

# **CONSUMER CONFUSION: A TEST OF THE BEHAVIOURAL PERSPECTIVE MODEL**

by

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## ABSTRACT

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In light of the increasing academic and practical importance of consumer confusion, more theoretical and empirical inquiries are necessary in order to comprehend this concept. This study extends the notion of confusion by adopting the idea of self-based rules. Confusion can be defined as a self-based track (or better a rule for the lack of rules and norms, a special case of anomie). As a rule, there is a differing language that can be used to describe it— the first, extensional, deals with confusion as an overall response to physical and social stimuli and the other, intentional, deals with it in terms of individual understanding and beliefs. This study uses the theoretical principles of the Behavioural Perspective Model (BPM) as its primary device. The current state of the BPM dictates the use of an extensional language (BPM-E). The model will be extended and placed within the framework and study of an intentional explanation (BPM-I). The explanatory or interpretative role that confusion can play in these models will be described. Specific research hypotheses that correspond to these explanations have been developed.

In order to implement these objectives a main quantitative survey ( $N=260$ ) which provided data on 520 consumer situations, has been informed by a meaningful in the produced results pilot-exploratory study ( $N=7$ ) and multiple qualitative ( $N=10$ ) and quantitative ( $N=56$ ) pilot tests and discussions with knowledgeable and lay participants. Multiple regression and ANOVA indicate significant main effects when Mehrabian and Russell's affective scales and different kinds of confusion (similarity-complexity) are used to predict approach-avoidance behavioural responses. Additionally, support is provided for the patterns expected from the affective and behavioural variables when these are applied to other situations beyond the original eight contingency categories of the BPM.

The main contribution of this study lies with the inclusion of an aversive consequence of shopping situations in the BPM and the extension of the model towards embracing and applying intentionality. Overall, this study supports the supposition put forward by Foxall (2004; 2007a; 2007b; 2013) that the intentional BPM can add and extend the explanatory power of the extensional model.

**KEYWORDS:** Retail settings, Behavioural Perspective Model (BPM), intentional behaviourism, utilitarian and informational reinforcement, consumer confusion, rule-governed behaviour, self-based rules.

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## ABBREVIATIONS

	<b>Acronym</b>	
1	A_A	Approach-Avoidance (Aminusa)
2	ANOVA	Analysis of Variance
3	AP	Approach behaviour
4	AV	Avoidance behaviour
5	BPM	Behavioural Perspective Model
6	BPM-E	Behavioural Perspective Model- Extensional
7	BPM-I	Behavioural Perspective Model- Intentional
8	CC	Contingency Category
9	CFA	Confirmatory Factor Analysis
10	CR (Classical Conditioning)	Conditioned Response
11	CS (Classical Conditioning)	Conditioned Stimulus
12	DV	Dependent Variable
13	EFA	Exploratory Factor Analysis
14	EM	Expectation Maximisation
15	FA	Factor Analysis
16	GLM	General Linear Model
17	IGD	Institute of Grocery Distribution
18	InfP	Informational Punishment
19	InfR	Informational Reinforcement
20	ITC	Item Total Correlation
21	IV	Independent Variable
22	KMO	Kaiser-Meyer-Olkin (measure of sampling adequacy)
23	MAR	Missing At Random
24	MCAR	Missing Completely At Random
25	MNAR	Missing Not At Random
26	MR Approach	Mehrabian and Russell Approach
27	MVA	Missing Values Analysis
28	NPD	New Product Development
29	PAD	Pleasure–Arousal–Dominance
30	PCA	Principal Component Analysis
31	R	Response
32	RGB	Rule-Governed Behaviour
33	S <sup>D</sup> or SD	Discriminative Stimulus
34	S <sup>↑p</sup>	A Reinforcing or Punishing Stimulus
35	SPSS	Statistical Package for the Social Sciences (later named Statistical Product and Service Solution)
36	TAM	Technology Acceptance Model
37	TPB	Theory of Planned Behaviour
38	TRA	Theory of Reasoned Action
39	Tukey's HSD	Tukey's Honestly Significant Difference
40	UR (Classical Conditioning)	Unconditioned Response
41	US (Classical Conditioning)	Unconditioned Stimulus
42	UtilP	Utilitarian Punishment
43	UtilR	Utilitarian Reinforcement
44	VIF	Variance Inflation Factor

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# 1. INTRODUCTION

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## 1.1. Introduction

This thesis investigates consumer confusion from a behavioural perspective and offers a novel suggestion for the nature and study of the construct. It specifically describes confusion based on the principles of rule-governed behaviour and treats it both as an extensional consequence of behaviour and an intentional entity in two specific shopping situations, that of grocery and high technology markets. The study uses the main propositions put forward by the Behavioural Perspective Model (BPM) to understand these effects and extends the model to the use of both an extensional and an intentional language. This chapter provides an introduction to this research and begins with a description of the research background focusing on the UK retail environment. This is followed by the research purpose and objectives. The key research hypotheses and justification for the conduct of this research will be presented. The subsequent part gives a summary of the research methodology. The last sections of this chapter outline the potential contributions for theory and practice and the structure of this thesis.

## 1.2. Research Background

Consumer confusion has grown into a widespread issue in retail shopping and generally in consumer environments. It is not by chance that in the past decade (since the early 2000) in the UK only, several comparison websites have appeared, that either directly or indirectly imply that can help consumers encounter confusion. Price comparison websites like [www.confused.com](http://www.confused.com) or [www.comparethemarket.com](http://www.comparethemarket.com) exist mainly under the justification that these can provide consumers a simultaneous comparison of the many different service providers (mainly insurance policies, financial services etc.) with an aim to end confusion which derives from price offers in connection with the amount of

services these policies offer. At the other end non-for-profit consumer bodies like ‘which’ have been organised around product comparison websites- [www.which.co.uk](http://www.which.co.uk), publication of magazines, product testings and offering of what has been described as ‘impartial reviews of products’ ranging from the everyday to technology related. Their main aim as an organisation has been to empower consumers and one of the objectives of this consumer body refers directly to confusion and has been described as following:

*‘Tackling everything from banking reform to energy tariff complexity, our commitment to providing unbiased advice to consumers is still at the heart of everything we do...’*  
(Anonymous, ‘Which’ website, 2013)

It is then evident, that such a widespread concern like confusion as a business idea and proposition can provide enough profitability to support the existence of both for profit and non-for-profit organisations. Consumer confusion seems then to be a problem imperative enough to justify intense research focus.

On top of the aforementioned commercial treatment of confusion several issues in the retail environment have increased the prominence and effect of confusion in such settings. The main point is that overall the retail industry faces a great number of issues which are reflected to its existing state. Environmental concerns (mainly expressed in terms of sustainability), multichannel shopping, the concept of retailtainment, the changing consumer behaviour and the dominance of few but powerful retailers are only some of the reasons causing an interest in retail settings during recent years and these will be briefly analysed below (points summarised from Mintel, 2009c; Mintel, 2010a; Mintel, 2013).

### **1.2.1. Sustainable Retailing– Environmental Concerns**

Corporate and social responsibility remains at the centre of the political and social agenda and this movement is expected to continue especially concerning issues of sustainability,

environmental concerns but also responsible trading. People are now more than ever aware that the energy and consumption intensive lifestyles have both an increased economic and labour cost but also a possible enormous environmental impact. The agenda of sustainability for retailers and manufacturers is long and can contain such issues like (as in Mintel, 2009a):

- ingredients and use of raw materials
- the conditions those producing products work under (e.g. fair trade)
- the way products are shipped and how far these are shipped
- the energy costs of UK distribution networks
- the energy costs and carbon footprint of the retail stores
- how products are packed and what happens to waste packaging
- the method used to dispose the item at the end of its life

The retail industries are in the heart of consumerism and as such have realised both their clear responsibility to deliver environmental friendlier and ethically sourced products and also the possible gains through a proper exploitation of this trend. New frameworks for managing complex sustainable areas are an intimidating and costly task for most of the retailers but these are regions that industry leaders do not ignore. General retailers and food manufacturers have used sustainable marketing promises, fair-trade logos, reduced packaging and carbon footprint logos extensively.

### ***1.2.2. Multichannel Shopping on the Rise***

Online retailing is growing and still gaining share of retailers' sales. The UK online grocery market for instance is estimated at £4.4 billion (including sales tax and delivery charges) in 2009, having more than doubled (134% growth) in value over the period 2005–2009 (Mintel, 2009b). Notwithstanding this impressive growth, online retailing still

accounts for only 3% of sales of the total grocery sector, making it a niche channel when estimated in the broader context (Mintel, 2009b). Other examples include that of the PC/Laptop market where Mintel's latest estimates suggest that the largest PC specialist in the UK achieves 10% of its total sales online, equivalent to £120-140 million a year (Mintel, 2009c).

On the consumer side, saving time, reducing shopping related stress and having control over shopping budget have been reported as key reasons to shop online (Nielsen, 2011). At the same time, rising broadband penetration and higher connection speeds, together with the steady expansion of the online retailers' geographical coverage and improved service, has made online ordering accessible to more people.

The short term predictions for online retailing growth are mediocre and will be guided by the limited potential for further increase in the access to online shopping, which has acted as a main driver of sales until recently (Mintel, 2009b). However, future advances in technology and connectivity along with consumer groups with relevant experience will drive the future of online shopping. Mobile technology is likely to play a bigger role in the future as more consumers are using their smart phones to help organise their lives and shop efficiently (Nielsen, 2011). Retailer-specific mobile apps save time and provide self-service options for consumers; tools like these are win-win strategies for both shoppers and retailers (Nielsen, 2011).

### ***1.2.3. Changing Consumer Behaviour***

The most important implication of the recent recession is that both Mintel's consumer behaviour trackers and IGD back up the feeling that a new breed of shoppers is emerging from the recession (Mintel, 2010). Both sources are reporting that altered behaviours which embrace less and more careful spending are reported to become permanent. In

addition, issues of national interest and food sovereignty, the acceptability of modern technologies, the value placed on social welfare and all that in the twilight of recession are issues that pose a great challenge not only for UK but for the international retail system.

#### ***1.2.4. Retailtainment***

Opportunities exist for retailers to take advantage of other current consumer and marketing trends like the constant search for new experiences, particularly through the collaboration with partner organisations (Nielsen, 2011). For example, several donut fixtures, coffee shops and restaurants have been established within big retail stores. In addition, food retailers add more products to their already overloaded stores and dedicate specialised store space and aisles usually named ‘World Food’, offering more and more delicacies from the globe. More product features are constantly added to all kind of technology products in order to satisfy the need for change and constant improvement.

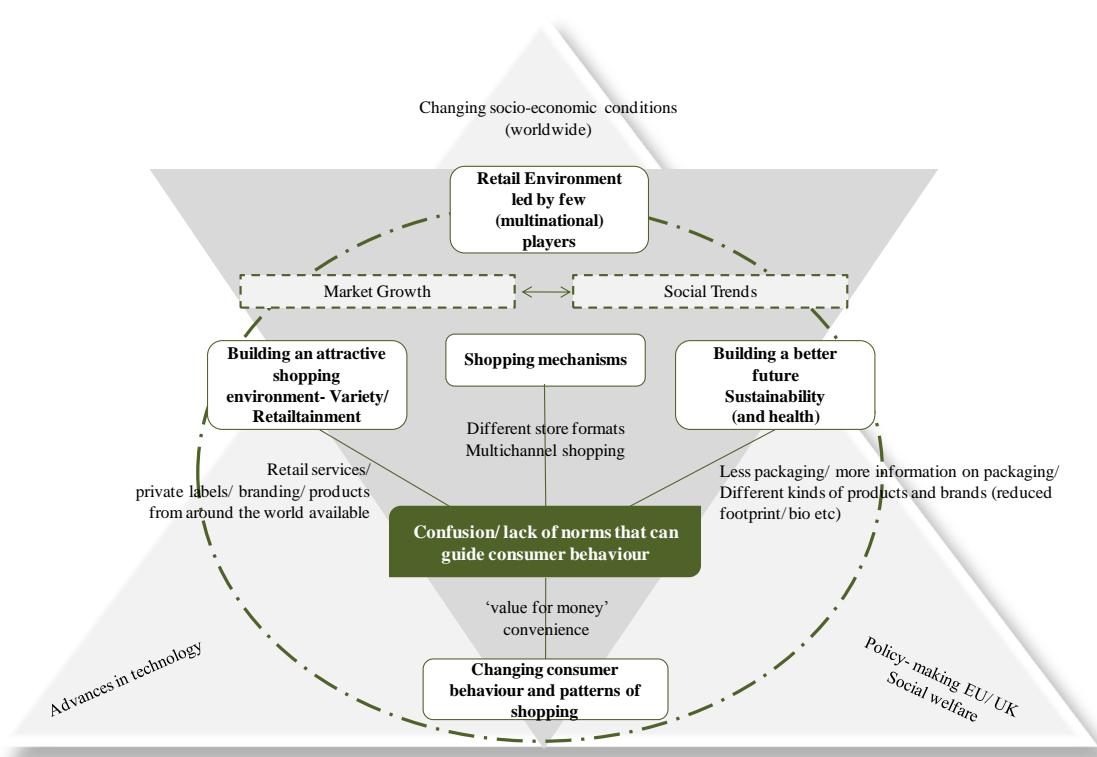
#### ***1.2.5. Market Dominance***

The recent history of UK retailing has been characterised by market dominance, in the sense that few, large companies concentrate sales, by operating larger stores (and recently online stores) (Pal & Byrom, 2005). These larger stores have enabled the major multiple retailers to widen product ranges, generate economies of scale, introduce and establish their own-label brands and increase their market share. At this end increasing fears have been addressed that the general retail environment in the UK along with the High Streets (areas where the main retail activity in each city, town or village is traditionally taking place in the country) have reached a level of homogenisation (‘McDonaldization’ as described by Ritzer, 2004). Such concerns describe the way that homogenisation can potentially lead to tiresome shopping experiences as again in this case the rules to guide behaviour seem to be lacking distinctiveness. This state has been described as the direct

result of the overpowered and in many cases globalised few large retailing and manufacturing businesses and the incapability of the independent stores or producers to react effectively to the competition and frequently simply responding with me-too products (Loken et al., 1986). According to Mick (2007) who takes a more general conception of the issue, there is troubling evidence that international corporations in 21st century life have eroded freedom of will or at least its probability. Although, the ever-faster, never-ending race among marketers to release new products and brand extensions should not be neglected (Schweizer, 2004), it seems that the increased levels of homogeneity have the same effects as complexity, meaning paralysis and that both underlie the same topic, that of confusion.

#### ***1.2.6. Overall Evaluation of the Retail Environment***

Figure 1.1 acts as a challenging attempt to summarise the findings of this research background which have taken the form of a situational exploration of the retail market. The aim has been to place them within a framework which can facilitate an epigrammatic but accurate understanding of the current situation in retail markets.

**Figure 1.1 Existing state of the UK Retail Market**

Source: this study; understanding developed through this market background.

Attempting a further brief description of the framework, numerous elements of the extended macro environment operate parametrically as ‘control factors’ for the core of the retail sector. The aim of the businesses acting in this sector is to effectively respond both to the fundamental internal need for growth and to the consumer market trends. In order for these goals to be achieved, diverse strategies which lead and are at the same time led by increasing social and consumer change and market concerns, need to be adopted. All of these diverse strategies and social conditions dictate contradictory routes of marketing action (e.g. public policy supports less packaging but requires more on-pack information) and create unclear environments which are characterised by the lack of market norms and rules that can guide consumer behaviour. This general framework can stand then as a justification for the general aim of this undertaking; meaning, to provide an explorative

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account of consumer confusion as a way to describe the lack of rules (and in this manner the impediment of consumer behaviour) in different retail situations.

Framework 1.1 offers then the background to the recent trends in retailing and provides some justification to the idea that confusion is a pragmatic and central issue in retail environments that acts to impede consumer behaviour. Retailers should perceive the act of defining, understanding and measuring consumer confusion as an imperative task so that they are then able to reduce it or minimise its effect if necessary. In addition, further to the general aforementioned issue of defining and measuring confusion, very little is known on the way confusion influences and acts along with other emotional dimensions to have an effect on consumer behaviour. Understanding consumer confusion itself and the way it shapes behaviour, can then provide marketers and retailers with guidance and plans to deal with this aversive consequence of settings.

Two diverse retail settings have been used in this study in order to serve the objective of understanding, measuring and exploring the effect of consumer confusion in retailing. The **grocery** and **high technology** markets (focusing on the PC/Laptop buying) were chosen as the settings for this study based on their differences on many dimensions, like the expected levels of consumer experience, involvement, actual complexity and importance placed on the buying decisions. The choice of these specific markets can then easily facilitate a comparison of the markets' situational contingencies and the effect of confusion in different settings, in the way anticipated and dictated by the main conceptual framework of this study, the Behavioural Perspective Model.

After establishing the importance of consumer confusion for the retail markets, the following section will adopt a more theoretical perspective. The focus will be shifted to

the academic literature on the topic and the attempt will be to specify the research problem that this thesis is dealing with.

### 1.3. Research Problem

Both in general psychological research and in consumer behaviour literature confusion has been a rather neglected topic of research (Schweizer, 2004). In the consumer behaviour literature confusion has been measured and conceptualised mainly in terms of its antecedents meaning in terms of issues like variety, ambiguity of products and information and similarity of products (Schweizer et al., 2006; Walsh & Mitchell, 2010). In the psychological stream of research confusion has been mainly examined as part of the debate on the cognition-emotion distinction (Laros & Steenkamp, 2005). As part of this debate it has been described in a number of ways ranging from a cognitive state (Storm & Storm, 1987), a cognitive feeling (Darwin, 1872/1962; Clore, 1992), a meta-cognition (Heiss, 2003) and possibly a pure emotion (Rozin & Cohen, 2003a).

Although this debate has been long and rigorous, an actual understanding has not been achieved. What has been established is that there is a group of entities, confusion is part of this group (interest and even satisfaction belong there), that possess *great affective and informational value* and that more theoretical and research inquiries should specifically focus on their study with an aim to extend their understanding (Rozin & Cohen, 2003a and 2003b; all subsequent theoretical answers in the same volume of *Emotions* journal). Although the debate on the division between emotions and cognitions has retained its vigour, it seems not to be respected by the actual brain functions and everyday reality. Rather, recent findings from neuroscience argue for a more ‘gradient’ approach to this distinction; this approach implies a different relationship between relevant entities than the actual separation between two distinct systems (Phelps, 2006; Barrett et al., 2007).

Accordingly, it has been seen as an imperative task to examine mixed states like confusion from a new perspective. Specifically the one offered by furthering a noteworthy model in understanding consumer behaviour, the Behavioural Perspective Model (BPM) and by adopting the principles of intentional behaviourism is offering many unexploited possibilities (Foxall, 2004; 2007b; 2013).

Moving then to the next central topic of this study, the Behavioural Perspective Model (BPM) proposed by Foxall (1990), is an alternative approach when compared to the dominant edifice of cognitive psychology, to understanding consumer behaviour. The model is based on the overarching framework of radical behaviourism and the behavioural learning tradition. The fundamental proposition of the BPM is the ‘contextual stance’, where consumer behaviour is located at the intersection between the consumers’ learning history and the behavioural setting. Another distinct concept of the BPM is a bifurcation of reinforcement, which is composed of utilitarian and informational reinforcement that are determined by consumers’ learning history and previous experiences. As a result, the BPM proposes three formative components of consumer situations, which are: utilitarian reinforcement, informational reinforcement, and behaviour setting scope. Rules (and rule-governed behaviour) prescribed by social or environmental norms also have a role in this endeavour (Foxall, 2013).

To date, most of our understanding of behavioural analysis is derived from this model and the principles of the contextual stance (Foxall, 1999b). Although this may be sufficient to predict and control behaviour in the laboratory, it is unable to cope and explain the personal level of explanation, the continuity of behaviour, and the delimitation of behaviourist interpretations (Foxall, 2007a; 2007b). Furthermore, the previous research on the BPM has predominantly relied on the consumer situation as determined by the extensional model and the examination of consumers’ verbal behaviour. Foxall (2007a)

addresses then the imperative need for the inclusion of intentionality, which can facilitate the analysis of consumer behaviour at the personal level of explanation; however, intentional dimensions are still mainly theoretically incorporated in the model and basically in terms of collective intentionality (Foxall, 2013).

The present study will bridge this gap and make a case for why and how the overall perspective proposed by the BPM can be explored based on two models, the first is extensional (BPM-E) and the other intentional (BPM-I). The extensional model is based on the aforementioned BPM principles and the measurement of participants' verbal behaviour (responses to stimuli). The intentional model is characterised by the 'reconstruction' of the consumer situation which in this model is described in intentional terms (using consumers understanding and beliefs). In this context, the case is illustrated that confusion should be represented in the field of consumer research in the retail context by the idea that it is a case of a self-based rule (based on the principles of rule-governed behaviour). Rules own the capacity of being described and treated using both the extensional (as overall responses to physical and social stimuli) and the intentional language (as rules explicable in intentional idioms) (Foxall, 2013).

As an extensional construct (BPM-E) confusion can be described in terms of verbal behaviour and as the *aversive consequence* of being in retail situations that lack rules and norms that can guide behaviour (a case of anomie, or a rule for the lack of rules- McClosky & Schaar, 1965) and at an intentional level (BPM-I) it can take the role of a *learning history* and *consumer situation* which implicate more of the personal perspectives of the individuals who act in a situation. Thus the **main theoretical proposition** of this thesis can be summarised in the following sentences:

Confusion can be described as a self-based rule. It is more specifically, a rule for the lack of other rules (anomy). Due to its relationship with the state of affairs (environmental situations), it can be characterised as a self-based track (in accordance with the categorisation proposed by Zettle & Hayes, 1982) and as such it can be treated at two levels.

At the *extensional level*, it can be treated as a response to specific (discriminative) stimuli and can act along with situational contingencies to predict behaviour.

At the *intentional level*, it is the result of the interplay between individual perception and specific situations and in this case it can signal consumer responses. By adopting this '*less scientific route*', it can be assumed that confusion can have an impact on actual situational contingencies. Such an approach based on intentionality allows for the personal level of explanation to be examined (see also chapter 6 for the full conceptual framework).

As a result of the special capacity of intentionality to capture the cognitive abilities of different organisms *without committing to exact hypotheses about the internal structures* that underlie their competences (Dennett, 2007) this perspective seems to offer a solution for the understanding of the nature of confusion even within the domain of cognitive psychology itself.

Thus the **main research problem** that this study is dealing with can be *practically* described in terms of exploring consumer confusion in two different retail settings and *theoretically* as a furthering of the concept of confusion into areas proposed by rule-governed behaviour, testing the principles of the extensional and intentional BPM and applying intentional behaviourism.

