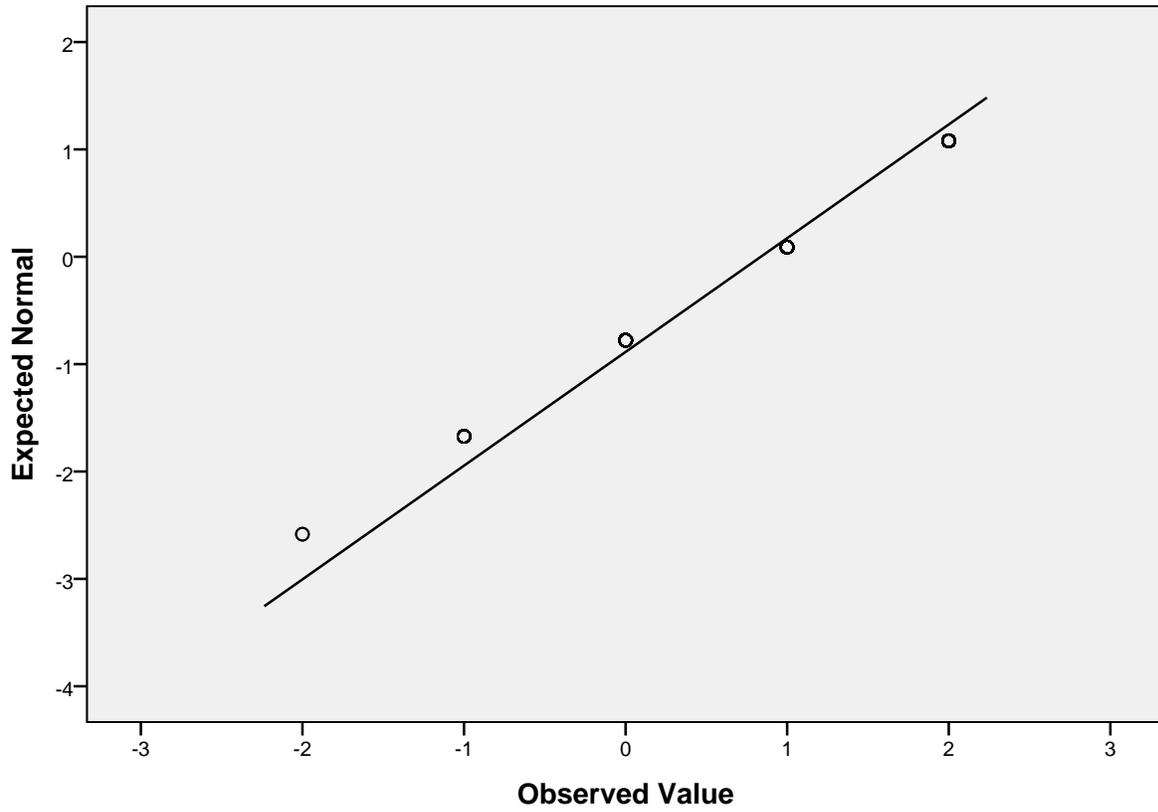
Normal Q-Q Plot of [Online shopping is really for convenience, not for adventure] To what extent do you agree or disagree with the following statements?
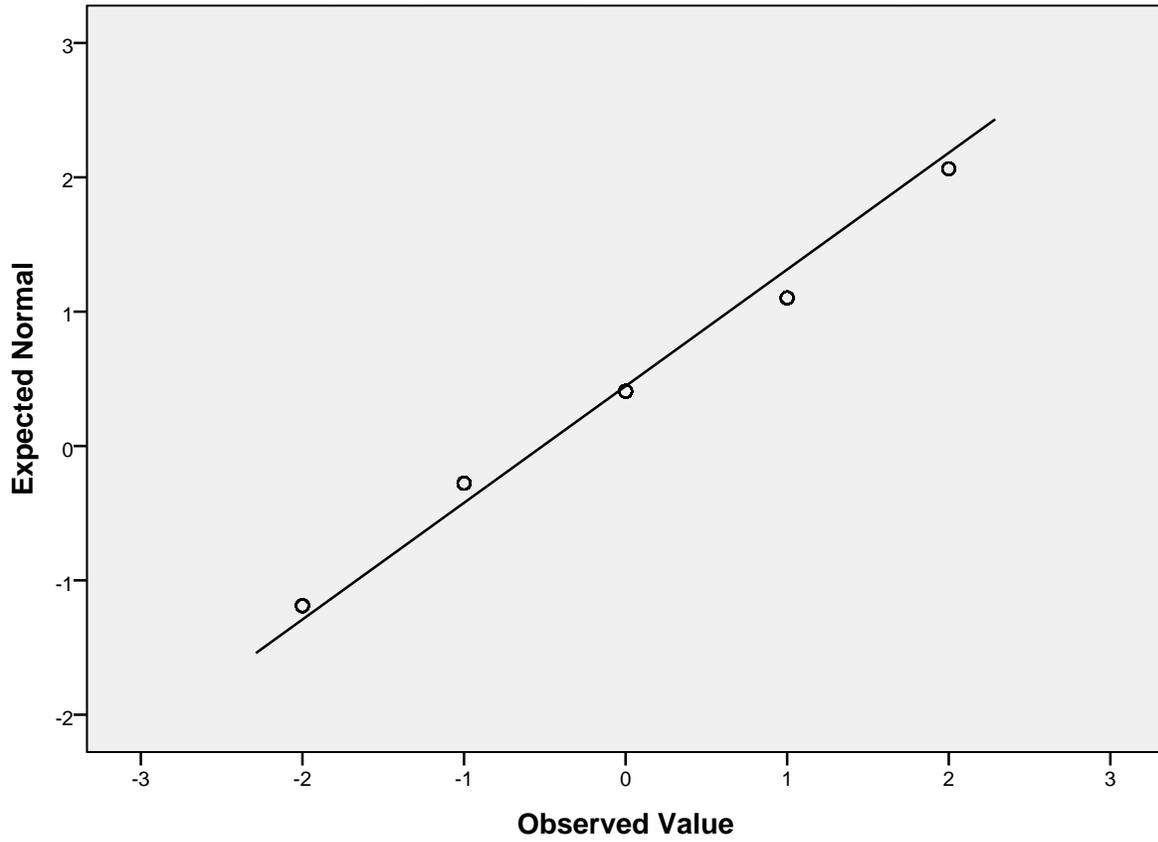
Normal Q-Q Plot of [The variety and choice available online can often be confusing] To what extent do you agree or disagree with the following statements?
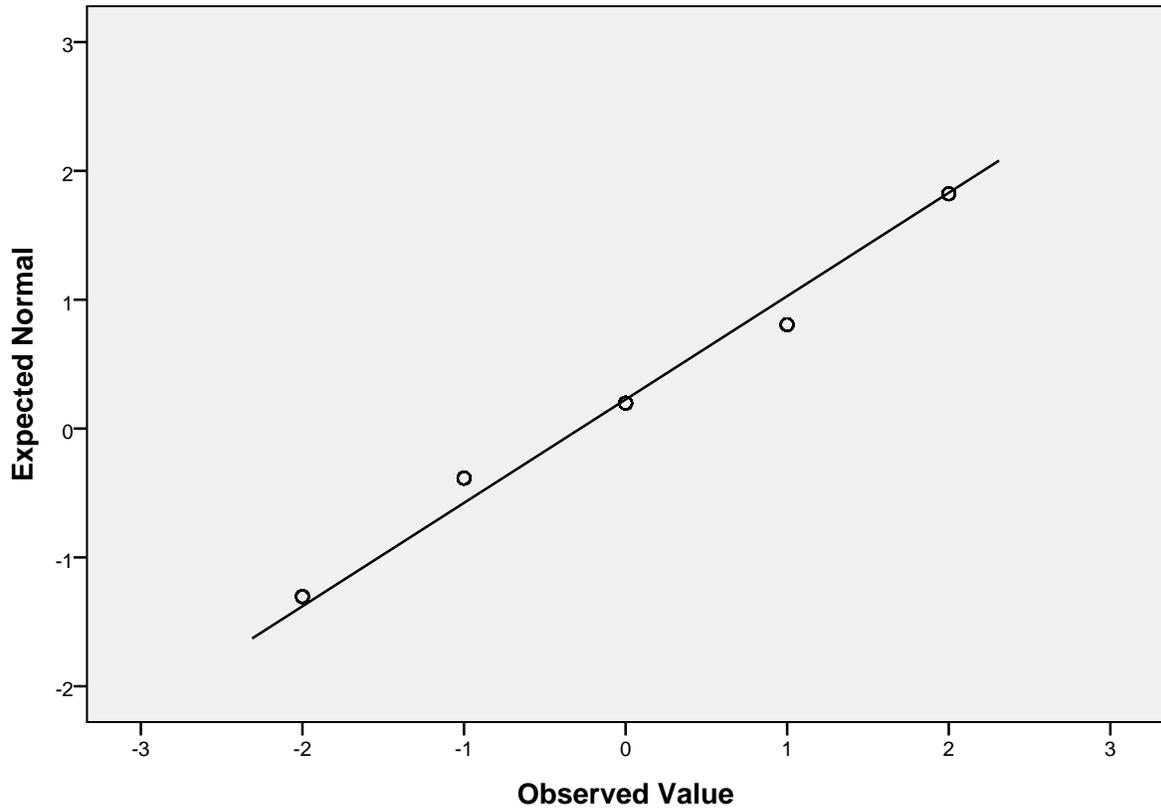
Normal Q-Q Plot of [I like online shopping mainly because I can discover new products/services] To what extent do you agree or disagree with the following statements?
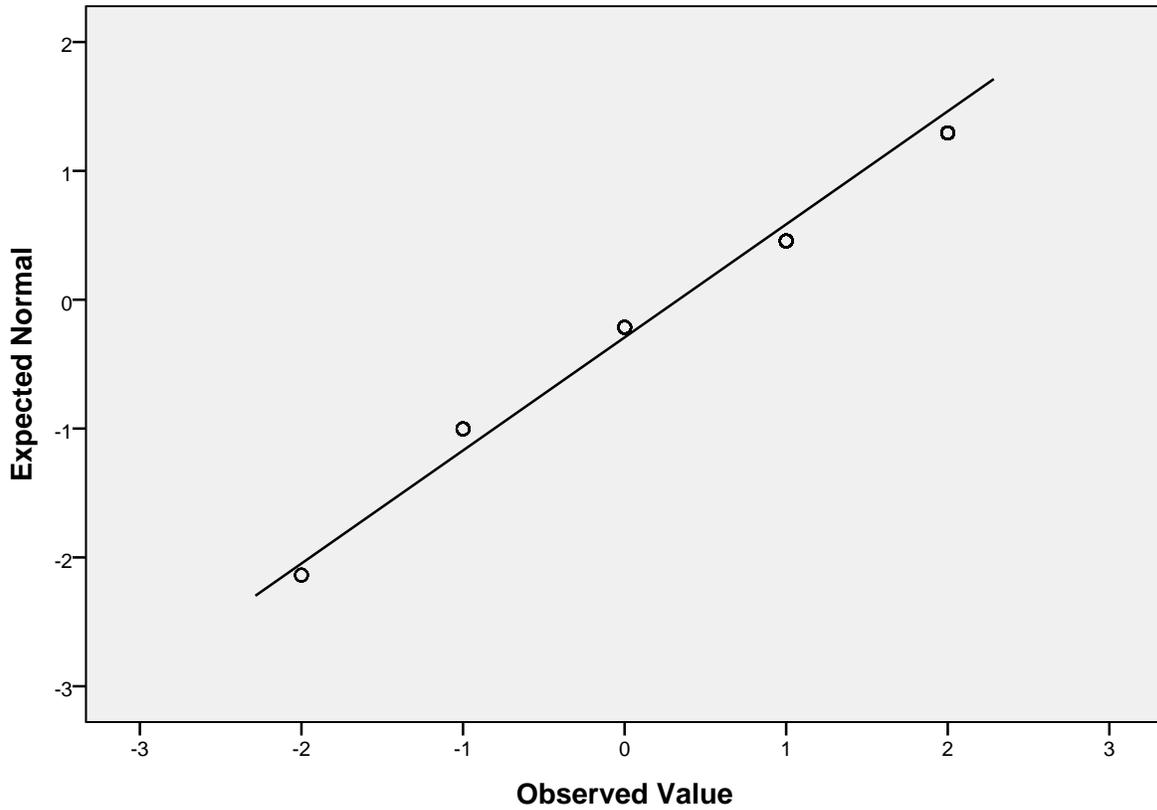
Normal Q-Q Plot of [When I go online to buy, I like to know beforehand what I want and where to go] To what extent do you agree or disagree with the following statements?
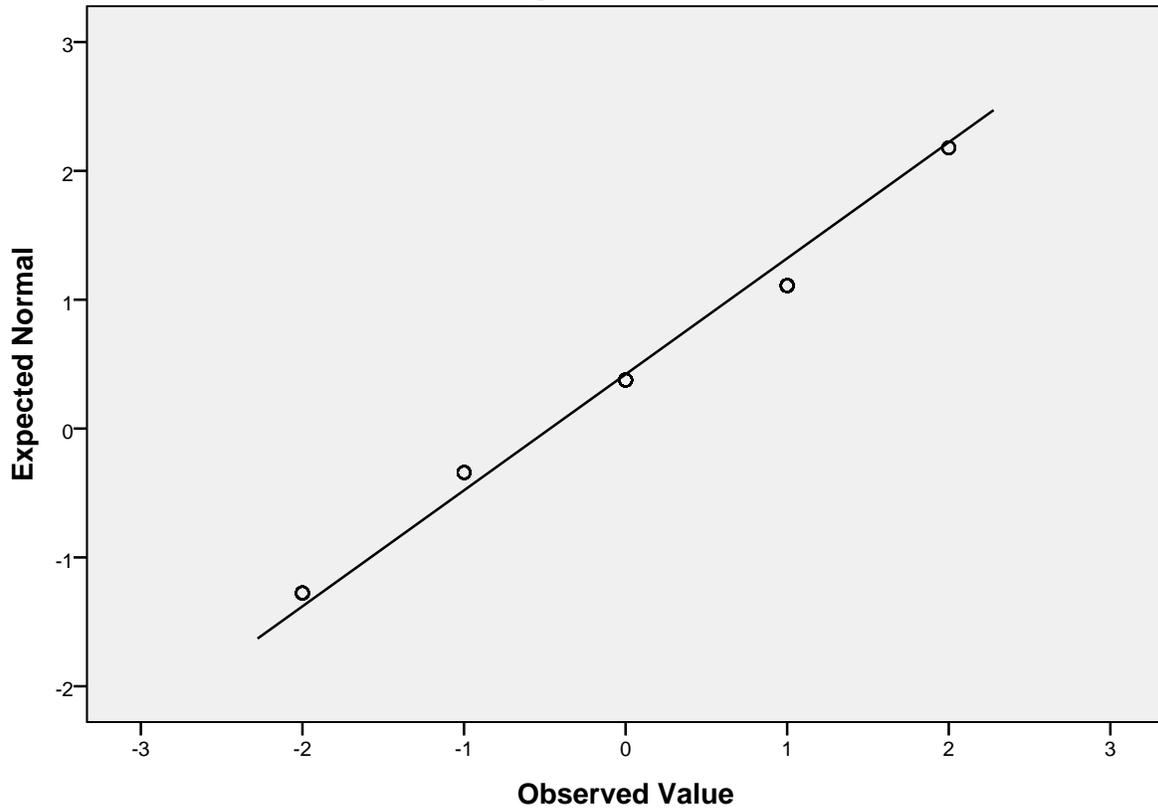
Normal Q-Q Plot of [I like being able to compare offers/prices from many vendors before buying] To what extent do you agree or disagree with the following statements?
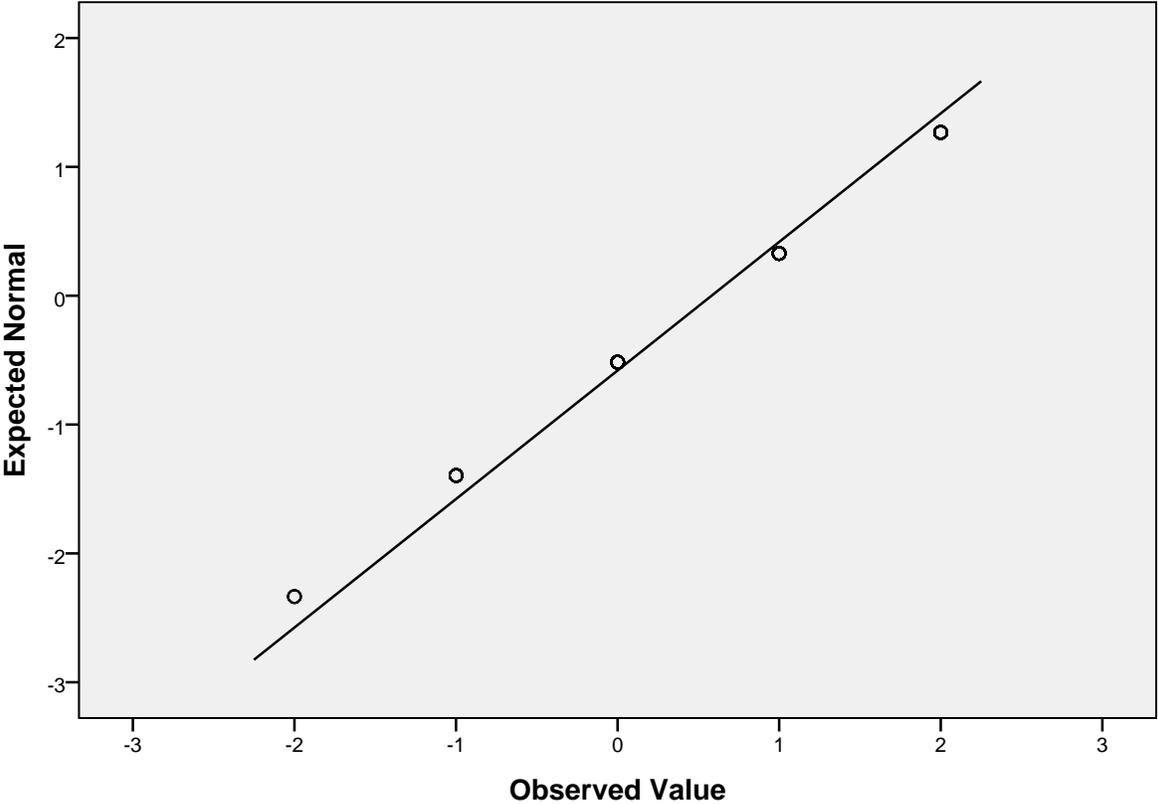
Normal Q-Q Plot of [The thing I like most about online shopping is that it enables me to shop without bother from sales people] To what extent do you agree or disagree with the following statements?