#### **1.4. Research Purpose and Objectives**

The main aim of this study is then to explore the implications of consumer confusion in different UK retail settings. In order to implement this purpose, this study will use an approach based on the principles of the BPM and the measurements of the Mehrabian and Russell (1974) approach, as conceptualised and applied previously by studies of the BPM (Foxall, 1997b and all subsequent research stream). In this manner the implications of this study will extend beyond the original aim. The opportunity to discuss various interesting theoretical arguments and relationships will be offered. This study has been implemented in the UK retail environment. Beyond the obvious reasons of convenience, the basis for this choice has been that the UK is part of the western, industrialised world with an agreeably advanced retail environment; thus it seemed as a fine and agreeable choice for such a study.

Based on this overall evaluation, the main objectives can be summarised by the following sentences:

- a) To explore the contextual implications of consumer confusion in two different retail settings.
- b) To provide a novel understanding of confusion based on the principles of rule-governed behaviour and apply the theoretical propositions of a model of consumer behaviour, the Behavioural Perspective Model (Foxall, 1990).
- c) To facilitate knowledge accretion by identifying the conceptualisation of confusion that is concordant with the aforementioned theoretical understanding and at a more imperative level, measures the construct free from other entities like plain frustration or annoyance.
- d) To examine whether the explanation of consumer behaviour can be enhanced by adding an aversive consequence to the original model (BPM-E) or the consumer

situation can be meaningfully reconstructed based on intentionality (BPM-I). In this manner, variables will be added which extend our understanding of both the extensional and intentional model.

- e) To examine whether situational contingencies can be modified by the person's rule-making (personal level of explanation).
- f) To find out whether the principles of the BPM can explain and adapt to descriptions of different situations which are not manipulated as in previous research to differ concerning their levels of reinforcement and setting scope.

### **1.5. Research Hypotheses**

The following research hypotheses (table 1.1) have been developed to correspond and serve the above general research objectives. These rely on previous studies of the application of the Mehrabian and Russell (1974) measurements for the exploration of the BPM (see Foxall, 1997b and subsequent research) and their development supports the extended needs of this specific study.

**Table 1.1 Research hypotheses of this study**

	<p><b>H1:</b> Overall, the range of confused consumers will indicate lower levels of Approach behaviour than the range of non-confused consumers.</p>
	<p><b>H2:</b> Overall, the range of confused consumers will indicate higher levels of Avoidance behaviour than the range of non-confused consumers.</p>
	<p><b>H3:</b> Overall, the range of confused consumers will indicate lower levels of Aminusa (approach-avoidance) behaviour than the range of non-confused consumers.</p>
	<p><b>H4:</b> Overall, the range of confused consumers will indicate lower levels of Pleasure than the range of non-confused consumers.</p>
	<p><b>H5a:</b> Overall, the range of confused consumers will indicate lower levels of Arousal than the range of non-confused consumers (providing that consumers attribute confusion internally and thus it has an effect on the informational reinforcement of a market).</p>
	<p><b>H5b:</b> Overall, the range of confused consumers will indicate the same levels of Arousal with the range of non-confused consumers (providing that confusion will be attributed externally and thus it has no effect on the information reinforcement of a market).</p>
	<p><b>H6:</b> Overall, the range of confused consumers will indicate lower levels of Dominance than the range of non-confused consumers.</p>
	<p><b>H7:</b> The effect of confusion on Pleasure will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H8:</b> The effect of confusion on Arousal will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H9:</b> The effect of confusion on Dominance will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H10:</b> The effect of confusion on Approach behaviour will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H11:</b> The effect of confusion on Avoidance behaviour will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H12:</b> The effect of confusion on Aminusa (approach-avoidance) will be stronger for the market characterised by overall lower levels of experience.</p>
	<p><b>H13:</b> The two markets are expected to differ in terms of utilitarian reinforcement with the high technology market expected to have higher Pleasure than the grocery market.</p>
	<p><b>H14:</b> The two markets are expected to differ in terms of informational reinforcement with the high technology market expected to have higher Arousal than the grocery market.</p>
	<p><b>H15:</b> The two markets are expected to differ in terms of Dominance with the high technology market expected to have lower Dominance than the grocery market.</p>
	<p><b>H16:</b> Possible differences are expected in the levels of Confusion between the two markets that act as discriminative stimuli in this study (a posterior or post-hoc comparison).</p>
	<p><b>H17:</b> Approach will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).</p>
	<p><b>H18:</b> Avoidance will be higher in the market characterised by lower levels of utilitarian and information reinforcement (thus the grocery market is expected to have higher avoidance).</p>
	<p><b>H19:</b> Aminusa, the net difference between approach and avoidance will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).</p>
	<p><b>H20:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with Approach. Confusion will have a negative relationship.</p>
	<p><b>H21:</b> Affective variables of Pleasure, Arousal and Dominance will each have a negative relationship with Avoidance. Confusion will have a positive relationship.</p>
	<p><b>H22:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with Aminusa, the net difference between Approach and Avoidance.</p>

Confusion will have a negative relationship.

**H23:** Aminusa (the net difference between Approach- Avoidance) will be determined by the variables Pleasure, Arousal, Dominance and Confusion.

**H24:** Two-way interactions can be identified between the affective variables Pleasure, Arousal (possibly Dominance) when examining their effect on Aminusa.

Source: this study

## 1.6. Justification of this Research

The conduct of this study is justifiable based on both theoretical and managerial reasons.

There are many arguments for the exploration of consumer confusion and equally many which justify the adoption of the perspective proposed by the BPM and intentional behaviourism. This section deals with the research justification, which is summarised in the following bullet points:

- The growing practical importance of confusion and its implications for the practice of marketing. See for example several organisations like confused.com, comparethemarket.com, which.co.uk and the argument that retail settings lack clarity.
- An unclear definition of the nature of confusion which has resulted in multiple treatments both in psychology and consumer behaviour research. The necessity to further elucidate constructs like confusion which possess both cognitive and affective implications, has been stressed (Rozin & Cohen, 2003a).
- An attempt to examine a topic with new eyes, to explore an existing landscape from the view that a different theoretical perspective has to offer. An alternative explanation of confusion based on theoretical arguments borrowed from behaviourism and rule-governed behaviour can shift the focus and enhance understanding.
- A theoretical expansion of the BPM and its measurement instrument, the PAD and approach/avoidance behaviour.

- The examination of the fact that confusion as either an aversive consequence of shopping or an intentional stance acts along with reinforcement and behaviour setting scope to determine behaviour in accordance with the principles of the BPM.
- An attempt to apply, understand and further develop the principles of a recent philosophical framework and research stream called intentional behaviourism.
- In this manner, although the preceding research of the BPM has examined the consumer situation in the extensional model solely in terms of the scope of consumer behaviour setting (dominance), the intentional dimension of the model, has only been rarely addressed, mainly in terms of collective intentionality.
- The potential contributions of this study in terms of re-examining the way that the original measurement of the Mehrabian and Russell model corresponds to pure consumer/choice situations.

## 1.7. Research Methodology

Methodologically, this research advocates the lack of clear boundaries between social ontologies that can allow for the mixing of approaches and the bridging of different paradigms. Specifically, this knowledge inquiry is achieved by embracing intentional behaviourism (Foxall, 2004; Foxall, 2007b) as its main philosophical framework, which clearly corroborates pragmatic aspects of this study. A quantitative approach has been used, where a main quantitative survey ( $N=260$ ) has been informed by a small in extent but meaningful in the produced results pilot- exploratory study ( $N=7$ ) and multiple ( $N=10$ ) ( $N=56$ ) pilot tests and discussions with knowledgeable and lay participants. The main design of the study has been described as being explorative/ descriptive and this is in accordance with the overall aim of this study which is the proposition of a novel framework of understanding consumer confusion and conducting research.

Chapter 7 provides a detailed examination of this study's methodology. The methodological choices and results of this study are informed by the main theoretical frameworks, the BPM and intentional behaviourism.

### **1.8. The Contributions of this Thesis**

The present study will offer a novel behavioural perspective in examining consumer confusion in retail settings. It will demonstrate the way to explore consumer confusion based on this behavioural perspective by implementing the theoretical approach proposed by the Behavioural Perspective Model, extending simultaneously the existing consumer confusion and BPM literature. In this manner it adds to the existing knowledge of retailing and consumer research and broadens the concept of confusion beyond the standard cognitive approaches used until recently. It will also be an empirical contribution through the indication of the use of the specific model and rule-governed behaviour in the exploration of consumer confusion for future studies.

Furthermore, another contribution of this thesis is to introduce the role of individual intentionality in association to the BPM. This addition offers multiple benefits; it strengthens a) researchers' understanding of the construct of confusion, b) researchers' ability to analyse consumer confusion's effects in retail settings, as well as c) the conceptual model (BPM) itself. The empirical use of intentionality and its incorporation to the BPM, which has been extensively discussed in the philosophy of intentional behaviourism, is described as part of this study's conceptual development. As a result, a suggestion on the applicability of this philosophical framework is offered and the extension of the relevant theoretical knowledge is achieved.

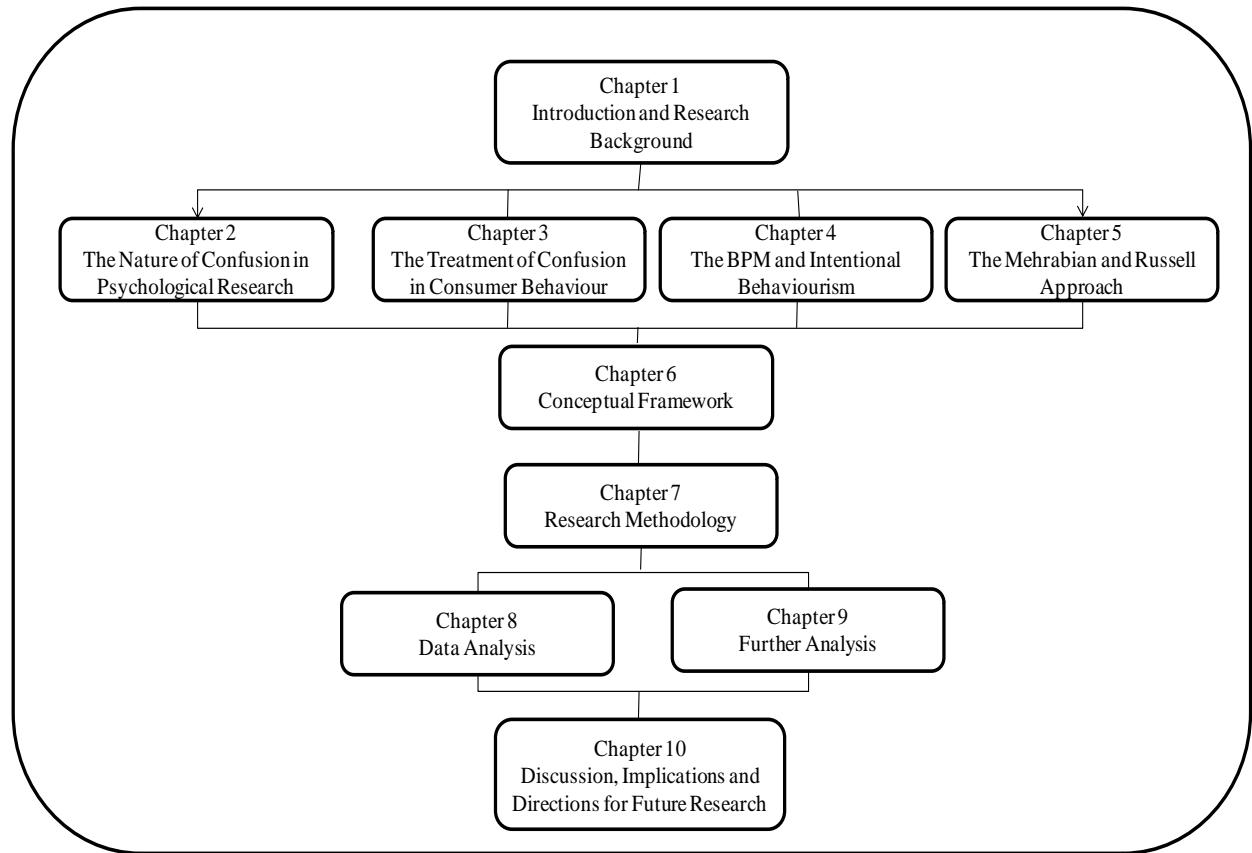
Ultimately, the findings of this study will act as a guide for marketers, companies, retailers and policy makers especially of the grocery and the high technology markets in the UK. The knowledge produced can be used to develop new or adjust existing product,

marketing or retail strategies. To start with, knowing the different dimensions of confusion can help practitioners to improve their practices. This study might indicate that a focus on minimising the implications of confusion might prove equally important in improving consumers' approach and minimising their avoidance behaviour when compared to other environmental elements. In that sense, understanding the mechanisms of confusion enables the marketers to tailor the marketing strategy by utilising schedules that minimise aversive consequences (like confusion) and increase reinforcement to control retail settings more effectively in the long run. These anticipated results will provide an opportunity for researchers and marketing practitioners to understand consumer confusion and then re-examine and change their existing strategies in order to provide more appropriate and successful plans in response to this phenomenon.

### **1.9. Thesis Structure and Order**

In order to accomplish the research objectives and hypotheses outlined in sections 1.4 and 1.5 this thesis is planned around ten chapters. Each chapter has its own unique contribution. Specifically, chapters 2-5 which compose the literature review of this thesis are structured and positioned in that way so that the information provided by each chapter to add theoretical knowledge that will facilitate the overall understanding, clarify the rationale and lead to the connections proposed in the conceptual framework (chapter 6).

Figure 1.2 offers a roadmap to this thesis:

**Figure 1.2 A roadmap to this thesis**

Source: this study

Chapter 1 provides an overview of the thesis. Thesis background, objectives and hypotheses are described and placed into context.

Chapter 2 signals the start of the critical evaluation of the literature. The main aim of the chapter is to summarise the treatment of confusion in psychological literature and to indicate the requirement for further examination of interesting psychological states like confusion.

Chapter 3 focuses on the ways that the consumer behaviour literature has dealt and conceptualised confusion.

Chapter 4 offers the necessary knowledge background to achieve the understanding of the theoretical model used in this study, the Behavioural Perspective Model (BPM). Differences between behaviourism and cognitive psychology are discussed and the

chapter concludes with the imperatives of the inclusion of intentional terms in the study of behaviour. The philosophical framework of intentional behaviourism which accommodates both intentional and behavioural principles concludes this chapter.

Chapter 5 introduces the Mehrabian and Russell (1974) approach to consumer emotional and behavioural responses. Previous research that has been conducted based on this theoretical foundation is described and specifically the way these measurements have been applied in the case of the BPM is elucidated.

Chapter 6 summarises the main points of interest of the previously examined literature and extends the understanding of confusion based on the concept of rule-governed behaviour. Self-based rules (in the form of tracks) are discussed as a suitable explanation of consumer confusion and the chapter will examine the applicability and implications of this explanation for the study of the extensional (BPM-E) and intentional (BPM-I) BPM.

Chapter 7 introduces the methodological approach of this study. Elements of the scientific research paradigm, research design, research methods and analysis techniques utilised for the implementation of this project will be critically reviewed. The findings of the exploratory pilot test that preceded the main online survey are incorporated in this chapter.

Chapter 8 introduces the analysis of the main quantitative data using different statistical tests in order to explore and answer the main hypotheses of this study.

Chapter 9 provides some further analysis in terms of consumers' socio-demographic characteristics and comparison of the current findings with previous studies on the BPM and the PAD/approach-avoidance model.

Chapter 10 offers a theoretical discussion of the findings, considers the theoretical suggestions of this study and the managerial implications. Finally, propositions for future research are offered and a reflexive account on the research process is provided.

### **1.10. Conclusion**

This chapter summarises this research by explaining the purpose and objectives, the main justification, potential contributions and overall structure of the thesis. It has been established that confusion is a central, contemporary market issue and according to psychological research one of great theoretical importance. It is finally a rather mistreated or forgotten concept in the consumer behaviour literature. On these grounds, offering a renewed interest for the construct has been appraised as imperative. Starting with the literature on psychological research, the next chapter will be the first on the critical evaluation of the literature.

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## **2. THE NATURE OF CONFUSION IN PSYCHOLOGICAL RESEARCH**

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### **2.1. Introduction**

A central aim of the studies exploring the nature of confusion has been to evaluate the entity and place it within the debate on the distinction between affective and cognitive states. Starting on the critical evaluation of the literature of this thesis, this chapter will commence by examining the ways confusion has been treated by previous theoretical and research studies in psychology. This treatment will illuminate part of the reasons that an alternative theoretical explanation for the construct will be proposed by the conceptual framework of this study. In that sense, this chapter is an essential step before getting into the treatment of the construct as proposed by this research.

### **2.2. Previous Treatments of Emotional Words**

It is widely recognised that emotions do not constitute an easily definable class of entities and thus an acceptable definition seems impossible (see Kleinginna & Kleinginna, 1981; Fehr & Russell, 1984). Laros and Steenkamp (2005, p. 1439) attempted to combine psychology and consumer behaviour literature with an aim to indicate that divergent research streams can be integrated in a hierarchical model of consumer emotions. In order to achieve this objective they have content analysed eleven seminal studies: nine from psychology (Plutchik, 1980; Russell, 1980; Watson & Tellegen, 1985; Shaver et al., 1987; Storm & Storm, 1987; Morgan & Heise, 1988; Watson et al., 1988; Frijda et al., 1989; Roseman et al., 1996) and two from consumer behaviour (Havlena et al., 1989; Richins, 1997) and have compiled a comprehensive table of 143 positive and 173 negative emotion words (refer to table 2.1, next page).

Richins (1997) was the first to signify that the general emotional measures, widely adopted by her contemporary flourishing consumer literature on emotions, could not adequately depict the emotional implications of consumption-related situations. On these grounds, a specific Consumption Emotion Set was constructed. These consumption emotion words are depicted in italics in the table.

**Table 2.1 173 negative and 143 positive emotion words**

<i>Negative Emotion Words</i>	<i>Positive Emotion Words</i>
<b>Aggravation</b> a,b,c, <b>Agitation</b> a,b,c, <b>Agony</b> b,c, <b>Alarm</b> b,c,d, <b>Alienation</b> b, <b><i>Anger</i></b> a,b,c,d,e,f,g, <b>Anguish</b> a,b,c, <b>Annoyance</b> a,b,c,d,e,f,h, <b>Anxiety</b> a,b,c,e, <b>Apologetic</b> c, <b>Apprehension</b> a,b,c, <b>Aversion</b> e, <b>Awful</b> c, <b>Bad</b> c, <b>Bashful</b> c, <b>Betrayal</b> c, <b>Bitterness</b> a,b,c, <b>Blue</b> a,c,i, <b>Bothered</b> c, <b>Cheerless</b> a, <b>Confused</b> c, h, <b>Consternation</b> c, <b>Contempt</b> b,c,e,g, <b>Cranky</b> c, <b>Cross</b> c, <b>Crushed</b> h, <b>Cry</b> c, <b>Defeat</b> b, <b>Deflated</b> a,b, <b>Defensive</b> c, <b>Dejection</b> a,b,c, <b>Demoralized</b> c, <b>Depression</b> a,b,c,d,h, <b>Despair</b> b,c, <b>Devastation</b> c, <b>Different</b> c, <b>Disappointment</b> a,b,c,e,f, <b>Discomfort</b> c, <b>Discontent</b> a,c, <b>Discouraged</b> c, <b>Disenchantment</b> c, <b>Disgust</b> a,b,c,e,g,h, <b>Dislike</b> b,c,g, <b>Dismay</b> b,c, <b>Displeasure</b> a,b,c, <b>Dissatisfied</b> a,c, <b>Distress</b> a,b,c,d,g,i,j, <b>Distrust</b> c,e, <b>Disturbed</b> c, <b>Down</b> a,c, <b>Dread</b> b,c, <b>Dumb</b> c, <b>Edgy</b> c, <b>Embarrassment</b> a,b,c, <b>Empty</b> a,c, <b>Envy</b> a,b,c, <b>Exasperation</b> b, <b>Fear</b> b,c,d,e,f,g,h,i,j, <b>Fed-up</b> a, <b>Ferocity</b> b, <b>Flustered</b> a, <b>Forlorn</b> c, <b>Foolish</b> c, <b>Frantic</b> c, <b>Fright</b> a,b,c,h, <b>Frustration</b> a,b,c,d,f,g, <b>Fury</b> a,b,c, <b>Gloom</b> b,c,d,h, <b>Glumness</b> b, <b>Grief</b> a,b,c,f, <b>Grouchiness</b> b,c,i, <b>Grumpiness</b> b,c,i, <b>Guilt</b> b,c,e,g,j, <b>Heart-broken</b> a,c, <b>Hate</b> b,c, <b>Hollow</b> c, <b>Homesickness</b> a,b,c, <b>Hopelessness</b> b,c, <b>Horrible</b> c, <b>Horror</b> a,b,c,f, <b>Hostility</b> b,c,h,i,j, <b>Humiliation</b> b,c, <b>Hurt</b> a,b,c, <b>Hysteria</b> b, <b>Impatient</b> a,c, <b>Indignant</b> c, <b>Inferior</b> c, <b>Insecurity</b> b, <b>Insult</b> b,c, <b>Intimidated</b> h, <b>Irate</b> a,c, <b>Irked</b> a, <b>Irritation</b> a,b,c,h,j, <b>Isolation</b> b,c, <b>Jealousy</b> a,b,c,e, <b>Jittery</b> i,j, <b>Joyless</b> a, <b>Jumpy</b> c, <b>Loathing</b> b, <b>Loneliness</b> a,b,c,i, <b>Longing</b> c, <b>Loss</b> c, <b>Lovesick</b> a, <b>Low</b> a,c, <b>Mad</b> a,c, <b>Melancholy</b> b,c, <b>Misery</b> a,b,c,d, <b>Misunderstood</b> c, <b>Moping</b> c, <b>Mortification</b> a,b, <b>Mournful</b> c, <b>Neglect</b> b,c, <b>Nervousness</b> a,b,c,i,j, <b>Nostalgia</b> c, <b>Offended</b> h, <b>Oppressed</b> c, <b>Outrage</b>	<b>Acceptance</b> c,h, <b>Accomplished</b> c, <b>Active</b> i,j, <b>Admiration</b> c, <b>Adoration</b> b,c, <b>Affection</b> b,c, <b>Agreement</b> c, <b>Alert</b> h,j, <b>Amazement</b> b, <b>Amusement</b> a,b,c, <b>Anticipation</b> b,c, <b>Appreciation</b> c, <b>Ardent</b> c, <b>Arousal</b> a,b,d, <b>Astonishment</b> b,d,i, <b>At ease</b> a,d, <b>Attentive</b> h,j, <b>Attraction</b> b,c, <b>Avid</b> c, <b>Bliss</b> b, <b>Brave</b> c, <b>Calm</b> a,d, <b>Caring</b> b,c, <b>Charmed</b> a, <b>Cheerfulness</b> a,b,c,h, <b>Comfortable</b> c, <b>Compassion</b> b,c, <b>Considerate</b> c, <b>Concern</b> c, <b>Contentment</b> a,b,c,d,i, <b>Courageous</b> c, <b>Curious</b> h, <b>Delight</b> a,b,c,d,h, <b>Desire</b> b,c, <b>Determined</b> j, <b>Devotion</b> c, <b>Eagerness</b> b,c, <b>Ecstasy</b> a,b,c, <b>Elation</b> a,b,c,i, <b>Empathy</b> c, <b>Enchanted</b> c, <b>Encouraging</b> c, <b>Energetic</b> f, <b>Enjoyment</b> b,c,f, <b>Entertained</b> c, <b>Enthrallment</b> b, <b>Enthusiasm</b> b,c,e,f,i,j, <b>Euphoria</b> b,c, <b>Excellent</b> c, <b>Excitement</b> a,b,c,d,f,i,j, <b>Exhilaration</b> b,f, <b>Expectant</b> c, <b>Exuberant</b> c, <b>Fantastic</b> c, <b>Fascinated</b> e, <b>Fine</b> c, <b>Fondness</b> b,c, <b>Forgiving</b> c, <b>Friendly</b> c, <b>Fulfilment</b> c, <b>Gaiety</b> b,c, <b>Generous</b> c, <b>Giggly</b> c, <b>Giving</b> c, <b>Gladness</b> a,b,c,d, <b>Glee</b> b,c, <b>Good</b> c, <b>Gratitude</b> c, <b>Great</b> c, <b>Happiness</b> a,b,c,d,e,f,h,i, <b>Harmony</b> c, <b>Helpful</b> c,h, <b>High</b> c, <b>Hope</b> b,c,g, <b>Horny</b> c, <b>Impressed</b> c, <b>Incredible</b> c, <b>Infatuation</b> b,c, <b>Inspired</b> j, <b>Interested</b> f,j, <b>Jolliness</b> b, <b>Joviality</b> b, <b>Joy</b> a,b,c,e,f,g, <b>Jubilation</b> b,c, <b>Kindly</b> c,i, <b>Lighthearted</b> c, <b>Liking</b> b,c,g, <b>Longing</b> b, <b>Love</b> a,b,c,e, <b>Lust</b> b,c, <b>Merriment</b> c, <b>Moved</b> a, <b>Nice</b> c, <b>Optimism</b> b, <b>Overjoyed</b> a,c, <b>Passion</b> a,b,c, <b>Peaceful</b> c,f, <b>Peppy</b> i, <b>Perfect</b> c, <b>Pity</b> c, <b>Playful</b> c, <b>Pleasure</b> a,c,d,f,i, <b>Pride</b> a,b,c,e,f,g,j, <b>Protective</b> c,