Expected Normal

Observed Value
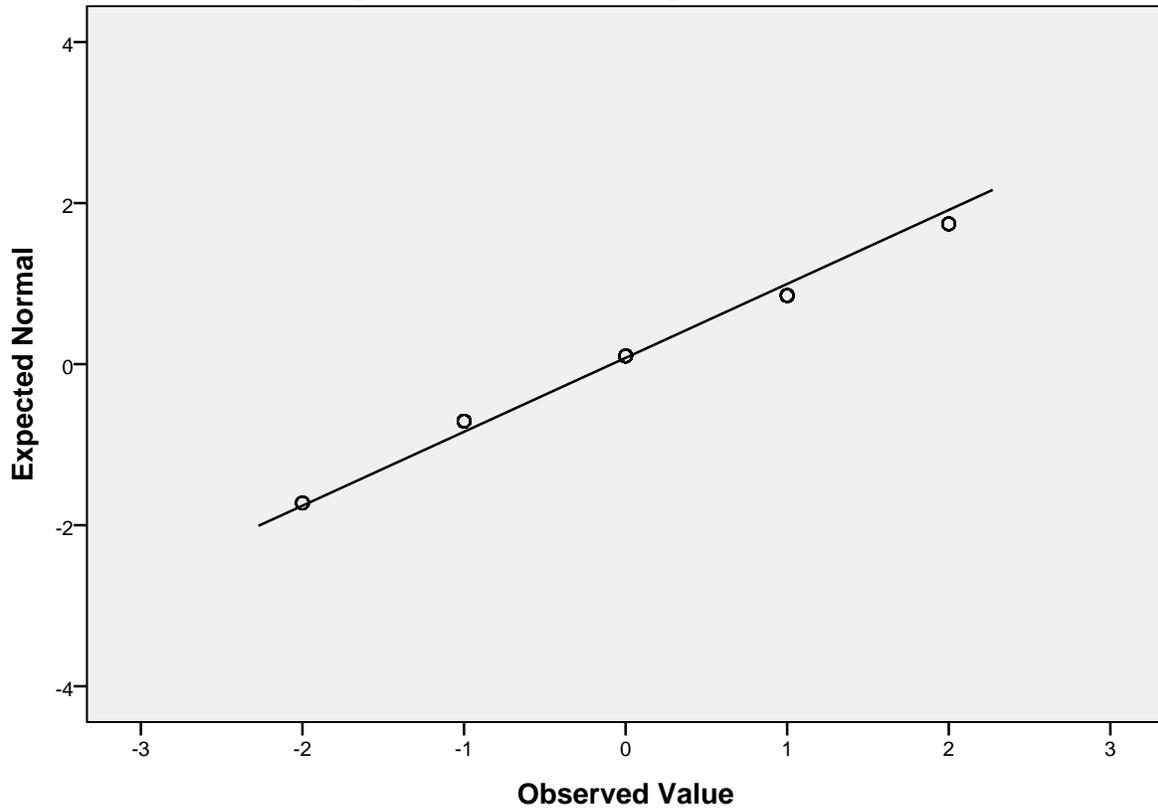
Normal Q-Q Plot of [When I shop online, I am usually in and out - I go for what I want and I leave] To what extent do you agree or disagree with the following statements?
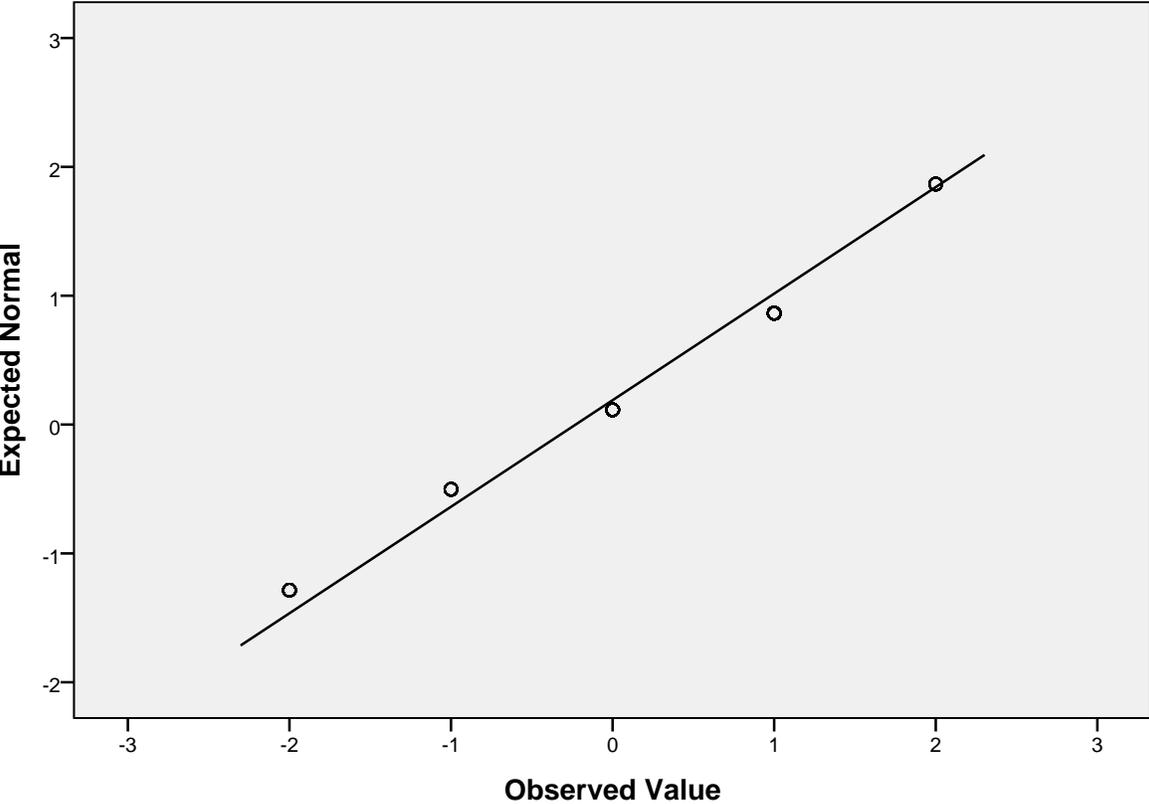
Normal Q-Q Plot of [When I shop online, I take my time to look for bargains] To what extent do you agree or disagree with the following statements?
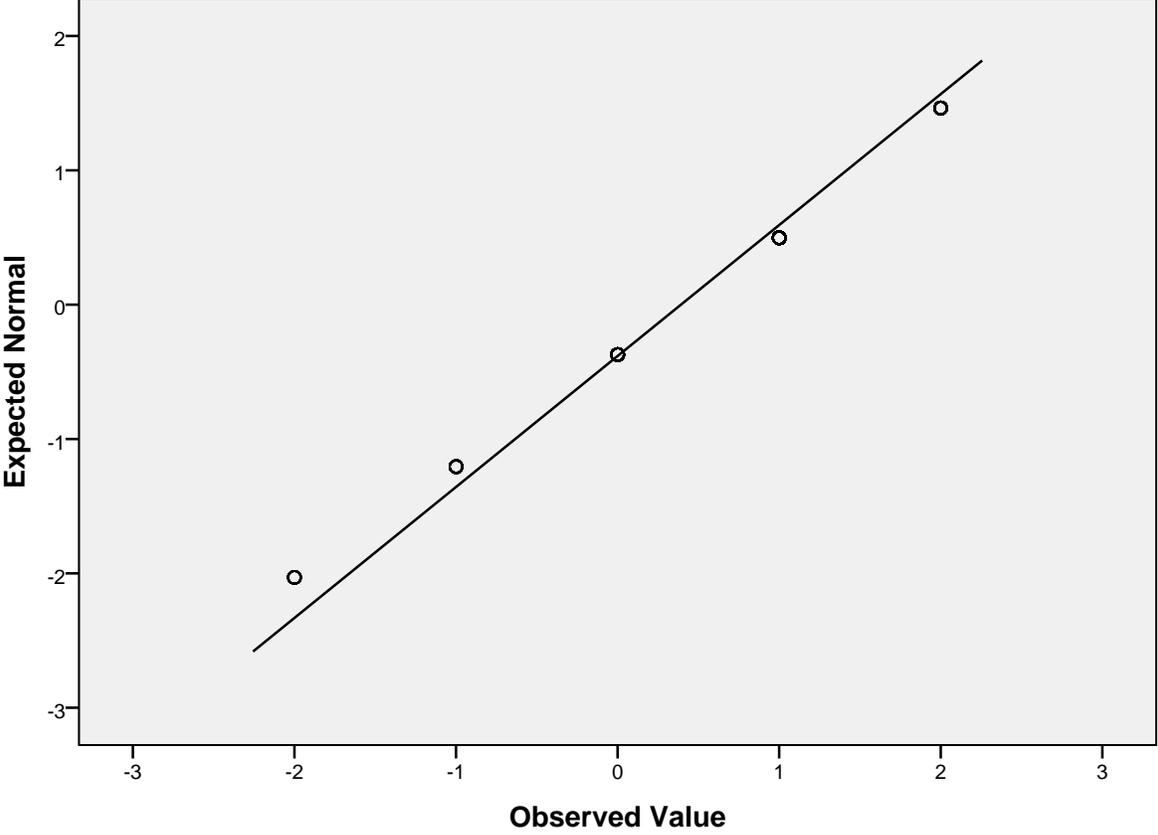
Normal Q-Q Plot of [I regularly use comparison sights to find the best deals] To what extent do you agree or disagree with the following statements?
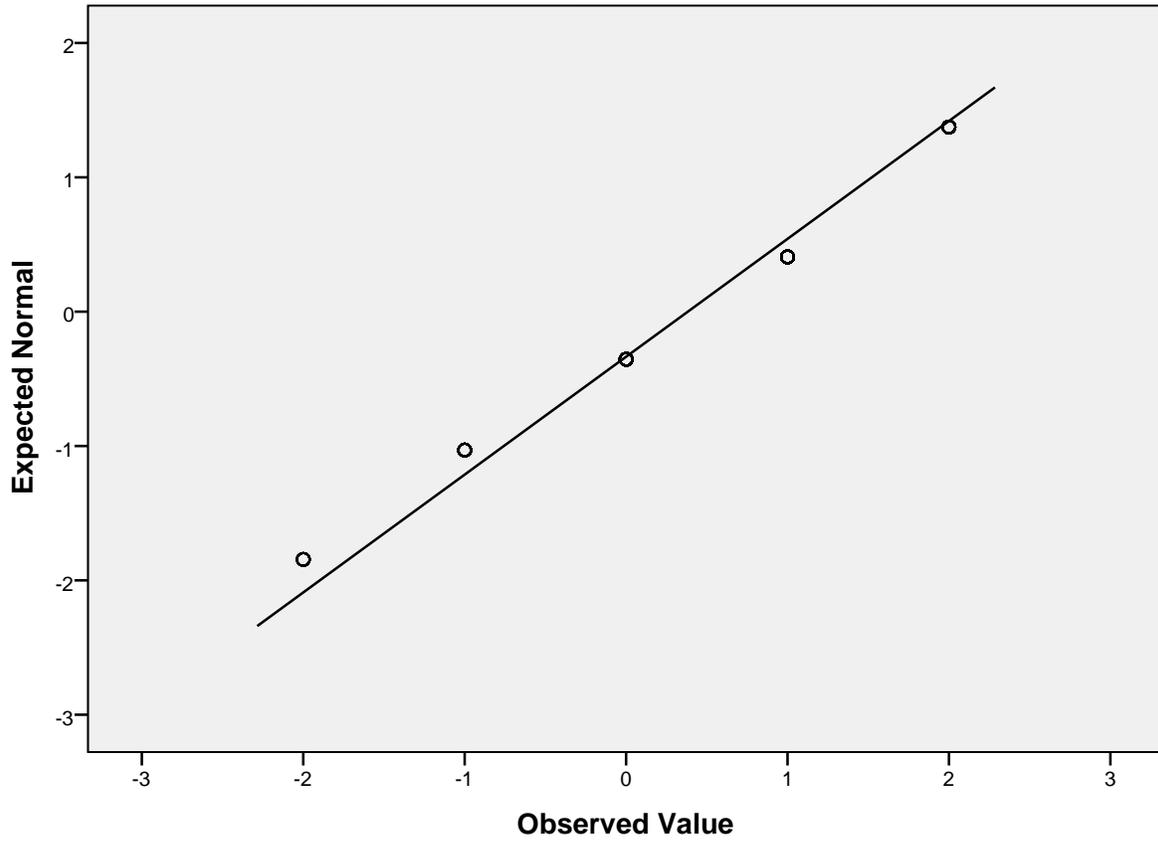
Normal Q-Q Plot of [I usually search extensively for products and information before choosing what to buy online] To what extent do you agree or disagree with the following statements?
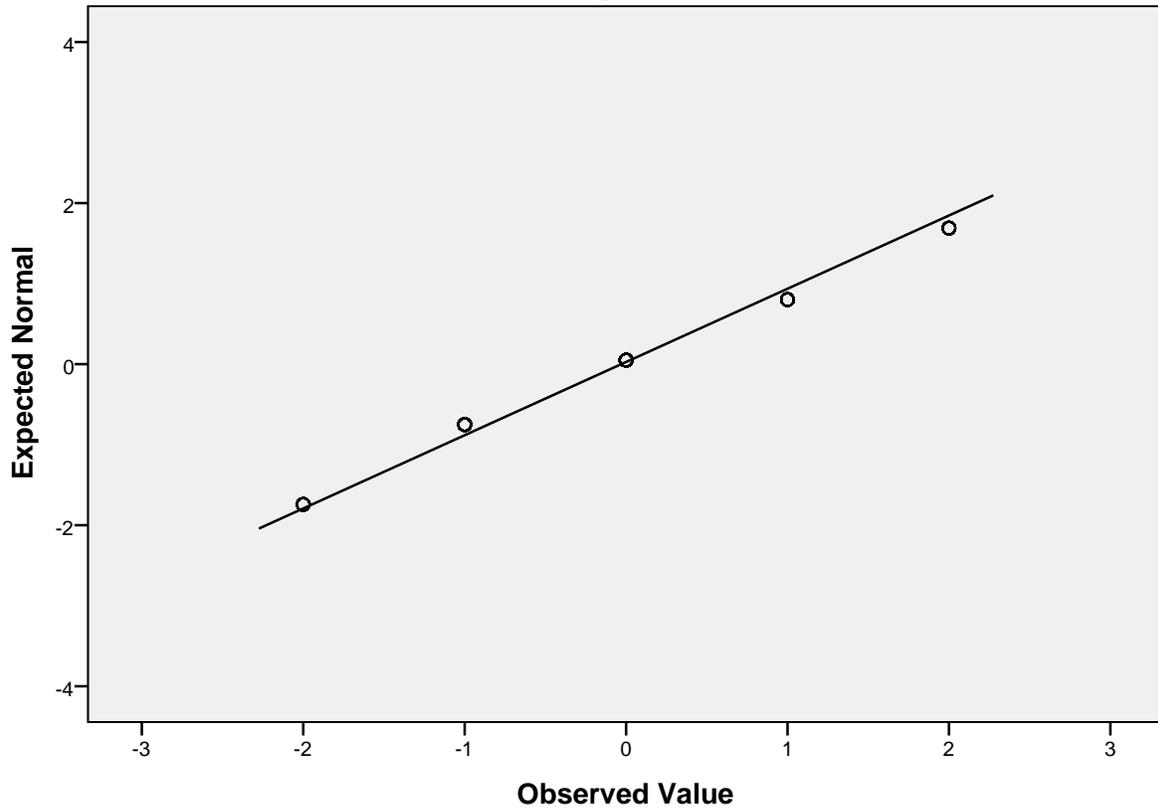
Normal Q-Q Plot of [When shopping online, I buy from any retailer that offers me the best deal] To what extent do you agree or disagree with the following statements?
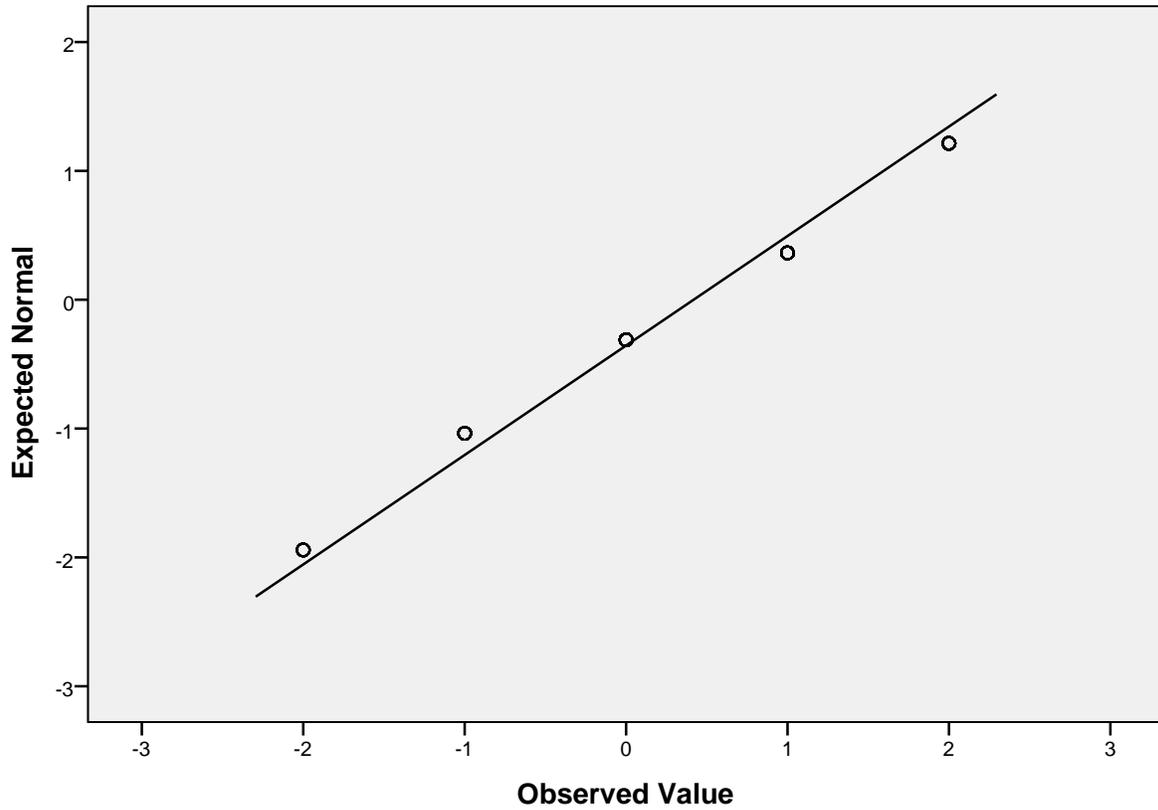
Normal Q-Q Plot of [When buying from unfamiliar vendors/retailers online, I normally check for third party guarantees] To what extent do you agree or disagree with the following statements?
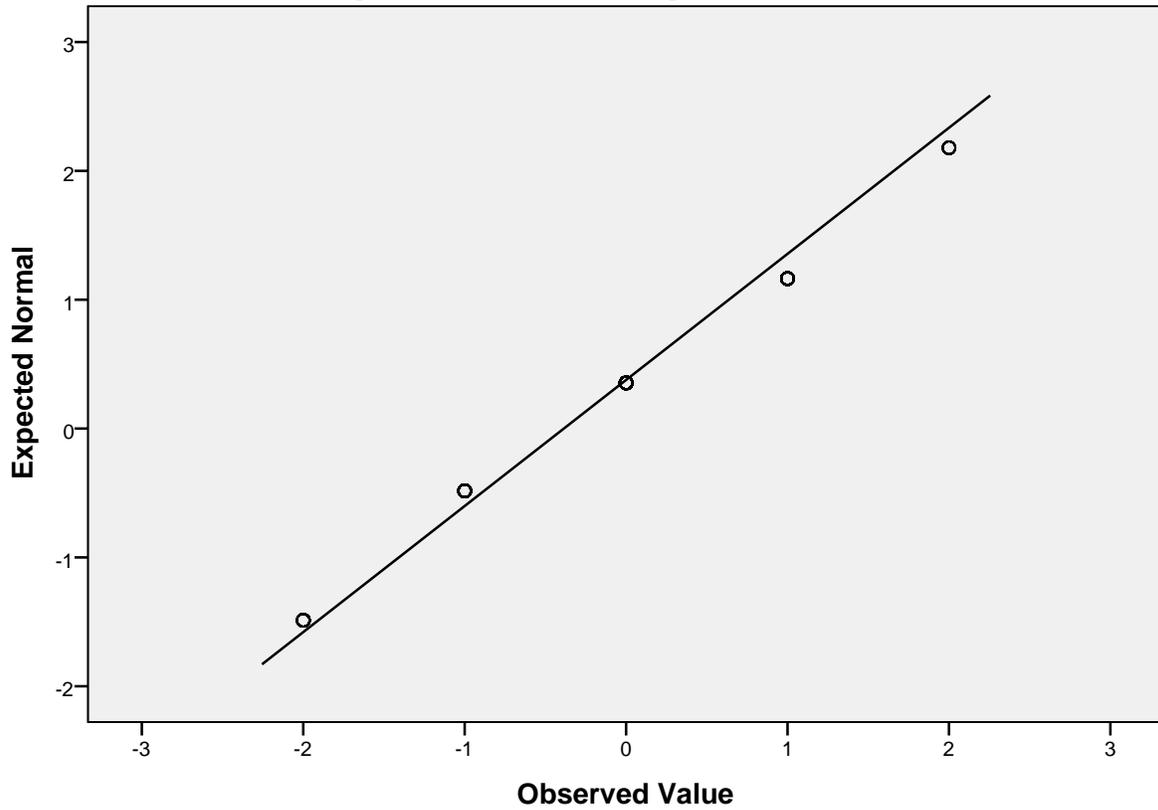
Normal Q-Q Plot of [I usually read the terms and conditions before making a purchase] To what extent do you agree or disagree with the following statements?
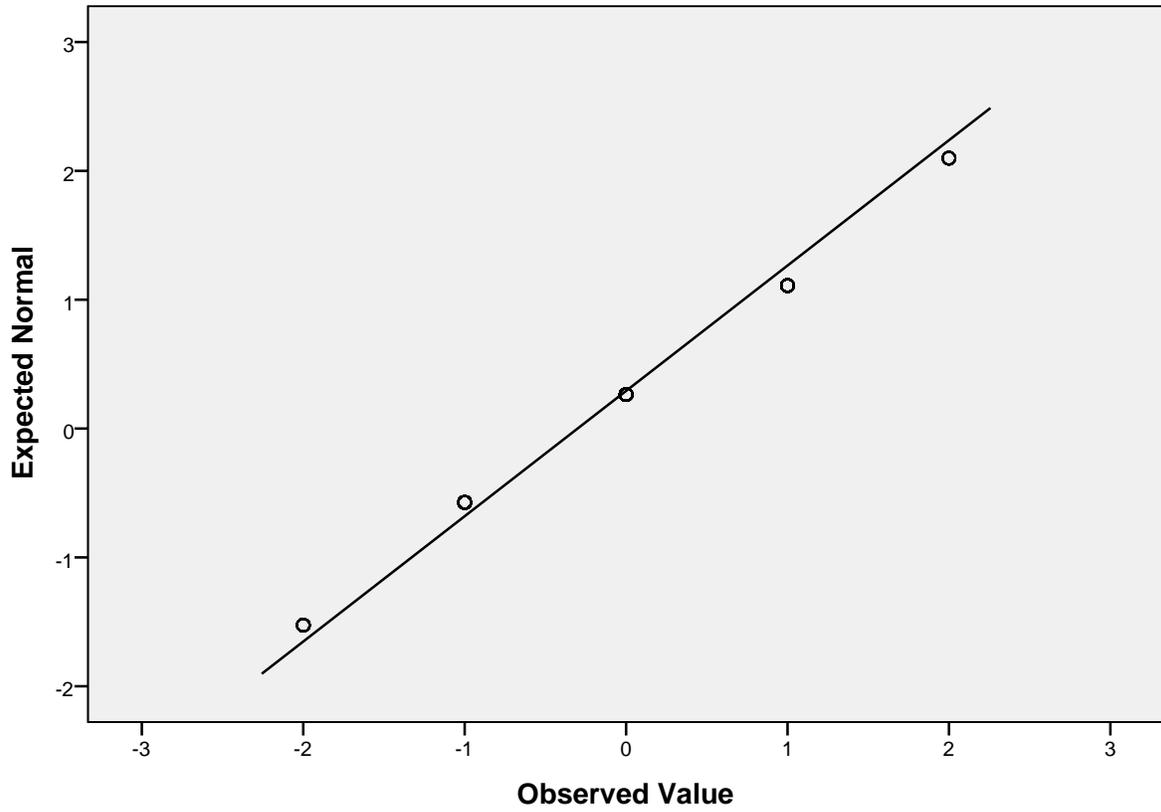
Normal Q-Q Plot of [I won't usually buy online without checking that the transaction is encrypted (that is – electronically coded)] To what extent do you agree or disagree with the following statements?
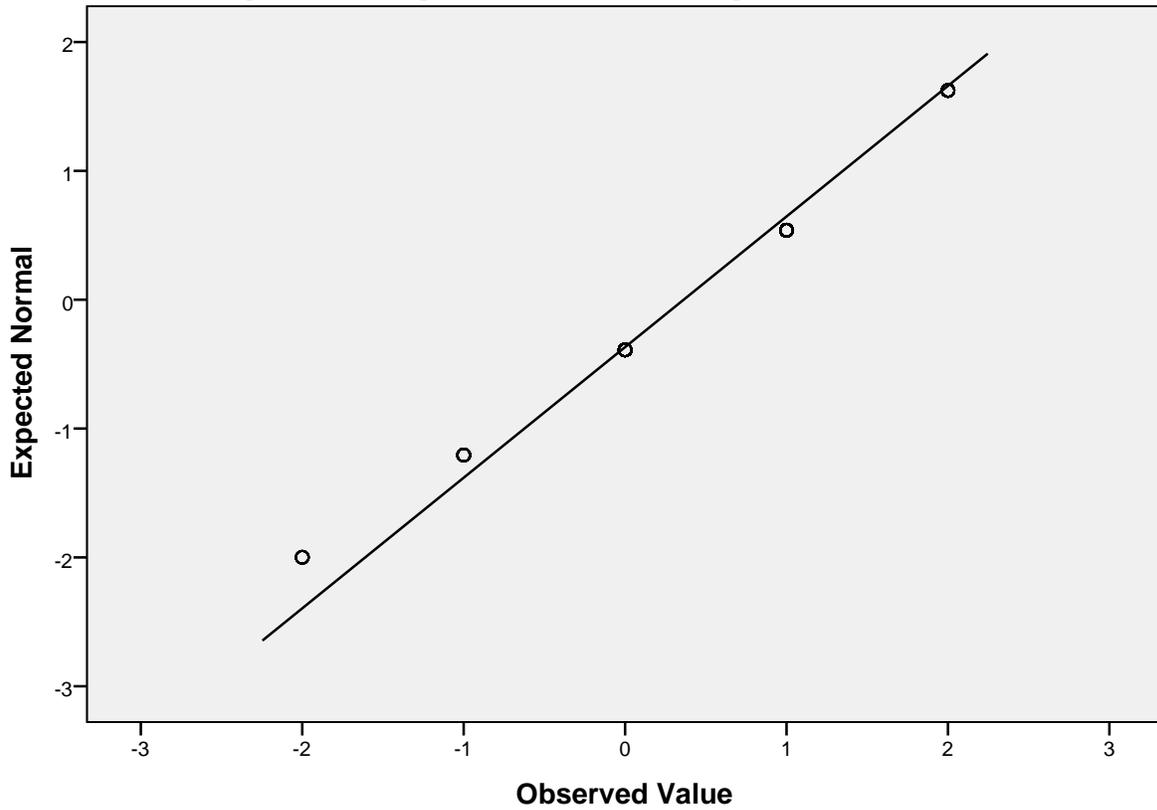
Normal Q-Q Plot of [I hardly take notice of privacy warnings and guarantees when shoppoing online] To what extent do you agree or disagree with the following statements?
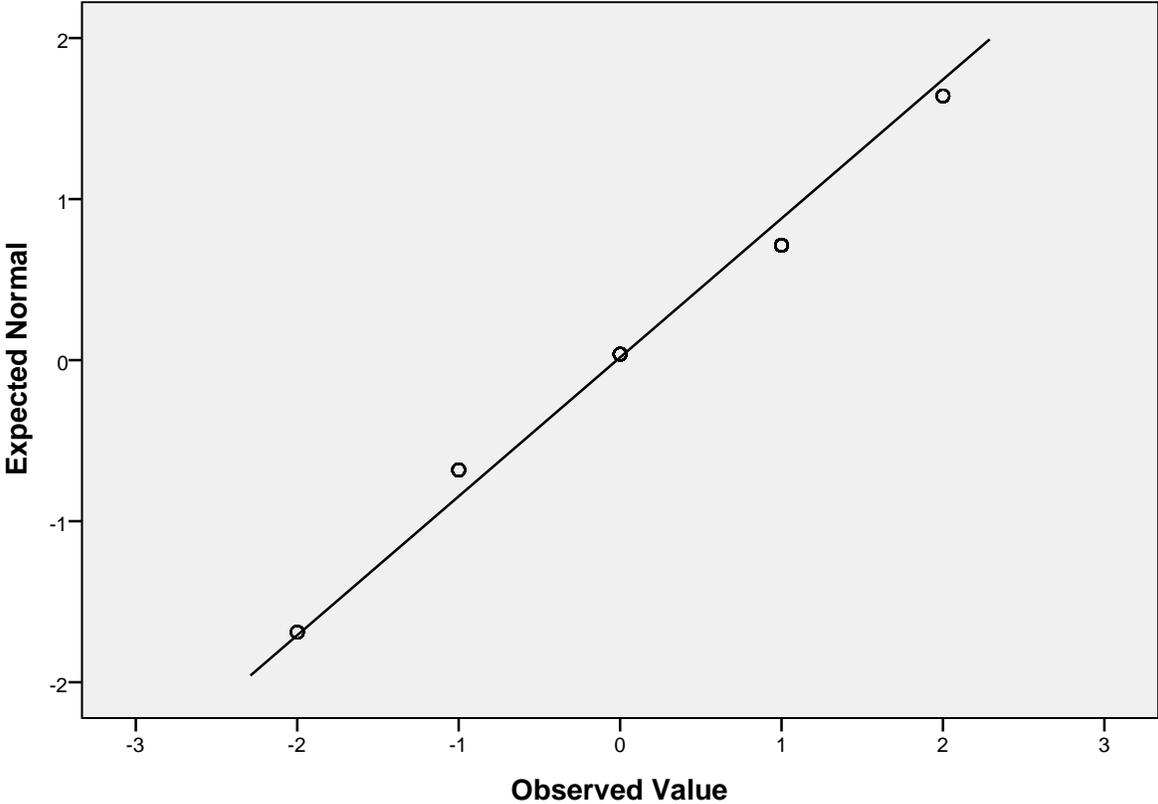
Normal Q-Q Plot of [When shopping online, I prefer to stick with retailers that I know in the real world] To what extent do you agree or disagree with the following statements?
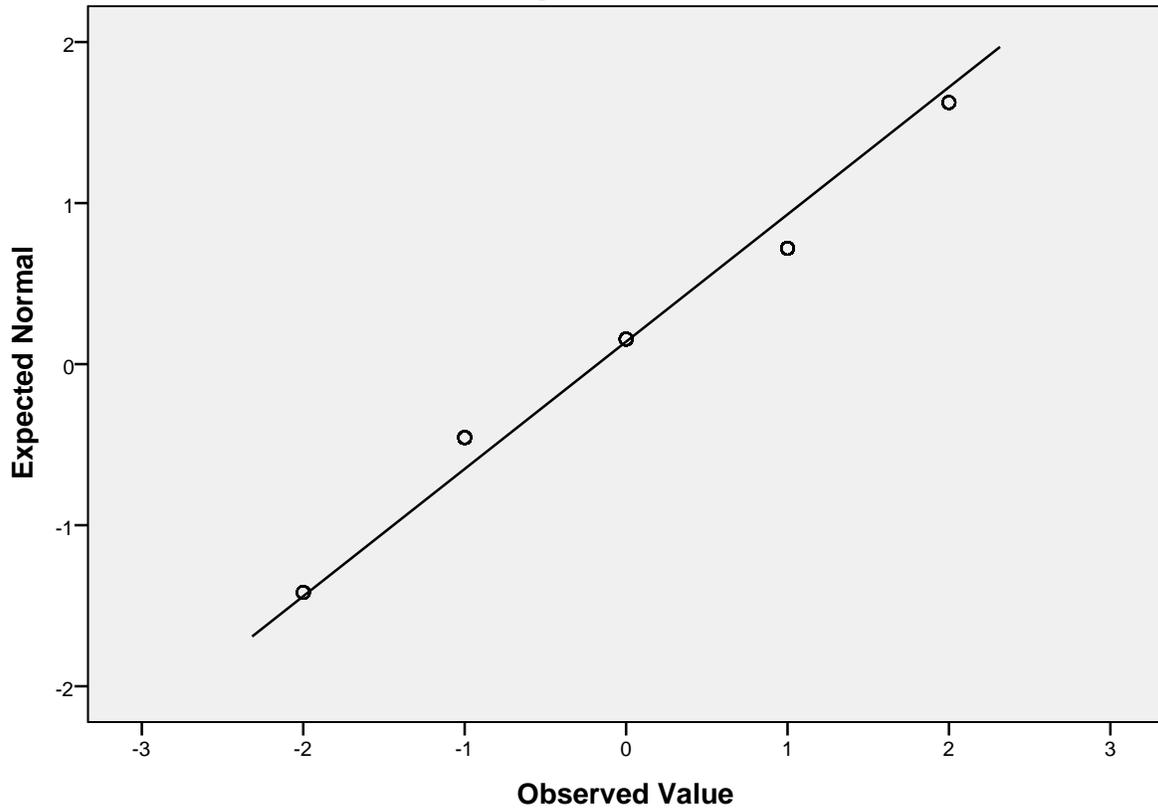
Normal Q-Q Plot of [I am quite happy to accept suggestions for additional products when shopping online] To what extent do you agree or disagree with the following statements?
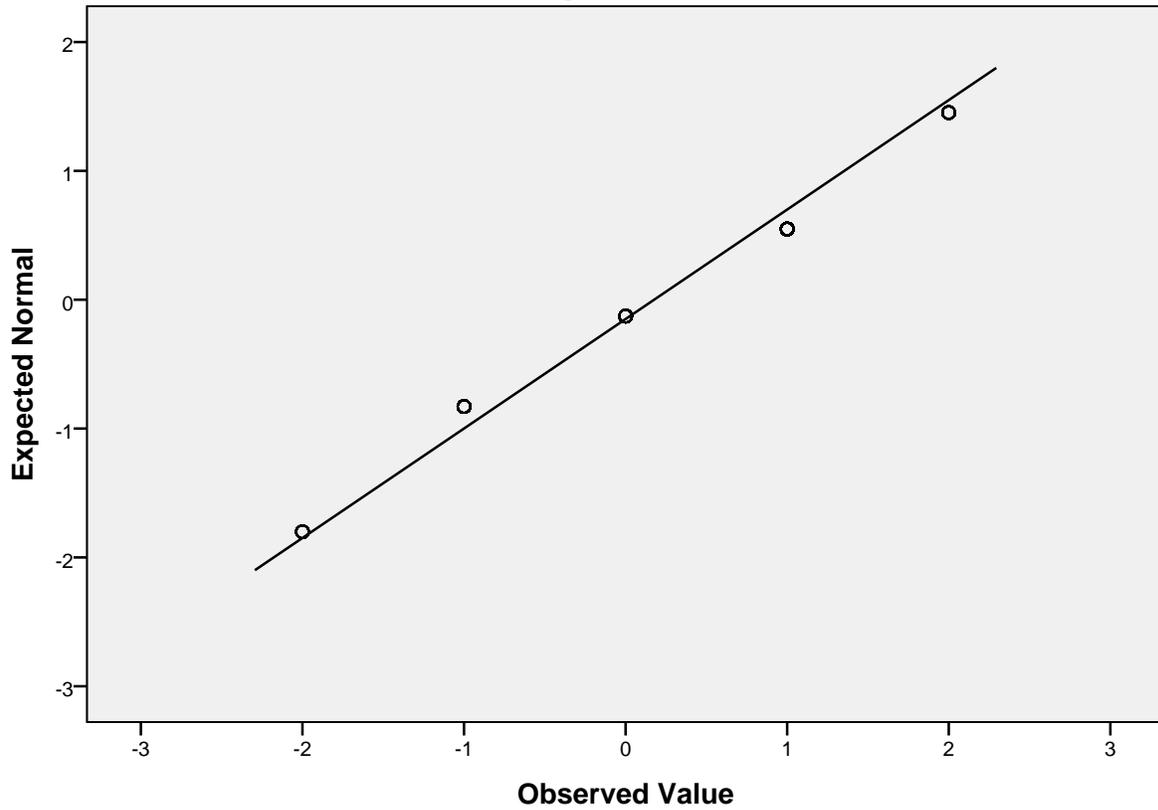
Normal Q-Q Plot of [I am quite happy to accept recommendations for alternatives when shopping online] To what extent do you agree or disagree with the following statements?
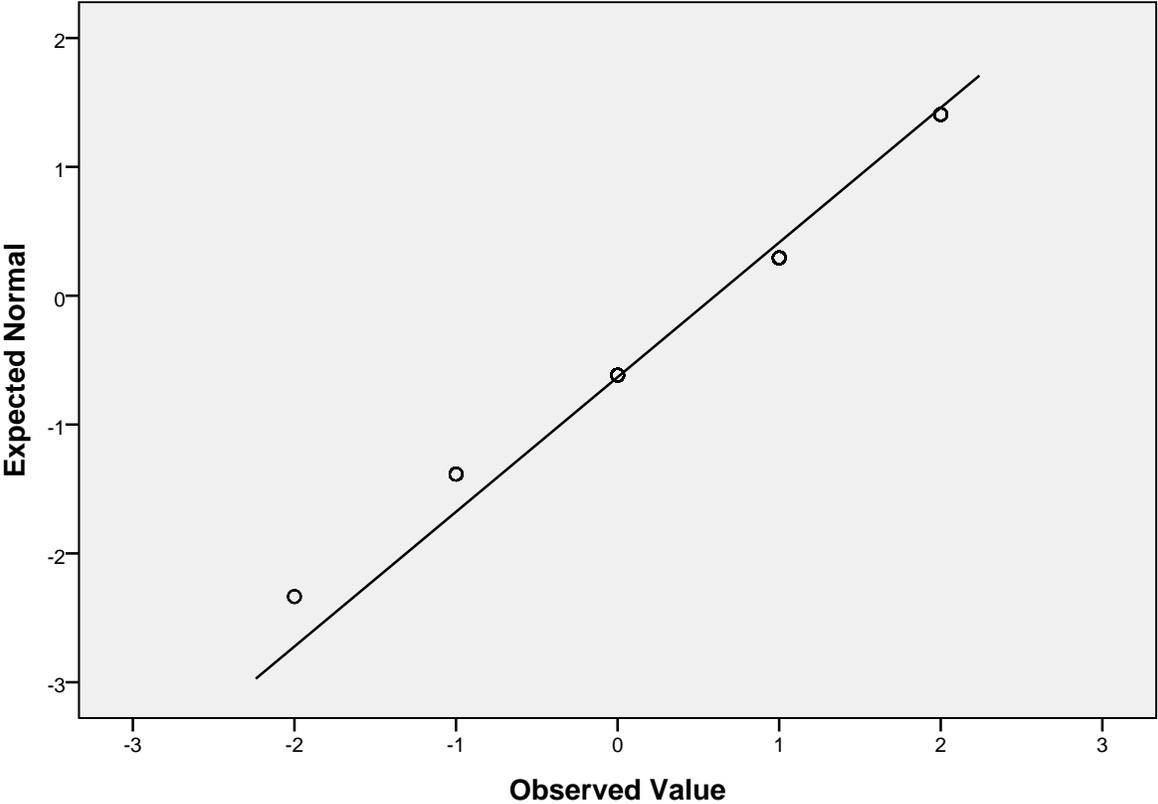
Normal Q-Q Plot of [I regularly click on online advert links when I search for a product/service] To what extent do you agree or disagree with the following statements?
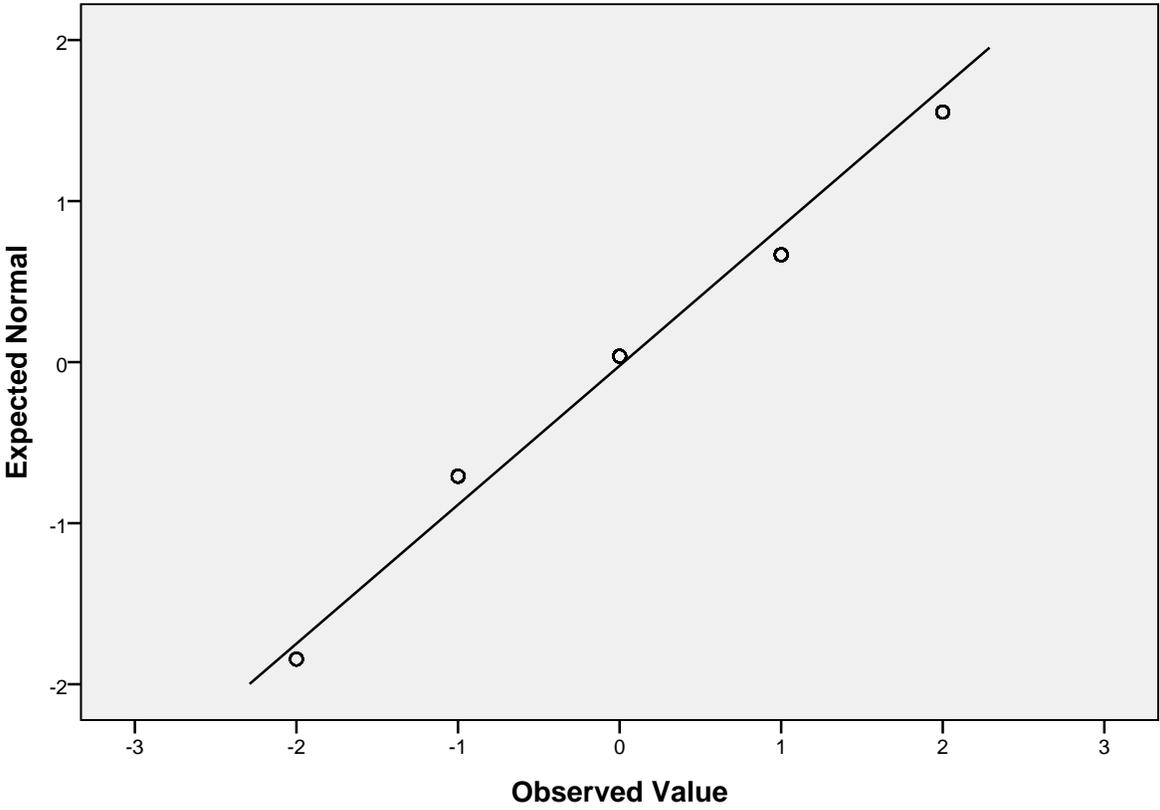
Normal Q-Q Plot of [I usually click on pop-up adverts that I find relevant] To what extent do you agree or disagree with the following statements?
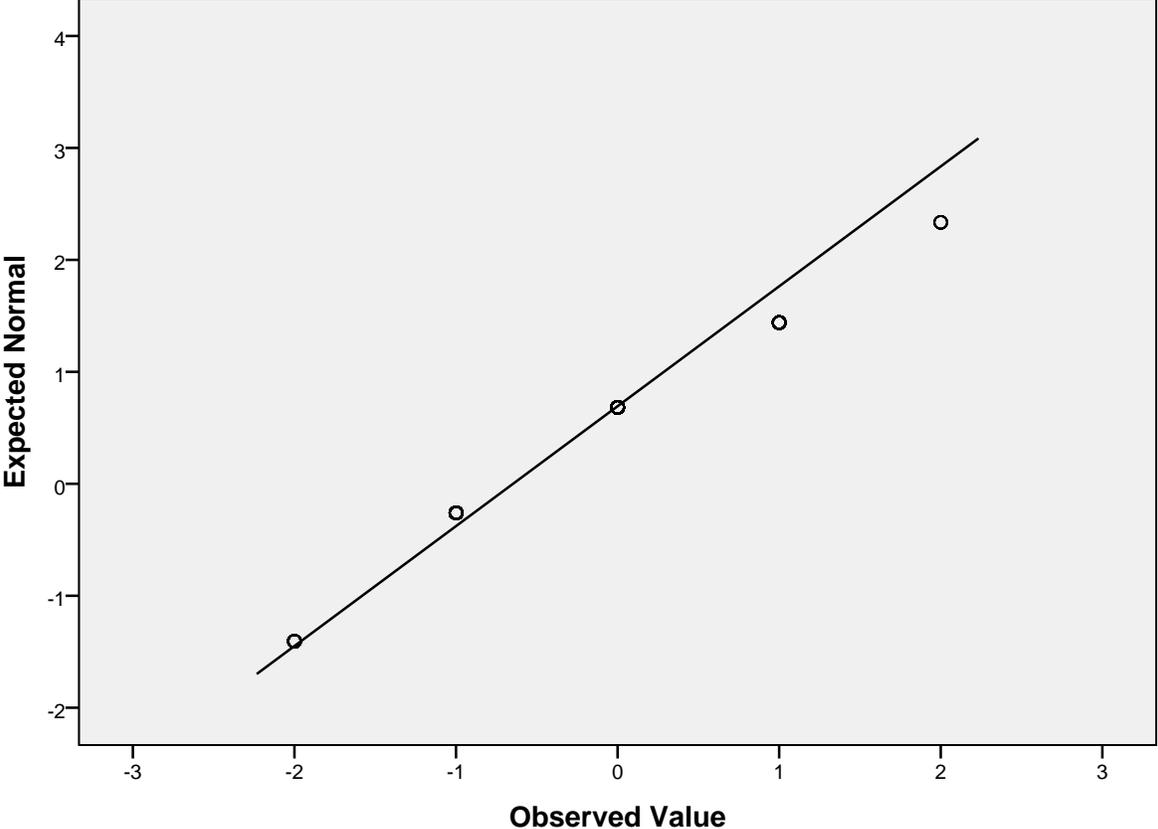
Normal Q-Q Plot of [I usually do my best to ignore online adverts] To what extent do you agree or disagree with the following statements?
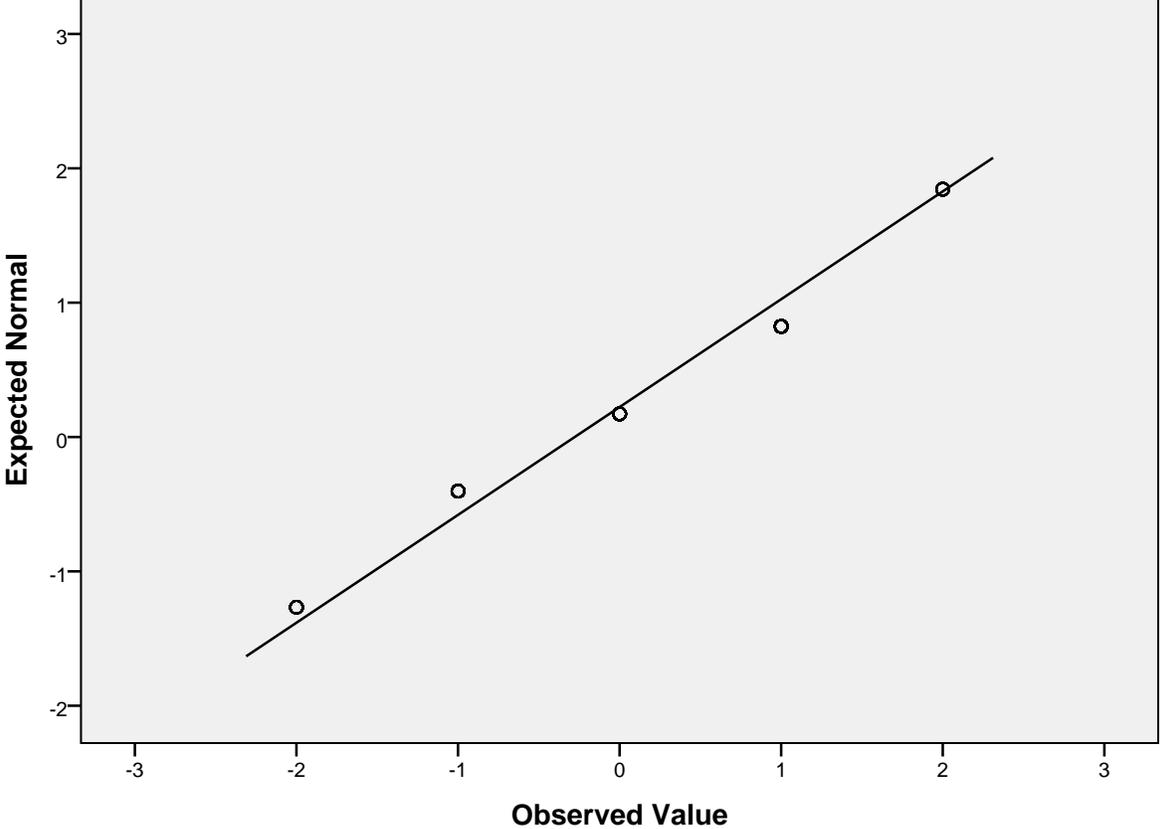
Normal Q-Q Plot of [It is rare for me to visit a web retailer in response to a marketing email I have received] To what extent do you agree or disagree with the following statements?
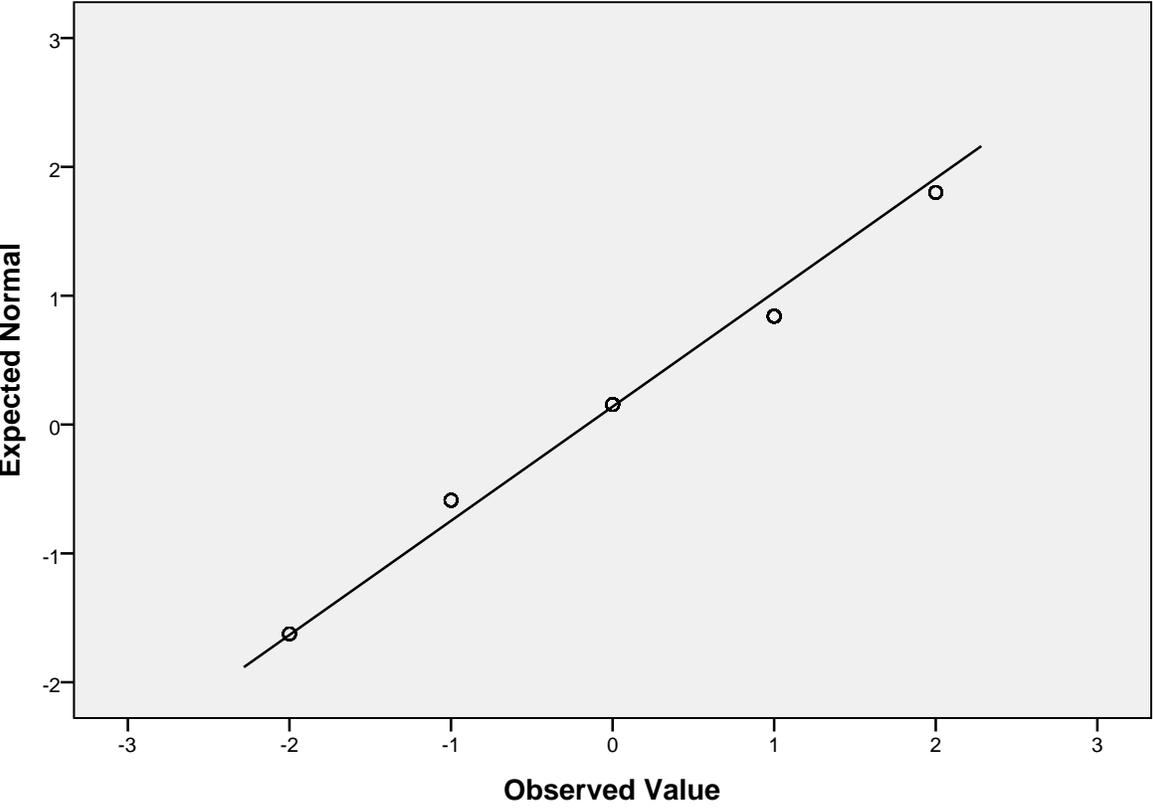
Normal Q-Q Plot of [I will not usually add items to my online shopping cart without checking out during the shopping session] To what extent do you agree or disagree with the following statements?
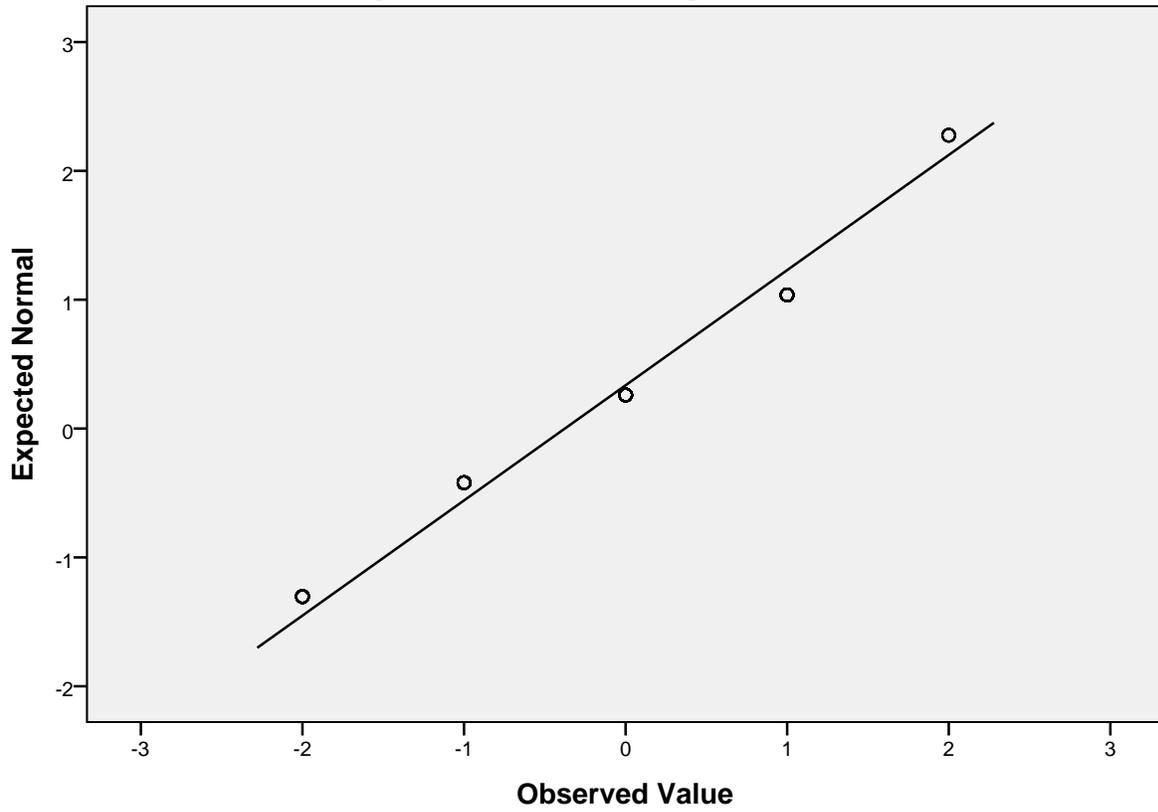
Normal Q-Q Plot of [It is common for me to do one piece of shopping beyond one online shopping session] To what extent do you agree or disagree with the following statements?
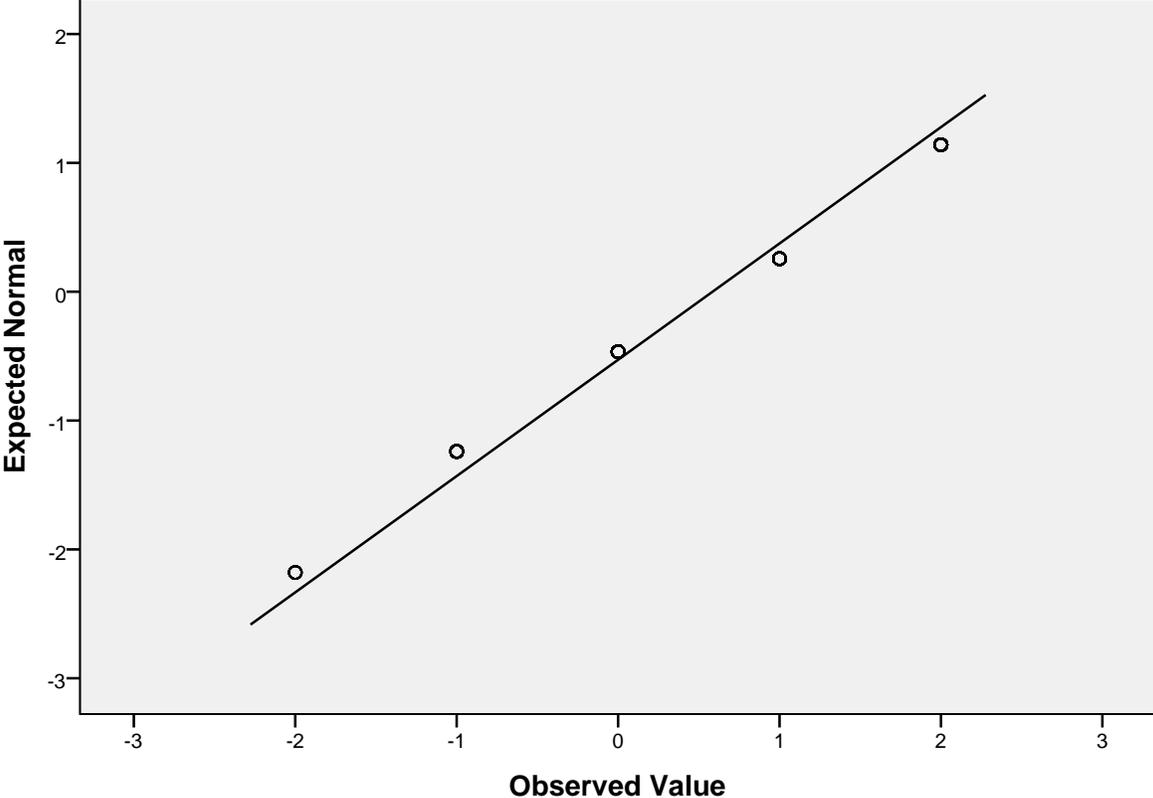
Normal Q-Q Plot of [It is normal for me to save items in my online shopping basket for several days before paying for them] To what extent do you agree or disagree with the following statements?