a,b,c, <b>Overwhelmed</b> a, <b>Pain</b> c, <i>Panic</i> b,c, <b>Petrified</b> a,c, <b>Pity</b> a,b,c, <b>Puzzled</b> h, <b>Rage</b> b,c,e, <b>Regret</b> a,b,c,e,g, <b>Rejection</b> b,c, <b>Remorse</b> a,b,c, <b>Reproachful</b> c, <b>Resentment</b> a,b,c, <b>Revulsion</b> b, <b>Ridiculous</b> c, <b>Rotten</b> c, <b>Sadness</b> a,b,c,d,e,f,g,h,i, <b>Scared</b> a,c,h,j, <b>Scorn</b> b,c,i, <b>Self-conscious</b> c, <b>Shame</b> a,b,c,e,g,j, <b>Sheepish</b> c, <b>Shock</b> a,b,c, <b>Shy</b> c, <b>Sickened</b> a,c, <b>Small</b> c, <b>Sorrow</b> a,b,c,e,i, <b>Spite</b> b, <b>Startled</b> e,h, <b>Strained</b> c, <b>Stupid</b> c, <b>Subdued</b> c, <b>Suffering</b> b,c, <b>Suspense</b> c, <b>Sympathy</b> b, <b>Tension</b> b,c,h, <b>Terrible</b> c, <b>Terror</b> a,b,c, <b>Threatened</b> h, <b>Torment</b> a,b,c, <b>Troubled</b> c, <b>Tremulous</b> c, <b>Ugly</b> c, <b>Uneasiness</b> a,b,c, <b>Unfulfilled</b> , <b>Unhappiness</b> a,b,c,i, <b>Unpleasant</b> h, <b>Unsatisfied</b> c, <b>Unwanted</b> c, <b>Upset</b> a,c,e,j, <b>Vengefulness</b> b,c, <b>Want</b> c, <b>Wistful</b> c, <b>Woe</b> b,c, <b>Worry</b> b,c, <b>Wrath</b> b,c, <b>Yearning</b> c	<b>Rapture</b> b, <b>Reassured</b> c, <b>Regard</b> c, <b>Rejoice</b> c, <b>Relaxed</b> c,d,f, <b>Release</b> c, <i>Relief</i> a,b,c,e,f,g, <b>Respect</b> c, <b>Reverence</b> c, <i>Romantic</i> c, <b>Satisfaction</b> a,b,c,d,f,i, <b>Secure</b> c, <b>Sensational</b> c, <b>Sensitive</b> c, <b>Sensual</b> c, <i>Sentimentality</i> b,c, <b>Serene</b> d,c, <b>Sexy</b> c, <b>Sincere</b> c, <b>Strong</b> i,j, <b>Super</b> c, <b>Surprise</b> b,e,f,i, <b>Tenderness</b> b,c, <b>Terrific</b> c, <b>Thoughtful</b> c, <i>Thrill</i> a,b,c, <b>Touched</b> a, <b>Tranquillity</b> c, <b>Triumph</b> b, <b>Trust</b> c,h, <b>Victorious</b> c, <b>Warm-hearted</b> c,i, <b>Wonderful</b> c, <b>Worship</b> c, <b>Zeal</b> b, <b>Zest</b> b
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Note: The emotion words of Richins' CES, Consumption Emotion Set (1997) are in italics.

a Morgan & Heise (1988)

b Shaver et al. (1987)

c Storm & Storm (1987)

d Russell (1980)

e Frijda et al. (1989)

f Havlena et al. (1989)

g Roseman et al. (1996)

h Plutchik (1980)

i Watson & Tellegen (1985)

j Watson et al. (1988)

Source: Laros and Steenkamp (2005, p. 1439).

This lack of consensus on emotions is depicted very accurately on table 2.1. There is considerable agreement that certain states (like anger, fear and happiness) should be considered emotions, and that certain others should not (hunger, thirst). There are, however, other states which are followed by little consensus (nostalgia, dismay, interest or confusion are just some of these states). Such states have been treated with considerable variation in research and their definition and categorisation very much depends on the adopted approach or research interests of each researcher. This is why the debate on the distinction among cognitive, emotional and volitional states has resulted to both extensive intellectual debates and meticulous literature (Frijda, 2008, p. 70).

Recent findings from neuroscience (LeDoux, 1996; Phelps 2006; Barrett et al., 2007) however support the notion that the '*distinction between cognitive activity and emotion experience is probably better conceptualized as more of a gradient* (in the sense of a graded change) *rather than two independent systems that can interact with one another*' (Barrett et al., 2007). Neuroscience indicates that the parts of the brain responsible for emotions are the ones responsible for cognitive activity (Foxall, 2011) and thus the separation of cognition and affect as explained and examined by psychologists is not really respected by afferent/efferent processes. Searching for such distinctions is then undesirable ('Descartes error' according to Damasio (2005) was the dualistic separation of mind and body, rationality and emotion, feeling and thinking). Nevertheless the debate maintains its rigor and will be exemplified here with a special interest on the state of confusion.

### **2.3. Separating Emotions from Other Entities**

It seems then that a crucial task to start with would be to separate emotions from cognitions and secondly from other sensational and motivational states. Nonetheless this undertaking requires intense effort (Bennett & Hacker, 2003) because the debate regarding the relationship and particularly the causal role of each in the formation of the other has been intense (Zajonc, 1980; Lazarus, 1984; Plutchik, 1985; Frijda, 2008, p. 70).

Hacker (2004, p. 200–201; also Bennett & Hacker, 2005) distinguishes among affections (including emotions and moods), appetites, sensations and tactile perceptions. Smith & Lazarus (1992) discern emotions from other entities that serve adaptive and motivational functions like reflexes (e.g. startle) and physiological drives (e.g. hunger, thirst) and Bagozzi et al., (1999) point out the difference among affect (treated as an umbrella term), emotions (states which are situational and directed towards intentional objects), moods

(e.g. persistent, enduring anger; see also Gardner, 1985) and (possibly) emotional attitudes. Scherer (2005; see also Smith & Lazarus, 1992; Zelenski & Larsen, 2000; Frijda, 2008) further identifies that many stable character traits and behavioural tendencies have an intense affective core (a person can be characterised as nervous, anxious, hostile, jealous or being afraid of dogs). Such affective traits indicate that a person might have a tendency to react in a certain emotional pattern under many diverse life circumstances and the slightest of provocation. On these grounds, emotions (in the same way as cognitive characteristics) can be studied both as a general personality trait and as a state generated by particular encounters with the environment; in that second case the state does not necessarily represent recurrent problems.

A closer examination of the relevant literature revealed three potential issues that could be the cause of such polyphony regarding what constitutes or not an emotion.

### **2.3.1. *The Classical View of a Concept***

Firstly, an interpretation of the issue was brought to the fore by Fehr & Russell (1984). Their theoretical explanation expands on the shortcomings of the classical view of a concept as '*mental pigeon holes with clear boundaries*' (p. 465). They argue that such treatment could provide accurate descriptions for almost any everyday concept (like for example a table as part of home furniture) but cannot be accurately applied on psychological entities like personality or emotions. They rather support a prototypical approach of categorisation (Rosch, 1975 as in Fehr & Russell, 1984; Shaver et al., 1987). Such an approach advocates that concepts are better organised loosely around their clearest examples, referred as prototypes. Following seven exploratory seminal studies they found support for the notion that rather than trying to identify the ultimate and clear definition of emotions a much more fluid perspective can provide better insights.

Since participants of the studies were found to be able to clearly indicate which emotions are better and which are worst examples of the category, a term should be categorised as ‘emotion’ based on the ways it can be placed around ‘emotion prototypes’ rather than based on a strict positioning in or out of the emotion category.

### ***2.3.2. Everyday Use of Language***

Secondly (and unquestionably connected to the third point below), some problems originate from the everyday use of language by lay people (Smith & Lazarus, 1992). In this context, a primary concern is the linguistic properties of the English words used to define and accompany emotions. For example, the use of the word ‘feel’ in all kind of situations—cognitive, emotional, physiological—complicates the distinction among states (as in both I feel and I am hungry, scared, connected, satisfied, confused) and has been a major research issue due to the fact that researchers’ typologies of what belongs in each category seems not to be respected by every-day language and experience.

### ***2.3.3. Criteria for Measuring Emotions***

Thirdly, again according to Smith & Lazarus (1992), issues derive from the diverse ‘defining criteria’ and measurement of emotions. The incidents revealing emotions that scientists can actually measure are traditionally threefold (e.g., Lang et al., 1998): (1) the language of emotion (expressive and evaluative); (2) reflexive physiological activity (somatic and autonomic reactions such as characteristic facial expressions (Ekman & Friezen, 1971; Izard, 1994; Ekman, 2001; 2003); and (3) behavioural (e.g., approach and avoidance, ‘freezing’, and performance deficits or enhancements). The issue remains that there are no well accepted defining criteria and the measurement of emotion manifestations have not been enough to provide an acceptable categorisation of emotions until now.

To set some examples on this issue, the language of emotions can be used in both the ‘I am’ and ‘I feel’ (I am happy and I feel happy) context and several human facial expressions (see also p. 45 onwards), can be the manifestations of states that have a cognitive rather than an affective core, like scepticism.

In order to deal with these issues Ortony and Clore were among the first to conduct a series of studies to determine the actual domain of pure emotion terms, relatively free of trait, physical or cognitive implications (Clore, Ortony & Foss, 1987; Ortony, Clore & Foss, 1987). Each of their studies employs judgements of the appropriateness of words as descriptors of emotions. The different studies vary both the samples of judges and the linguistic frames for judgements. Their main theory is that the dimensional structure of the lexicon of pure emotion adjectives are those which samples of lay and expert judges rate as emotions in both the ‘feeling \_\_\_\_’ and the ‘being \_\_\_\_’ frames (Clore et al., 1987). All their studies reach similar conclusions concerning the domain of emotions: the categories created and which can be easily discriminated were four classes of entities consisting of affective, cognitive, external and bodily conditions. The list of adjectives dealing with internal, mental feeling states and whose focus is solely on affect consists of only about one-quarter of the 500 words used in previous studies (as for example in Averill, 1975).

Following this brief introduction on the categorisation and nature of emotions and cognitions, the rest of this chapter will focus on the state of *confusion*. As explained the nature of some states is ambiguous and theoretical and empirical efforts have focused until now in understanding the nature of such entities. Confusion is one of these states that have been characterised as either emotional and/or cognitive, as a personality trait or a response to specific stimuli. The rest of this chapter will exemplify the ways the literature has dealt with this issue.

## 2.4. The State of Confusion

As previously explained, the term *confusion* can be considered a problematic one due to the difficulty of recognising and categorising what kind of state it constitutes. It is common to hear lay people unconsciously positioning the term in equally the ‘feeling’ and ‘being’ frames as in both ‘I feel confused’ and ‘I am confused’. The following sections will describe the different propositions on the nature of confusion.

### 2.4.1. *Confusion as a Cognitive State*

Confusion has been particularly investigated in clinical (Banister, 2000) and gerontology studies (Slater & Lipman, 1977; Neelon et al., 1996) to describe such situations where individuals are unsure about how to interpret certain stimuli and act accordingly. It is then the research norm to perceive confusion as a cognitive state, when, as Keltner and Shiota (2003) point out, one can be overloaded with information and uncertain about what to do or how to act.

Storm and Storm (1987) attempted to develop a hierarchical model of semantically homogenous groups of emotional terms along with the features defining each group and explore their central characteristics. The research was conducted in two phases. In the first phase, hierarchical clustering of 72 terms, considered part of the emotion domain, was used to identify a preliminary organisation. Subjects were instructed to sort the 72 terms into non-overlapping groups according to similarity of meaning. In the second phase, four highly educated speakers of English, sensitive to fine verbal distinctions, agreed on the classification of a larger set of terms, using the groups identified in the first phase as a starting point. The final taxonomy offers seven categories of emotional language: 1) negative terms related to shame, sadness and pain, 2) negative terms related to anxiety and fear, 3) negative terms related to hatred and disgust, 4) positive terms related to

interpersonal reference, 5) positive terms without interpersonal reference, 6) terms related to activity, passivity and finally 7) cognitive states. Confusion, baffled, bewilderment, helpless, mixed up, perplexed, puzzled and topsy-turvy are part of the cognitive category connected to '*a lack of control in a cognitive sense*' as the researchers explain.

#### **2.4.2. *Confusion as a Cognitive Feeling***

The categorisation of confusion as a cognitive feeling follows Clore (1992, p. 141) who specifically cited confusion as an example of a 'cognitive feeling', that is a feeling about our state of knowledge. This description very much connects confusion to a state of not knowing, which like the state of knowing is a feeling state, mainly associated with a meta-cognition (Hess, 2003), a cognition about cognition or knowing about knowing. Clore (1992) explains that saying that these states are not affective does not mean that they cannot be the cause of affective or emotional reactions. As explained by this author we may be happy that we are certain about something or frustrated that we are confused, but being certain or confused are not themselves emotional feelings (Clore et. al, 1987). Rather, confusion between intense cognitive states and emotions can arise because intense cognitive states are likely to cause emotions (Clore et al., 1987).

The category of 'cognitive feelings' has also been explained as a certain set of feelings involving a combination of both emotions and thought. Attention must be brought to the fact that this explanation emphasises an intertwined approach and is not the same with the previous explanation of a 'cognitive feeling' which acts as a meta-cognitive thought giving rise/causing emotions. This latter intertwined description is more in accordance with a set of states Darwin deals with in the ninth chapter of his 1872/1962 book, *The Expression of the Emotions in Man and Animals* entitled 'Reflection – Meditation – Ill-Temper – Sulkiness – Determination'. There he deals with a similar kind of emotions like *perplexed reflection*, which is synonymous with confusion (terms have been described as

synonymous by Ellsworth, 2003 and thus such an observation is not only the interpretation of this research). Darwin (1872/1962) refers to such emotions as *intellectual*, and he thought that because these emotions include both cognition and affect, this was a good enough reason to exclude them from the words used to describe emotions.

#### **2.4.3. *Confusion as an Emotion***

Drawing once again on table 2.1, p. 36-37 (developed by Laros & Steenkamp, 2005) confusion has been attributed the qualities of either a pure or a basic emotion only rarely. A pure emotion is any state which is free from other entities like cognition and in that sense it has only an affective core. On similar grounds the theory behind basic emotions maintains that emotions are distinct and measurable entities that differ from one another in important ways.

Confusion is clearly not included in Plutchik's well known inventory of eight basic emotions but it has found a role in his general emotion theory (Plutchik, 1980; 1994). Confusion found its angular location on a circle of emotions (the circle was constructed based upon similarity of the terms) and it was positioned very close to words like hopeless, depressed, unhappy, disappointed, uncertain, bewildered, perplexed and finally surprised (Plutchik, 1994, p. 70).

#### **2.5. Re-examining the Debate on Confusion**

A notable study which initiated an intense intellectual discussion on the topic of confusion and other similar states was published in 2003. Rozin and Cohen (2003a) conducted an introductory psychology class observation study. The study was carried out by students (n=255) and the aim was to test the valence lateralisation hypothesis (the issue concerns the lateralisation of brain function in emotion, see Rozin & Cohen, 2003a for more details). As part of the study, students were asked to record up to five instances of

spontaneous, asymmetric, facial expressions (facial actions that last seconds) and to indicate among other things, a) the emotion expressed according to students' judgement (referring to whatever was going on when the expression was occurring) and when possible b) the emotion reported by the participant. The results were based on over 2,000 observations (1,245 symmetric and 996 asymmetric facial expressions<sup>1</sup>) and extended further from the initial goal of examining lateralisation and valence.

Surprisingly, the most interesting finding of the study is that many facial expressions reported do not correspond to the so called basic emotions or even anything usually called an emotion. The most striking 'non-standard' emotion was found to be confusion. Confusion scored highest of all asymmetric emotions (14%) and seventh (5%) among the symmetric emotions.

According to the authors this finding suggests that either facial expressions a golden standard in the research of emotions, are used to a great extend to express other things than emotions or that the category of emotions should be expanded to include more states than the existing. The authors acknowledge that facial expressions can exist independently of emotions and can well accompany other non emotional forms of expression like scepticism and disbelief (Ekman, 1978; 1979 as in Cohen and Rozin, 2003a); yet they believe that confusion would qualify as an emotion according to the criteria set out by Ekman (1992). Confusion is surely a valenced state (negative); it has a distinct facial expression (involving the eyes and eyebrows) and a distinct internal state (or 'qualia').

The study received a flurry of responses (Ellsworth, 2003; Hess, 2003; Keltner & Shiota, 2003; Rozin & Cohen, 2003b) in the same volume of the '*Emotion*' journal. The study

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<sup>1</sup> *Symmetric facial expression*: where both sides of the face are equally expressive. *Asymmetric*: where one side of the face is more expressive than the other (as in Rozin & Cohen, 2003a).

was criticised on the grounds of its biased context as confusion is highly likely to occur when untrained college students are sent out to find examples of facial expressions. In addition, according to most of the commentators, expressions like the ones singled by Rozin and Cohen (2003) have been described variously as a sign that someone has encountered an obstacle or experiences motivational incongruence (Hess, 2003), without necessarily placing such entities in a specific category of states like emotions.

Ellsworth (2003) explains how positioning states into rigid categories like emotions and cognitions emphasises the certainty of psychological theory over the fluid reality of human experience. She explains how appraisal theories of emotions can accommodate such ambiguous emotional states and describes confusion as the experience of a combination of high level of attention and perceived effort combined with uncertainty, helplessness and possibly goal obstruction added to the mix. As the situation changes, appraisals also change the emotional state from one to the other or even to some unnamed state in between, explaining why lay people easily mix up diverse description of situations into something else. In the multidimensional space defined by appraisal dimensions, Ellsworth positions confusion (like Plutchik, 1994) very close to surprise.

The findings of the study by Rozin and Cohen (2003) might not be conclusive but on the grounds of these propositions, Rozin and Cohen (2003a and b) and all commentaries that followed their publication **call for more attention** to some relatively ignored but common states that have both *affective content and important informational value, like confusion*. Most contemporary studies and especially studies from neuroscience support the notion that affect plays a major role in cognition, and cognition in affect, and acknowledge that states that clearly involve both reason and passion, offer an exciting opportunity to study more diverse emotional experiences.

## 2.6. Conclusion

This chapter has described the ways recent psychological research has dealt with states which hold both '***affective and informational value***'. These entities have resulted to intense theoretical debates and for many years have been placed in the affect, the cognition or a mixed group of states. The requirement to further elucidate and understand such terms, to reveal their multiple characters and discuss their role in theoretical and empirical undertakings has been stressed by previous researchers (Rozin & Cohen, 2003a; 2003b). The emphasis of this chapter has been placed on confusion which has been described as one of these states.

The main thesis of this study is based on a behavioural perspective in research and has been based on a proposition that confusion can be faced as a self-based rule. Such terms have two avenues for examination (Foxall, 2013): the first is in extensional terms and the other in intentional terms. Both of these examinations and especially the 'intentional nature' (based on the concept of intentionality) can have multiple benefits for the study of confusion. Such a conception can shed new light to its nature and based on the properties of rule-governed behaviour can give new avenues for its examination. This conceptualisation can further provide a way towards rejecting unnecessary dualistic conceptions of entities (the distinction between cognition and affect). Such dualistic conceptions are not in accordance with recent findings from neuroscience. These issues will be properly deployed in the conceptual framework chapter but before extending even further on these issues the next chapter will deal with the conceptualisation and treatment of confusion in the consumer behaviour literature.

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### **3. THE TREATMENT OF CONFUSION IN CONSUMER BEHAVIOUR LITERATURE**

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#### **3.1. Introduction**

An ambiguous but well-known quote (most often attributed to the US president Harry S. Truman) proposes an alternative technique of effective persuasion: '*If you cannot convince them, confuse them*'. Several research papers in the consumer behaviour realm have been produced in an attempt to investigate whether the business world has put this proposition into force. Following the exploration of the ways general psychological research (see previous chapter) has dealt with confusion as a special, however ambiguous (concerning its nature) state, this chapter will examine and debate whether consumers actually have the capacity, motivation and opportunity to take advantage of the freedom to choose 'extraordinary', novel and abundant experiences and products, explicitly offered by the industry (Poiesz, 2004).

#### **3.2. Seeking Variety and 'Extraordinary Experiences'**

Abrahams (1986, p. 59) claims that especially the individualistic western societies place a distinctive emphasis on the concept of experience and especially the notions of novelty and variety-seeking, accompanied by an intense fear of boredom. Anyhow lay wisdom appraises that variety can be the '*spice of life*'. In the same spirit, Ratner & Kahn (2002) have showed that even our impressions of others are influenced by this constant search for diversity, pointing to the fact that social motivation and self-presentation benefits often contribute to the anticipation that restricting one's choices to favourite items only, might make a negative impression on others.