Expected Normal

Observed Value
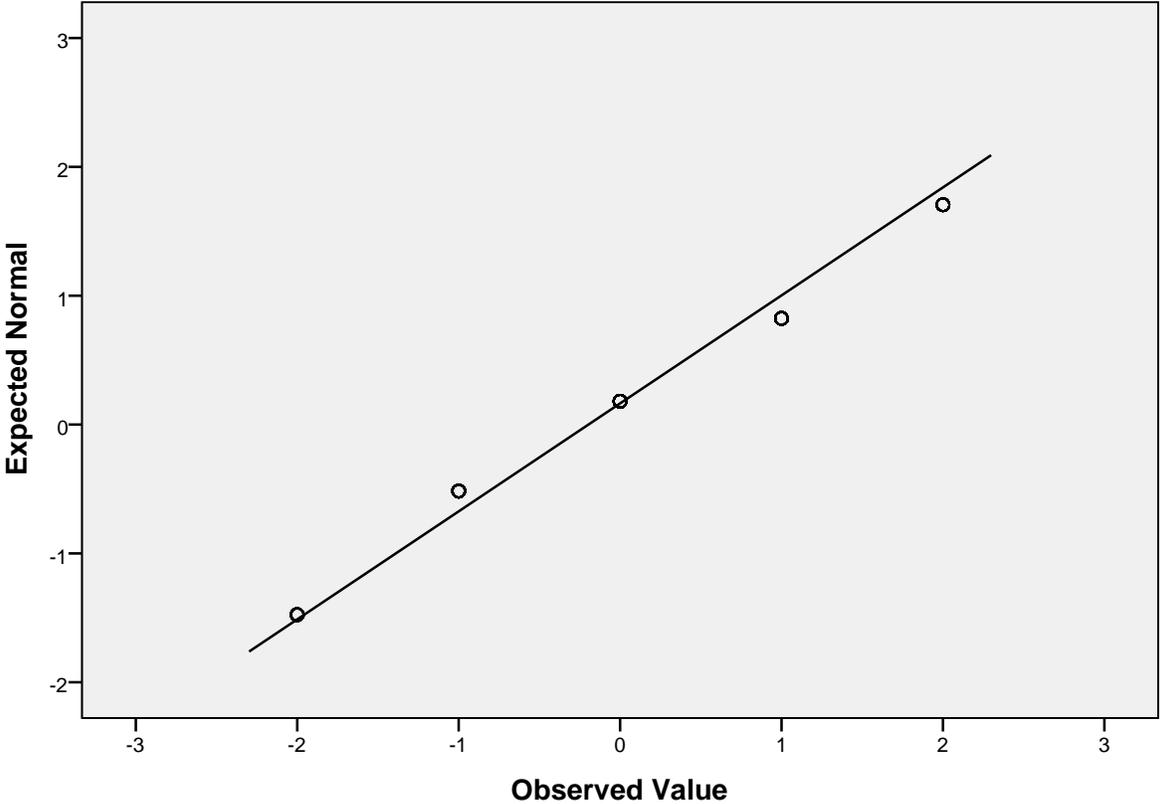
Normal Q-Q Plot of [I often add items to shopping carts on different websites before settling for one] To what extent do you agree or disagree with the following statements?
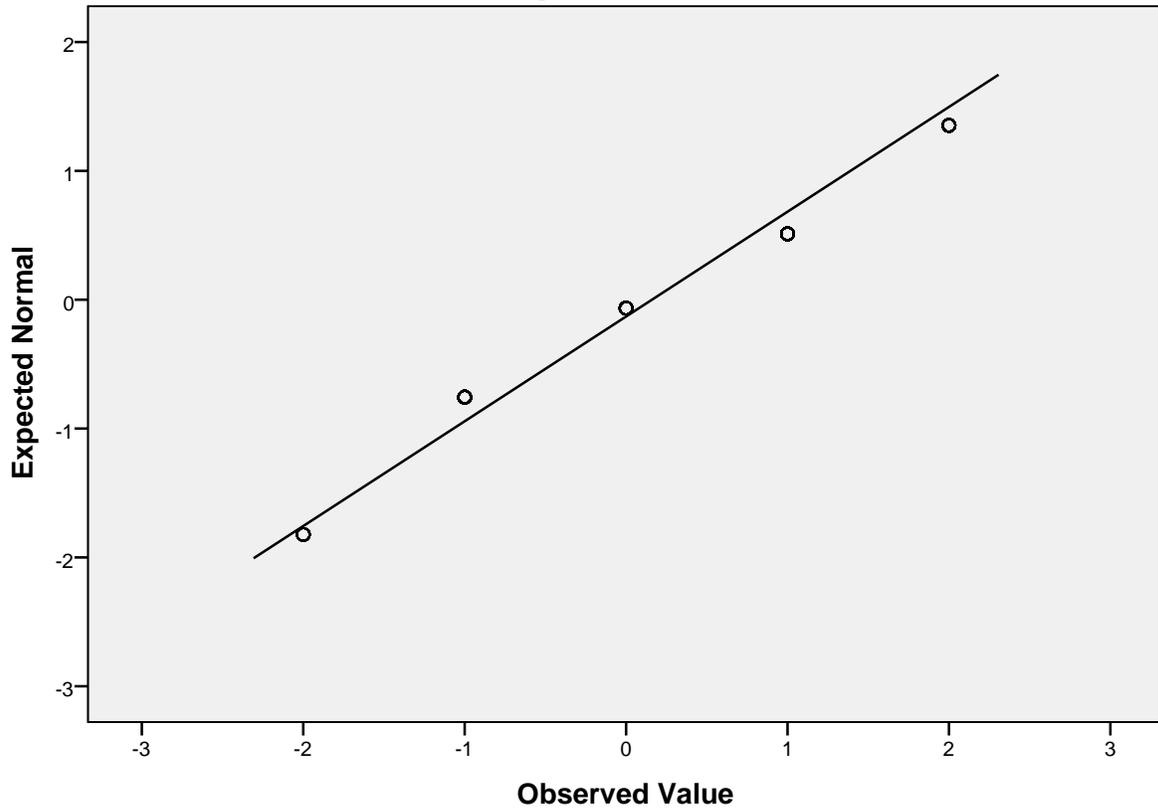
Normal Q-Q Plot of [I usually try to complete my shopping once I have spent time adding items to my cart] To what extent do you agree or disagree with the following statements?
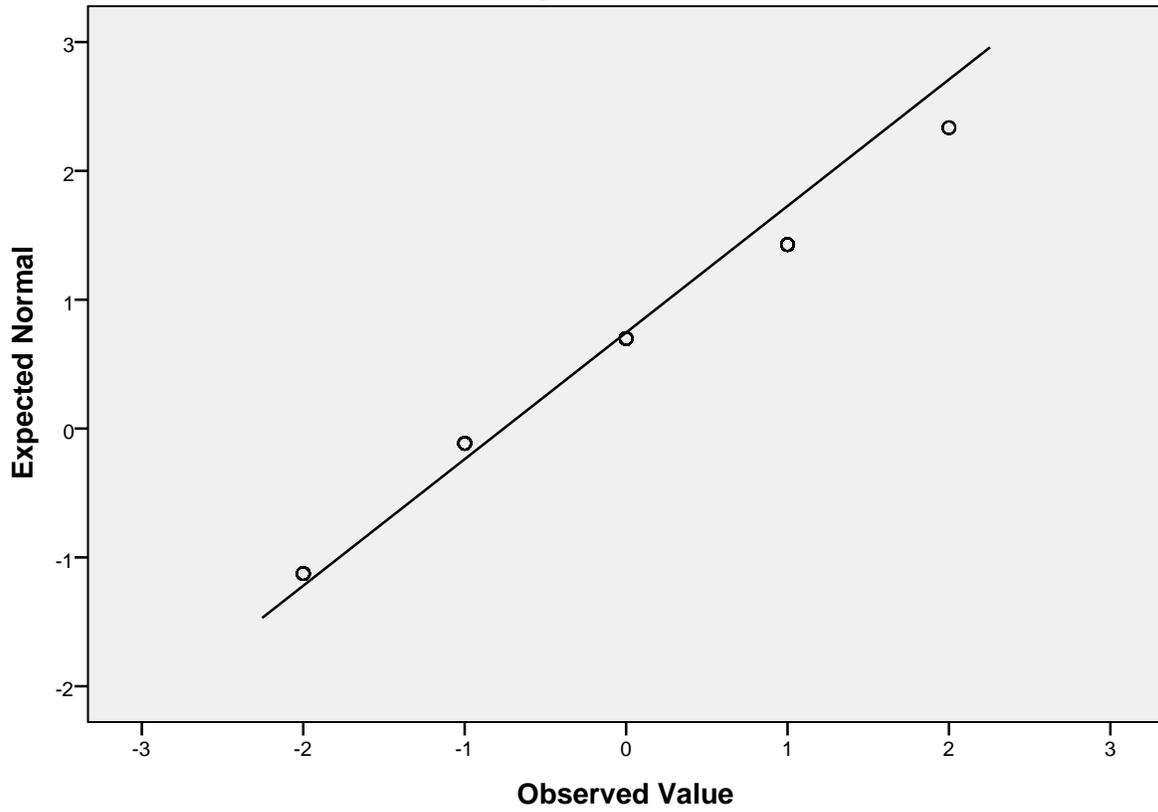
Normal Q-Q Plot of [Unless my online purchases completely meet my expectations, I normally return them] To what extent do you agree or disagree with the following statements?
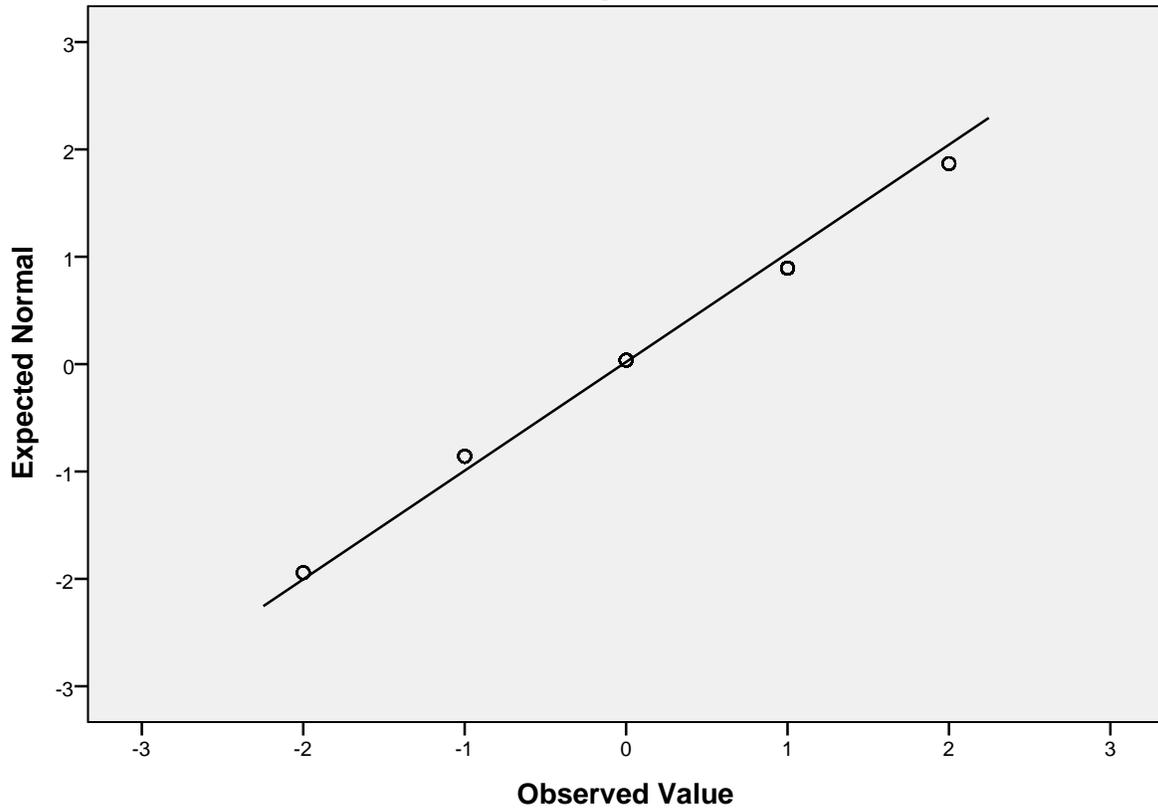
Normal Q-Q Plot of [I rarely complain if my online purchases or service do not meet my expectations] To what extent do you agree or disagree with the following statements?
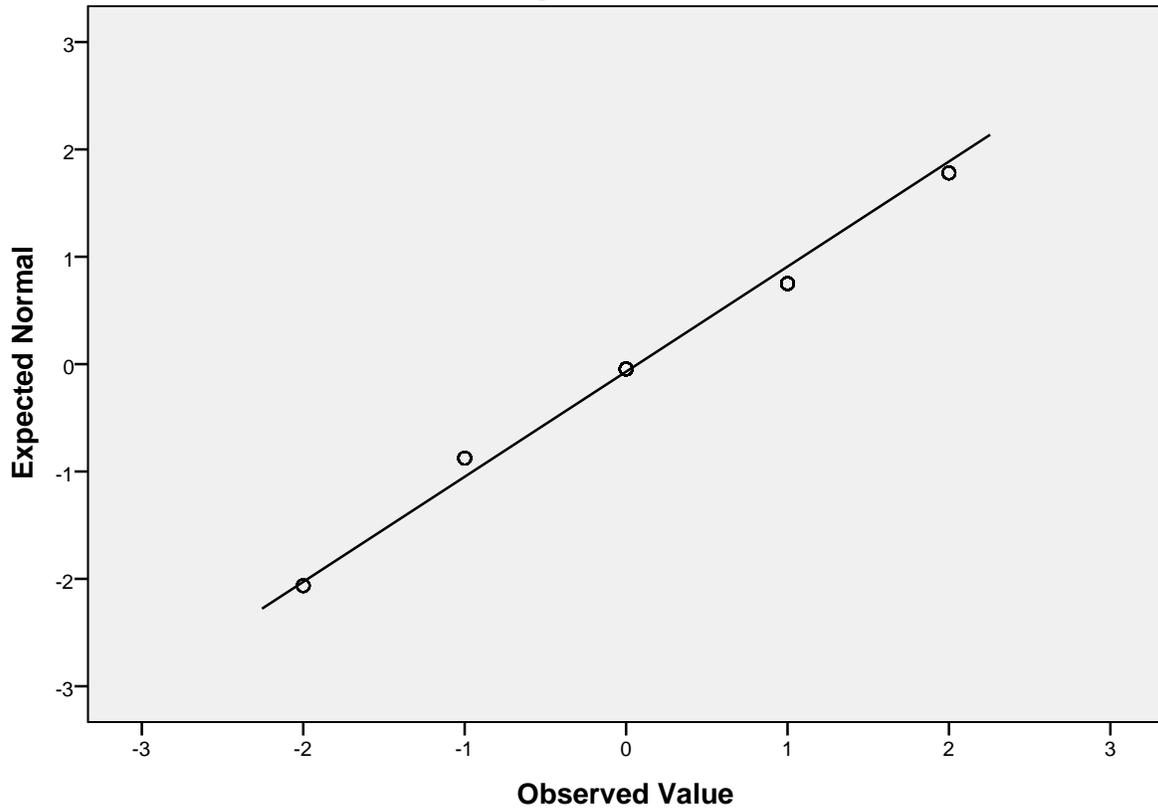
Normal Q-Q Plot of [It is not unlike me to cancel purchases that I make online] To what extent do you agree or disagree with the following statements?
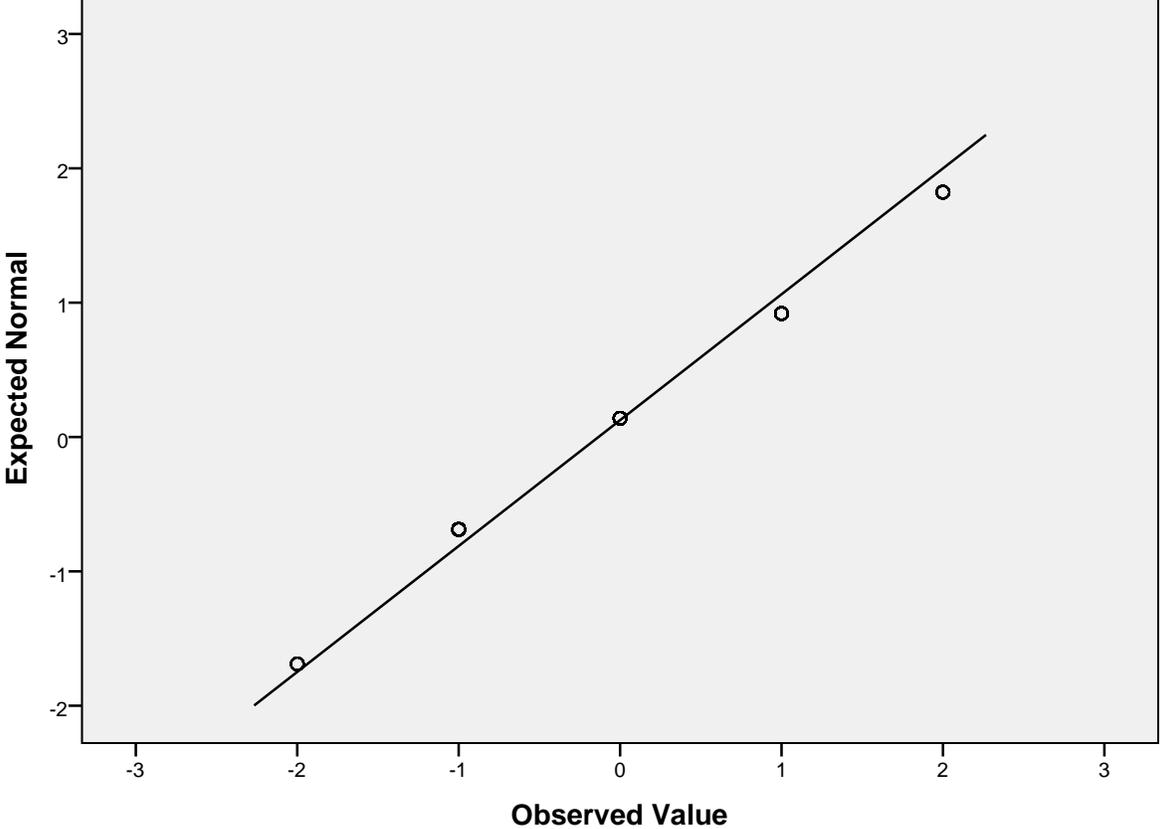
Normal Q-Q Plot of [If I find that my online purchases meet my expectations, I usually return to the same retailer when shopping for similar items] To what extent do you agree or disagree with the following statements?
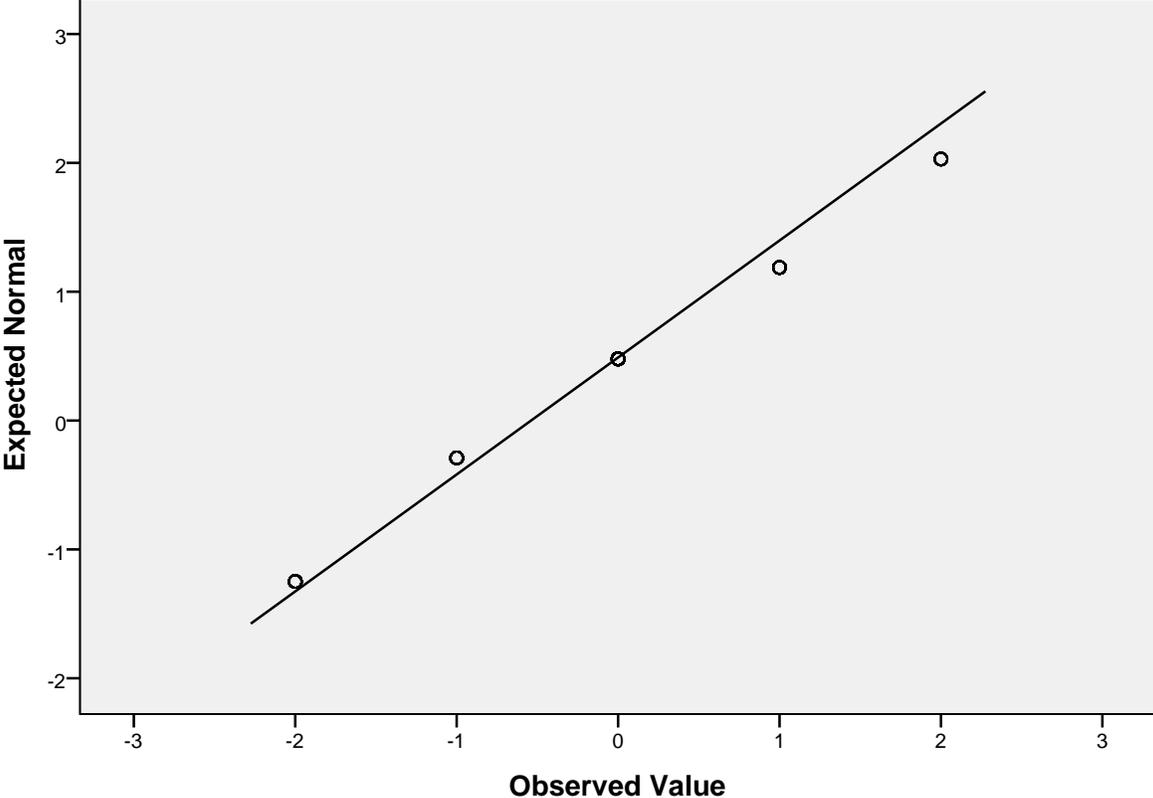
Normal Q-Q Plot of [If I am disappointed with my purchases, I usually give the online retailer a second chance] To what extent do you agree or disagree with the following statements?
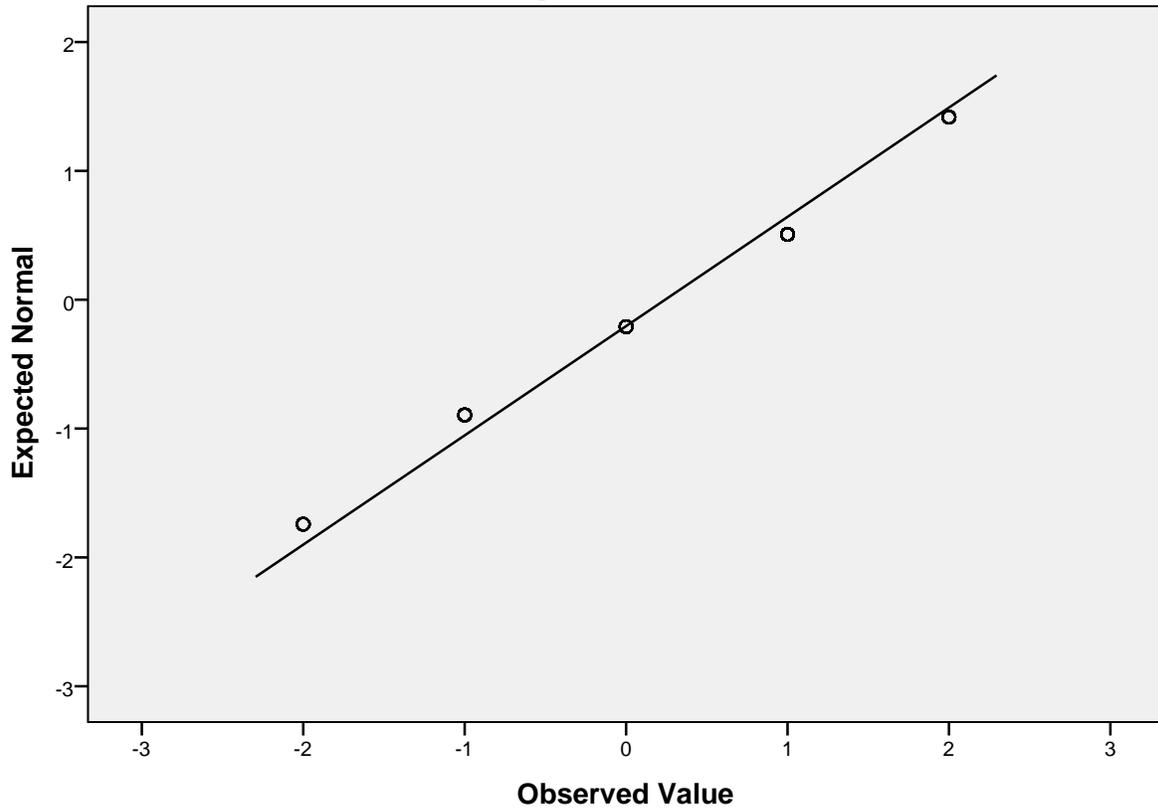
Normal Q-Q Plot of [I am not usually surprised to find that online products/services do not meet my expectations] To what extent do you agree or disagree with the following statements?
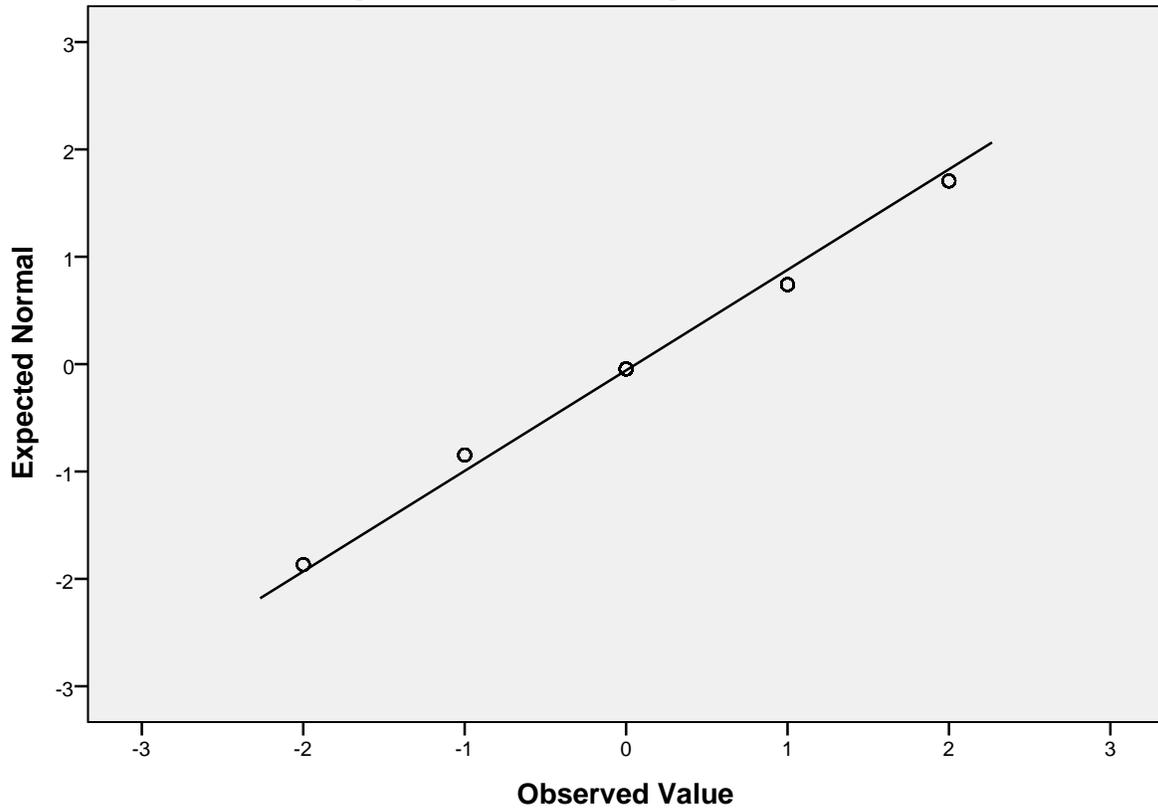
Normal Q-Q Plot of [When I purchase items online, it is normal for me to anxiously await their arrival] To what extent do you agree or disagree with the following statements?
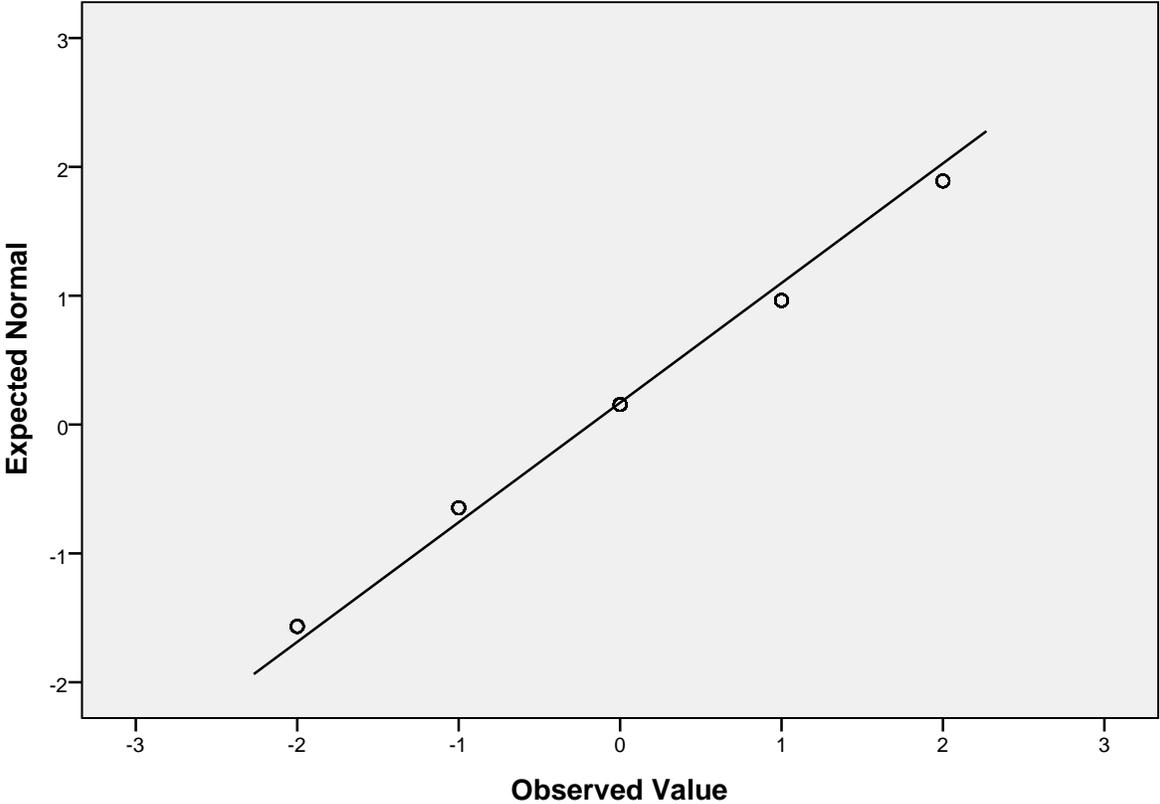
Normal Q-Q Plot of [High value electronics and gadgets] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
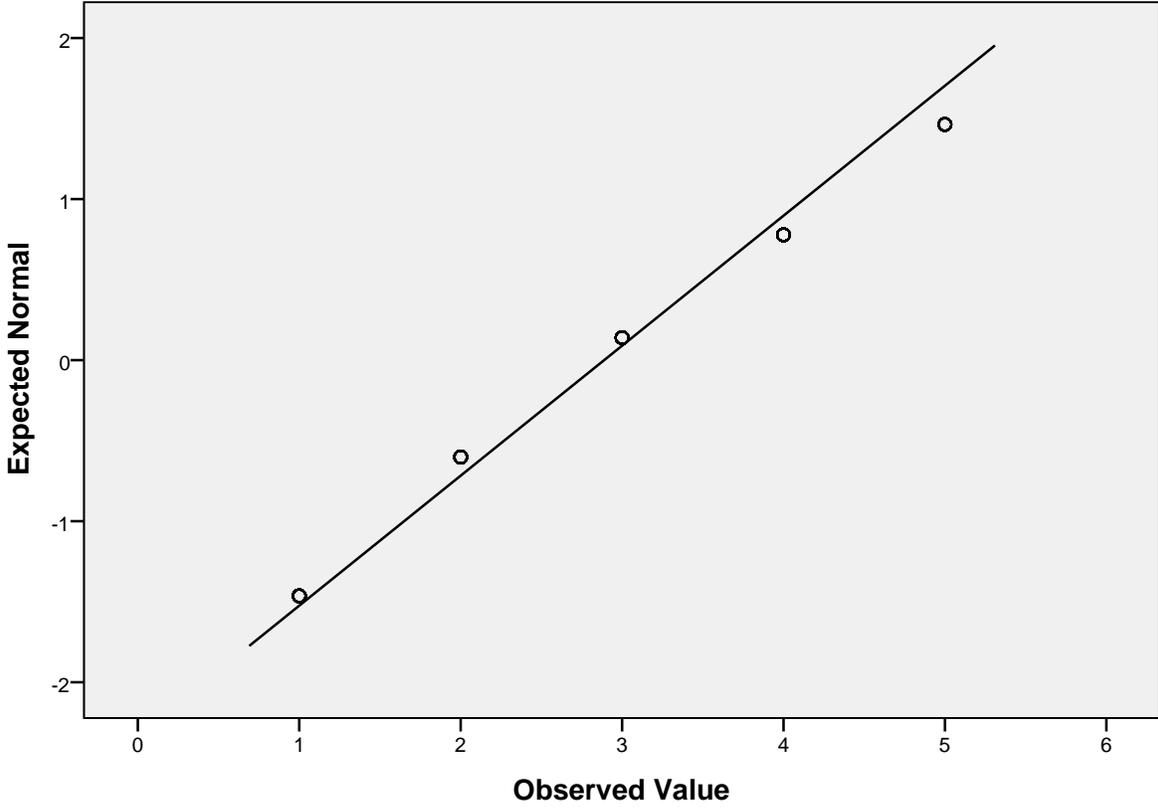
Normal Q-Q Plot of [Low cost electronics and gadgets] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
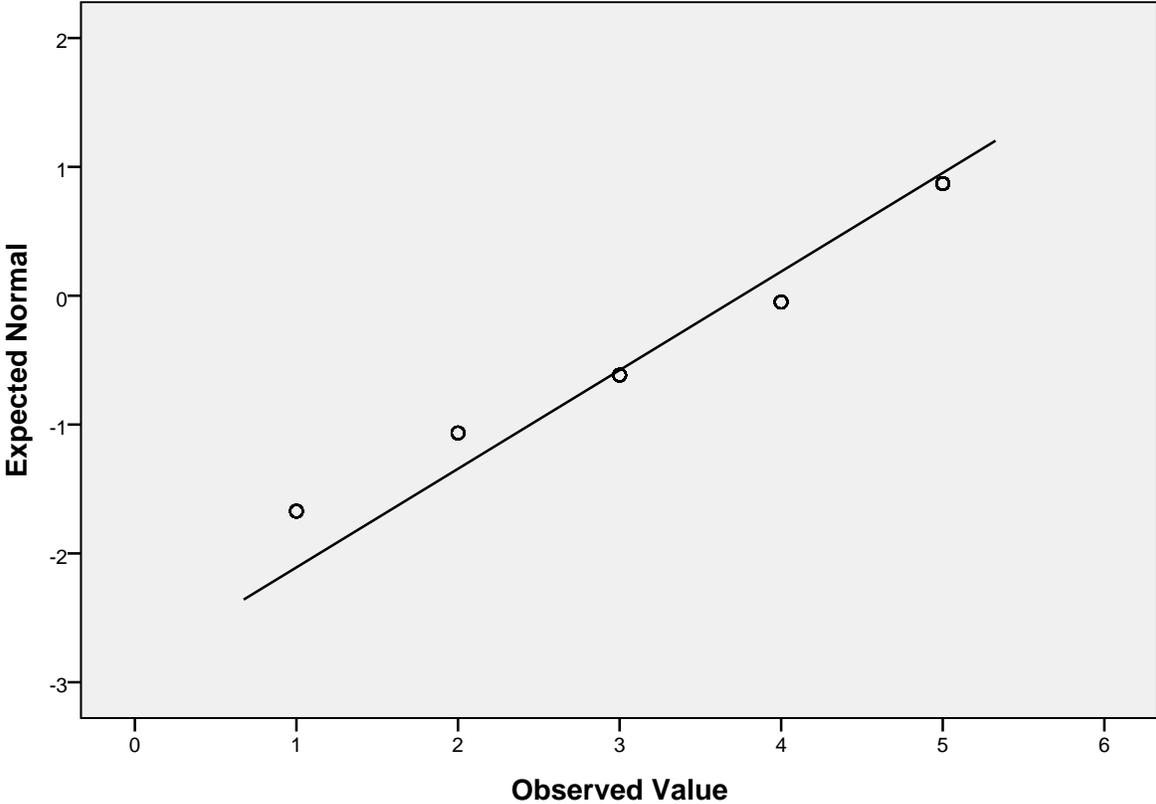
Normal Q-Q Plot of [Books and other printed media] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
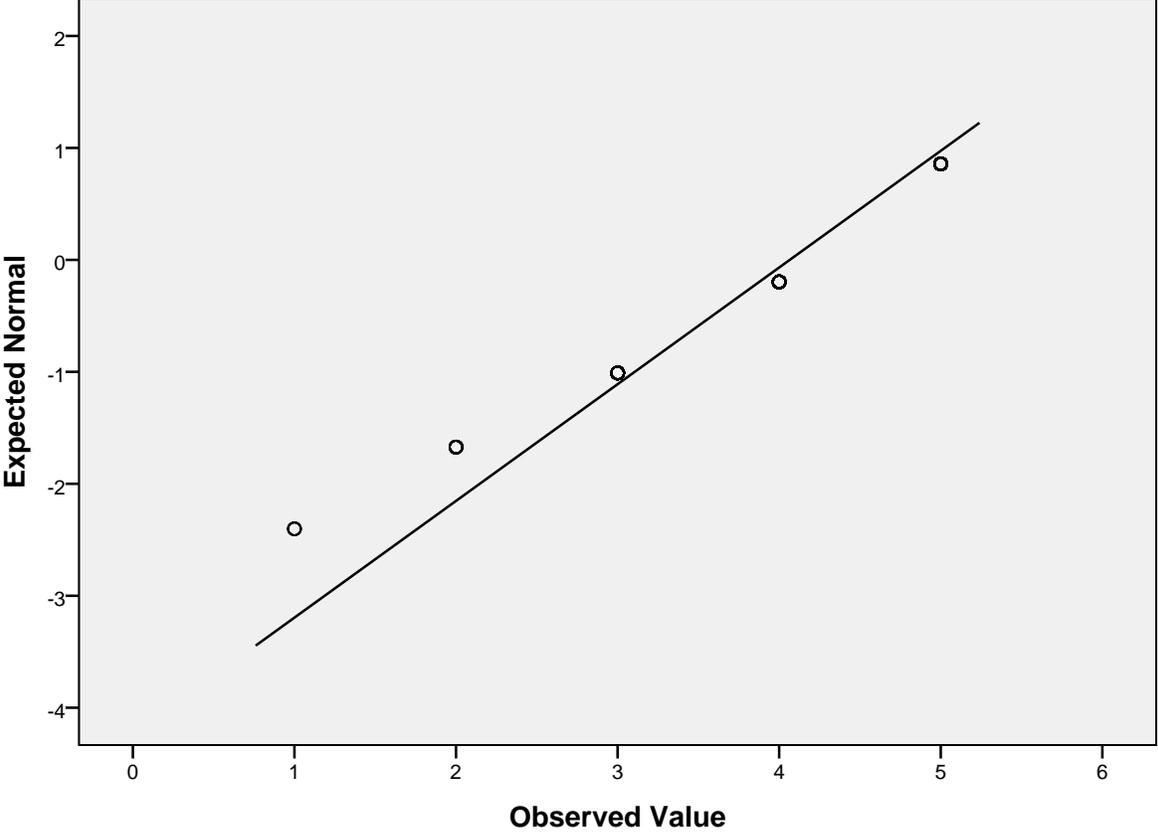
Normal Q-Q Plot of [Electronic and digital media] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
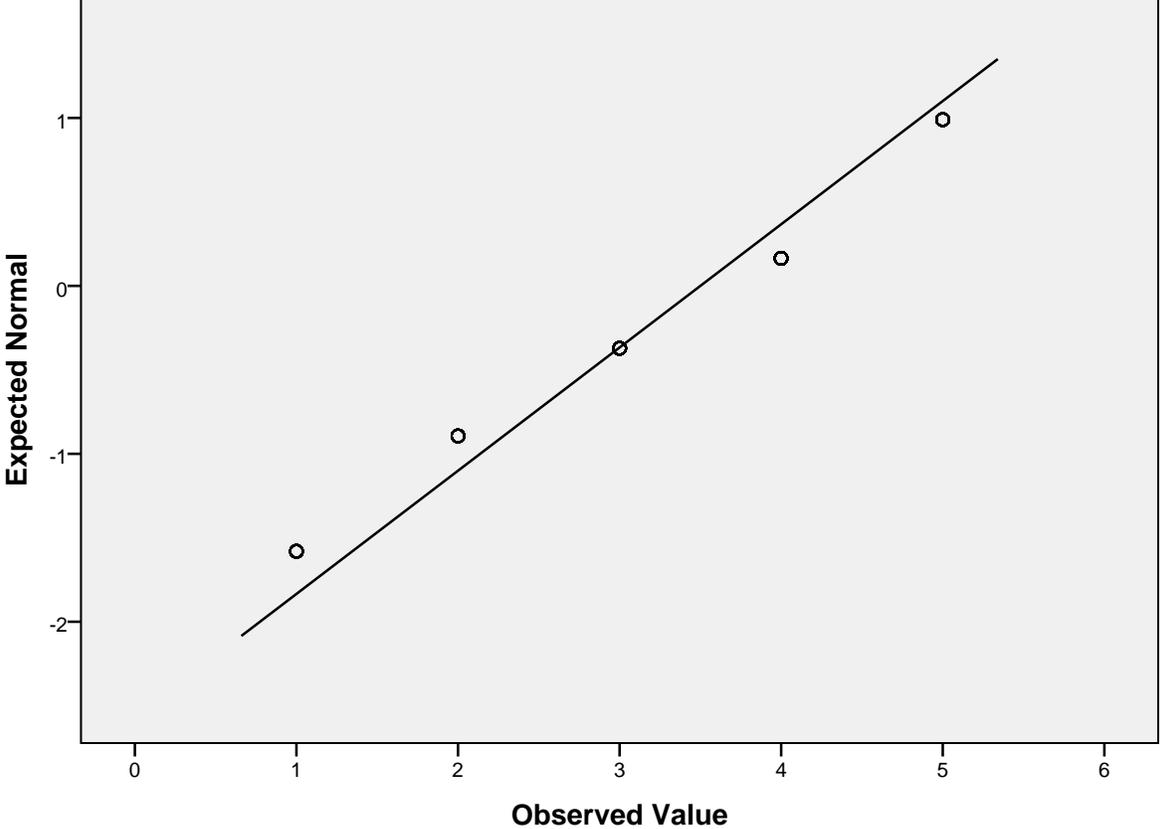
Normal Q-Q Plot of [Household consumables and gardening] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
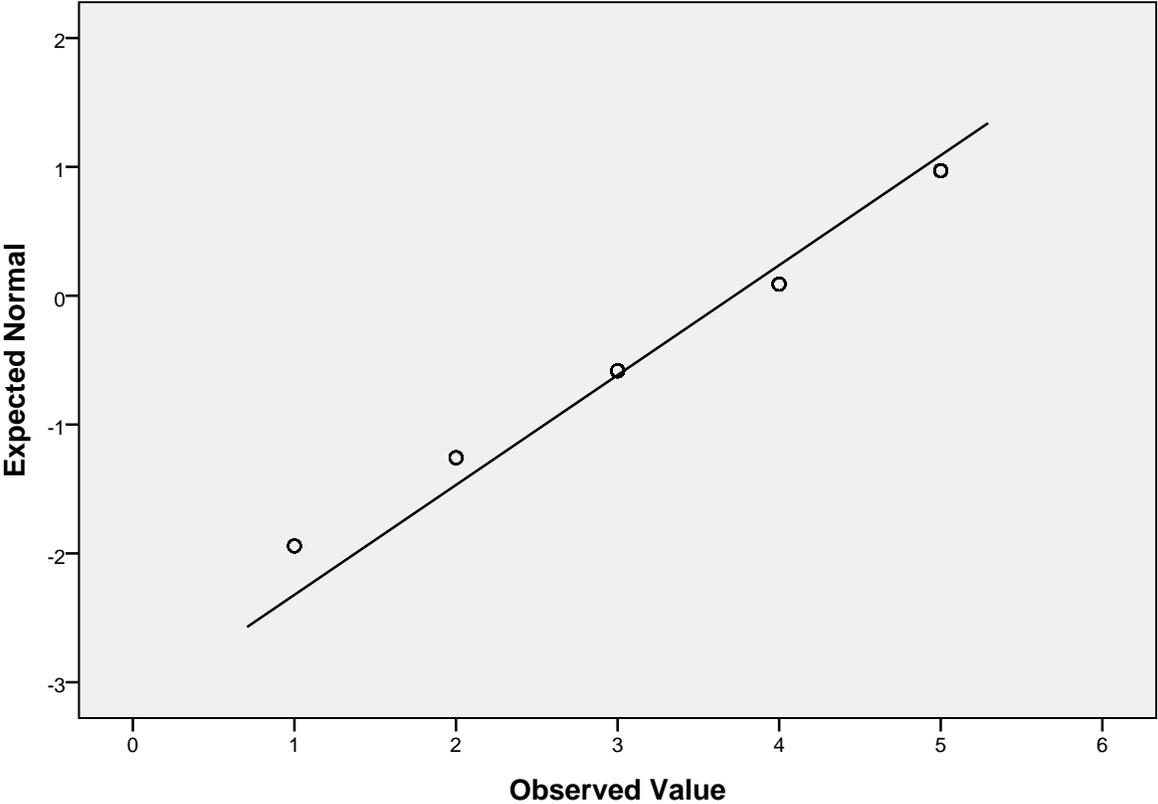
Normal Q-Q Plot of [Food and drink products] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
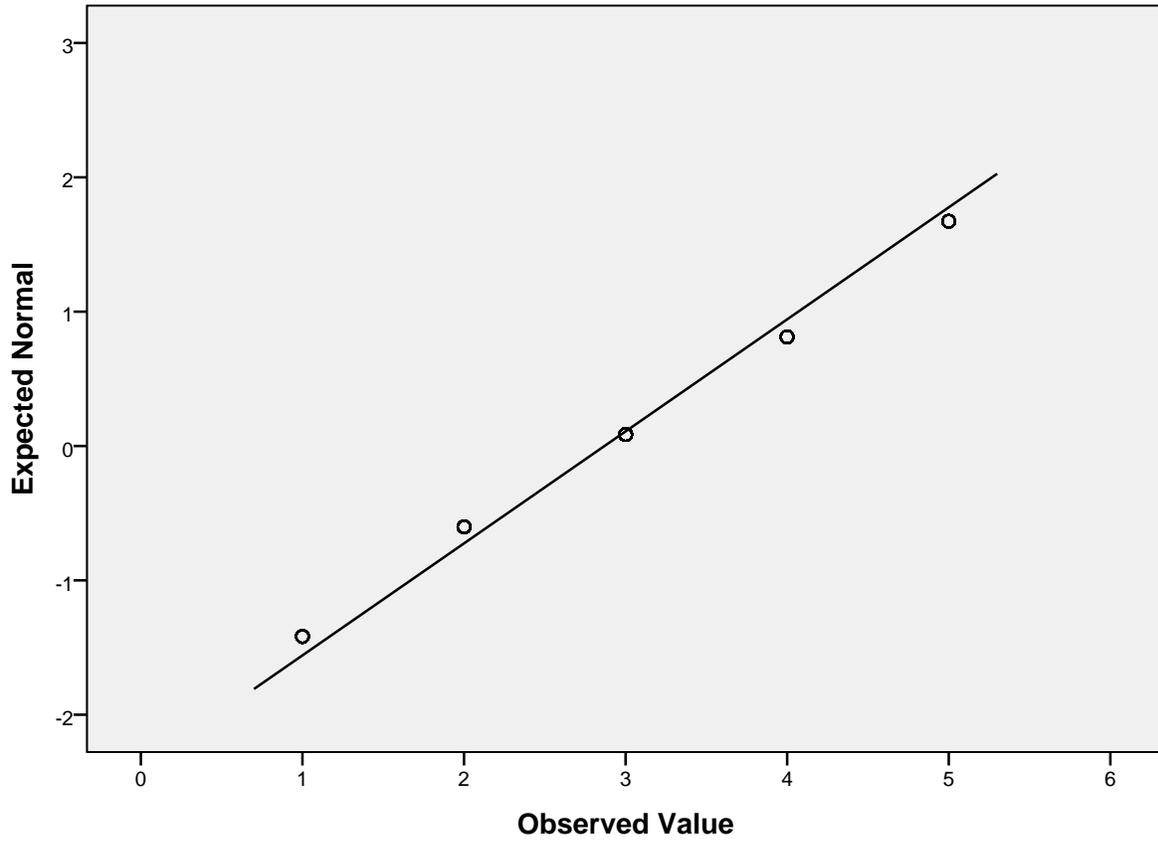
Normal Q-Q Plot of [Collectibles and hobby products] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
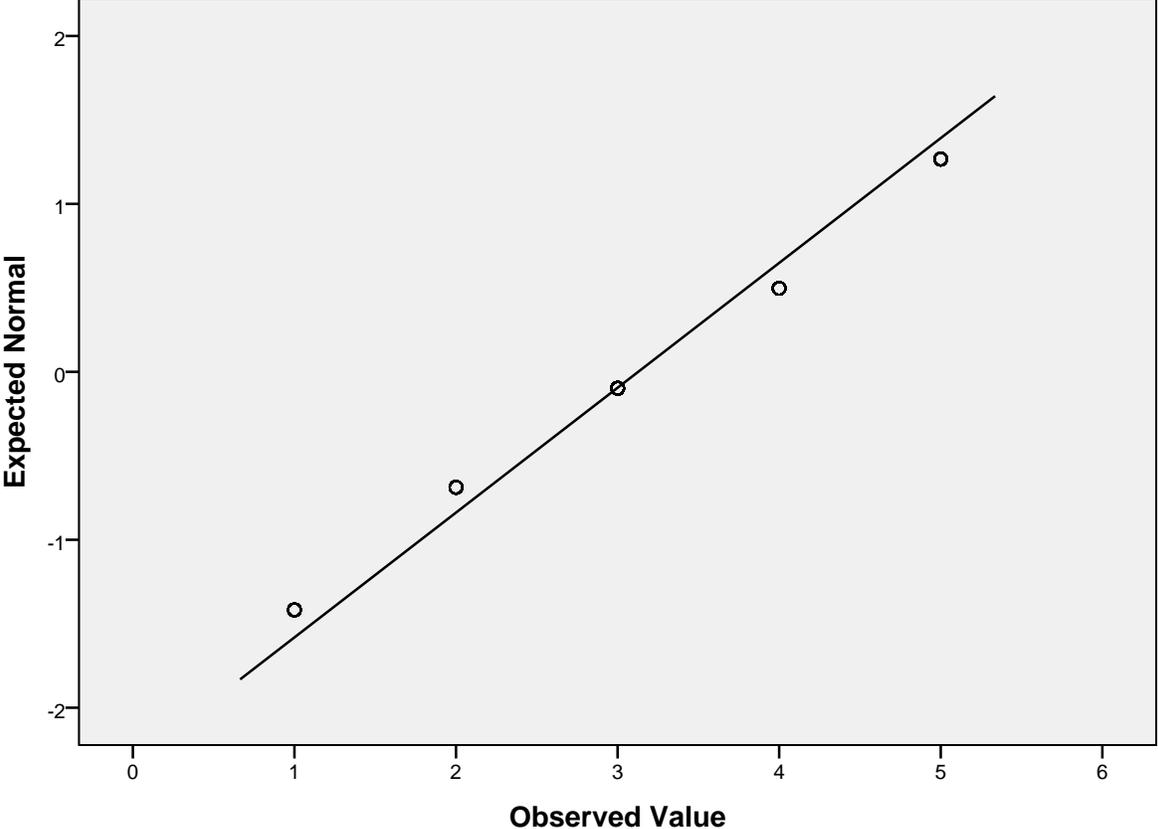
Normal Q-Q Plot of [Clothing and accessories] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
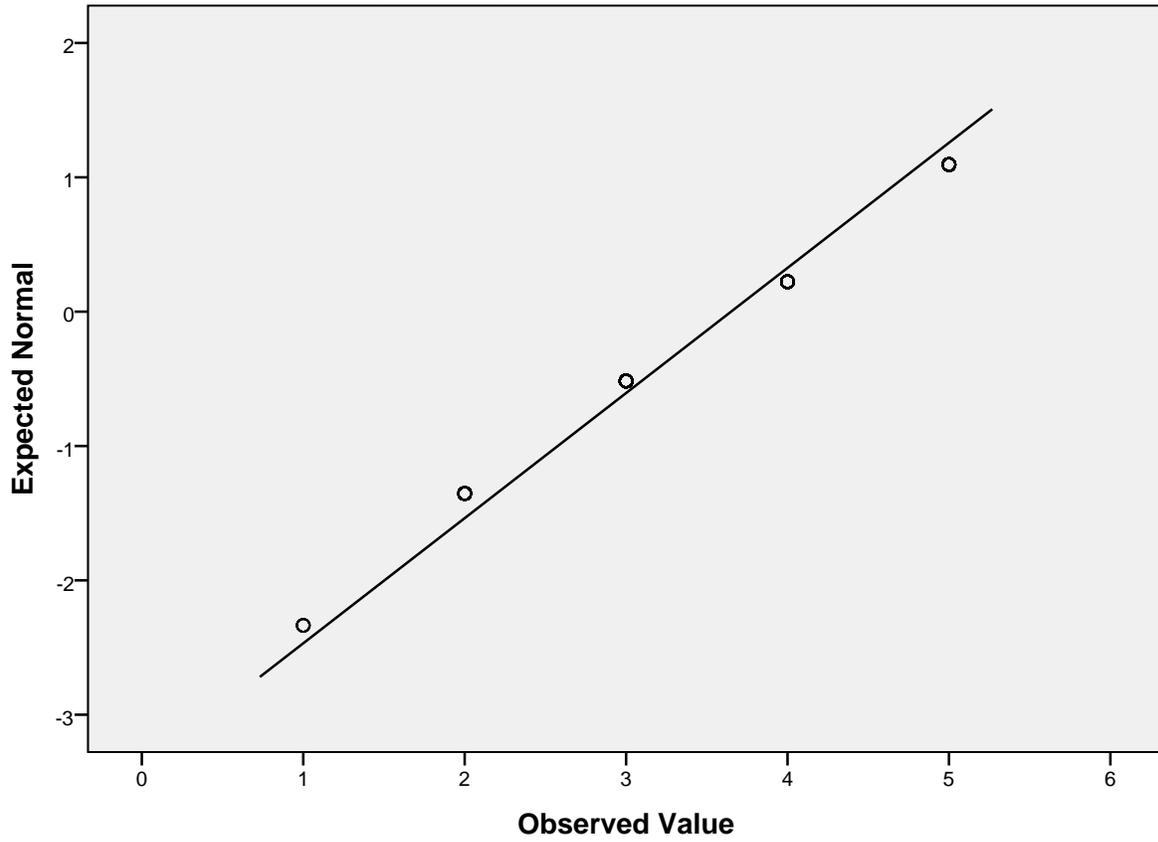
Normal Q-Q Plot of [Holiday and travel] From a choice of 1 (=rarely) to 5 (=always) how often do you shop online for the following types of products?
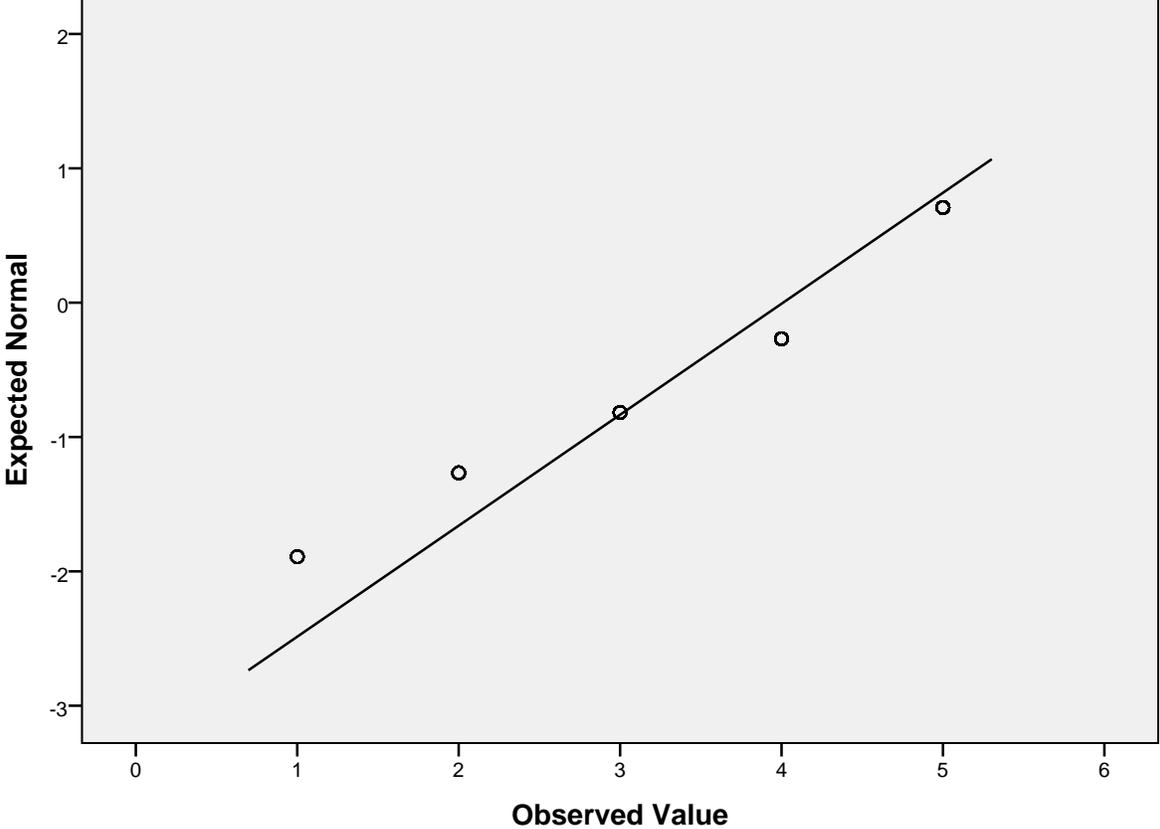
Normal Q-Q Plot of [Downloadable digital products (e.g. music, games, movies, software)] From a choice of 1 (=rarely) to 5 (=always), how often do you shop online for the following types of products?
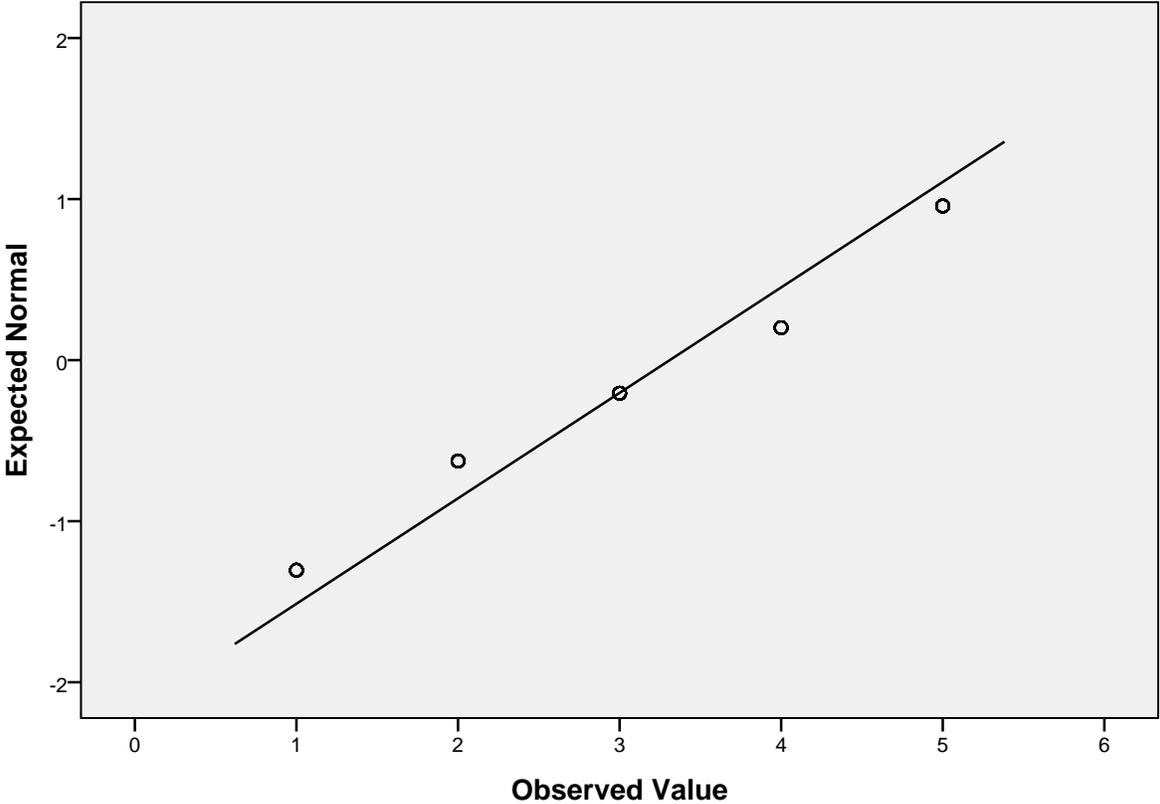
Normal Q-Q Plot of CENTRED_SCORE_RF
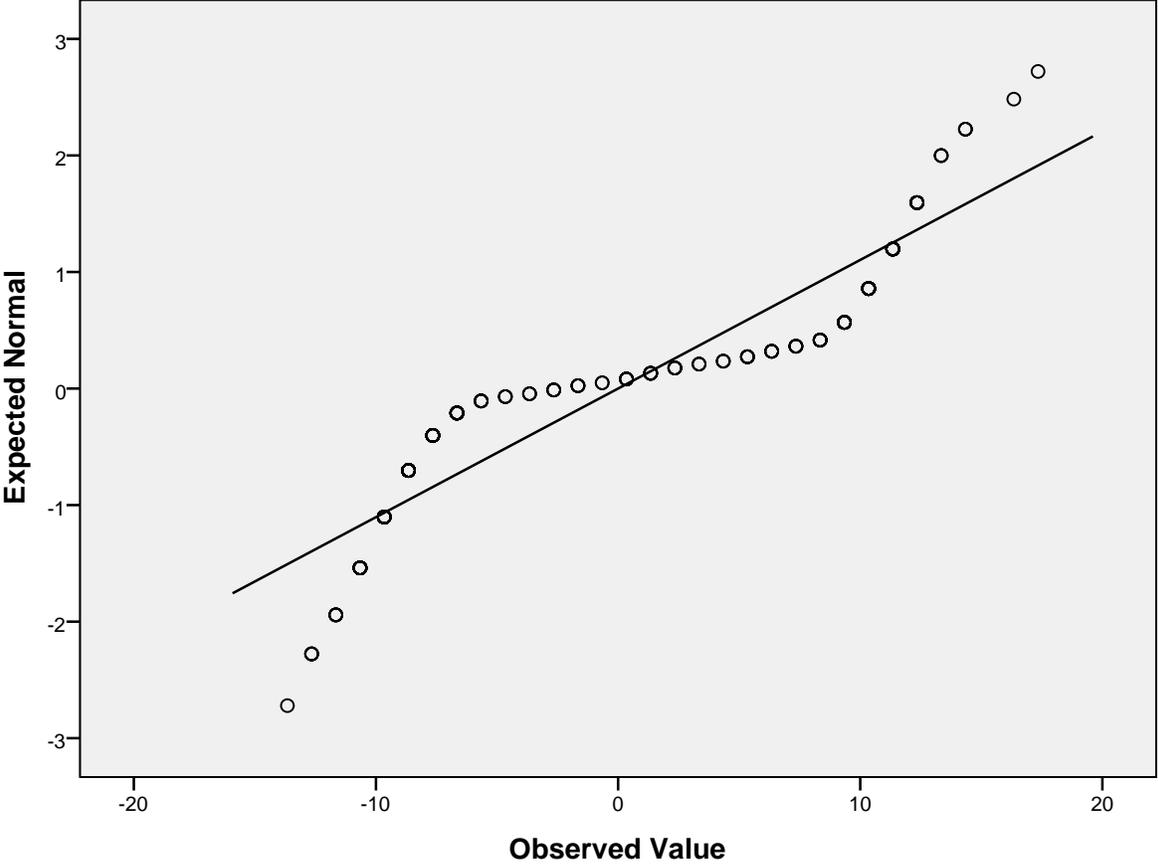
Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
ROM	<---	OSB	1.000				
SC	<---	OSB	.653	.094	6.916	***	par_29
RR	<---	OSB	.878	.081	10.851	***	par_30
P_SQ001	<---	P	1.000				
P_SQ007	<---	P	1.484	.180	8.225	***	par_2
P_SQ006	<---	P	1.843	.227	8.125	***	par_3
P_SQ005	<---	P	1.712	.197	8.676	***	par_4
P_SQ003	<---	P	1.823	.210	8.668	***	par_5
M_SQ001	<---	M	1.095	.079	13.790	***	par_6
M_SQ005	<---	M	.787	.084	9.405	***	par_7
M_SQ007	<---	M	.758	.069	11.029	***	par_8
M_SQ003	<---	M	1.001	.075	13.413	***	par_9
RF_SQ011	<---	RF	1.191	.090	13.286	***	par_10
RF_SQ010	<---	RF	.510	.071	7.203	***	par_11
RF_SQ009	<---	RF	1.040	.085	12.177	***	par_12
RF_SQ008	<---	RF	1.275	.093	13.669	***	par_13
RF_SQ007	<---	RF	.751	.069	10.820	***	par_14
RF_SQ006	<---	RF	1.098	.086	12.756	***	par_15
RF_SQ005	<---	RF	.972	.093	10.464	***	par_16
RF_SQ004	<---	RF	1.159	.087	13.393	***	par_17
RF_SQ003	<---	RF	.718	.070	10.200	***	par_18
RF_SQ002	<---	RF	1.234	.087	14.216	***	par_19
RF_SQ001	<---	RF	1.000				
ROM_SQ001	<---	ROM	1.000				
ROM_SQ002	<---	ROM	.586	.067	8.806	***	par_20
ROM_SQ003	<---	ROM	1.676	.141	11.913	***	par_21
SC_SQ001	<---	SC	1.000				
SC_SQ004	<---	SC	1.637	.230	7.111	***	par_22
SC_SQ003	<---	SC	1.501	.215	6.965	***	par_23
RR_SQ002	<---	RR	1.000				
RR_SQ006	<---	RR	1.500	.112	13.365	***	par_24
RR_SQ003	<---	RR	.816	.089	9.205	***	par_25
ROM_SQ005	<---	ROM	1.346	.100	13.480	***	par_26
SC_SQ002	<---	SC	1.470	.207	7.103	***	par_27
RR_SQ005	<---	RR	.977	.105	9.284	***	par_28
M_SQ006	<---	M	1.000				