A flourishing consumer behaviour literature, particularly fervent over the recent past decades, has further advocated the concept of variety-seeking behaviour (Kahn & Ratner, 2005). Faced either as a necessary function for growth and adaptation to a changing environment (Foxall, 1993), an individual need for stimulation (Steenkamp & Baumgartner, 1992) or exploratory behaviour (Berlyne, 1960), a desire to overcome satiation (McAllister, 1982) or to identify novel stimuli (Faison, 1977) or simply as a 'hedge' against uncertainty regarding future preferences (Kahn, 1995; Chernev, 2006) variety-seeking behaviour has been the topic of intense research.

In order to respond to this intrinsic or extrinsic search for variety, markets have adopted several courses of action. First of all, high-variety strategies (mainly concerning product and promotion proliferation) have been widely presented as a way that a company can gain competitive advantage (Kahn, 1998). The adaptation of such strategies offer consumers the desired numerous choices and according to some research are highly valued by them (Oppewal & Koelemeijer, 2005). Retail settings, well tied with the ideology of consumption, offer elements like a cornucopia of products accompanied by objective facts (i.e. product information like nutritional facts) but also symbolic and hedonic aspects (Levy, 1959; Hirschman & Holbrook, 1982; Belk, 1988)—which can well be summarised as '*the power of branding and positioning when it comes to product differentiation*' (Levitt, 1980). Secondly, several marketing concepts and approaches, with most recent the 'experiential' marketing approach, have been introduced through the years proposing a novel marketing rationale and further opportunities for differentiation.

From classic economic and choice theories (see Lancaster, 1990 for a review) to psychological theory and research, a link has been theoretically and empirically demonstrated to exist between the provision of choice (and thus of personal freedom) and increases in intrinsic motivation, task performance, perceived control, the sense of self-

determination, psychological well-being and life satisfaction (Rotter, 1966; Brehm, 1972; Deci, 1975; Zuckerman et al., 1978; Deci & Ryan, 1985; Taylor & Brown, 1988). These psychological benefits can be well connected to more practical aspects of larger assortments which are well documented in consumer behaviour literature (Kahn, 1998; Broniarczyk, 2008, p. 759). Given the heterogeneity in consumers' tastes and needs, high variability increases the ability to find the ideal (in some cases personalised) alternative; it satisfies consumer variety-seeking behaviour; it offers flexibility for uncertain preferences especially when future choices are negotiated and opportunity to accommodate the requirements of multiple users. Finally, it can fulfil other non-purchase reasons of shopping, like enjoying shopping as a leisure activity and trend watching (Bellenger & Korgaonkar, 1990; Guiry et al., 2006).

It has also been asserted that given the fact that consumers' are presented with the ability to exercise free choice, a shift of social and market power from the producers to the consumer has taken place (Denegri-Knott et al., 2006). This increased freedom to choose is often associated with a higher living standard and greater consumer power, also characterised as '*market or consumer democracy*' (Lane, 2000; Schweizer et al., 2006). This notion of freedom is also embraced by some approaches based on the eclectic school of existentialism. On these grounds, over-choice has been explained as a consumer's right to exercise freedom and to create new meanings, for the plethora of goods, through one's own idiosyncratic self (Elliot & Ritson, 1995; Baumeister et al., 2008). In that sense, freedom equals to being able to express oneself and to take pleasure through the experience of buying and using products (Cross, 2000).

On the same foundations with choice and variety, the marketing concept itself has moved from the introduction of the '*4 Ps*' (McCarthy, 1964) and the '*transaction or exchange*' notion (Bagozzi, 1974) to the firm and innovative concept of '*relationship marketing*' in

the 90's (Dwyer et al., 1987; Morgan & Hunt, 1994) and has been attempting to find its way to a new era, linked to the concept of '*experience*' (Holbrook & Hirschman, 1982; Schmitt, 1999; Carù & Cova, 2003). Although the suggestion that all consumer experiences are (or ought to be) 'extraordinary' has been dealt with increasing criticism (see Carù & Cova, 2003), marketers and marketing academics support the notion that the continuous search for novel and meaningful experiences, as a fundamental need of the 'millennial consumer' (Holbrook, 2000), should be satisfied during every consumption or purchase occasion by the engagement of all the human senses. Such engagement allows the formation of a connection between the consumer and the product/service, on both emotional and rational grounds. The provision of 'experiences' rather than products or services has been proposed as a solution for any kind of business including pure retailing (Kim, 2001), where the aim is the creation of retailtainment or shoptainment. The ultimate motive there is to offer consumers physical and emotional sensations and richness before, while and after the shopping itself.

### **3.3. Some Opposing Arguments**

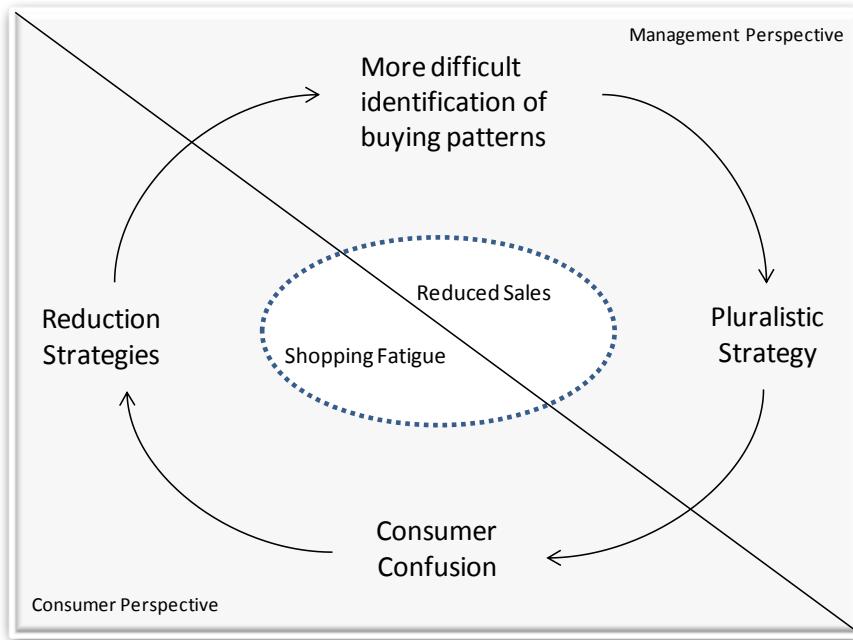
However, this supposition that more complexity is necessarily beneficial has been increasingly questioned by many groups of researchers from different disciplines. To start with, no matter how valued variety-seeking is, it is documented that the actual need for variety differs by individual (Steenkamp & Baumgartner, 1992). Especially, the concept of Optimum Stimulation Level (OSL) (Raju, 1980) specifies that there is heterogeneity with regard to how much stimulation an individual may feel as optimal and desirable. Depending on their stimulation level consumers might feel in unease with arousal which is either above or under their stimulation acceptance level.

Iyengar & Lepper (2000) argue that although the argument for the psychological benefits of choice seems compelling, the number of choices/alternatives presented in relevant experiments is usually small ranging between two and six alternatives. This evidently indicates that relatively limited choice among alternatives is more beneficial than no choice at all. However, their results point to the fact that people actually seem to prefer to exercise their opportunity to choose in contexts where their choices are limited, and they even perform better in such limited-choice contexts. The question then occurs what happens in real life shopping situations—which are much more complex than few alternatives—where consumers are also faced with limited time? A growing body of literature argues for the existence of the phenomenon of the ‘tyranny of choice’ as Barry Schwartz (2004) named the phenomenon of increasing consumer choice resulting to suffering. The most influential stream of research in this tradition is the one dealing with assortment size indicating that consumers face more difficulty to choose from larger than smaller assortments (Iyengar & Lepper, 2000; Schwartz, 2000; 2004; Chernev, 2003a & b; Fasolo et al., 2006). These recent findings nevertheless reflect and build upon older and well-known research findings and discussion of the 70’s and 80’s (Jacoby et al., 1974; Malhotra, 1982 and all subsequent flurry of responses) which had already established that more choice can be less.

At the more practical level of business reality, the benefits (along with the shortcomings) of the aforementioned strategies bear implications at the level of both marketing and strategy practice (Bayus & Putsis, 1999). The confusion cycle (figure 3.3) as proposed by Schweizer (2004) identifies that the source of ‘pluralistic’ business strategies lies with the consumer and is attributed to the fact that consumers no more follow discrete, logical shopping rules, rendering the identification of buying patterns into a difficult task. On the consumer side however, these strategies cause confusion. In this manner, while consumers

intent to maintain the overview of the busy environment they employ confusion reduction strategies causing more difficult identification of the buying patterns and in that way closing the confusion cycle (see figure 3.1 below).

**Figure 3.1** Consumer confusion cycle



Source: Schweizer, 2004, p. 3 (translated into English by the author).

### 3.4. Consumer Confusion

Consumer confusion is an existing problem in contemporary markets and this has been identified in many market situations such as computer software and multi-media (Khermouch, 1994; Cahill, 1995), telecommunications (Turnbull, et al., 2000; Leek & Chansawatkit, 2006), insurance and mortgage markets (Woodward & Hall, 2010), watch market (Mitchell & Papavassiliou, 1997), food labelling and beliefs about diet and food (Golodner, 1993; Ippolito & Mathios, 1994; Marshall, et al., 1994; Wiseman, 1994; West at al., 2002; Hasler, 2008; Abrams et al., 2010; Henryks & Pearson, 2010), higher education (Drummond, 2004), recycling symbols and environmentally-friendly claims (Mendleson & Polonsky, 1995), wine market (Drummond & Rule, 2005; Casini et al.,

2008), general grocery shopping—as early as 1966—(Friedman, 1966), complaint channels in public services (Ashton, 1993), advertisement (Elliott & Speck, 1998) and on the internet (Walsh et al., 2004).

### ***3.4.1. Initial Conceptions of Confusion***

Consumer confusion itself might have been a neglected phenomenon in the books of consumer behaviour, nevertheless confusion triggers have been cited, mentioned and investigated to a great extend but either at an isolated manner or because these serve or disturb other aspects of consumer behaviour like consumer attitudes, choice and decision-making. However, examining a chronological review and synopsis on the confusion related literature (as in Appendix 1, this study), the problem arises that much of the aforementioned published material is either opinion articles and market reports (e.g. Boxer & Lloydd, 1994; Drummond, 2004) or research studies which employ a very broad conception of confusion (e.g. West et al., 2002; Casini et al, 2008). In that case, consumer confusion operates as a general facilitative framework that allows researchers to skip any attempt to conceptualise or comprehend the confusion construct itself. The idea of confusion then acts as evidence for the inevitability of the main study, which most of the times is linked to either the investigation of consumer attitudes or the identification of possible environmental causes of consumer confusion in a specific market. An illustration of the first case can be extracted from the study by West et al. (2002) who employed the concept of confusion in the veal market in order to justify the main objective of their study, to investigate consumer preferences toward veal attributes. At the other end, Casini et al. (2008) used consumer confusion as a framework in order to test the existence of the principal elements of consumer misunderstanding in the buying process of wine. Using the method of the ‘key informant’ as an expert source of information the study identified the causes of consumer confusion in the wine market to be: availability of access to

increasing amounts of information, product proliferation, imitation strategies and existence of new/unfamiliar environments.

It is further evident that the early studies on confusion have been characterised by the ‘information overload’ paradigm (Jacoby et al, 1974a & b; Russo, 1974; Summers, 1974; Wilkie, 1974; Jacoby, 1977; 1984; Scammon, 1977; Malhotra 1982; 1984a & b), a topic that still draws much attention as ‘choice overload’, ‘assortment overload’ or ‘hyperchoice’<sup>2</sup> (Mick et al., 2004; Scheibehenne et al., 2010). More issues like product similarity (Loken et al., 1986; Foxman, 1990; 1992; Kapferer, 1995) and store layout and aesthetics (Berlyne, 1960; Kotler, 1993) have long preoccupied the literature offering the foundations to the concept of confusion.

#### **a. *Information and Product Overload***

The earliest stream of consumer literature dealing with overchoice (Jacoby et al, 1974a & b; Russo, 1974; Summers, 1974; Wilkie, 1974; Jacoby, 1977; 1984; Scammon, 1977; Malhotra 1982; 1984a & b) has been preoccupied with public policy and has left many questions unanswered. It could be more precisely described as a ‘dispute’ on the conditions under which the information overload phenomenon actually exists. This stream of research is consistent with the idea of human limited processing capacity (Bettman, 1979; Malhotra, 1982) and the theory of bounded rationality (Simon, 1955) and challenges the idea of the consumer as the ‘*homo economicus*’, who according to traditional economic theory (as in Simon, 1957), is supposed to possess faultless information on every aspect of a purchase, can easily identify his/her preferences and does that without any cognitive or time limitations. The idea of information overload is

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<sup>2</sup> Alvin Toffler coined the term ‘overchoice’ in his book *Future Shock* (1970) to describe a world in which there was too much choice to make optimal, satisfying decisions (as in Gourville & Soman, 2005).

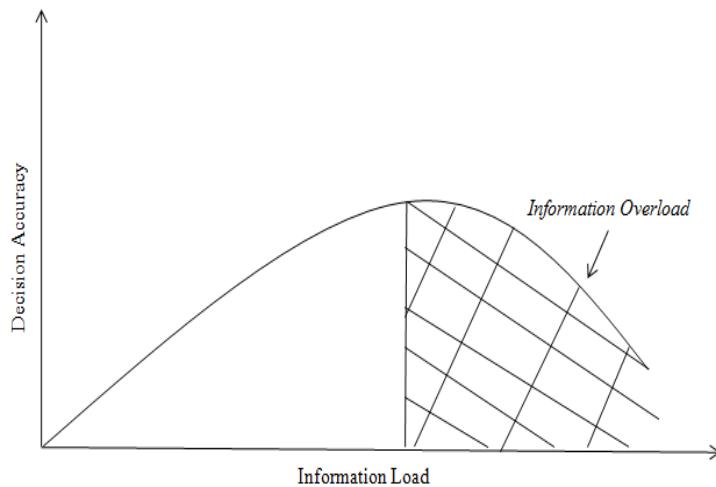
contrary based on the assumptions that consumers possess a finite capacity to encode the choice options and the information available with these choices (Simon, 1955; Miller, 1956; Malhotra, 1982) leading to poor decision-making and dysfunctional consequences like stress and anxiety. These dysfunctional consequences, according to Keinan (1987) make people unable to compare and contrast many different alternatives because their attentional capacity is depleted.

On such grounds, traditional approaches (e.g. Jacoby et al., 1974a; b; Wright, 1975; Malhotra, 1982; Bettman et al., 1990) to measuring the amount of information provided to consumers involve simple counts of the number of alternatives and attributes in a choice set and define information overload by comparing the volume of information supplied with the information processing capacity of an individual (Eppler & Mengis, 2004). For example, the seminal study by Jacoby et al. (1974a) operationalised information overload as 'information quantity' and measured consumers' best brand choice decision based on idiographic reports on attribute preferences. According to the study information overload occurred when more information led to the negative consequences of decreased choice accuracy compared to each consumer's stated ideal. The results indicated evidence of information overload and more importantly the study signified that consumer felt better when provided with more information but in reality made poorer purchase decisions. Although the potential of information overload was never really questioned, the Jacoby et al. (1974a) data were re-analysed (Russo, 1974; Summers, 1974; Wilkie, 1974). The re-analysis of results showed no evidence that a larger number of alternatives led to lower choice accuracy due to information overload. Rather, the reduced choice accuracy, originally reported, was explained as an artefact of failing to account for the higher probability of picking the wrong brand in big rather than small set sizes, meaning that a chance factor was implicated in the process (Wilkie, 1974). Indeed, Jacoby (1977) later

agreed that their study might have produced some ambiguity. However, subsequent researchers like Malhotra (1982) demonstrated the negative effect of information load on consumers' choice quality and choice satisfaction.

In this spirit, it has been illustrated that the function of information overload can well follow the inverted U-curve as in figure 3.2.

**Figure 3.2 Information overload as the inverted U-curve**



Source: Eppler & Mengis, 2004.

Subsequent research on the topic of information overload continued with a shifted emphasis on quality of information provided, conceptualised as either importance of an attribute (Keller & Staelin, 1987), information structure (Lurie, 2004) or diversity of information dimension and repetitiveness (Hwang & Lin, 1999).

This stream of research has expanded to exploration of assortment size and type, recently investigating aspects like how the display of an assortment influences consumer perception of it (Broniarczyk et al., 1998), consumer satisfaction with the presentation format and level of customisation (Huffman & Kahn, 1998) and assortment entropy (complexity) and density (attribute variability/similarity) (Fasolo et al., 2009). The results

of this last study support the notion that a choice made from a large assortment is not necessarily tyrannical. Other aspects like intense entropy and density of a specific collection of products could however turn it to such. Hence, in several cases a simple rearrangement of the shopping environment could mean reduction in density and entropy, which could have better results compared to a reduction in SKU quantity.

In conclusion, although there have been lively debates regarding the topic, this stream of research clearly shows that high cognitive load has detrimental effects on consumer decision-making, consumption and general well-being (Schwartz et al., 2002; Carmon et al., 2003; Baumeister & Vohs, 2003; Broniarczyk, 2008). A high cognitive load decreases consumer choice accuracy and has negative influence on consumers' psychological states and energy which can lead to confusion, cognitive strain as well as lower decision satisfaction (Mitchell & Papavassiliou, 1999; Mick et al., 2004; Broniarczyk, 2008).

### ***b. Product Similarity***

Other early papers were very much preoccupied with a conception and appreciation of brand confusion caused by imitation strategies (Foxman et al., 1990; 1992). Aspects like brand packaging similarity (Loken et al., 1986), own brand look a-likes and imitation (Kapferer, 1995; Rafiq & Collins, 1996; Balabanis & Craven, 1997) and trademark infringement problems (Miaoulis & D' Amato, 1978), have been investigated. Such papers adopt the position that confusion is mainly a subconscious phenomenon and in effect stimulus generalisation.

The contribution of brand similarity confusion papers is twofold. Firstly, these studies provide sufficient experimental evidence of consumers' vulnerability to similarity issues which can lead to reduced market transparency and confusion. Secondly, these studies

provide the basis for the investigation of several proposed antecedents of the likelihood and level of confusion each consumer will experience.

This stream of research continues to explore new areas (Burt & Davis, 1999; Hoch et al., 1999; Lomax et al., 1999; Warlop & Alba, 2004; Walsh & Mitchell, 2005a; Miceli & Pieters, 2010) like consumers' personal vulnerability to perceive similarity in the market place (Walsh & Mitchell, 2005a) or a distinction between visual/attribute based and theme based copying (Miceli & Pieters, 2010).

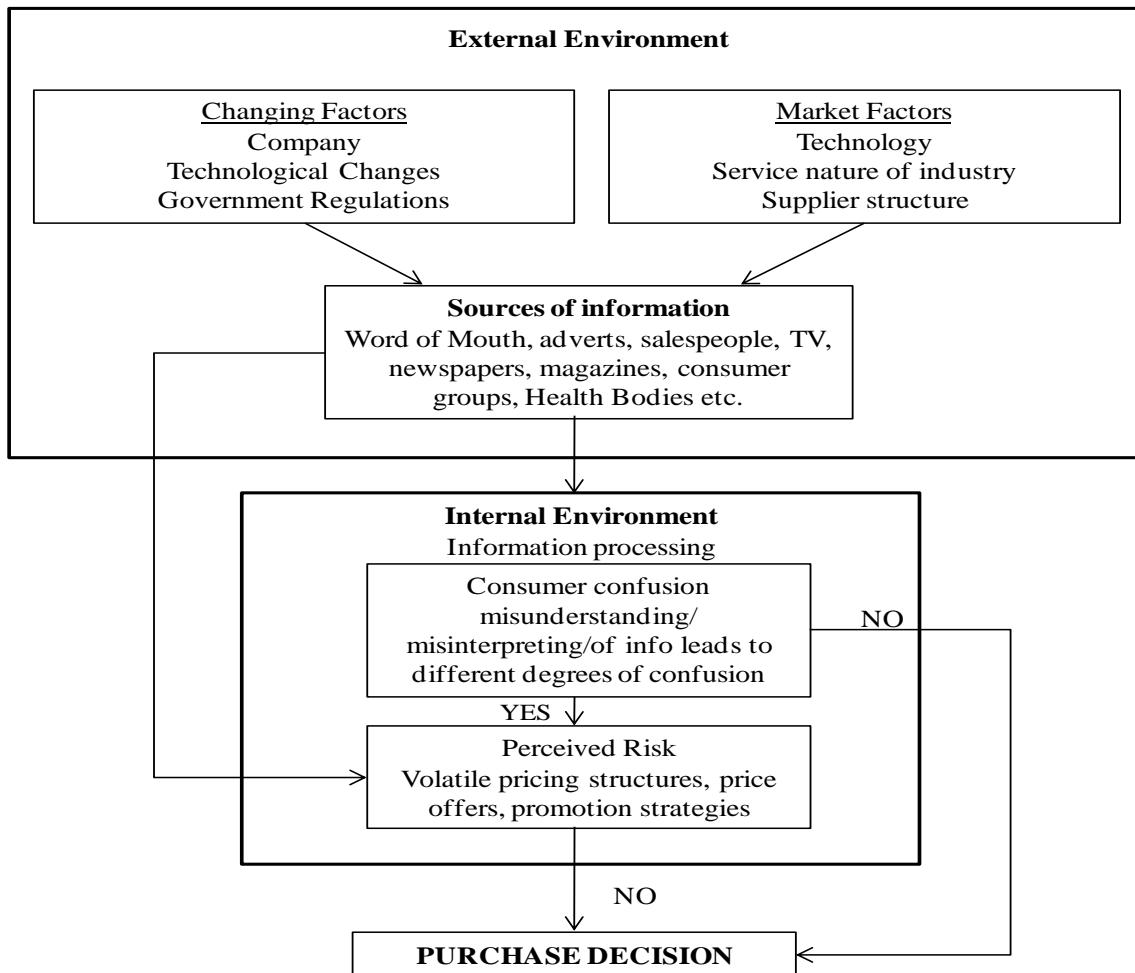
### ***3.4.2. Deeper Investigations of Confusion***

Mitchell and Papavassiliou (1999) have been the first to introduce a broader conception of confusion as a phenomenon which extends to all four marketing Ps, laying its foundations in three main sources which tie in with cognitive psychology: overchoice of products and stores, similarity of products and brands and finally, ambiguous, misleading or inadequate information. They presented confusion a primarily conscious phenomenon with implications for consumers' shopping behaviour (mainly in terms of the adoption of coping strategies, Mitchell & Papavassiliou, 1997). Despite the aforementioned introduction of this holistic view of consumer confusion, subsequent research continued to take a product focused approach to the phenomenon, with few exceptions in recent years.