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
ROM	<---	OSB	.986
SC	<---	OSB	.967
RR	<---	OSB	.982
P_SQ001	<---	P	.502
P_SQ007	<---	P	.658
P_SQ006	<---	P	.738
P_SQ005	<---	P	.730
P_SQ003	<---	P	.729
M_SQ001	<---	M	.752
M_SQ005	<---	M	.531
M_SQ007	<---	M	.616
M_SQ003	<---	M	.734
RF_SQ011	<---	RF	.759
RF_SQ010	<---	RF	.419
RF_SQ009	<---	RF	.699
RF_SQ008	<---	RF	.780
RF_SQ007	<---	RF	.623
RF_SQ006	<---	RF	.730
RF_SQ005	<---	RF	.604
RF_SQ004	<---	RF	.765
RF_SQ003	<---	RF	.589
RF_SQ002	<---	RF	.809
RF_SQ001	<---	RF	.725
ROM_SQ001	<---	ROM	.672
ROM_SQ002	<---	ROM	.485
ROM_SQ003	<---	ROM	.741
SC_SQ001	<---	SC	.414
SC_SQ004	<---	SC	.701
SC_SQ003	<---	SC	.663
RR_SQ002	<---	RR	.685
RR_SQ006	<---	RR	.828
RR_SQ003	<---	RR	.555
ROM_SQ005	<---	ROM	.856
SC_SQ002	<---	SC	.699

RR_SQ005	<---	RR	.560
M_SQ006	<---	M	.752

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
P	<-->	M	.401	.056	7.148	***	par_34
P	<-->	RF	.355	.051	7.031	***	par_35
P	<-->	OSB	.372	.054	6.857	***	par_36
M	<-->	RF	.621	.070	8.929	***	par_37
M	<-->	OSB	.650	.076	8.578	***	par_38
RF	<-->	OSB	.578	.069	8.383	***	par_39
e8	<-->	e9	.185	.051	3.585	***	par_31
e1	<-->	e3	-.124	.041	-3.013	.003	par_32
e22	<-->	e23	.136	.044	3.079	.002	par_33

Correlations: (Group number 1 - Default model)

			Estimate
P	<-->	M	.994
P	<-->	RF	.968
P	<-->	OSB	.989
M	<-->	RF	.976
M	<-->	OSB	.997
RF	<-->	OSB	.975
e8	<-->	e9	.217
e1	<-->	e3	-.184
e22	<-->	e23	.187

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
P	.232	.051	4.572	***	par_40
M	.699	.092	7.583	***	par_41
RF	.579	.080	7.248	***	par_42
OSB	.607	.094	6.452	***	par_43
d2	.018	.009	2.064	.039	a
d3	.018	.009	2.064	.039	a
d4	.018	.009	2.064	.039	a
e1	.689	.057	12.100	***	par_44
e2	.670	.057	11.780	***	par_45
e3	.662	.059	11.302	***	par_46
e4	.596	.052	11.415	***	par_47
e5	.682	.060	11.425	***	par_48
e6	.643	.057	11.316	***	par_49
e8	1.101	.091	12.116	***	par_50
e9	.657	.055	11.959	***	par_51
e10	.599	.052	11.458	***	par_52
e11	.605	.052	11.522	***	par_53
e12	.708	.058	12.222	***	par_54
e13	.658	.056	11.774	***	par_55
e14	.607	.053	11.401	***	par_56
e15	.514	.043	11.967	***	par_57
e16	.612	.052	11.657	***	par_58
e17	.956	.080	12.005	***	par_59
e18	.553	.048	11.491	***	par_60
e19	.563	.047	12.031	***	par_61
e20	.464	.042	11.182	***	par_62
e21	.523	.045	11.679	***	par_63
e22	.759	.065	11.740	***	par_64
e23	.698	.058	12.118	***	par_65
e24	1.442	.126	11.412	***	par_66
e25	1.339	.110	12.124	***	par_67
e26	.766	.069	11.037	***	par_68
e27	.796	.070	11.331	***	par_69
e31	.552	.048	11.595	***	par_70
e32	.502	.050	10.137	***	par_71
e33	.729	.061	11.977	***	par_72
e34	.415	.041	9.998	***	par_73
e35	.625	.057	11.057	***	par_74
e37	1.019	.085	11.967	***	par_75
e7	.538	.048	11.320	***	par_76

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
RR	.963
SC	.936
ROM	.972
M_SQ006	.565
RR_SQ005	.313
SC_SQ002	.489

ROM_SQ005	.732
RR_SQ003	.308
RR_SQ006	.686
RR_SQ002	.469
SC_SQ003	.439
SC_SQ004	.492
SC_SQ001	.171
ROM_SQ003	.549
ROM_SQ002	.236
ROM_SQ001	.452
RF_SQ001	.525
RF_SQ002	.655
RF_SQ003	.347
RF_SQ004	.585
RF_SQ005	.364
RF_SQ006	.533
RF_SQ007	.389
RF_SQ008	.608
RF_SQ009	.488
RF_SQ010	.176
RF_SQ011	.576
M_SQ003	.539
M_SQ007	.379
M_SQ005	.282
M_SQ001	.566
P_SQ003	.531
P_SQ005	.533
P_SQ006	.544
P_SQ007	.433
P_SQ001	.252

Matrices (Group number 1 - Default model)

Residual Covariances (Group number 1 - Default model)

	M_SQ006	RR_SQ005	SC_SQ002	ROM_SQ005	RR_SQ003	RR_SQ006	RR_SQ002	SC_SQ003	SC_SQ004	SC_SQ001	ROM
M_SQ006	.000										
RR_SQ005	.003	.000									
SC_SQ002	.010	-.066	.000								
ROM_SQ005	-.004	.015	-.034	.000							
RR_SQ003	-.012	.063	-.075	-.010	.000						
RR_SQ006	-.018	-.037	-.018	-.002	-.024	.000					
RR_SQ002	.013	.059	-.022	-.012	.029	.006	.002				
SC_SQ003	.011	.102	-.071	.053	.037	-.015	.026	.000			
SC_SQ004	-.037	-.024	.077	-.002	-.032	-.016	-.035	.048	.000		
SC_SQ001	-.009	.020	-.068	.017	.103	.007	.045	.091	-.169	.000	
ROM_SQ003	.038	-.011	-.034	-.008	-.029	.106	.030	-.094	-.046	.050	
ROM_SQ002	-.068	.021	.079	.018	.015	.049	-.057	-.070	-.004	-.031	
ROM_SQ001	.095	.031	.114	-.064	.072	.015	-.077	-.090	.038	-.027	
RF_SQ001	.023	-.035	.018	-.007	.020	-.023	.065	.027	-.016	.142	
RF_SQ002	-.007	.008	.058	.005	-.034	-.017	.016	.063	.032	.048	
RF_SQ003	.012	-.047	.035	-.034	-.031	.027	-.039	.041	.063	-.041	
RF_SQ004	.016	.017	-.035	.051	.034	-.030	.016	-.020	-.017	.072	
RF_SQ005	.066	.003	-.063	.060	.006	-.013	.052	-.006	-.073	.120	
RF_SQ006	-.043	.020	.095	-.045	.001	.055	.006	.021	-.038	.037	
RF_SQ007	-.066	-.099	.071	-.006	.026	-.015	-.009	.000	.002	-.055	
RF_SQ008	-.014	-.076	.052	.028	-.005	.025	-.024	.020	.025	.004	
RF_SQ009	.058	-.084	.032	.048	-.005	-.020	.051	-.062	-.058	.028	
RF_SQ010	-.051	-.125	.037	-.031	-.078	-.013	-.077	-.003	.053	.053	
RF_SQ011	.004	-.015	-.009	-.017	-.005	-.017	-.005	.028	.001	-.014	
M_SQ003	-.009	.097	-.040	.025	.056	-.009	-.037	.001	.000	-.041	
M_SQ007	-.021	-.041	.058	.014	.019	-.048	-.027	.038	.075	.048	
M_SQ005	-.019	-.028	.035	-.007	-.094	.035	-.075	-.085	.110	-.117	
M_SQ001	.008	.019	-.011	-.033	.036	-.029	.001	.019	.040	-.081	
P_SQ003	-.009	.103	-.112	.012	-.012	-.001	.055	-.039	-.107	.096	
P_SQ005	.027	-.086	.002	.004	-.063	.018	-.012	-.007	-.007	-.057	
P_SQ006	.026	-.078	-.033	-.017	.002	.003	.052	.002	-.029	.131	
P_SQ007	-.031	.058	.044	.017	.043	.061	-.054	-.039	-.043	.061	
P_SQ001	-.035	.064	.016	.050	-.040	.061	-.054	-.116	.048	-.118	

Standardized Residual Covariances (Group number 1 - Default model)

	M_SQ006	RR_SQ005	SC_SQ002	ROM_SQ005	RR_SQ003	RR_SQ006	RR_SQ002	SC_SQ003	SC_SQ004	SC_SQ001	ROM
M_SQ006	.000										
RR_SQ005	.040	.000									
SC_SQ002	.128	-.806	.000								
ROM_SQ005	-.039	.162	-.372	-.001							
RR_SQ003	-.172	.841	-1.089	-.118	.000						
RR_SQ006	-.193	-.382	-.193	-.016	-.299	.001					
RR_SQ002	.172	.781	-.308	-.138	.459	.073	.029				
SC_SQ003	.133	1.160	-.853	.550	.501	-.152	.339	.000			
SC_SQ004	-.421	-.267	.891	-.023	-.412	-.163	-.441	.516	.000		

SC_SQ001	-.105	.218	-.812	.176	1.346	.069	.584	1.007	-1.821	.001
ROM_SQ003	.291	-.078	-.271	-.056	-.255	.703	.262	-.700	-.329	.366
ROM_SQ002	-1.045	.308	1.242	.239	.251	.663	-.973	-1.033	-.052	-.434
ROM_SQ001	1.130	.357	1.402	-.659	.976	.157	-1.021	-1.033	.422	-.307
RF_SQ001	.303	-.445	.245	-.085	.307	-.257	.956	.339	-.192	1.782
RF_SQ002	-.079	.086	.699	.047	-.463	-.175	.213	.713	.345	.547
RF_SQ003	.189	-.698	.559	-.459	-.548	.364	-.666	.602	.901	-.598
RF_SQ004	.188	.192	-.423	.529	.459	-.308	.211	-.231	-.191	.826
RF_SQ005	.776	.031	-.756	.610	.081	-.129	.672	-.071	-.789	1.307
RF_SQ006	-.522	.228	1.183	-.473	.017	.576	.085	.244	-.420	.425
RF_SQ007	-1.035	-1.464	1.137	-.077	.463	-.203	-.158	-.007	.024	-.801
RF_SQ008	-.158	-.812	.585	.266	-.065	.237	-.293	.212	.256	.047
RF_SQ009	.721	-.998	.407	.515	-.075	-.216	.708	-.740	-.663	.333
RF_SQ010	-.828	-1.887	.614	-.448	-1.394	-.177	-1.365	-.046	.791	.774
RF_SQ011	.046	-.165	-.104	-.173	-.062	-.166	-.063	.311	.006	-.150
M_SQ003	-.111	1.133	-.500	.265	.773	-.092	-.497	.007	.000	-.470
M_SQ007	-.286	-.540	.816	.169	.299	-.573	-.410	.501	.959	.627
M_SQ005	-.225	-.310	.416	-.069	-1.241	.354	-.972	-.948	1.190	-1.269
M_SQ001	.091	.212	-.125	-.326	.462	-.285	.010	.208	.416	-.874
P_SQ003	-.099	1.137	-1.316	.120	-.161	-.010	.709	-.429	-1.136	1.049
P_SQ005	.327	-1.011	.020	.045	-.881	.192	-.159	-.083	-.078	-.666
P_SQ006	.298	-.865	-.390	-.165	.030	.028	.662	.022	-.312	1.435
P_SQ007	-.396	.716	.587	.197	.640	.682	-.776	-.490	-.517	.742
P_SQ001	-.536	.917	.246	.668	-.682	.816	-.915	-1.689	.669	-1.661

Total Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.878	.000	.000	.000	.000	.000	.000
SC	.653	.000	.000	.000	.000	.000	.000
ROM	1.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	1.000	.000	.000	.000	.000
RR_SQ005	.859	.000	.000	.000	.977	.000	.000
SC_SQ002	.960	.000	.000	.000	.000	1.470	.000
ROM_SQ005	1.346	.000	.000	.000	.000	.000	1.346
RR_SQ003	.717	.000	.000	.000	.816	.000	.000
RR_SQ006	1.317	.000	.000	.000	1.500	.000	.000
RR_SQ002	.878	.000	.000	.000	1.000	.000	.000
SC_SQ003	.980	.000	.000	.000	.000	1.501	.000
SC_SQ004	1.069	.000	.000	.000	.000	1.637	.000
SC_SQ001	.653	.000	.000	.000	.000	1.000	.000
ROM_SQ003	1.676	.000	.000	.000	.000	.000	1.676
ROM_SQ002	.586	.000	.000	.000	.000	.000	.586
ROM_SQ001	1.000	.000	.000	.000	.000	.000	1.000
RF_SQ001	.000	1.000	.000	.000	.000	.000	.000
RF_SQ002	.000	1.234	.000	.000	.000	.000	.000
RF_SQ003	.000	.718	.000	.000	.000	.000	.000
RF_SQ004	.000	1.159	.000	.000	.000	.000	.000
RF_SQ005	.000	.972	.000	.000	.000	.000	.000
RF_SQ006	.000	1.098	.000	.000	.000	.000	.000
RF_SQ007	.000	.751	.000	.000	.000	.000	.000
RF_SQ008	.000	1.275	.000	.000	.000	.000	.000
RF_SQ009	.000	1.040	.000	.000	.000	.000	.000
RF_SQ010	.000	.510	.000	.000	.000	.000	.000
RF_SQ011	.000	1.191	.000	.000	.000	.000	.000
M_SQ003	.000	.000	1.001	.000	.000	.000	.000
M_SQ007	.000	.000	.758	.000	.000	.000	.000
M_SQ005	.000	.000	.787	.000	.000	.000	.000
M_SQ001	.000	.000	1.095	.000	.000	.000	.000
P_SQ003	.000	.000	.000	1.823	.000	.000	.000
P_SQ005	.000	.000	.000	1.712	.000	.000	.000
P_SQ006	.000	.000	.000	1.843	.000	.000	.000
P_SQ007	.000	.000	.000	1.484	.000	.000	.000
P_SQ001	.000	.000	.000	1.000	.000	.000	.000

Standardized Total Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.982	.000	.000	.000	.000	.000	.000
SC	.967	.000	.000	.000	.000	.000	.000
ROM	.986	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.752	.000	.000	.000	.000
RR_SQ005	.549	.000	.000	.000	.560	.000	.000
SC_SQ002	.676	.000	.000	.000	.000	.699	.000
ROM_SQ005	.843	.000	.000	.000	.000	.000	.856
RR_SQ003	.544	.000	.000	.000	.555	.000	.000
RR_SQ006	.813	.000	.000	.000	.828	.000	.000
RR_SQ002	.672	.000	.000	.000	.685	.000	.000
SC_SQ003	.641	.000	.000	.000	.000	.663	.000
SC_SQ004	.678	.000	.000	.000	.000	.701	.000
SC_SQ001	.400	.000	.000	.000	.000	.414	.000
ROM_SQ003	.730	.000	.000	.000	.000	.000	.741

	OSB	RF	M	P	RR	SC	ROM
ROM_SQ002	.478	.000	.000	.000	.000	.000	.485
ROM_SQ001	.662	.000	.000	.000	.000	.000	.672
RF_SQ001	.000	.725	.000	.000	.000	.000	.000
RF_SQ002	.000	.809	.000	.000	.000	.000	.000
RF_SQ003	.000	.589	.000	.000	.000	.000	.000
RF_SQ004	.000	.765	.000	.000	.000	.000	.000
RF_SQ005	.000	.604	.000	.000	.000	.000	.000
RF_SQ006	.000	.730	.000	.000	.000	.000	.000
RF_SQ007	.000	.623	.000	.000	.000	.000	.000
RF_SQ008	.000	.780	.000	.000	.000	.000	.000
RF_SQ009	.000	.699	.000	.000	.000	.000	.000
RF_SQ010	.000	.419	.000	.000	.000	.000	.000
RF_SQ011	.000	.759	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.734	.000	.000	.000	.000
M_SQ007	.000	.000	.616	.000	.000	.000	.000
M_SQ005	.000	.000	.531	.000	.000	.000	.000
M_SQ001	.000	.000	.752	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.729	.000	.000	.000
P_SQ005	.000	.000	.000	.730	.000	.000	.000
P_SQ006	.000	.000	.000	.738	.000	.000	.000
P_SQ007	.000	.000	.000	.658	.000	.000	.000
P_SQ001	.000	.000	.000	.502	.000	.000	.000

Direct Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.878	.000	.000	.000	.000	.000	.000
SC	.653	.000	.000	.000	.000	.000	.000
ROM	1.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	1.000	.000	.000	.000	.000
RR_SQ005	.000	.000	.000	.000	.977	.000	.000
SC_SQ002	.000	.000	.000	.000	.000	1.470	.000
ROM_SQ005	.000	.000	.000	.000	.000	.000	1.346
RR_SQ003	.000	.000	.000	.000	.816	.000	.000
RR_SQ006	.000	.000	.000	.000	1.500	.000	.000
RR_SQ002	.000	.000	.000	.000	1.000	.000	.000
SC_SQ003	.000	.000	.000	.000	.000	1.501	.000
SC_SQ004	.000	.000	.000	.000	.000	1.637	.000
SC_SQ001	.000	.000	.000	.000	.000	1.000	.000
ROM_SQ003	.000	.000	.000	.000	.000	.000	1.676
ROM_SQ002	.000	.000	.000	.000	.000	.000	.586
ROM_SQ001	.000	.000	.000	.000	.000	.000	1.000
RF_SQ001	.000	1.000	.000	.000	.000	.000	.000
RF_SQ002	.000	1.234	.000	.000	.000	.000	.000
RF_SQ003	.000	.718	.000	.000	.000	.000	.000
RF_SQ004	.000	1.159	.000	.000	.000	.000	.000
RF_SQ005	.000	.972	.000	.000	.000	.000	.000
RF_SQ006	.000	1.098	.000	.000	.000	.000	.000
RF_SQ007	.000	.751	.000	.000	.000	.000	.000
RF_SQ008	.000	1.275	.000	.000	.000	.000	.000
RF_SQ009	.000	1.040	.000	.000	.000	.000	.000
RF_SQ010	.000	.510	.000	.000	.000	.000	.000
RF_SQ011	.000	1.191	.000	.000	.000	.000	.000
M_SQ003	.000	.000	1.001	.000	.000	.000	.000
M_SQ007	.000	.000	.758	.000	.000	.000	.000
M_SQ005	.000	.000	.787	.000	.000	.000	.000
M_SQ001	.000	.000	1.095	.000	.000	.000	.000
P_SQ003	.000	.000	.000	1.823	.000	.000	.000
P_SQ005	.000	.000	.000	1.712	.000	.000	.000
P_SQ006	.000	.000	.000	1.843	.000	.000	.000
P_SQ007	.000	.000	.000	1.484	.000	.000	.000
P_SQ001	.000	.000	.000	1.000	.000	.000	.000

Standardized Direct Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.982	.000	.000	.000	.000	.000	.000
SC	.967	.000	.000	.000	.000	.000	.000
ROM	.986	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.752	.000	.000	.000	.000
RR_SQ005	.000	.000	.000	.000	.560	.000	.000
SC_SQ002	.000	.000	.000	.000	.000	.699	.000
ROM_SQ005	.000	.000	.000	.000	.000	.000	.856
RR_SQ003	.000	.000	.000	.000	.555	.000	.000
RR_SQ006	.000	.000	.000	.000	.828	.000	.000
RR_SQ002	.000	.000	.000	.000	.685	.000	.000
SC_SQ003	.000	.000	.000	.000	.000	.663	.000
SC_SQ004	.000	.000	.000	.000	.000	.701	.000
SC_SQ001	.000	.000	.000	.000	.000	.414	.000
ROM_SQ003	.000	.000	.000	.000	.000	.000	.741
ROM_SQ002	.000	.000	.000	.000	.000	.000	.485
ROM_SQ001	.000	.000	.000	.000	.000	.000	.672

RF_SQ001	.000	.725	.000	.000	.000	.000	.000
RF_SQ002	.000	.809	.000	.000	.000	.000	.000
RF_SQ003	.000	.589	.000	.000	.000	.000	.000
RF_SQ004	.000	.765	.000	.000	.000	.000	.000
RF_SQ005	.000	.604	.000	.000	.000	.000	.000
RF_SQ006	.000	.730	.000	.000	.000	.000	.000
RF_SQ007	.000	.623	.000	.000	.000	.000	.000
RF_SQ008	.000	.780	.000	.000	.000	.000	.000
RF_SQ009	.000	.699	.000	.000	.000	.000	.000
RF_SQ010	.000	.419	.000	.000	.000	.000	.000
RF_SQ011	.000	.759	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.734	.000	.000	.000	.000
M_SQ007	.000	.000	.616	.000	.000	.000	.000
M_SQ005	.000	.000	.531	.000	.000	.000	.000
M_SQ001	.000	.000	.752	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.729	.000	.000	.000
P_SQ005	.000	.000	.000	.730	.000	.000	.000
P_SQ006	.000	.000	.000	.738	.000	.000	.000
P_SQ007	.000	.000	.000	.658	.000	.000	.000
P_SQ001	.000	.000	.000	.502	.000	.000	.000

Indirect Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.000	.000	.000	.000	.000	.000	.000
SC	.000	.000	.000	.000	.000	.000	.000
ROM	.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.000	.000	.000	.000	.000
RR_SQ005	.859	.000	.000	.000	.000	.000	.000
SC_SQ002	.960	.000	.000	.000	.000	.000	.000
ROM_SQ005	1.346	.000	.000	.000	.000	.000	.000
RR_SQ003	.717	.000	.000	.000	.000	.000	.000
RR_SQ006	1.317	.000	.000	.000	.000	.000	.000
RR_SQ002	.878	.000	.000	.000	.000	.000	.000
SC_SQ003	.980	.000	.000	.000	.000	.000	.000
SC_SQ004	1.069	.000	.000	.000	.000	.000	.000
SC_SQ001	.653	.000	.000	.000	.000	.000	.000
ROM_SQ003	1.676	.000	.000	.000	.000	.000	.000
ROM_SQ002	.586	.000	.000	.000	.000	.000	.000
ROM_SQ001	1.000	.000	.000	.000	.000	.000	.000
RF_SQ001	.000	.000	.000	.000	.000	.000	.000
RF_SQ002	.000	.000	.000	.000	.000	.000	.000
RF_SQ003	.000	.000	.000	.000	.000	.000	.000
RF_SQ004	.000	.000	.000	.000	.000	.000	.000
RF_SQ005	.000	.000	.000	.000	.000	.000	.000
RF_SQ006	.000	.000	.000	.000	.000	.000	.000
RF_SQ007	.000	.000	.000	.000	.000	.000	.000
RF_SQ008	.000	.000	.000	.000	.000	.000	.000
RF_SQ009	.000	.000	.000	.000	.000	.000	.000
RF_SQ010	.000	.000	.000	.000	.000	.000	.000
RF_SQ011	.000	.000	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.000	.000	.000	.000	.000
M_SQ007	.000	.000	.000	.000	.000	.000	.000
M_SQ005	.000	.000	.000	.000	.000	.000	.000
M_SQ001	.000	.000	.000	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.000	.000	.000	.000
P_SQ005	.000	.000	.000	.000	.000	.000	.000
P_SQ006	.000	.000	.000	.000	.000	.000	.000
P_SQ007	.000	.000	.000	.000	.000	.000	.000
P_SQ001	.000	.000	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.000	.000	.000	.000	.000	.000	.000
SC	.000	.000	.000	.000	.000	.000	.000
ROM	.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.000	.000	.000	.000	.000
RR_SQ005	.549	.000	.000	.000	.000	.000	.000
SC_SQ002	.676	.000	.000	.000	.000	.000	.000
ROM_SQ005	.843	.000	.000	.000	.000	.000	.000
RR_SQ003	.544	.000	.000	.000	.000	.000	.000
RR_SQ006	.813	.000	.000	.000	.000	.000	.000
RR_SQ002	.672	.000	.000	.000	.000	.000	.000
SC_SQ003	.641	.000	.000	.000	.000	.000	.000
SC_SQ004	.678	.000	.000	.000	.000	.000	.000
SC_SQ001	.400	.000	.000	.000	.000	.000	.000
ROM_SQ003	.730	.000	.000	.000	.000	.000	.000
ROM_SQ002	.478	.000	.000	.000	.000	.000	.000
ROM_SQ001	.662	.000	.000	.000	.000	.000	.000
RF_SQ001	.000	.000	.000	.000	.000	.000	.000
RF_SQ002	.000	.000	.000	.000	.000	.000	.000

RF_SQ003	.000	.000	.000	.000	.000	.000	.000
RF_SQ004	.000	.000	.000	.000	.000	.000	.000
RF_SQ005	.000	.000	.000	.000	.000	.000	.000
RF_SQ006	.000	.000	.000	.000	.000	.000	.000
RF_SQ007	.000	.000	.000	.000	.000	.000	.000
RF_SQ008	.000	.000	.000	.000	.000	.000	.000
RF_SQ009	.000	.000	.000	.000	.000	.000	.000
RF_SQ010	.000	.000	.000	.000	.000	.000	.000
RF_SQ011	.000	.000	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.000	.000	.000	.000	.000
M_SQ007	.000	.000	.000	.000	.000	.000	.000
M_SQ005	.000	.000	.000	.000	.000	.000	.000
M_SQ001	.000	.000	.000	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.000	.000	.000	.000
P_SQ005	.000	.000	.000	.000	.000	.000	.000
P_SQ006	.000	.000	.000	.000	.000	.000	.000
P_SQ007	.000	.000	.000	.000	.000	.000	.000
P_SQ001	.000	.000	.000	.000	.000	.000	.000

Matrices (Group number 1 - Default model)

Residual Covariances (Group number 1 - Default model)