Chryssochoidis (2000) using theory spanning from product differentiation, attitudes toward organic foods and consumer confusion discusses how the acceptance of newly launched products can suffer due to confusion as consumers are insensitive to, tend to overlook and not really understand the differences between the late introduced items and existing products. The findings of the study do seem to reflect a substantial problem of confusion for late introduced differentiated products, which is mainly depicted as slow diffusion of such products lasting in many cases for years. Turnbull et al. (2000) focus on

the effect of confusion on information search behaviour in the dynamic telecommunications market. In this context, this research identified complex structures both at the level of external environment and sources of information which cause ambiguities, overload and misinterpretations resulting in confusion, perceived risk and risk reduction strategies. The researchers took into account consumers' specific characteristics and they also acknowledged that the degree of perceived complexity, overload and misinterpretation might vary according to individual cognitive ability. However, this research is, yet again, limited with respect to the scope of consumer confusion as the main focus has been information search behaviour, consumers' perceived risks and once more confusion triggers in the mobile phone market (see figure 3.3 below).

**Figure 3.3Conceptualisation of confusion in the mobile phone industry**



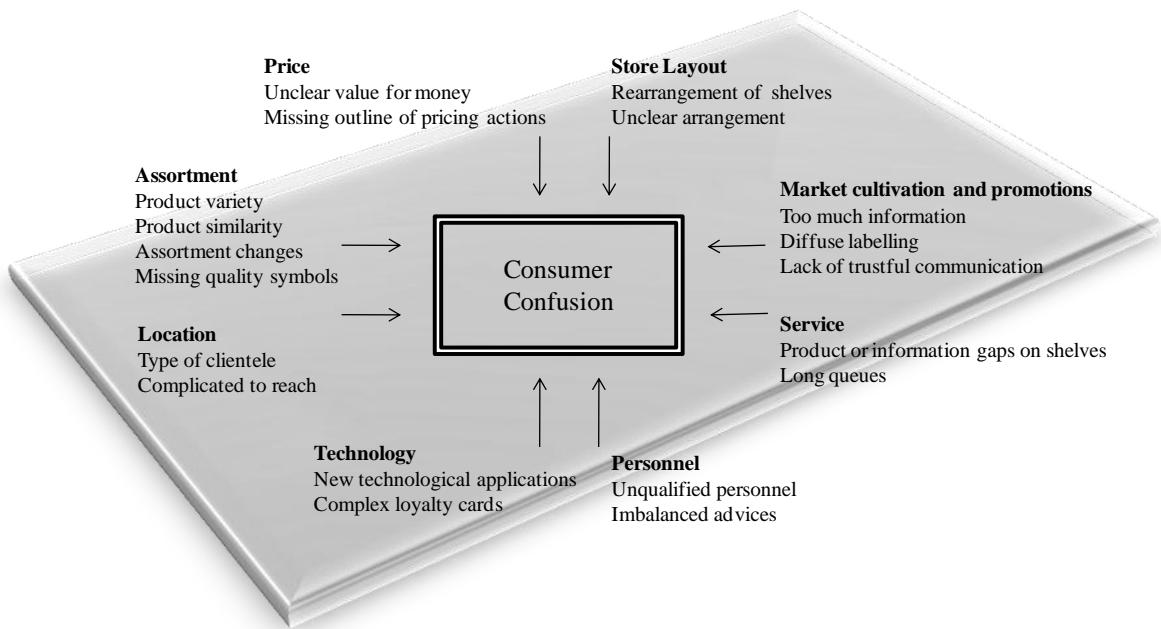
Source: Turnbull et al., 2000 (p. 159)

New insights were provided by Mitchell and Kearney (2002), who although focused on legally acceptable measures of similarity confusion and legislation infringement issues, they were the first to argue that consumer confusion is an attitude and consequently has an affective, cognitive and behavioural component. This idea was taken up again later in a conceptual paper by Mitchell et al. (2005) who presented a comprehensive review of the confusion related literature and developed a conceptual model which depicted confusion as an evaluative, attitude-like phenomenon, which possessed an affective, cognitive and behavioural component. This model has not however identified any connections or relationships among these different elements of confusion. Yet, until now there has been no empirical research published which explores confusion as a belief or attitude.

The latest works on consumer confusion, provide definitions of the phenomenon which are broader in the sense that they consider different potential consumer confusion triggers.

To start with, Schweizer (2004) adopted an approach based on environmental psychology (Berlyne, 1960; Mehrabian & Russell, 1974; Donovan & Rossiter, 1982). The aim was to conduct an empirical and conceptual analysis of all consumer confusion triggers in a retail store environment. This approach was well justified based on theories like the Optimal Stimulation Level (Raju, 1981) and the general principles of the S-O-R model—Stimulus-Organism-Response—(Mehrabian & Russell, 1974). This approach identifies a direct connection between environmental confusion and consumers' affect. Using a mixed method approach, the author provided firstly a good descriptive appreciation of all environmental consumer confusion triggers along with relevant reduction strategies. Figure 3.4 (as in Schweizer & Rudolph, 2004) summarises these triggers which evidently correspond to retailers' mechanisms for differentiation. Secondly, this research operationalised confusion as a measure of '*information rate*' and provided a confirmation

of the connections between negative emotional states and confusing environmental stimuli. Negative affective conditions were measured at the aggregate level using consumers' emotional statements derived from a preceding focus groups study. This scale included a diverse compilation of emotional accounts, ranging from emotional judgements such as 'nicht ernst genommen' (transl.: not taken seriously), 'überrumpelt' (transl.: overpowered) to primary emotions such as 'verärgert' (transl.: angry) and 'gestresst' (transl.: stressed) as in Schweizer, 2004 (p. 134). In addition, the quantitative approach utilised the 'shopping list approach' (see also Titus & Everett, 1996). According to this technique, consumers are asked to find and buy specific products from a predetermined shopping list; such products might not be part of consumers' daily routine. They are then asked to answer specific questions on the experience they just had (time and situation specific approach). Although such approaches can be said to lack ecological validity, researchers who have utilised them argue that consumers are allowed to be confronted with the overall complexity of a shopping occasion forcing them to breach their standard routines.

**Figure 3.4 Consumer confusion triggers**

Source: Schweizer & Rudolph, 2004 (translated into English by the author).

A research article published as the result of this work (Schweizer et al., 2006) has focused on the development of a multidimensional scale for consumer confusion which adopts the same theoretical background and allows for a holistic appreciation of the retail environment. The scale consists of six dimensions; stimuli variety (incl. similarity), novelty, complexity, conflict, comfort and reliability. Table 3.1 describes the factors and items of the scale.

**Table 3.1**The 'environmental approach' to consumer confusion

<p>➤ <b>Variety</b></p> <ul style="list-style-type: none"> <li>• To me, there are too many products to choose from.</li> <li>• It is not easy to choose between similar products.</li> <li>• Products often seem similar but are not.</li> </ul>	
<p>➤ <b>Novelty</b></p> <ul style="list-style-type: none"> <li>• Products in favour are often replaced too frequently.</li> <li>• Products I am looking for are often missing in store shelves.</li> <li>• I often have to get used to new labels/promotion programs.</li> <li>• Shelves or products are replaced very often.</li> <li>• Products' packaging are often replaced.</li> <li>• Prices for products are often subject of frequent changes.</li> <li>• Services are often subject of chance.</li> </ul>	
<p>➤ <b>Complexity</b></p> <ul style="list-style-type: none"> <li>• I have a hard time to understand product descriptions.</li> <li>• I am not sure what the numerous labels are standing for.</li> <li>• Often I am uneasy if a more expensive product is really better than a cheaper one.</li> </ul>	
<p>➤ <b>Conflict</b></p> <ul style="list-style-type: none"> <li>• Sometimes I am not sure if the store wants to manipulate me with the loyalty card program.</li> <li>• It is critical that my personal data are available to the store.</li> <li>• I believe that the store urges me sometimes to buy something.</li> </ul>	Seven points likert scales (agree-disagree format)
<p>➤ <b>Comfort</b></p> <ul style="list-style-type: none"> <li>• I am already irritated if I am confronted with a long waiting line at the check-out when entering the store.</li> <li>• Customers shopping in stores are sometimes annoying.</li> <li>• Crowding in a store often disables an agreeable shopping.</li> </ul>	
<p>➤ <b>Reliability</b></p> <ul style="list-style-type: none"> <li>• Sometimes it is difficult to judge the quality of a product.</li> <li>• I often get only vague information.</li> <li>• Sometimes I am not sure if I can rely on the ads messages.</li> <li>• The products' pictures sometimes do not correspond with the real product.</li> <li>• Sales are often only slightly cheaper than the regular price.</li> <li>• I believe that the stores frequently increase prices without informing consumers.</li> </ul>	

Source: Schweizer et al., 2006.

Another approach to consumer confusion was introduced by a series of studies by Walsh et al., 2007 and Walsh & Mitchell, 2010. The aim of the studies was to validate a scale of consumers' general tendency/proneness to be susceptible to stimuli like information overload or ambiguity and provide evidence of how it could affect several consumer behaviours, like purchase postponement, loyalty behaviour or word of mouth. They dealt with a de-contextualised kind of confusion which as an individual trait originates in personality research. This understanding of confusion challenges and at the same time supplements the reasoning behind situation specific confusion, which in accordance with the writers, is highly stimulus dependent. Three consumer confusion proneness traits were identified as relevant for explaining confusion proneness; that is perceived similarity, overload and ambiguity (in accordance with Mitchell & Papavassiliou, 1999 and Mitchell et al., 2005a). Accordingly perceived similarity was described as '*the perception that different products in a product category are visually and functionally similar*' (Walsh et al., 2007, p. 702). Overload confusion '*consumers' difficulty when confronted with more product and market information and alternatives than they can process*' (Walsh et al., 2007, p. 704) and ambiguity confusion as '*consumers' tolerance for processing unclear, misleading or ambiguous products, information and advertisements*'(Walsh et al., 2007, 705). Table 3.2 describes the factors and items of the scale.

**Table 3.2 The 'cognitive approach' to consumer confusion**

<p>➤ <b>Similarity</b></p> <ul style="list-style-type: none"> <li>• Due to the great similarity of many products, it is often difficult to detect new products.</li> <li>• Some brands look so similar that it is uncertain whether they are made by the same manufacturers or not.</li> <li>• Most brands are very similar and are therefore hard to distinguish.</li> <li>• Most brands look so similar that it is difficult to detect differences.</li> </ul>	
<p>➤ <b>Overload<sup>3</sup></b></p> <ul style="list-style-type: none"> <li>• I do not always know exactly which products meet my needs best.</li> <li>• There are so many brands to choose from that I sometimes feel confused.</li> <li>• Due to the host of stores, it is sometimes difficult to decide where to shop.</li> <li>• The more I learn about grocery products the harder it gets to choose the best.</li> </ul>	Five points likert scales (agree-disagree format)
<p>➤ <b>Ambiguity</b></p> <ul style="list-style-type: none"> <li>• Products such as CD players or VCR often have so many features that a comparison of different brands is barely possible.</li> <li>• The information I get from advertising often is so vague that it is hard to know what a product can actually perform.</li> <li>• When buying a product I rarely feel sufficiently informed.</li> <li>• When purchasing certain products, such as a computer or hifi, I feel uncertain as to product features that are particularly important for me.</li> </ul>	

Source: Walsh & Mitchell, 2005a; Walsh et al., 2007; Walsh & Mitchell, 2010.

The results support the idea that confusion proneness is a multidimensional phenomenon which impacts purchase postponement and loyalty (Walsh et al., 2007), word-of-mouth, trust and ultimately consumer satisfaction (Walsh & Mitchell, 2010)— nevertheless, each one of the three confusion proneness traits was found to have a differential impact on the outcome variables.

<sup>3</sup> Items are chosen to reflect the overload factor introduced by Sproles & Kendall (1986).

### 3.5. Consequences of Consumer Confusion

Consumer confusion has been characterised as a hygiene factor (in accordance with Herzberg's theory of motivation): its presence has been repeatedly connected to negative consequences such as dissatisfaction; however, its absence does not motivate individuals to purchase more nor does it necessarily lead to satisfaction (Mitchell et al., 2005).

Mitchell et al., 2005 divided the strategies consumers use in order to cope with confusion into two categories. The first of these strategies is to simply abandon the purchase all together and the second comprises of a number of confusion reduction strategies, like narrowing down the alternatives or sharing the decision with a knowledgeable other.

Beyond the above coping strategies, confusion has been connected to adverse outcomes. Even though, no study has implemented a comprehensive investigation of the outcomes of consumer confusion (Mitchell et al., 2005), confusion has been connected with results like decision avoidance or postponement (Tversky & Shafir, 1992; Greenleaf & Lehmann, 1995; Dhar, 1997; Mitchell & Papavassiliou, 1997; Huffman & Kahn, 1998; Anderson, 2003), status quo and omission bias (one manifestation of status quo bias could be an increased loyalty towards existing brands) (Ritov & Baron, 1992), negative word-of-mouth (Tumbull et al., 2000; Walsh & Mitchell, 2010), dissatisfaction (Malhotra, 1982; Foxman et al., 1990; Walsh & Mitchell, 2010), cognitive dissonance (Mitchell & Papavassiliou, 1999), shopping fatigue (Mitchell & Papavassiliou, 1997), increased levels of reactance (Settle & Alreck, 1988), decreased loyalty and trust (Walsh & Mitchell, 2010) and even confusing other consumers (Foxman et al. 1990; 1992).

It is evident that the question of 'exit, voice or loyalty', in accordance with Hirschman's treatise (1970) remains and seems to find an application on such states like consumer confusion.

### **3.6. Demarcation of the Terms**

Moving to a broader topic, several psychological states which have found wide application in psychological and consumer behaviour research seem to share theoretical grounds with confusion. In this section, a demarcation of the terms will be attempted in order to clarify the distinction but also the relationship between consumer confusion and a) cognitive dissonance, b) uncertainty and perceived risk and finally, c) irritation/frustration.

#### ***3.6.1. Cognitive Dissonance***

Cognitive dissonance theory and research dominated social psychology from the 1950s until the 1970s (Cooper, 2007). The theory is based on Leon Festinger's suggestion that when an individual holds two or more elements of knowledge (cognitions) that are inconsistent with one another, a state of discomfort (dissonance) is created. Festinger (1957) further indicates that persons are motivated by the unpleasant state of dissonance to engage in 'psychological work' so as to reduce the inconsistency, and this work will typically support the cognition most resistant to change.

In 1956, Brehm examined dissonance theory's predictions for post-decision processing. According to the theory, following a decision, all of the cognitions that favour the chosen alternative are consonant with the decision, while all the cognitions that support the rejected alternative are dissonant. The greater the number and importance of dissonant cognitions and the lesser the number and importance of consonant cognitions, the greater the degree of dissonance experienced by the individual. Thus, in a decision situation, dissonance is typically greater the closer the alternatives are in attractiveness, as long as each alternative has several distinguishing characteristics. Dissonance caused by a

decision can be reduced by changing attitudes or by viewing the chosen alternative as more attractive and/or viewing the rejected alternative as less attractive.

Comparing the two states, both cognitive dissonance and confusion have a substantial influence to the way consumers experience shopping situations due to the uncomfortable state they might find themselves into. However, confusion acts at the point of decision by making decisions more difficult and has been described as the cause or multiplier of dissonance, which in consumer environments is usually a post-decision process (Mitchell & Papavassiliou, 1997). Conclusively, dissonance is an unpleasant state which occurs after a difficult shopping decision has already taken place rather than at the context of purchase like confusion.

### ***3.6.2. Buying Risk and Uncertainty***

The concepts of perceived risk and uncertainty have established their own research traditions in consumer behaviour research (Mitchell, 1999). The two terms have been used interchangeably by consumer behaviour researchers but Knight, already in 1948, coined a distinction between the terms. According to Knight (1948, p. 19–20), risk has a known probability while uncertainty exists when knowledge of a precise probability is lacking. However, known probabilities are extremely rare and consumers are very unlikely to think in terms of them. A further demarcation of these two terms goes far beyond the scopes of this report; it is suffice to argue that both risk and uncertainty approaches share the same overall characteristics, pointing to: the probability of a loss, a perceived non-agreement between expectations and reality and the subjective feeling of possible unfavourable consequences (Urbany et al., 1989; Dowling & Staelin, 1994; Mitchell, 1998).

A linguistic-psychological analysis by Storm and Storm, (1987, p. 813) argues that the two groups of emotional words, one characterised by confusion (confusion, baffled,

bewilderment, puzzled) and another distinct one characterised by uncertainty (uncertain, hesitant, doubt, reluctant) are differentiated based on *organisation, or control*. Terms in the confusion group convey lack of control in a cognitive sense; those in the uncertainty group convey lack of resolution rather than lack of control.

In terms of consumer behaviour, Schweizer (2004, p. 32) places the distinction between risky and confusing situations in the context of products/situations involved. Risky situations usually involve *expected* product attributes (e.g. the life time of a computer) rather than *actual* product characteristics (e.g. the PC configuration). Thus consumers feel the risk factor about attributes that are important but *unknown, future* aspects but feel confused about contradicting, ambiguous or abundant *actual* information they receive on different products.

It is true however that in order for consumers to reduce the degree of perceived risk, uncertainty and the probability of negative consequences occurring, they will increase their information search activity (Mitchell, 1992). Along with more information search, consumers use other strategies to reduce risk like remaining brand loyal and postponing decisions. These risk reduction strategies are nearly the same with the ones identified as confusion reduction strategies (Mitchell & Papavassiliou; 1999; Walsh & Mitchell, 2007; 2010).

Confusion bears then connections and differences with risk and uncertainty. There is still room for further research to clearly demonstrate the direction and nature of this relationship but the evidence is for the treatment of these states as distinct, as far as these can be differentiated based on the aforementioned characteristics.

### 3.6.3. *Irritation/Frustration*

In the domain of human behaviour, Roseman (1991) suggests that frustration will occur in a situation in which a negative outcome happens, when a positive outcome is desired. That is, the current situation is perceived as being caused by circumstances that are again inconsistent with current motives, and result in punishment or absence of reward. This description is very similar with the way confusion has been described elsewhere (Ellsworth, 2003). However, an additional and main proposition of confusion is a lack of understanding of the situation and lack of control of the ideal way to act. It seems then that the two states share much in common but confusion is much more characterised by intense helplessness/ indecisiveness while frustration more simply by bother or irritation.

## 3.7. Conclusion

Extending on the debate on whether marketing concepts should be evened with their antecedents, their outcomes or are better perceived as a process (on this same point see especially the example of *consumer satisfaction*- Yi, 1990 or that of *trust*- Mayer et al., 1995), it seems that confusion has safely found its conceptualisation based on its antecedents (or triggers). One of the scales examining the confusion construct derives from the realm of cognitive psychology (similarity, ambiguity and overload) while the other from environmental psychology which contains elements grounded on the concept of atmospherics (stimuli novelty, variety, reliability etc.).

The current state of research debates the concept of confusion based broadly on the following topics:

- 1) Confusion can be both a conscious and subconscious state. Most relevant research claims that only the conscious part is easily accessible to the researchers (Mitchell et al., 2005).

- 2) It is a state that until recently has been described as caused by individually perceived environmental stimuli.
- 3) It occurs during decision-making situations (situation specific). It has also been attributed the property of a personality trait, meaning that certain personalities have the tendency to be/feel/report confused and some not.
- 4) Consumer confusion has been described as a cause of negative emotions (an important response driver). The exact relationship however between confusion and emotions comprises a neglected area of research (for an exemption see Schweizer, 2004).
- 5) According to the extant literature, consumer confusion leads to the avoidance of certain stimuli, taking the form of specific reduction strategies (e.g. reliance on heuristics, status quo bias, downsizing consideration set, choice deferral, reduced info search as in Kasper et al., 2010) or other behavioural acts (ask help from a member of staff, change retail store, complaint, negative word of mouth).

Following the exploration of consumer confusion, the next chapter will lead the reader to a different chapter of consumer behaviour, that of the distinction between the contextual and the intentional stance and the implications of intentional behaviourism. The exploration of the two ways of doing research will lead to a meaningful bridging of the two approaches resulting to the conceptual framework of this research.

## **4. THE BPM AND INTENTIONAL BEHAVIOURISM**

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### **4.1. Introduction**

This chapter will shift the interest from consumer confusion and will examine the proposals put forward by a new philosophical and research scheme, intentional behaviourism. Commencing more generally by examining the propositions of intentionality and behaviour analysis (the review will especially focus on the principles of the Behavioural Perspective Model) it will reach an understanding of the ways that the principles of both approaches can be combined meaningfully under the umbrella of intentional behaviourism. Intentional behaviourism argues that through the combination of otherwise incommensurable philosophical stances, the intentional and the contextual stance, a better exploration of consumer behaviour can be achieved.

### **4.2. The Explanation of Consumer Behaviour**

Marketing theory teach us (McKenna, 1991) that consumers' needs and preferences should be placed at the centre of all economic activity and should act as the starting point of all NPD (new product developments), product launches, or quality concerns. Following this logic, what is widely known as market orientation (Kohli & Jaworski, 1990), starts with customers' needs and should finish with their satisfaction. On the other end, the consumer is expected to act in the marketplace and make all kind of choices based on what is on offer and under all the influences that are imposed upon him/her. Apart from choices, the consumer uses and disposes products or services and then gets into repeated purchases, abandonment or even word-of-mouth with peers to support or argue against such buys. The field of consumer behaviour covers then a lot of ground. It is:

*‘the study of the ways and processes consumers follow in order to select, purchase, use and dispose of products, services, ideas and experiences in order to satisfy needs and desires’* (Solomon et al., 2010, p. 6).

Yet, this quest for needs’ satisfaction has been widely described as a process (e.g. Solomon et al., 2010) where a number of factors have been identified as imposing an influence on consumers. Kotler & Armstrong (2010) classify these influences as following:

**Table 4.1 Factors affecting consumer behaviour**

<b>Psychological</b> (motivation, perception, learning, beliefs and attitudes)
<b>Personal</b> (age and life-cycle stage, occupation, economic circumstances, lifestyle, personality and self concept)
<b>Social</b> (reference groups, family, roles and status)
<b>Cultural</b> (culture, subculture, social class system).

Source: Kotler & Armstrong (2010), p. 161-175.

A closer examination of these categories of influences reveals two main sources of consumer behaviour ascription; consumer behaviour can be either attributed to some characteristics of the individual (cognitive perspective) or to the external socio-cultural environment (socio-cognitive perspective). Intrapersonal characteristics (psychological processes within the person like perception or attitudes) along with socio-demographics form the first category, while social and cultural factors form the external environmental influences. These groups of influences characterise the way consumer behaviour is conceived and presented in most renowned consumer behaviour and marketing textbooks (e.g. Solomon et al. 2010; Kotler & Armstrong; 2010). This conception of consumer behaviour is in accordance with the principles of cognitive psychology. Cognitive psychology, the sub-discipline of psychology exploring internal mental processes (APA, 2013), has gained an unambiguous status among consumer behaviour researchers (as in Holbrook & Hirschman, 1982; Foxall, 1996). Based on the long tradition of cognitive

revolution in psychology and consumer behaviour (Neisser, 1967; 1976; Bettman, 1979) the word ‘cognition’ has been most often defined to include such aspects as perception, attention, implicit and explicit memory, language processing and mental processes, networks and schemata that connect all these functions and result to problem solving (Bettman, 1979; Plutchik, 1985; Sternberg, 1999). So immense is its influence that its application and status goes unnoticed by researchers applying its principles, who use it as though this is the only available stream of thinking.