	M_SQ006	RR_SQ005	SC_SQ002	ROM_SQ005	RR_SQ003	RR_SQ006	RR_SQ002	SC_SQ003	SC_SQ004	SC_SQ001	ROM
M_SQ006	.000										
RR_SQ005	.003	.000									
SC_SQ002	.010	-.066	.000								
ROM_SQ005	-.004	.015	-.034	.000							
RR_SQ003	-.012	.063	-.075	-.010	.000						
RR_SQ006	-.018	-.037	-.018	-.002	-.024	.000					
RR_SQ002	.013	.059	-.022	-.012	.029	.006	.002				
SC_SQ003	.011	.102	-.071	.053	.037	-.015	.026	.000			
SC_SQ004	-.037	-.024	.077	-.002	-.032	-.016	-.035	.048	.000		
SC_SQ001	-.009	.020	-.068	.017	.103	.007	.045	.091	-.169	.000	
ROM_SQ003	.038	-.011	-.034	-.008	-.029	.106	.030	-.094	-.046	.050	
ROM_SQ002	-.068	.021	.079	.018	.015	.049	-.057	-.070	-.004	-.031	
ROM_SQ001	.095	.031	.114	-.064	.072	.015	-.077	-.090	.038	-.027	
RF_SQ001	.023	-.035	.018	-.007	.020	-.023	.065	.027	-.016	.142	
RF_SQ002	-.007	.008	.058	.005	-.034	-.017	.016	.063	.032	.048	
RF_SQ003	.012	-.047	.035	-.034	-.031	.027	-.039	.041	.063	-.041	
RF_SQ004	.016	.017	-.035	.051	.034	-.030	.016	-.020	-.017	.072	
RF_SQ005	.066	.003	-.063	.060	.006	-.013	.052	-.006	-.073	.120	
RF_SQ006	-.043	.020	.095	-.045	.001	.055	.006	.021	-.038	.037	
RF_SQ007	-.066	-.099	.071	-.006	.026	-.015	-.009	.000	.002	-.055	
RF_SQ008	-.014	-.076	.052	.028	-.005	.025	-.024	.020	.025	.004	
RF_SQ009	.058	-.084	.032	.048	-.005	-.020	.051	-.062	-.058	.028	
RF_SQ010	-.051	-.125	.037	-.031	-.078	-.013	-.077	-.003	.053	.053	
RF_SQ011	.004	-.015	-.009	-.017	-.005	-.017	-.005	.028	.001	-.014	
M_SQ003	-.009	.097	-.040	.025	.056	-.009	-.037	.001	.000	-.041	
M_SQ007	-.021	-.041	.058	.014	.019	-.048	-.027	.038	.075	.048	
M_SQ005	-.019	-.028	.035	-.007	-.094	.035	-.075	-.085	.110	-.117	
M_SQ001	.008	.019	-.011	-.033	.036	-.029	.001	.019	.040	-.081	
P_SQ003	-.009	.103	-.112	.012	-.012	-.001	.055	-.039	-.107	.096	
P_SQ005	.027	-.086	.002	.004	-.063	.018	-.012	-.007	-.007	-.057	
P_SQ006	.026	-.078	-.033	-.017	.002	.003	.052	.002	-.029	.131	
P_SQ007	-.031	.058	.044	.017	.043	.061	-.054	-.039	-.043	.061	
P_SQ001	-.035	.064	.016	.050	-.040	.061	-.054	-.116	.048	-.118	

Standardized Residual Covariances (Group number 1 - Default model)

	M_SQ006	RR_SQ005	SC_SQ002	ROM_SQ005	RR_SQ003	RR_SQ006	RR_SQ002	SC_SQ003	SC_SQ004	SC_SQ001	ROM
M_SQ006	.000										
RR_SQ005	.040	.000									
SC_SQ002	.128	-.806	.000								
ROM_SQ005	-.039	.162	-.372	-.001							
RR_SQ003	-.172	.841	-1.089	-.118	.000						
RR_SQ006	-.193	-.382	-.193	-.016	-.299	.001					
RR_SQ002	.172	.781	-.308	-.138	.459	.073	.029				
SC_SQ003	.133	1.160	-.853	.550	.501	-.152	.339	.000			
SC_SQ004	-.421	-.267	.891	-.023	-.412	-.163	-.441	.516	.000		
SC_SQ001	-.105	.218	-.812	.176	1.346	.069	.584	1.007	-1.821	.001	
ROM_SQ003	.291	-.078	-.271	-.056	-.255	.703	.262	-.700	-.329	.366	
ROM_SQ002	-1.045	.308	1.242	.239	.251	.663	-.973	-1.033	-.052	-.434	
ROM_SQ001	1.130	.357	1.402	-.659	.976	.157	-1.021	-1.033	.422	-.307	
RF_SQ001	.303	-.445	.245	-.085	.307	-.257	.956	.339	-.192	1.782	
RF_SQ002	-.079	.086	.699	.047	-.463	-.175	.213	.713	.345	.547	
RF_SQ003	.189	-.698	.559	-.459	-.548	.364	-.666	.602	.901	-.598	
RF_SQ004	.188	.192	-.423	.529	.459	-.308	.211	-.231	-.191	.826	
RF_SQ005	.776	.031	-.756	.610	.081	-.129	.672	-.071	-.789	1.307	
RF_SQ006	-.522	.228	1.183	-.473	.017	.576	.085	.244	-.420	.425	
RF_SQ007	-1.035	-1.464	1.137	-.077	.463	-.203	-.158	-.007	.024	-.801	
RF_SQ008	-.158	-.812	.585	.266	-.065	.237	-.293	.212	.256	.047	
RF_SQ009	.721	-.998	.407	.515	-.075	-.216	.708	-.740	-.663	.333	
RF_SQ010	-.828	-1.887	.614	-.448	-1.394	-.177	-1.365	-.046	.791	.774	
RF_SQ011	.046	-.165	-.104	-.173	-.062	-.166	-.063	.311	.006	-.150	
M_SQ003	-.111	1.133	-.500	.265	.773	-.092	-.497	.007	.000	-.470	
M_SQ007	-.286	-.540	.816	.169	.299	-.573	-.410	.501	.959	.627	
M_SQ005	-.225	-.310	.416	-.069	-1.241	.354	-.972	-.948	1.190	-1.269	
M_SQ001	.091	.212	-.125	-.326	.462	-.285	.010	.208	.416	-.874	
P_SQ003	-.099	1.137	-1.316	.120	-.161	-.010	.709	-.429	-1.136	1.049	
P_SQ005	.327	-1.011	.020	.045	-.881	.192	-.159	-.083	-.078	-.666	
P_SQ006	.298	-.865	-.390	-.165	.030	.028	.662	.022	-.312	1.435	
P_SQ007	-.396	.716	.587	.197	.640	.682	-.776	-.490	-.517	.742	
P_SQ001	-.536	.917	.246	.668	-.682	.816	-.915	-1.689	.669	-1.661	

Total Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.878	.000	.000	.000	.000	.000	.000
SC	.653	.000	.000	.000	.000	.000	.000
ROM	1.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	1.000	.000	.000	.000	.000

RR_SQ005	.859	.000	.000	.000	.977	.000	.000
SC_SQ002	.960	.000	.000	.000	.000	1.470	.000
ROM_SQ005	1.346	.000	.000	.000	.000	.000	1.346
RR_SQ003	.717	.000	.000	.000	.816	.000	.000
RR_SQ006	1.317	.000	.000	.000	1.500	.000	.000
RR_SQ002	.878	.000	.000	.000	1.000	.000	.000
SC_SQ003	.980	.000	.000	.000	.000	1.501	.000
SC_SQ004	1.069	.000	.000	.000	.000	1.637	.000
SC_SQ001	.653	.000	.000	.000	.000	1.000	.000
ROM_SQ003	1.676	.000	.000	.000	.000	.000	1.676
ROM_SQ002	.586	.000	.000	.000	.000	.000	.586
ROM_SQ001	1.000	.000	.000	.000	.000	.000	1.000
RF_SQ001	.000	1.000	.000	.000	.000	.000	.000
RF_SQ002	.000	1.234	.000	.000	.000	.000	.000
RF_SQ003	.000	.718	.000	.000	.000	.000	.000
RF_SQ004	.000	1.159	.000	.000	.000	.000	.000
RF_SQ005	.000	.972	.000	.000	.000	.000	.000
RF_SQ006	.000	1.098	.000	.000	.000	.000	.000
RF_SQ007	.000	.751	.000	.000	.000	.000	.000
RF_SQ008	.000	1.275	.000	.000	.000	.000	.000
RF_SQ009	.000	1.040	.000	.000	.000	.000	.000
RF_SQ010	.000	.510	.000	.000	.000	.000	.000
RF_SQ011	.000	1.191	.000	.000	.000	.000	.000
M_SQ003	.000	.000	1.001	.000	.000	.000	.000
M_SQ007	.000	.000	.758	.000	.000	.000	.000
M_SQ005	.000	.000	.787	.000	.000	.000	.000
M_SQ001	.000	.000	1.095	.000	.000	.000	.000
P_SQ003	.000	.000	.000	1.823	.000	.000	.000
P_SQ005	.000	.000	.000	1.712	.000	.000	.000
P_SQ006	.000	.000	.000	1.843	.000	.000	.000
P_SQ007	.000	.000	.000	1.484	.000	.000	.000
P_SQ001	.000	.000	.000	1.000	.000	.000	.000

Standardized Total Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.982	.000	.000	.000	.000	.000	.000
SC	.967	.000	.000	.000	.000	.000	.000
ROM	.986	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.752	.000	.000	.000	.000
RR_SQ005	.549	.000	.000	.000	.560	.000	.000
SC_SQ002	.676	.000	.000	.000	.000	.699	.000
ROM_SQ005	.843	.000	.000	.000	.000	.000	.856
RR_SQ003	.544	.000	.000	.000	.555	.000	.000
RR_SQ006	.813	.000	.000	.000	.828	.000	.000
RR_SQ002	.672	.000	.000	.000	.685	.000	.000
SC_SQ003	.641	.000	.000	.000	.000	.663	.000
SC_SQ004	.678	.000	.000	.000	.000	.701	.000
SC_SQ001	.400	.000	.000	.000	.000	.414	.000
ROM_SQ003	.730	.000	.000	.000	.000	.000	.741
ROM_SQ002	.478	.000	.000	.000	.000	.000	.485
ROM_SQ001	.662	.000	.000	.000	.000	.000	.672
RF_SQ001	.000	.725	.000	.000	.000	.000	.000
RF_SQ002	.000	.809	.000	.000	.000	.000	.000
RF_SQ003	.000	.589	.000	.000	.000	.000	.000
RF_SQ004	.000	.765	.000	.000	.000	.000	.000
RF_SQ005	.000	.604	.000	.000	.000	.000	.000
RF_SQ006	.000	.730	.000	.000	.000	.000	.000
RF_SQ007	.000	.623	.000	.000	.000	.000	.000
RF_SQ008	.000	.780	.000	.000	.000	.000	.000
RF_SQ009	.000	.699	.000	.000	.000	.000	.000
RF_SQ010	.000	.419	.000	.000	.000	.000	.000
RF_SQ011	.000	.759	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.734	.000	.000	.000	.000
M_SQ007	.000	.000	.616	.000	.000	.000	.000
M_SQ005	.000	.000	.531	.000	.000	.000	.000
M_SQ001	.000	.000	.752	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.729	.000	.000	.000
P_SQ005	.000	.000	.000	.730	.000	.000	.000
P_SQ006	.000	.000	.000	.738	.000	.000	.000
P_SQ007	.000	.000	.000	.658	.000	.000	.000
P_SQ001	.000	.000	.000	.502	.000	.000	.000

Direct Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.878	.000	.000	.000	.000	.000	.000
SC	.653	.000	.000	.000	.000	.000	.000
ROM	1.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	1.000	.000	.000	.000	.000
RR_SQ005	.000	.000	.000	.000	.977	.000	.000
SC_SQ002	.000	.000	.000	.000	.000	1.470	.000

ROM_SQ005	.000	.000	.000	.000	.000	.000	1.346
RR_SQ003	.000	.000	.000	.000	.816	.000	.000
RR_SQ006	.000	.000	.000	.000	1.500	.000	.000
RR_SQ002	.000	.000	.000	.000	1.000	.000	.000
SC_SQ003	.000	.000	.000	.000	.000	1.501	.000
SC_SQ004	.000	.000	.000	.000	.000	1.637	.000
SC_SQ001	.000	.000	.000	.000	.000	1.000	.000
ROM_SQ003	.000	.000	.000	.000	.000	.000	1.676
ROM_SQ002	.000	.000	.000	.000	.000	.000	.586
ROM_SQ001	.000	.000	.000	.000	.000	.000	1.000
RF_SQ001	.000	1.000	.000	.000	.000	.000	.000
RF_SQ002	.000	1.234	.000	.000	.000	.000	.000
RF_SQ003	.000	.718	.000	.000	.000	.000	.000
RF_SQ004	.000	1.159	.000	.000	.000	.000	.000
RF_SQ005	.000	.972	.000	.000	.000	.000	.000
RF_SQ006	.000	1.098	.000	.000	.000	.000	.000
RF_SQ007	.000	.751	.000	.000	.000	.000	.000
RF_SQ008	.000	1.275	.000	.000	.000	.000	.000
RF_SQ009	.000	1.040	.000	.000	.000	.000	.000
RF_SQ010	.000	.510	.000	.000	.000	.000	.000
RF_SQ011	.000	1.191	.000	.000	.000	.000	.000
M_SQ003	.000	.000	1.001	.000	.000	.000	.000
M_SQ007	.000	.000	.758	.000	.000	.000	.000
M_SQ005	.000	.000	.787	.000	.000	.000	.000
M_SQ001	.000	.000	1.095	.000	.000	.000	.000
P_SQ003	.000	.000	.000	1.823	.000	.000	.000
P_SQ005	.000	.000	.000	1.712	.000	.000	.000
P_SQ006	.000	.000	.000	1.843	.000	.000	.000
P_SQ007	.000	.000	.000	1.484	.000	.000	.000
P_SQ001	.000	.000	.000	1.000	.000	.000	.000

Standardized Direct Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.982	.000	.000	.000	.000	.000	.000
SC	.967	.000	.000	.000	.000	.000	.000
ROM	.986	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.752	.000	.000	.000	.000
RR_SQ005	.000	.000	.000	.000	.560	.000	.000
SC_SQ002	.000	.000	.000	.000	.000	.699	.000
ROM_SQ005	.000	.000	.000	.000	.000	.000	.856
RR_SQ003	.000	.000	.000	.000	.555	.000	.000
RR_SQ006	.000	.000	.000	.000	.828	.000	.000
RR_SQ002	.000	.000	.000	.000	.685	.000	.000
SC_SQ003	.000	.000	.000	.000	.000	.663	.000
SC_SQ004	.000	.000	.000	.000	.000	.701	.000
SC_SQ001	.000	.000	.000	.000	.000	.414	.000
ROM_SQ003	.000	.000	.000	.000	.000	.000	.741
ROM_SQ002	.000	.000	.000	.000	.000	.000	.485
ROM_SQ001	.000	.000	.000	.000	.000	.000	.672
RF_SQ001	.000	.725	.000	.000	.000	.000	.000
RF_SQ002	.000	.809	.000	.000	.000	.000	.000
RF_SQ003	.000	.589	.000	.000	.000	.000	.000
RF_SQ004	.000	.765	.000	.000	.000	.000	.000
RF_SQ005	.000	.604	.000	.000	.000	.000	.000
RF_SQ006	.000	.730	.000	.000	.000	.000	.000
RF_SQ007	.000	.623	.000	.000	.000	.000	.000
RF_SQ008	.000	.780	.000	.000	.000	.000	.000
RF_SQ009	.000	.699	.000	.000	.000	.000	.000
RF_SQ010	.000	.419	.000	.000	.000	.000	.000
RF_SQ011	.000	.759	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.734	.000	.000	.000	.000
M_SQ007	.000	.000	.616	.000	.000	.000	.000
M_SQ005	.000	.000	.531	.000	.000	.000	.000
M_SQ001	.000	.000	.752	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.729	.000	.000	.000
P_SQ005	.000	.000	.000	.730	.000	.000	.000
P_SQ006	.000	.000	.000	.738	.000	.000	.000
P_SQ007	.000	.000	.000	.658	.000	.000	.000
P_SQ001	.000	.000	.000	.502	.000	.000	.000

Indirect Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.000	.000	.000	.000	.000	.000	.000
SC	.000	.000	.000	.000	.000	.000	.000
ROM	.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.000	.000	.000	.000	.000
RR_SQ005	.859	.000	.000	.000	.000	.000	.000
SC_SQ002	.960	.000	.000	.000	.000	.000	.000
ROM_SQ005	1.346	.000	.000	.000	.000	.000	.000
RR_SQ003	.717	.000	.000	.000	.000	.000	.000

RR_SQ006	1.317	.000	.000	.000	.000	.000	.000
RR_SQ002	.878	.000	.000	.000	.000	.000	.000
SC_SQ003	.980	.000	.000	.000	.000	.000	.000
SC_SQ004	1.069	.000	.000	.000	.000	.000	.000
SC_SQ001	.653	.000	.000	.000	.000	.000	.000
ROM_SQ003	1.676	.000	.000	.000	.000	.000	.000
ROM_SQ002	.586	.000	.000	.000	.000	.000	.000
ROM_SQ001	1.000	.000	.000	.000	.000	.000	.000
RF_SQ001	.000	.000	.000	.000	.000	.000	.000
RF_SQ002	.000	.000	.000	.000	.000	.000	.000
RF_SQ003	.000	.000	.000	.000	.000	.000	.000
RF_SQ004	.000	.000	.000	.000	.000	.000	.000
RF_SQ005	.000	.000	.000	.000	.000	.000	.000
RF_SQ006	.000	.000	.000	.000	.000	.000	.000
RF_SQ007	.000	.000	.000	.000	.000	.000	.000
RF_SQ008	.000	.000	.000	.000	.000	.000	.000
RF_SQ009	.000	.000	.000	.000	.000	.000	.000
RF_SQ010	.000	.000	.000	.000	.000	.000	.000
RF_SQ011	.000	.000	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.000	.000	.000	.000	.000
M_SQ007	.000	.000	.000	.000	.000	.000	.000
M_SQ005	.000	.000	.000	.000	.000	.000	.000
M_SQ001	.000	.000	.000	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.000	.000	.000	.000
P_SQ005	.000	.000	.000	.000	.000	.000	.000
P_SQ006	.000	.000	.000	.000	.000	.000	.000
P_SQ007	.000	.000	.000	.000	.000	.000	.000
P_SQ001	.000	.000	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1 - Default model)

	OSB	RF	M	P	RR	SC	ROM
RR	.000	.000	.000	.000	.000	.000	.000
SC	.000	.000	.000	.000	.000	.000	.000
ROM	.000	.000	.000	.000	.000	.000	.000
M_SQ006	.000	.000	.000	.000	.000	.000	.000
RR_SQ005	.549	.000	.000	.000	.000	.000	.000
SC_SQ002	.676	.000	.000	.000	.000	.000	.000
ROM_SQ005	.843	.000	.000	.000	.000	.000	.000
RR_SQ003	.544	.000	.000	.000	.000	.000	.000
RR_SQ006	.813	.000	.000	.000	.000	.000	.000
RR_SQ002	.672	.000	.000	.000	.000	.000	.000
SC_SQ003	.641	.000	.000	.000	.000	.000	.000
SC_SQ004	.678	.000	.000	.000	.000	.000	.000
SC_SQ001	.400	.000	.000	.000	.000	.000	.000
ROM_SQ003	.730	.000	.000	.000	.000	.000	.000
ROM_SQ002	.478	.000	.000	.000	.000	.000	.000
ROM_SQ001	.662	.000	.000	.000	.000	.000	.000
RF_SQ001	.000	.000	.000	.000	.000	.000	.000
RF_SQ002	.000	.000	.000	.000	.000	.000	.000
RF_SQ003	.000	.000	.000	.000	.000	.000	.000
RF_SQ004	.000	.000	.000	.000	.000	.000	.000
RF_SQ005	.000	.000	.000	.000	.000	.000	.000
RF_SQ006	.000	.000	.000	.000	.000	.000	.000
RF_SQ007	.000	.000	.000	.000	.000	.000	.000
RF_SQ008	.000	.000	.000	.000	.000	.000	.000
RF_SQ009	.000	.000	.000	.000	.000	.000	.000
RF_SQ010	.000	.000	.000	.000	.000	.000	.000
RF_SQ011	.000	.000	.000	.000	.000	.000	.000
M_SQ003	.000	.000	.000	.000	.000	.000	.000
M_SQ007	.000	.000	.000	.000	.000	.000	.000
M_SQ005	.000	.000	.000	.000	.000	.000	.000
M_SQ001	.000	.000	.000	.000	.000	.000	.000
P_SQ003	.000	.000	.000	.000	.000	.000	.000
P_SQ005	.000	.000	.000	.000	.000	.000	.000
P_SQ006	.000	.000	.000	.000	.000	.000	.000
P_SQ007	.000	.000	.000	.000	.000	.000	.000
P_SQ001	.000	.000	.000	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	72	695.412	489	.000	1.422
Saturated model	561	.000	0		
Independence model	33	5988.615	528	.000	11.342

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.048	.873	.855	.761
Saturated model	.000	1.000		
Independence model	.601	.134	.080	.126

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.884	.875	.962	.959	.962
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.926	.819	.891
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	206.412	140.538	280.307
Saturated model	.000	.000	.000
Independence model	5460.615	5214.960	5712.744

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.280	.677	.461	.919
Saturated model	.000	.000	.000	.000
Independence model	19.635	17.904	17.098	18.730

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.037	.031	.043	1.000
Independence model	.184	.180	.188	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	839.412	857.479	1107.510	1179.510
Saturated model	1122.000	1262.768	3210.931	3771.931
Independence model	6054.615	6062.895	6177.493	6210.493

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.752	2.536	2.994	2.811
Saturated model	3.679	3.679	3.679	4.140
Independence model	19.851	19.046	20.678	19.878

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	238	248
Independence model	30	31

Standardized Residual Covariances (Group number 1 - Default model)

	M_SQ006	RR_SQ005	SC_SQ002	ROM_SQ005	RR_SQ003	RR_SQ006	RR_SQ002	SC_SQ003	SC_SQ004	SC_SQ001	ROM
M_SQ006	.044										
RR_SQ005	.131	.001									
SC_SQ002	.206	-.816	.002								
ROM_SQ005	.068	.161	-.406	.002							
RR_SQ003	-.092	.879	-1.108	-.129	.001						
RR_SQ006	-.091	-.336	-.228	-.040	-.264	.003					
RR_SQ002	.269	.826	-.332	-.152	.494	.113	.043				
SC_SQ003	.211	1.152	-.809	.519	.484	-.183	.318	.002			
SC_SQ004	-.324	-.262	.957	-.035	-.415	-.175	-.446	.581	.002		
SC_SQ001	-.040	.224	-.769	.173	1.349	.064	.585	1.053	-1.769	.040	
ROM_SQ003	.394	-.075	-.296	-.026	-.260	.686	.255	-.722	-.334	.366	
ROM_SQ002	-.967	.318	1.234	.273	.255	.662	-.970	-1.040	-.047	-.429	
ROM_SQ001	1.252	.377	1.400	-.607	.989	.166	-1.010	-1.035	.438	-.295	
RF_SQ001	.254	-.455	.203	-.119	.288	-.292	.932	.302	-.213	1.774	
RF_SQ002	-.161	.053	.627	-.022	-.506	-.243	.160	.646	.295	.520	
RF_SQ003	.141	-.711	.518	-.495	-.569	.327	-.692	.565	.876	-.611	
RF_SQ004	.093	.147	-.505	.444	.404	-.390	.146	-.308	-.253	.790	
RF_SQ005	.687	-.013	-.833	.528	.029	-.209	.609	-.144	-.849	1.274	
RF_SQ006	-.618	.181	1.096	-.558	-.038	.489	.017	.164	-.485	.387	
RF_SQ007	-1.049	-1.450	1.128	-.074	.469	-.202	-.151	-.013	.033	-.794	
RF_SQ008	-.205	-.819	.545	.235	-.082	.205	-.314	.176	.238	.038	
RF_SQ009	.652	-1.023	.348	.458	-.109	-.272	.665	-.793	-.702	.311	
RF_SQ010	-.796	-1.847	.647	-.399	-1.359	-.131	-1.323	-.014	.837	.804	
RF_SQ011	-.011	-.180	-.152	-.214	-.086	-.209	-.093	.267	-.022	-.165	
M_SQ003	-.036	1.267	-.376	.430	.896	.066	-.356	.131	.147	-.375	
M_SQ007	-.351	-.527	.806	.170	.304	-.574	-.405	.493	.967	.636	
M_SQ005	-.226	-.256	.459	-.006	-1.196	.414	-.918	-.907	1.249	-1.234	
M_SQ001	.024	.236	-.128	-.314	.476	-.276	.025	.207	.434	-.860	
P_SQ003	.128	1.158	-1.320	.129	-.149	-.003	.722	-.431	-1.122	1.064	
P_SQ005	.593	-.964	.047	.093	-.844	.236	-.115	-.054	-.031	-.634	
P_SQ006	.558	-.825	-.370	-.126	.063	.064	.701	.043	-.272	1.469	
P_SQ007	-.112	.795	.655	.291	.710	.772	-.695	-.425	-.433	.799	
P_SQ001	-.496	.827	.122	.526	-.766	.675	-1.017	-1.791	.556	-1.716	