In order to battle this prevalence, some researchers have proposed a substitute to cognitive psychology grounded on an interpretive approach to consumer behaviour and based on the examination of the ‘*experiential*’ aspects of consumption (e.g. Holbrook & Hirschman, 1982). Still, this stance does not act at an ultimately different level from cognitive psychology. The accounts provided by interpretive approaches still centre around the individual consumer but differ from cognitive psychology mainly on three aspects: 1) their explanation extends to more individual characteristics, other than memory, perception and attitudes, like fantasies and emotions, 2) the research endeavours expand to more than the usual everyday products or situations, namely to ‘extraordinary experiences’ (e.g. Arnould & Price, 1993) and 3) more freedom is provided to the researcher to take a more active role during the research process (e.g. Hirschman, 1986; Thomson et al., 1990). Although this stream of research endorses the power of situational influences (maybe more accurately cultural influences) on consumers, only an explanation of consumer behaviour based on behaviourism or behaviour analysis achieves to shift the interest from intrapersonal processes to the *situational* influences upon choice and consumption (Foxall, 1986; 1987; 1988). This approach extends the theoretical understanding to the ways the environment shapes consumer behaviour over time. In essence the cognitive and behavioural approaches describe different conceptualisations of

learning. The focus to the fundamental process of consumer *learning* (Skinner, 1950) can illuminate the main differences between the two approaches.

### **4.3. Ways of Learning (Cognitive versus Behavioural)**

The way consumers store information in memory (i.e. what they know, think and feel about products, brands or situations) is through the process of learning. Most of the changes in behaviour are a result of experience and most experiences result in learning. Thus, the information acquired through learning forms the basis of consumer behaviour (Catania, 1998; Foxall et al., 1998; Solomon et al., 2010). This is why the definition of this process is of the outmost importance in the examination of human nature and can assist in the process of discriminating between cognitive and behavioural approaches of understanding.

Learning possesses then a central role in both the cognitive and behavioural traditions and Foxall et al., (2008) distinguish between the cognitive and behavioural ways of explaining learning. Cognitive learning theories view this process as a ‘conscious mental activity’ which is very much in accordance with the predominant view of consumer behaviour as information processing. Here the focus is on the way information gets from the external environment into long term memory, usually causing internal, mental changes (in the form of beliefs, attitudes or schemata) and ultimately influencing consumers’ decision-making. This process is determined by the way that a buyer can function intellectually. In its simplest form consumers are claimed to learn by repetitive exposure to stimuli which means that they simply memorise without paying much attention (low attention processing). Due to repetitive exposure consumers may develop weak beliefs for brands, firms or logos. One of the most significant applications of this principle is in advertising. This kind of learning indicates that consumers do not need to cognize or process

advertisements; simple repetition can create a memory trace which can influence consumer behaviour. Research in advertisement which is based on the mere exposure effect (Zajonc, 1968), that is peoples' tendency to develop a preference for things they are frequently exposed to, has explored the effect of mere exposure to consumers' judgements, attitudes, preferences and behaviour (Grimes & Kitchen, 2007).

Other forms of cognitive learning might take the social learning perspective, where consumers watch others behave and then apply these principles in their own life (Bandura, 1977 cited in Foxall et al., 2008). Finally, the most influential of all the cognitive approaches, the information processing concept is also the most comprehensive approach and includes elements of both the two aforementioned simpler forms of cognitive learning. This kind of learning requires extensive mental effort and time from the consumer and encompasses a wide range of cognitive activities. Many elaborate models of information processing have been developed, especially in advertisement research (Petty et al., 1983; Greenwald & Leavitt, 1984 cited in Foxall et al., 1998, p. 79; MacInnis & Jaworski, 1989). Such models usually present learning as an elaborate task comprising of elements like exposure, attention, comprehension, several cognitive and more recently emotional responses and finally, storing of information in memory. This elaborate chain of tasks usually leads to attitude or beliefs formation or change.

Behavioural approaches at the other end, describe learning as '*largely unconscious changes in overt and verbal behaviours*' as a result of consumers' experiences and environmental influences (Foxall et al., 1998, p. 76; p. 90). Consumers learn to form more sophisticated beliefs through the largely unconscious processes of classical and operant conditioning. Conditioning occurs through interaction with the environment, while environmental influences are considered the sole forces responsible for shaping our behaviour (Skinner, 1972 cited in Markin & Narayana, 1975).

A more detailed presentation of the two approaches will be achieved in the remaining of this chapter.

#### **4.4. Behaviour Analysis**

Behaviour analysis is the field of philosophy, research and application that encompasses the experimental analysis of behaviour (experimental research designed to add to the knowledge about behaviour), applied behaviour analysis (focusing on applying these behaviour principles to real world situations), operant psychology, operant conditioning, behaviourism and Skinnerian psychology (Vaughan, 1989 cited in Foxall, 1996; Foxall, 2001). In marketing-oriented economies, consumer behaviour analysis is principally concerned with '*human behaviour in naturally occurring settings that are subject to marketing influences*' (Foxall, 2002 as in Foxall, 2013, p. 105). It is based on the principles of behaviourism which as a distinct field of psychology and focuses on behaviour as a main subject matter and has been developed based mainly on the work of three influential psychologists, Ivan Pavlov, John Watson and Burrhus Frederic Skinner.

Pavlov's work (1927 cited in Macklin, 1986) is the basic paradigm introducing and advocating classical conditioning. The theory behind classical conditioning has been called the stimulus substitution theory (Mazur, 2006, p. 65). Pavlov's experiments are famous and so are the dogs that were the subjects of the experimental conditions. What he did is to arbitrarily select a stimulus, a bell or a metronome, to be presented to a hungry dog. The metronome acted as the Conditioned Stimulus (CS), which was then followed by food, the Unconditioned Stimulus (US). The US caused the dog to salivate, the Unconditioned Response (UR). With pairing the metronome (CS) with the food (US), the dog responded to the metronome (CS) by salivating, now called the Conditioned Response (CR), even in the absence of food. When the CS is presented before the US, this

is called forward or traditional conditioning, when these stimuli are presented simultaneously this is simultaneous conditioning and when the US precedes CS this is known as backward conditioning (Macklin, 1986). This psychology of ‘conditioned reflexes’ (as in Foxall et al., 2008) gained in popularity during the first decades of the 20<sup>th</sup> century, especially in the USA, where Watson reacted against the extended use of introspective methods among psychologists. In his 1913 article *‘Psychology as the behaviourist sees it’* he extensively argues that psychology must discard all reference to consciousness and that behaviour should be the objective point of reference of all psychological measurements (Watson, 1913).

The principles of classical conditioning have been widely applied to marketing, especially to advertisement research. This is usually done through experimental approaches where advertisement features like music, source or content are paired with products or brands to examine if classical conditioning has an effect on desirable advertisement results. However, no matter the fact that the basic value of behaviourism is the exploration of behaviour, most of the studies utilising the classical conditioning approach in advertisement research, usually use attitudes or preferences as their dependent variables (as in DiClemente & Hantula, 2003). The same authors (DiClemente & Hantula, 2003), following a detailed literature review on the use of the behavioural perspective in consumer research argue that classical conditioning procedures have been found to have an effect on attitudes and other similar indirect measures of behaviour. However, establishing the effect of classical conditioning on actual choice has proved difficult. One of the initial experiments on the effects of classical conditioning on choice used photos of blue and beige pens (Conditioned Stimulus) and connected these to either liked or disliked music (Unconditioned Stimulus) (Gorn, 1982). At the end when consumers were given the chance to choose the blue or beige pen most participants chose the pen connected to the

liked music. This result indicates that they did not base their immediate choice on colour preference or their personal characteristics but chose based on the connection with the unconditioned stimulus. The evidence, connecting classical conditioning with choice, remains however, sparse.

To finish with, Skinner introduced the concept of operant conditioning, in which reinforcement (or punishment) leads to a desired behaviour. The main difference of operant with classical conditioning lies on the fact that much everyday behaviour is not elicited by a specific stimulus as proposed by classical conditioning (Blackman, 1974, p. 49; Mazur, 2006, p.118). Rather, in the presence of stimuli, creatures, especially humans might choose to act or defer acting. It seems then that engaging or not in ‘voluntary’ behaviours comes in contrast with the ‘involuntary’ behaviours that are part of unconditioned and conditioned reflexes. In simple terms, operant conditioning is a kind of learning in which an individual’s behaviour is shaped by its consequences. The behavioural consequences are shaped by the influence of reinforcers or punishers, which are the core tools of operant conditioning; due to these consequences behaviour can change in shape, strength or frequency. The general aim of the research in operant conditioning is then characterised by the attempt to portray general principles and functional relationships that could predict the kind of non-reflexive behaviour produced and to reveal the situational conditions under which such non-reflexive behaviour can be shaped (Mazur, 2006, p. 119). The principles of operant conditioning have resulted in the development of one theoretical stance of research the ‘*contextual stance*’ (Foxall, 1999b; 2000) and one influential theory of consumer choice and behaviour, the Behavioural Perspective Model- BPM (Foxall, 1987; 1990). The principles of operant conditioning and the BPM of choice and consumption will be analysed in more detail in the following sections.

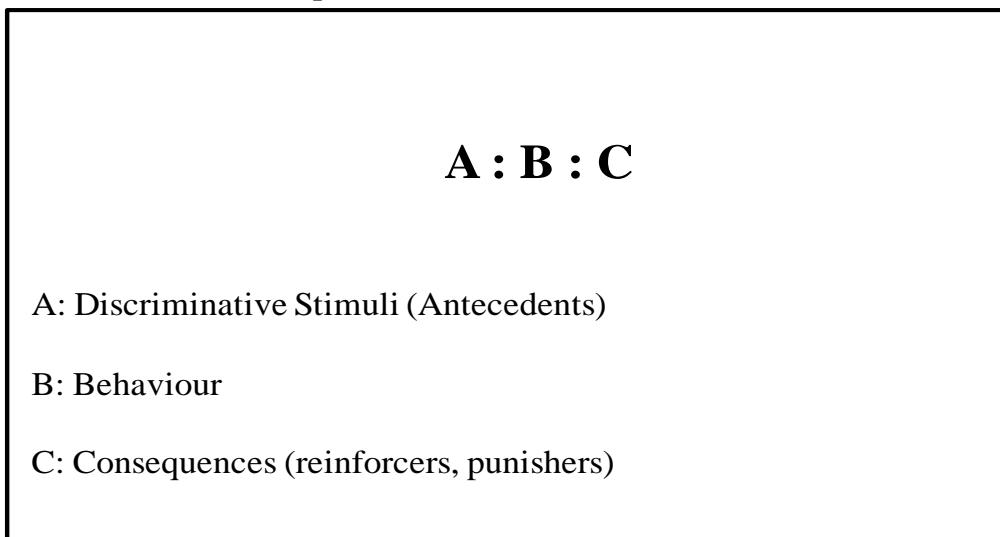
#### **4.5. Operant Conditioning**

Nord and Peter (1980) were among the first to theoretically introduce the principles of operant conditioning to marketing research. Contrary, classical conditioning has found wider applications to consumer research. This is true because the classical conditioning approach has shorter operational time when compared with operant conditioning. In addition, classical conditioning is much more easily integrated into the cognitive stream of research with variables like attitudes and preferences widely used (DiClemente & Hantula, 2003).

Foxall in 1987 emphasised the importance of operant conditioning with the introduction of the principles of radical behaviourism (the formal designation of Skinner's philosophy of science) in consumer behaviour. The same author (Foxall, 2001) describes that the role of behaviour analysis in marketing and consumer research is to explain behaviour in terms of the consequences it produces but also the rewards and punishments that are contingent upon it. Economic behaviour is portrayed as operant because it operates in the environment to produce consequences (Foxall, 1992b, p. 385). The rate and form of behaviour depends on the consequences such behaviours had produced in the past, mainly in terms of reinforcers, consequences that appear to strengthen a behaviour or punishment, consequences that have aversive effects. There are however some consequences which are neutral, meaning that these do not have an effect on subsequent behaviour. Antecedent variables are also implicated in this process. These are the stimuli that signal the reinforcement (or punishment) contingent upon the specific setting and thus in their presence the consumer discriminates, by performing those behaviours that have been in the past reinforced and avoiding those that have been punished. So, in its simplest form the 'three term contingency' initially introduced by Skinner implicate the discriminative

stimuli (antecedents), the behaviour and the consequences in the form of reinforcers or punishment. This simple sequence of behaviour is depicted in figure 4.1.

**Figure 4.1 The A, B, C of causation: antecedents (discriminative stimuli), behaviour and consequences**



Source: Foxall, 1992b, p. 386.

Figure 4.1 is a way to simply depict the central explanatory device of radical behaviourism as introduced by Skinner in 1953 (cited in Foxall, 1996a). The three terms contingency:

$$S^D \rightarrow R \rightarrow S^t$$

and

$$S^D \rightarrow R \rightarrow S^p$$

where  $S^D$  is a discriminative stimulus,  $R$  is a response and  $S^{t/p}$  is a reinforcing or punishing consequent stimulus. In more detail this paradigm explains behaviour in terms of the *operant response*- any arbitrarily defined bit of behaviour, a *discriminative stimulus*- which signals the likelihood of reinforcement and punishment of behaviour that is contingent upon the performance of a particular behaviour (Michael, 1980), the

*consequences of an operant response-* which can be either reinforcing or punishing and the *individual's learning history-* which is the sum of a consumers emitted behaviour and summarises the cumulative contingencies of reinforcement and punishment under which an individual has behaved in the past.

#### **4.6. Kinds of Reinforcement (and Punishment)**

Due to the undisputed value of reinforcement and punishment as one of the building blocks of operant conditioning, several classifications have been proposed.

##### ***4.6.1. Primary and Secondary Reinforcers***

The usual distinction of reinforcers is between primary and secondary (Blackman, 1974, p. 93; Foxall, 1997a, p. 85). Primary reinforcers are effective from birth and usually apply to all species; food and water are two examples. The characteristic of primary reinforcers is that their influence on behaviour does not depend on other reinforcers. They act naturally to determine the rate of behaviour. On the contrary, the power of secondary reinforcers is acquired through an individual's experience. Their influence on the rate of behaviour depends upon their pairing with primary reinforcers. Money is the most common example of secondary reinforcers, as it is used to obtain many primary reinforcers.

##### ***4.6.2. Contingency-Derived and Rule-Derived Reinforcers***

Another useful distinction is the one between contingency-derived and rule-derived reinforcers (Foxall, 1997a). In cases that rules act as reinforcers, contingency-derived reinforcers can be both primary and secondary in nature and are apparent in the contingency shaping of behaviour (contingency-governed behaviour- Skinner, 1969). These are generally associated with pleasurable events and this is the reason why such reinforcers are usually utilitarian/ hedonic in nature. On these same grounds, punishment

can derive from events which are unpleasant. It should be noted though that the assignment of pleasure as a defining characteristic of reinforcers is not as clear as described here and has been the subject of long debates. The verbal (other or self) rules at the other end are not defined by nature, thus are usually classified as secondary reinforcers and their effect on behaviour is mediated by others (but as explained below ‘others’ might be the individual him/herself). They do have an informational value and their level of influence depends on something else—the type of rule, the context in which the rule is provided, the level of trust towards the person which creates or dictates the rule and the level of experience with the specific rule of the person who behaves (Peláez & Moreno, 1999). In the same sense, punishment would be the result of no compliance with the rules (or self-rules as such).

The interest in the distinction between contingency and rule-governed behaviour can be traced in Skinner (1966) who argued that in humans, who are verbal creatures, reinforcement and consequently behaviour could arise: 1) from the direct contact with environmental contingencies (contingency-shaped) or 2) from verbal descriptions of these contingencies provided by the individual or others, which he termed rules.

#### ***a. Rule-Governed Behaviour***

Verbal rules, which result in rule-governed or instructed behaviour (RGB) (Skinner, 1966 cited in Törneke et al., 2008; Skinner, 1969; Catania, 1986; Catania et al., 1990; Foxall; 1997a; Törneke et al., 2008), have been introduced, beyond their reinforcing power, in an attempt to explain complex human behaviour which does not always follow the three term contingencies. Rules can act as instructions and are effective as long as they are either specified in rules (in essence social rules or norms), or result from the verbal activity of a speaker or from rules or self-rules to which an organism has adhered throughout its history (Foxall, 1997a). For example, society rules that money has a dual function: it gives

people the power to exchange and it can be further perceived as a measure of prestige and success. Similarly, upon the instruction: 'Put your coat on and you will be warm' a child will put on his coat without further contingencies (Törneke et al., 2008).

To date there is a debate over the actual role of those rules in behaviour analysis because such rules may enter any kind of behavioural relationship (Cerutti, 1989). The most prominent functions suggested for the rules in question are those of reinforcers (Foxall, 1997a), those of verbal discriminative stimuli that can take the place of the contingencies themselves and strengthen or weaken behaviour (Skinner, 1969; Galizio, 1979; Baum, 1995; Okouchi, 1999) or those of function-altering contingency specifying stimuli, which alter the function of other stimuli in a manner analogous to operant conditioning (Blakely & Schlinger, 1987; Schlinger & Blakely, 1987; Schlinger, 1993). Following the instruction: 'When you hear the bell, leave the room', behaviour will only be performed as a result of the sound of the bell and not as a result of the verbal rule, the bell now takes the role of the discriminative stimulus. Subsequently, the verbal rule is having an altering function, to turn the bell from an irrelevant stimulus to a cause of behaviour (Blakely & Schlinger, 1987).

This multi-functional nature explains why several authors have proposed that the terminology used to describe rules should always reflect the specificity of the phenomenon which is of interest each time (Brownstein & Shull, 1985; Michael, 1986). In a similar vein, Catania (1986) proposes that a rule should be judged and better defined based on the level of effect it has on behaviour rather than on any other basis.

However, the disparity between those conceptualisations goes beyond simple terminology and has implications for both theory and research practice. The conception of rules as discriminative stimuli for example implies that their function is to evoke the behaviour in

question. Contrary, the latter description of rules as either reinforcers/ punishers or function-altering contingencies implies a functional relation between a stimulus and behaviour and opens new approaches to theory and research, as the question of how a rule can alter/ influence the relationship of stimulus and behaviour remains to be answered.

**b. *Functional Units of Rules (and Self-Rules)***

Another central point in the debate of rule-governed behaviour is the development of different functional units of rules for the speaker, the listener and also the formulation of self-based rules (Zettle & Hayes, 1982). Although speaker units of rule-governed behaviour in the form of mands and tacts have been proposed by Skinner (1957), Foxall (2010a, p. 82) describes that consumer behaviour researchers should be mainly concerned with the verbal behaviour of the listener (Zettle & Hayes, 1982; Schlinger, 2008), including cases that the listener is the same with the speaker. In this second instance, the rules are actually self-based rules and have been described as being of importance (Foxall, 1997a; Kunkel, 1997; Foxall, 2010a) because such self-rules can be formulated in order to guide habitual, everyday behaviour.

On these grounds, three categories of listener rule-based behaviour have been proposed and analysed by the literature (Zettle & Hayes, 1982; Poppen, 1989). This account of listener-based units of rule-governed behaviour is composed of pliance, tracking and augmenting.

Rule-following that is socially mediated is known as *pliance*. In this case, the listener's behaviour is mediated by the rules of another individual, the speaker, who has the power to reward or punish subsequent behaviour based on conformity or disobedience to the rule (Zettle & Hayes, 1982; Foxall, 2010a). Foxall (2010a) argues that a great deal of consumer behaviour is actually pliance. Pliance can be found in cases when someone is

doing what somebody else is saying in order to either comply with this person's rules as in a thief saying, 'Your wallet or your life' (Zettle & Hayes, 1982), or to obtain another person's favour by following his rules (Törneke et al., 2008) or in order to comply with a rule that clearly states the reinforcing consequences of doing so (Foxall, 2010a). A child conforms to spending his/her pocket money as instructed by a parent, following the rule 'spending wisely, you can save more at the end of the week'. Such rules are known as *plies*.

Another common category is the rule-governed behaviour which arises from rules specified by another person, who is however not in a position to reinforce or punish others' behaviour (Foxall, 2010a). This time the behaviour is known as *tracking*, the rules are known as *tracks* and it is usually the physical environment that mediates the rule following of such rules. For example, when a passerby instructs a person the way to a store, the speaker is in no position to supply reinforcement or punishment for getting or not there. Success or failure to find the store depends upon progress in getting there and reinforcement is provided by finding the store, while punishment by failing to find the store (Foxall, 2010a). According to Glen, (1987) tracks can function as antecedents to behaviour and are expected to have a behavioural effect (Catania, 1989).

The third unit of rule-governed behaviour is termed augmenting (Zettle & Hayes, 1982). It is rule-governed behaviour which does not specify contingencies or consequences but rather states emphatically the reinforcing or punishing value of the consequences specified in the rule (Törneke et al., 2008). The rule itself has been termed an *augmental*. It is possibly the most difficult and advanced type of rule-governed behaviour and it is usually found in mixed form with either pliance or tracking (Zettle & Hayes, 1982). The results of augmentals are mainly evident when interacting with pliance or tracking and people act on an augmental usually where the consequences might be obvious at a subsequent time.

In addition to the rules which might govern listeners' behaviour and are introduced by others, self-instructions or self-rules appear as a special kind of rule-governed behaviour (Zettle & Hayes, 1982; Vaughan, 1985; Zettle, 1990; Kunkel, 1997). In this instance the speaker and the listener are the same individual. The main reason for the development of such self-rules has been described as 'being personal' in the sense that an individual can react more effectively now or in a future occasion than when based on the contingencies alone (Zettle & Hayes, 1982). Such learned behaviour may evoke appropriate actions in the future faster than the actual contingencies it describes (Vaughan, 1985). The rules the person formulates act then as a learning history (history of reinforcement or punishment) which the individual can rely on.

Another characteristic of self rules is that due to the unclear distinction between the rule giver and follower it is more difficult to distinguish among different kinds of functional units. Self-pliance and self-tracking range along a continuum rather than been two distinct categories (Zettle & Hayes, 1982). In analogy to listener's units of rule based behaviour, *self-tracking occurs when the rule is to be followed because this is a description of the state of affairs and self-pliance occurs when the rule is to be followed simply because it was formulated* (Zettle & Hayes, 1982, p. 90).

A detailed analysis of all units of rule-governed behaviour (speaker-, listener- and self-mediated) based on Skinner (1957) and Zettle & Hayes (1982) categorisation is provided in Appendix 2.

### **c. The Importance of Rule-Governed Behaviour**

The importance of rule-governed behaviour lies on the rules' power to specify the setting-response-outcome contingencies and ultimately consumer behaviour. In terms of the ways the rules influence market behaviour an example is set from the way decision-making is

described when seen from the behavioural approach. In case an individual lacks a relevant learning history, therefore does not have the experience/knowledge to perform a behaviour, in cognitive terms this consumer is said to resort to ‘*systematic processing*’ or the ‘*central route to persuasion*’ (as in Foxall, 1997a; Foxall, 2000). In an interpretation based on radical behaviourism however, the same behaviour is said to be governed by ‘other rules’, which can be conceptualised as following social norms or social pressures in order to act. As experience of the situation increases such ‘other rules’ are replaced by ‘self-rules’, which in cognitive terms correspond to the ‘*peripheral route to persuasion*’.

Table 4.2 depicts the proposed role of ‘other’ and ‘self’ rules in connection with the experience of a situation.

**Table 4.2 Behavioural and cognitive approaches to decision-making**

	<b>Low experience</b>	<b>High experience</b>
<b>BPM</b>	<b>Other rules.</b> Consumers lack a relevant learning history prompt search for other rules.	<b>Self rules.</b> Acquisition of a learning history, from which self rules can be extracted.
<b>Elaboration Likelihood Model</b>	Central route	Peripheral route
<b>Mode</b>	Deliberation	Spontaneity
<b>Heuristic-systematic processing</b>	Systematic processing	Heuristic processing

Source: Foxall, 1997a; Foxall, 2000.

According to Foxall (1997a; 2000) in the markets and situations which are signalled by higher levels of experience consumers develop self-rules in the form of tracks (Zettle & Hayes, 1982). These situations can then be described as habitual/ every-day settings and this fact results to easier and faster decision-making. When markets have reached such a state then the actual contingencies of the market play a more important role in decision-making than other rule-based behaviour.

More recently, Foxall (2013) has advocated the inclusion of such terms in the expansion of the BPM to intentional terms. Rules as will be explained are having a distinctive

position to play in such an exploration. As rules can easily summarise what consumers have done in the past are good candidates to take the position of learning history and to define the consumer situation (Foxall, 2013; Oliveira-Castro, 2013). These principles will be further explored and applied in the exploration of this conceptual framework (see chapter 6).

#### ***4.6.3. Utilitarian and Informational Reinforcers***

Following the elaborate description of rule-governed behaviour, one further distinction between utilitarian and informational reinforcement has been introduced (Foxall, 1992a). Utilitarian reinforcement consists of the functional benefits and material satisfaction of situations. These can be translated as the practical benefits of purchase and consumption which are not mediated by other people (Foxall, 2004). It is mediated by the product or service itself (Foxall et al., 2006). Informational reinforcement can be conceptualised as performance feedback, an indication for the person who behaves of how well that individual is doing. It is usually mediated by the responsive actions of others and thus confers social status, self-satisfaction or simply denotes progress to date (Foxall, 1997a; Foxall et al., 2006). These two kinds of reinforcers have been conceptualised as the consequences of consumer behaviour by the theoretical model of the BPM and will be further analysed below.

Emphasises should be placed on the fact that utilitarian reinforcement is not always primary and informational secondary as implied until now (Foxall, 1997a). Primary reinforcement might emphasise the utilitarian aspects of consumption but many times in humans, there can be an informational component and secondary reinforcement can be both utilitarian and informational. At the same time, some reinforcers, like money, can have both utilitarian and informational value. Consequently, their interpretation depends upon the situation examined.

Table 4.3 categorises the kinds of reinforcements and clarifies their distinctions and relationships further.

**Table 4.3 Sources of reinforcement**

Contingency-derived	Primary reinforcement	Utilitarian (plus informational)
Contingency-derived (may be rule-assisted)	Secondary reinforcement	Utilitarian and informational
Rule-derived	Social/verbal reinforcement	Informational (plus utilitarian)

Source: Foxall, 1997a, p. 86

#### 4.7. The Contextual Stance

In order to extend the applications of the principles of operant conditioning, Foxall (1999b; 2000) introduced the *contextual stance* as a philosophical framework which can help to accommodate the principles of the environmental determination of behaviour. The contextual stance maintains that '*behaviour is predictable insofar as it is assumed to be environmentally determined*'; specifically, behaviour can be predicted insofar as it is under the control of a learning history that represents the reinforcing and punishing consequences of similar behaviour previously enacted in settings analogous to that currently encountered (Foxall, 1999b; 2000).

The contextual stance is one of the main theoretical propositions that the BPM (the Behavioural Perspective Model) is based upon, which (along with the Behavioural Economy of Consumption model- Rajala & Hantula, 2001) is an influential consumer behaviour model, developed within the principles of behaviour analysis/ behavioural psychology. Specifically, consumers' learning history acts as the point where particular settings turn into discriminative stimuli, based on the way that behaviour has been reinforced or punished in similar settings in the past. Behaviour then becomes environmentally determined in similar settings based on the rate of reinforcement or punishment.

#### **4.8. The BPM (The Behavioural Perspective Model)**

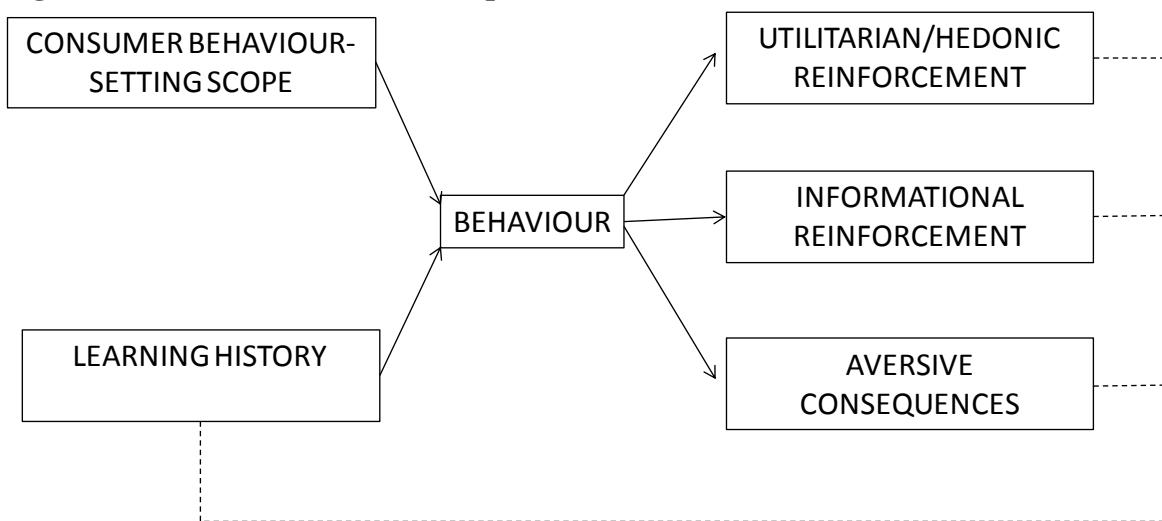
Consumer behaviour settings can be diverse; they include retail stores of many different types, sports events, opera performances, libraries, banks, museums, airplane journeys, and paying insurance premiums by credit transfer (Foxall et al. 1998). In fact, it is very difficult to think of a part of modern life that does not involve aspects of pre- during or post- consumption activities and which does not therefore place the consumer in some behaviour setting or another (Foxall et al., 1998, p. 205).

The analysis prompted by the Behavioural Perspective Model (Foxall, 1990) systematically relates known patterns of purchase and consumption to the situations in which they occur. The conceptual basis of the model is neo-Skinnerian (it has been developed from Skinner's operant conditioning principles) and is further based on the doctrine of the *contextual stance* (Foxall, 1999). As described previously in detail, the contextual stance argues that consumers' learning history adds meaning to the elements that make up the behaviour setting, transforming these settings into discriminative stimuli that signal specific outcomes to consumer behaviours enacted previously in these situations. It is then the intersection of learning history (based on consumer experience) with the current setting that defines a *consumer situation* (Foxall et al., 1998). Although the BPM is built on the fundamental explanatory principles of behaviour analysis, the model has two distinct points of emphasis which make its explanatory stance different from the original versions of radical behaviourism. The two emphasising points are (as in Foxall, 1998): firstly, the extent to which behaviour can be manipulated varying upon the scope of the setting within which the behaviours occur; and secondly, that in consumer behaviour settings there are bifurcations of reinforcement which are utilitarian and informational in nature and which have separated effects on behaviour.

According to the behavioural perspective model (BPM) which is depicted in figure 4.2, aspects of consumer behaviour are then predictable from two dimensions of situational influence:

- (1) the consumer behaviour setting; and
- (2) the utilitarian and informational reinforcement signalled by the setting as informed by the consumer's learning history.

**Figure 4.2 The Behavioural Perspective Model of Consumer Choice**



Source: Foxall, 1996, p. 26

Namely, the consequences of consumer behaviour that stem from a consumer situation are of three kinds, **utilitarian**, **informational** and **aversive consequences** which reduce the probability of future repetition (costs or utilitarian and informational punishment). Utilitarian reinforcement is defined as the functional benefits of consumption, while informational are the symbolic benefits like social status, self-esteem, pride and honour. Informational reinforcement can also be described as feedback on the level of performance of the consumer (Foxall, 1992b; Foxall & Soriano, 2005). Thus, utilitarian reinforcements are the direct, functional benefits of being in a situation per se but it can also derive from owning and using products and services, while informational is an

outcome of socially and physically constructed aspects of the environment. According to the BPM, informational reinforcement does not derive from the typical explanation of the word ‘information’, but it refers to the feedback-information an individual receives on its level of its performance (Foxall, 2010a). The root of informational reinforcement lies in the notion of secondary reinforcement through status (see above on the explanation of reinforcements and Foxall, 2007c). Physical stimuli that can excite the senses like exciting packaging or colours or situations that can enhance self-esteem like driving or owning an expensive car, are perceived as typical examples of informational reinforcement.

Based on these general principles the model identifies three interactive levels of interpretive analysis, namely, the operant class, the contingency category and the consumer situation (Foxall, 2010a).

#### **4.8.1. *Level I: The Operant Class***

Within this context, consumer behaviour takes one of four broad forms depending on the pattern of reinforcement, informational or utilitarian, on which it is maintained. The four operant equifinality classes proposed are: maintenance, accumulation, pleasure (hedonism) or accomplishment. Equifinality in this context means that all members of a class are expected to produce similar patterns of consequences (Foxall, 2010a).

**Table 4.4 Operant classification of consumer behaviour**

	High Utilitarian reinforcement	Low Utilitarian reinforcement
High Informational reinforcement	ACCOMPLISHMENT	ACCUMULATION
Low Informational reinforcement	HEDONISM	MAINTENANCE

Source: Foxall, et al. 1998; Foxall, 1992a and b.

Following this logic and starting with the basic of the four forms of consumer behaviour, *maintenance* is routine behaviour necessary to stay alive and well, such as eating,

shopping for groceries or buying a newspaper (Foxall & Soriano, 2005). It also includes the purchasing and consuming of goods that are necessary to function as a member of a society: paying taxes, for example or even waiting at an airport terminal for a flight to leave. All these situations are maintained by low utilitarian and informational reinforcement. *Accumulation* is the planned acquisition of a series of reinforcers which have limited utilitarian content, but which are principally informational. Such behaviour is sustained and strengthened by the provision of further reward—interest on a bank account, prizes exchanged for coupons, collecting loyalty points from purchasing (Foxall & Soriano, 2005) are examples of such behaviour. *Hedonism* is behaviour usually reinforced by entertainment. It is maintained by a high level of hedonic (utilitarian) reward and a lower level of informational reinforcement. Being at a party, reading a novel, watching entertaining videos and TV programmes or being at a cinema theatre are examples of this situation used in past research (Foxall & Soriano, 2005). Finally, *accomplishment* is defined as personal achievement and is maintained by relatively high levels of both utilitarian and informational consequence: conspicuous consumption, which indicates both social and economic achievement, is just an instance of this behaviour.

#### **4.8.2. *Level II: The Contingency Category***

Consumer situations are further categorised based on the behaviour setting scope. The behaviour setting scope is defined by how closed or open an environment is considered to be. This idea of the consumer behaviour setting is derived from the work of Schwartz and Lacey in 1988 (as in Foxall, 1999a), who studied experiments with animals. They describe how all experiments are essentially conducted in closed settings as the experimenter is the main controller of the conditions and reinforcers provided. However, as consumer situations anyway tend to be much more open than any experimental context, the consumer behaviour settings differ from one another in terms of two dimensions: the

locus of control and the prescribed behaviour programme (Foxall, 1999a). On these grounds, the theory describes that all settings form a continuum from closed to open. The relative openness or closeness of settings depends on three aspects (as in Foxall, 1999a):

- Whether there are readily available alternatives to being in the specific setting.
- Whether the consumer or someone else controls access to or deprivation of the reinforcers.
- Whether the contingencies are imposed by agents who are themselves not subject to them.

Hence, in an open setting consumers feel they have discretion over which choices and alternatives are available, while in closed settings such choices are minimised and actually determined by other agents (outside the consumer) who are not themselves subject to these contingencies. In most affluent and consumer-oriented economies, open settings are common place and competition allows for an abundance of choices and alternatives (Foxall, 1999a). For example, retail settings are so designed to allow for exploration and choice while banks are usually designed in such a way as to minimise exploration and fully indicate consumers how to act or where to stand. Other examples of closed environments include such cases as airplane flights, seminars or being at a cinema.

The four operant classes which are distinguished based on the level of utilitarian and informational reinforcement along with the level of closeness or openness of the environments (consumer behaviour setting scope) give the eightfold categorisation of the contingencies that according to the BP model control human behaviour. A contingency category is a way to summarise the contingencies of reinforcement pertaining to a set of consumer situations. The complete BPM is presented in table 4.5.

**Table 4.5 The BPM Contingency Matrix**

		BEHAVIOUR SETTING SCOPE	
		Closed	Open
ACCOMPLISHMENT (high utilitarian, high informational)	Contingency Category 2	Contingency Category 1	
	<b>Fulfilment</b>	<b>Status Consumption</b>	
HEDONISM (high utilitarian, low informational)	Contingency Category 4	Contingency Category 3	
	<b>Inescapable Entertainment/Pleasure</b>	<b>Popular Entertainment</b>	
ACCUMULATION (low utilitarian, high informational)	Contingency Category 6	Contingency Category 5	
	<b>Token-Based Consumption</b>	<b>Saving and Collecting</b>	
MAINTENANCE (low utilitarian, low informational)	Contingency Category 8	Contingency Category 7	
	<b>Mandatory Consumption</b>	<b>Routine Purchasing</b>	

Source: Foxall, 1992a and b; Foxall et al., 1998, p. 210.

Starting again with the most basic of the contingency categories, maintenance in an open setting refers to routine purchasing and consumption (CC7), such as habitual purchasing of grocery items. Maintenance in a closed setting can be described as mandatory consumption (CC8), which includes all forms of behaviour necessary to remain a citizen (such as tax payments). Mandatory consumption has also been described in terms of the unavoidable ‘hassles’ of everyday consumer situations, like being delayed in a long queue at a bank or waiting at an airport terminal for a flight to leave (Foxall & Soriano, 2005).

Accumulation in an open setting refers to saving and collecting (CC5), such as the accumulation of coupons or other tokens before obtaining a product and instalments payment for products or services that can only be taken when the full amount has been paid (e.g. instalments for a holiday). Accumulation in a closed setting refers to token-based consumption (CC6), such as air-mileages earned by airline frequent flyers, points

accumulated when staying at a hotel chain, and credit card points which consumers can collect and redeem for a reward.

Hedonism in an open setting is described as popular entertainment (CC3), such as watching a television show and reading novels, which provides hedonic rewards and sensations. Hedonism in a closed setting refers to inescapable entertainment (CC4), such as in-flight movies; although this behaviour is potentially pleasurable, it is still unavoidable.

Finally, accomplishment in an open setting can be described as status consumption (CC1) which consists of the purchase and consumption of status goods, such as luxuries and radical innovations. Accomplishment in a closed setting refers to fulfilment (CC2). The fulfilment category includes personal attainment (which has an element of recreation or excitement) and personal achievements. Such behaviours are mainly maintained by social rules because being a member of an exclusive social group means a necessity to conform to its code of behaviour.

#### **4.8.3. *Level III: The Consumer Situation***

To the question *where is consumer behaviour?* Foxall (1992b, p. 388) answers that '*consumer behaviour is situated at the meeting place of the consumer and the setting*'. It is then the intersection of learning history (based on consumer experiences) with the current setting scope that delineates a *consumer situation* (Foxall et al., 1998). It is imperative to discriminate the consumer situation with the concept of behaviour setting (Foxall, 1997a). A consumer behaviour setting acts as the discriminative stimulus which signals a likely consequence when emitting a response. However, both the consumer and the setting are essential for the definition of the consumer situation. It is the consumers' learning history that determines what can act as discriminative stimuli and this history is

what accounts for the individuality of the consumer. It is the setting however that can then activate the learning history and both can affect consumer behaviour (Foxall, 1992b). A consumer situation should be seen as a particular (real world) setting along with a consumer learning history (Foxall, 1997a).

#### **4.9. Cognitive Psychology**

Following the exploration of the Behavioural Perspective Model and moving to the next of the two main approaches to study consumer behaviour, the study of cognitive processes has resulted in the conception of consumer behaviour as a problem-solving and decision-making activity the outcome of which depends on the way the buyer functions and on the way the information provided to him/her is directed. The approaches proposed by cognitive psychology have been well embraced by consumer behaviour research and have added to knowledge creation in the field. Still, an extensive review of the cognitive consumer research has showed that this approach to consumer behaviour is not without its flaws and it has been increasingly criticised due to mixed findings (Foxall, 1990).

The initial use of extensive logical flow models of bounded rationality (e.g., Howard & Sheth, 1969 as in Foxall, 1990, p. 10) has then deepened into what is often called the ‘information processing model of consumer behaviour’ (Bettman, 1979). The information processing model regards the consumer as a logical thinker who solves problems to make purchasing decisions. These problems are usually thought to be solved in a sequence of steps involving such processes like stimuli, perception, motivation, memory, retrieval, attitude change, intention and action. Although such models have been found to have an application in cases of the involved and active consumer, they have been incapable to accommodate and match all kinds of behaviours, as in the case of the uninvolved, uninterested or sluggish consumer (Foxall, 1990). More simple, ‘peripheral routes’ (as in

the Elaboration Likelihood Model of persuasion- Petty & Cacioppo, 1986) have been proposed for analogous cases. Such routes portray effortless and shorter processes that consumers might follow when uninvolved or uninterested but the focus of such models is on attitude change rather than actual behaviour. Others (see for example Kassarjian, 1978 as in Foxall, 1990) suggest that in these cases indeed simpler but preferably behaviouristic models can capture actual consumer choice better.

The information processing perspective has further become widespread in consumer research through the use of the notion of attitudes. Since its introduction into social psychology (which both de Rosa, 1993 and Moliner & Tafani, 1997 accredit to Thomas & Znaniecki, 1918), the concept of attitude has been defined in a variety of ways. In an effort to sum up these definitions, attitudes can be considered as a three-dimensional concept (having cognitive, emotional and behavioural dimension). The concept has been used either as a mediating variable in many different theories of social psychology with different meanings and applications or as a stand-alone examination of the attitudinal process which can be faced as an evaluative activity (Eagly & Chaiken, 1993)– a concept examining people's opinions and beliefs.

Theories like the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975), the theory of planned behaviour (TPB) (Ajzen, 1991) or the technology acceptance model- TAM (Davis, 1989) just to mention a few, are all ubiquitous examples of attitudinal theories. The crux of such theories has been summarised by Howard (1983 as in Foxall, 1990) as 'information-attitude-intention-purchase' but the inconsistency between intentions to act and actual behaviour has been established in past research (e.g. Davies et al., 2002). It is also common among other trends in social psychology, like discourse and conversational analysis (e.g. Potter & Wetherell, 1987), to critically debate the consistency of attitudes as a stable organisation of dispositional traits, evaluative opinions, and especially plans of

action. This lack of empirical support for such a relationship between attitudes and behaviour seems to be only overcome where measures of attitudes, cognitions or responses reflected high levels of situational correspondence (Foxall et al., 2012, p. 462).

In any case attitudes possess both a heuristic role: they provide a simple strategy for appraising an object and a schematic role: attitudes organise and guide complex behaviour towards an object (de Rosa, 1993). Both strategies rely on a process that is impossible to observe directly, because, as it is the norm in cognitive psychology, it is internal to the subject. The observable part of the attitudinal process lies in the evaluative nature of the responses a participant manifests about the object of the attitude (Moliner & Tafani, 1997).

Cognitive psychology is the standard form of understanding and doing consumer research. Some of its basic theoretical and conceptual forms have however been found to be inadequate to explain the nature of objects. The relevant concept of intentionality can be proposed as a way to understand the nature of cognitive objects without resulting to strict hypotheses like those accompanying the consumer as an information processing creature.

#### **4.10. The Intentional Stance**

The main characteristic of cognitive explanation is then the search for internal mental states which can account for the observed responses of humans. This thesis is fundamental to cognitive science with one specific philosophical notion, that of *intentionality* being characterised according to Brentano as the '*mark of the mental*' and the foundation to cognitive psychology (Crane, 1998; Foxall, 2004; Crane, 2007). Still, in an attempt to de-emphasise such sharp dichotomies, modern philosophy conceptualises intentionality as a way to loosen the strict hypotheses on the nature of cognition that have been introduced

through cognitive psychology (Dennett, 2007) and Foxall (2007b) describes intentionality as an alternative way to speak or explain the world.

Intentionality has been described as the power of the mind to be about, represent or stand for things, properties or states of affairs. More importantly it is the characteristic of these mental representations to have objects, to concern something, to be about something else. However, although, many states like beliefs, desires, hopes, fears and anxiety are mental, not all of these states can always be described as intentional (Searle, 2010). According to Searle (1983) intentional states should be characterised by the following properties:

1. Intentionality should be perceived as directedness, thus only some and not all mental states and events have intentionality. Namely, states like general anxiety, stress, depression, confusion, when undirected and not towards specific situations, objects or affairs cannot be perceived as intentional, however their directed cases are intentional (Searle, 1983). On this same point Crane (2003) adds that the objects of intentionality (intentional objects) can be of any kind- ordinary objects, properties, events and states of affairs. One intentional state might as well have many objects and some of them might not exist. He provides the example of a belief that 'my doctor smokes'. This mental state is directed towards a person- the doctor, a state- smoking and a state of affairs- that the doctor smokes; this belief can be true or not<sup>4</sup>. This property of intentional language also known as *intensional inexistence* will be described in more detail later, in the conceptual framework (chapter 6).

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<sup>4</sup> It is of interest to note that not all philosophers agree with this account of the nature of intentional objects. Searle (1983, p. 17) in order to overcome the philosophical questions created when intentional objects do not really exist proposes the distinction between the *content* of a belief (i.e. a proposition- that my doctor smokes) with the *objects* of a belief (i.e. ordinary objects- in this case smoking and my doctor). Such distinctions are mainly theoretical and are not perceived as having an influence to this analysis.

2. Secondly, intentionality is not the same as consciousness. There can be many conscious states which are not intentional and many intentional states which are not conscious. Thus according to Searle (1983), I might hold the intentional belief for example that my ancestors spent their lives in a certain country but until a point in time (for example when specifically asked about this) to have never consciously formulated or considered this belief. Until this point in time, my belief has been intentional but not conscious.
3. Intentions or intending to act, either in the form used by attitude theorists- as a possible predictor of actual behaviour (see Ajzen, 1991), or in the form used by moral theorists- that of acting intentionally or unintentionally (see Knobe, 2003) should not be confused with intentionality. Although the obvious similarity between the words would suggest a special role of acting intentions in the theory of intentionality, according to Searle (1983, p. 3): '*intending to do something is just another form of intentionality along with beliefs, hopes, fears, desires*'.

These three distinct uses of the word intention should not be misinterpreted.

#### **4.11. Dennett's Intentionality**

A leading exponent of intentionality, Dennett, further describes it as a basic way to analyse concepts like beliefs, desires, expectations, decisions and intentions. These terms are used by folk psychology to predict behaviour of human beings or indeed computers and animals (Dennett, 1983; Malle & Knobe; 1997; Dennett, 2007; Foxall, 2007a). Namely, the intentional stance argues that any entity that its behaviour can be described based on beliefs, desires or propositional attitudes forms an intentional system; this could be a human being, a computer or a firm (Dennett, 1983; 1987).

Taking the intentional stance one step further Dennett's (1987) intentional systems' theory claims that when explaining and predicting the behaviour of objects we can do that in varying levels of abstraction. The more concrete the level the more accurate predictions we can achieve. He thus describes the intentional stance, which assumes rational and mentally capable agents as the most abstract strategy and he further introduces the physical (the domain of physics and chemistry) and the design (the domain of mechanics) stance (Dennett, 1987). Predicting the behaviour of a system based on the physical stance assumes the knowledge of this system's physical properties and the laws of physic that define its operation. The knowledge of these parameters can predict the outcome of any input with certainty. If the physical stance is difficult to be used, then the design stance is an alternative way of prediction. The physical properties of an object need to be forgotten here and one should concentrate on assumptions regarding its design. The design of every object can give fairly accurate predictions that the system 'will behave as it is designed to behave under various circumstances' (Dennett, 1987, p. 17). Dennett (1987, p. 17) sets here the example of a computer. Most people are not aware of the physical properties of the computer that contribute to it being a reliable and accurate machine. However, in case they are aware of the functions that it is designed to do, they can easily predict the way the machine will operate, leaving aside but at the same time being able to predict the disconfirmation in cases of malfunctions. Although the design stance can extend to biological objects like plants, animals and kidneys and hearts because these can be both physical and designed systems, yet, only the designed behaviour of a system can be expected from the design stance, abnormal behaviours are difficult to be predicted.

According to Dennett (1987) in cases when both these prediction strategies cannot work, the intentional stance can then offer solutions. There are several steps which describe the way the intentional stance works. First, the system of interest should be treated as a

rational agent; then the beliefs, desires, propositional attitudes of this agent should be predicted based on its position in the world and finally assume that as a rational agent this system will act in such a way that will comply to the furthering of its goals in light of these beliefs.

In his most recent work, Dennett (2007) provides his explanation regarding the relationship between cognitive psychology and intentionality by describing the intentional stance as a '*theory-neutral way*' of capturing the cognitive abilities of different organisms *without committing to exact hypotheses about the internal structures* that underlie their competences. This property of intentionality has found application to the development of a more recent philosophical framework proposed by Foxall (2004; 2007a; 2007b; 2008) called intentional behaviourism. As the name proposes, it draws and combines principles of radical behaviourism and intentionality and suggests the use of intentional language in order to overcome the limitations and extend the applications of behaviour analysis.

#### **4.12. Intentional Behaviourism**

To sum up, two main philosophical streams for explaining learning and behaviour have been explored: radical behaviourism with its emphasis on operant conditioning and cognitive psychology. Cognitive explanation seeks to understand the internal thought processes and to explore their effect on behaviour. Intentionality has been described as the power of the mind to be about, to represent (Crane, 2007), where systems are ascribed thoughts directed at something other than them- the intentional stance. At the other end, the main characteristic of radical behaviourism and operant conditioning is its avoidance of intentional explanation and the use of a behavioural language which is based on situational/ environmental influences- the contextual stance (Foxall, 2007a). These have until recently been presented as incommensurable theories of behaviour.

Foxall, although an advocate of behaviour analysis and the proponent of radical behaviourism in consumer behaviour (Foxall, 1986; 1987), argues that the explanations provided by this stream of research is sufficient to predict behaviour in experimental settings but when applied to real situations, it ultimately fails to give a complete explanation of behaviour (Foxall, 2008a). Several aspects of human behaviour like the personal level of explanation, the continuity/ discontinuity of behaviour and the delimitation of human behaviour can better be explained by adopting intentional terms, which can help to provide a more complete and accurate explanation of behaviour.

Consequently, the imperatives of intentionality (what the use of intentional terms adds to behaviour analysis) according to Foxall (2007a; 2007b) are:

- The personal level of explanation- the distinct way each person or group experiences a situation based on their sensations and experiences.
- The continuity of behaviour- an explanation on why a behaviour which is followed by a particular reinforcing stimulus in a setting is re-enacted when encountering a similar setting.
- The delimitation of behavioural interpretation- the examination of open systems rather than focusing on closed/ experimental settings only.

As a result, *intentional behaviourism* has been proposed (Foxall, 2004; 2007a and b) as a way to accommodate both ways of thinking, a novel way to conduct research and ultimately to facilitate the explanation of behaviour. Based on behaviour analysis and an a-ontological conception of intentional states grounded on Dennett's intentional stance, new ways of conceiving and researching aspects of behaviour can be crafted which can compensate for the shortcomings of the two aforementioned philosophical stances. It compensates for the shortcomings of behaviour analysis, which due to the lack of

intentional explanation, results to the three aforementioned issues and those of cognitive explanation which taken alone results to the de-contextualisation of human behaviour.

Intentional behaviourism thus draws attention to the necessity of employing intentional mental language of beliefs and desires, intentions and propositional attitudes to account for what is happening at the personal level of explanation, and hence invokes an intentional explanation thereof. It can be used to explain operant behaviour in experimental but more importantly in real settings where intentional explanation is imperative.

In order to support and extend the interpretation of intentional behaviourism, two issues related to the nature of intentionality and its role in the explanation of behaviour should be clarified further. These two issues as deployed below are interrelated. The use of intentional language as described by Foxall (2007a; 2007b) should be perceived as a linguistic convention that carries with it no ontological implications regarding its nature (Foxall, 2007a; 2008). Intentional objects hold then an a-ontological, linguistic nature. Subjects are attributed the formation of verbal rules which are manifest when the expected influence of contingencies is lost or altered (Foxall, 2008). However this relationship is not enough to attribute causality to intentionality. It is merely to say that when an individual's actual rule-formulation coincides with the intentions we attribute to them, their behaviour will be predictable in terms of behaviour analysis. The causes of the behaviour are still to be found in the contingencies, though the questions (1) whether the contingencies can consequently be modified by the person's rule-making, (2) just how initiating causes of overt and covert behaviour private stimuli are and 3) which are the areas that the contextual and the intentional stance are both found to hold, remain to be answered (Foxall, 2000; Foxall, 2008). The explanation of such behaviour and the answer to these questions involve the ascription of intentionality and multiple theoretical and

empirical endeavours (Foxall, 2007b). According to most recent theoretical arguments rules on the basis of rule-governed behaviour are constructs that can be used in accordance with both models and areas where both explanations can find a simultaneous application (Foxall, 2013; Oliveira-Castro, 2013). This faculty of rules to have a dual nature will find application in the conceptual framework of this thesis.

#### **4.13. Conclusion**

This chapter has then provided the necessary knowledge foundations for the better understanding of the propositions put forward by intentional behaviourism. It is this knowledge base that can facilitate the understanding of the conceptual framework of this thesis (chapter 6), which is based on the different approaches to exploring the Behavioural Perspective Model. One of these approaches is based on an extensional understanding (the contextual construal BPM-E) and the other on an intentional (BPM-I).

The subsequent and final chapter of literature review will focus on the description of the emotional approach by Mehrabian and Russell (1974). The application of this model to the examination of the principles of the BPM will be discussed. The variables of this model will act as the main constructs for the present study but their explanatory power will be based on their explanation and use as posited by the behavioural perspective model.

## **5. MEHRABIAN AND RUSSELL'S 'APPROACH TO ENVIRONMENTAL PSYCHOLOGY'**

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### **5.1. Introduction**

Through the exploration of the nature of confusion in chapter two, a brief but meaningful examination of the main issues that the literature on emotions is negotiating along with some theories of emotional ascription was achieved. This chapter will focus on the emotional theory developed by Mehrabian and Russell (1974). The theory advocates the effect of three main emotional responses to consumer situations, pleasure, arousal and dominance which are said to mediate behavioural responses in the form of approach and avoidance behaviour. The chapter will start by providing an overall evaluation of the use of emotions in consumer behaviour and will then proceed to the examination of the specific theoretical perspective. An account of the different approaches to its application will be provided and the way this theory has been conceptualised in the boundaries of the BPM will be discussed.

### **5.2. Categories of Emotional Theories and Consumer Behaviour**

Although emotions have only recently become a subject of intense research (Barrett et. al., 2007), due to the previous conception of individuals/ consumers as rational, information processing creatures and the preoccupation with issues like memory, thinking and personality (Holbrook & Hirschman, 1982; Foxall, 1992b), there is now a plethora of theories and approaches that have been used in psychological inquiry, marketing and consumer behaviour (O'Shaughnessy & O'Shaughnessy, 2003; Laros & Steenkamp, 2005). These approaches attempt to describe and measure emotional incidents.

A categorisation of theories relating to emotional ascription has been proposed in the past (see Ellsworth & Scherer, 2003). This approach has grouped emotional theories widely into three categories: the ***appraisal***, the ***categorical*** and the ***dimensional*** theories of emotions.

**Appraisal theories** describe emotions as adaptive responses to situations and very much rely on individual interpretations of the world (Lazarus & Folkman, 1984). Theories positioned within this category have been consistently describing consumer appraisals of situations in cognitive terms (Lazarus et al., 1970). More recent developments in this stream of theory have been promoting a less ‘causal’ and much more fluid relationship between consumers’ cognitions (appraisals) and emotions (cognitive appraisals have been described as possibly being all three- cause of emotions, part of the experience of emotions and consequence of emotions- Roseman & Smith 2001), concepts like ‘emotionality’ have been introduced (Ellsworth & Scherer, 2003) and the idea that appraisals are ‘hot’ rather than ‘cold’ cognitions have been accepted and supported by the relevant literature (Lazarus, 1995).

**Categorical theories**, conceive the existence of some distinct, basic emotions (for this reason these have been widely known as theories of ‘basic emotions’) or more recently some families of basic emotions which are considered the result of evolution (Plutchik, 1980; Ekman, 1992; Izard, 2007). Such categorical theories posit that a limited number of qualitative distinct primary/original emotions exist. According to that theoretical argument, evolution has played an important role in shaping basic emotions’ unique characteristics (Ekman, 1992). Plutchik's psycho-evolutionary theory is one of the most influential classifications of general emotional responses. The theory proposes that the following eight primary emotions -anger, fear, sadness, disgust, surprise, anticipation, trust, and joy, should be considered as 'basic'. He further confers that these are the result

of evolution with an aim to increase the reproductive fitness of the animals, supporting in this manner their biologically primitive nature (Plutchik, 1980).

Finally, **dimensional theories** posit that emotions, along with the affective qualities of environments can be described along certain underlying dimensions such as pleasantness and activation (Russell, 1980). Pleasure and activation are the most basic and widely used dimensions, with the occasional addition of some other supplementary element like for example dominance, potency or control (Osgood, 1966; Mehrabian & Russell, 1974; Morgan & Heise, 1988). A final related approach to emotional categorisation has been proposed to be the **hierarchical approach**. This approach specifies a hierarchical structure in which specific emotions are particular instances of more general underlying hierarchies, like for example the known hierarchy of positive and negative affect (Laros & Steenkamp, 2005).

These theories differ mainly on the importance placed on the individual perception of situations and the significance placed on certain emotions or affective qualities in relation to others. For example, dimensional theories explain that all emotions can be characterised by only some limited dimensions and in that sense can be summarised by them while categorical place distinctive emphasis on the study of some distinct and specific basic emotions (Mehrabian & Russell, 1974; Lazarus & Folkman, 1984; Ekman, 1992). All of these approaches have found application in the study of consumer behaviour.

Laros and Steenkamp (2005) focused on the study of emotions in consumer behaviour and compiled a table (see table 5.1) which indicates the diverse emotional approaches used by consumer behaviour researchers.

**Table 5.1 Overview of published consumer behaviour studies using emotions as main variables**

<b>Reference</b>	<b>Emotion measure used</b>	<b>Resulting structure</b>
Edell & Burke (1987)	Edell & Burke (1987)	Upbeat, negative and warm
Holbrook & Batra (1987)	Holbrook & Batra (1987)	Pleasure, arousal and domination
Westbrook (1987)	Izard (1977)	Positive and negative affect
Olney et al., (1991)	Mehrabian & Russell (1974)	Pleasure and arousal
Holbrook & Gardner (1993)	Russell et al., (1989)	Pleasure and arousal
Mano & Oliver, (1993)	Watson et al., (1988) Mano (1991)	Upbeat, negative, warm Positive and negative affect
Oliver, (1993)	Izard (1977)	Positive and negative affect
Derbaix (1995)	Derbaix (1995)	Positive and negative affect
Steenkamp et al., (1996)	Mehrabian & Russell (1974)	Arousal
Nyer (1997)	Shaver et al., 1987	Anger, joy, satisfaction and sadness
Richins (1997)	Richins (1997)	Anger, discontent, worry, sadness, fear, shame, envy, loneliness, romantic love, love, peacefulness, contentment, optimism, joy, excitement and surprise
Dube & Morgan (1998)	Watson et al., (1988)	Positive and negative affect
Phillips & Baumgartner (2002)	Edell & Burke (1987)	Positive and negative affect
Ruth et al., (2002)	Shaver et al., (1987)	Love, happiness, pride, gratitude, fear, anger, sadness, guilt, uneasiness and embarrassment.
Smith & Bolton (2002)	Smith & Bolton (2002)	Anger, discontent, disappointment, self-pity and anxiety.
Verbeke & Bagozzi (2003)	Frijda, Kuipers & ter Schure's (1989)	Embarrassment
Yi & Baumgartner (2004)	Appraisal theories (Folkman et. al., 1986; Lazarus, 1991)	Anger, disappointment, regret, worry.

Source: Laros & Steenkamp, 2005 (with the addition of 2 recent studies)

The studies included in the table have had considerable influence in the consumer behaviour realm. A closer examination of table 5.1 brings to the fore three key learnings pertinent to the field:

- 1) All kinds of theories (dimensional, appraisal, hierarchical and categorical) have been used in the exploration of consumer behaviour,
- 2) The use and measurement of hierarchical and dimensional categories of emotions (e.g. positive and negative affect/ pleasure and arousal) (Westbrook, 1987; Olney et al., 1991) are as common as the exploration of particular emotions like embarrassment, anger, discontent and self-pity (Smith & Bolton, 2002; Verbeke & Bagozzi, 2003), and finally
- 3) The majority of studies successfully apply measurements of general psychology (Dude & Morgan, 1998; Ruth et al., 2002). Emotional measurements specifically developed for consumer situations or advertisement effects are not as widespread (for exceptions see Edell & Burke, 1987; Richins, 1997).

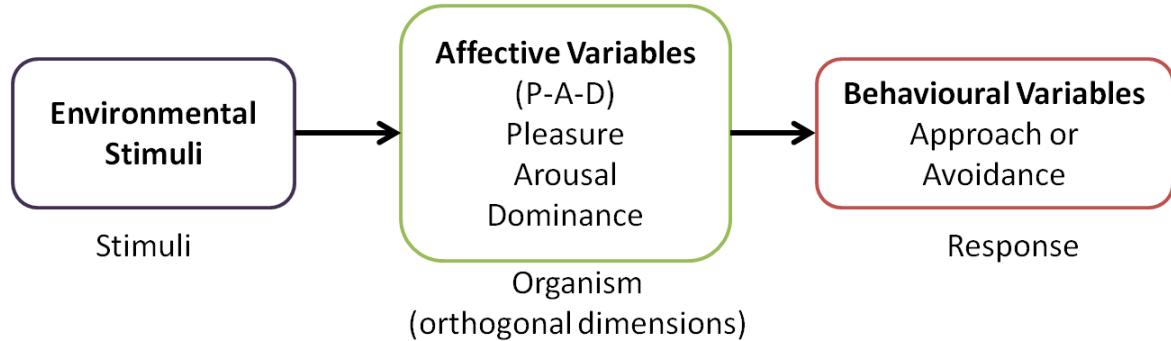
This study will focus on the Mehrabian and Russell's (1974) approach to environmental psychology (and in that sense a dimensional approach to emotional environmental ascription) in order to measure consumers' reports towards descriptions of consumer situations. This is the most concordant theory with the approach of this research. In particular, this theory has found application in the study of the BPM, as it examines the interaction of people with their environments and investigates the effect of environmental learning and in this case, the levels of confusion, on consumers' emotional reactions and approach-avoidance behaviours.

### **5.3. Mehrabian and Russell's Approach**

Mehrabian and Russell's approach is positioned within the broader field of environmental psychology. Environmental psychology is an interdisciplinary field which is focused on the interaction between human behaviour and its surroundings in many different settings (Stokols, 1995). Early research in environmental psychology already widely acknowledged the relationships between emotions–environments and behaviour–

environments (Berlyne, 1960). However, according to Mehrabian and Russell (1974) initial research employed heterogeneous theoretical approaches and methods which could not provide a sufficient structure to the study of human–environment relationships. Mehrabian and Russell developed a more adequate framework of environmental psychology and defined the field as one concerning two major topics: 1) the direct impact of physical stimuli on human emotions and 2) the effect of the physical stimuli on a variety of behaviours including social interactions, exploration and more importantly approach-avoidance behaviours.

Mehrabian and Russell (1974) employed measures of three variables—pleasure, arousal and dominance (PAD)—in order to describe and measure an individual's affective responses to an environment. Their theory argues that physical and social stimuli in any environment directly influence the three dimensional view of emotions of individuals, and consecutively affect a person's approach and avoidance behaviour in it. Figure 5.1 depicts Mehrabian and Russell's approach to environmental psychology. This theory has become widely known as a S-O-R (Stimulus-Organism-Response) approach (e.g. Mazaheri et al., 2011). The original theory introduced the concept of information rate, the level of information received by an environment or the 'load' of an environment, in order to measure the environmental stimuli variable.

**Figure 5.1 Mehrabian and Russell's approach to environmental psychology**

Source: this study. Figure has been widely used to depict the theory by Mehrabian and Russell, 1974.

#### 5.4. The Emotional Dimensions

Mehrabian and Russell introduced measures of three emotional dimensions, pleasure, arousal and dominance. The measures of the three emotional dimensions are factorially orthogonal (meaning independent from each other) so that any level of one of the three dimensions can be accompanied by any level of the other two (Russell & Mehrabian, 1977; Foxall & Soriano, 2011). Within particular sets of stimuli these factors exhibit however small, but significant, correlations and linear or curvilinear relations (Soriano et al., 2013).

Pleasure is indicated by respondents' verbal assessments of their responses to environments as: happy as opposed to unhappy, pleased as opposed to annoyed, satisfied as opposed to dissatisfied, contented as opposed to melancholic, hopeful as opposed to despairing, relaxed as opposed to bored.

Arousal is verbally assessed at the extent to which respondents report feeling: stimulated as opposed to relaxed, excited as opposed to calm, frenzied as opposed to sluggish, jittery as opposed to dull, wide awake as opposed to sleepy, and aroused as opposed to unaroused.

Finally, dominance is indicated by respondents' reported feelings of being: controlling as opposed to controlled, influential as opposed to influenced, in control as opposed to cared for, important as opposed to awed, dominant as opposed to submissive and autonomous as opposed to guided.

These PAD dimensions (along with the behavioural factors) are measured using questionnaire based self-reported reactions to actual or descriptions of general or consumer situations (Mehrabian & Russell, 1974; Russell & Mehrabian, 1978; Foxall, 2011). More specifically semantic differential scales are used, where all feeling states are measured along single but bipolar dimensions. For example, contented-melancholic is a feeling state ranging from extreme contentment to extreme melancholy, stimulation is measured from feeling extremely stimulated to extremely relaxed and so on. The original scale contains six adjectives to measure each emotional dimension. This classification is respected and utilised in this research, as shown in table 5.2.

**Table 5.2 The semantic differential measures of emotional states**

<p>➤ <b>Pleasure</b></p> <ul style="list-style-type: none"> <li>• happy–unhappy,</li> <li>• pleased–annoyed,</li> <li>• satisfied–unsatisfied,</li> <li>• contented–melancholic,</li> <li>• hopeful–despairing,</li> <li>• relaxed–bored.</li> </ul>	<p>Nine points scales (e.g., extremely pleased to extremely annoyed or extremely happy to extremely unhappy).</p>
<p>➤ <b>Arousal</b></p> <ul style="list-style-type: none"> <li>• stimulated–relaxed,</li> <li>• excited–calm,</li> <li>• frenzied–sluggish,</li> <li>• jittery–dull,</li> <li>• wide awake–sleepy,</li> <li>• aroused–unaroused.</li> </ul>	
<p>➤ <b>Dominance</b></p> <ul style="list-style-type: none"> <li>• controlling–controlled,</li> <li>• influential–influenced,</li> <li>• in control–cared for,</li> <li>• important–awed,</li> <li>• dominant–submissive,</li> <li>• autonomous–guided.</li> </ul>	

Source: Mehrabian & Russell, 1974; Foxall, 1997b.

The advantage of the PAD scale is that it is simple and intuitive (Bagozzi et al., 1999).

However, when this approach is used to measure consumption-related emotions, several limitations have been recognised. For example, Richins (1997) noted that because the PAD scale was not designed to capture the entire domain of emotional experience, researchers could not know the specific emotions, such as joy, guilt, or anger, being experienced by customers merely from their PAD scores. Babin et al. (1998) also pointed out that several researchers have uncovered distinct ‘positive’ and ‘negative’ emotion factors while this approach which uses bipolar items might be inadequate for capturing consumers’ positive and negative emotions simultaneously. This is problematic as these same authors’ series of exploratory studies indicated that feeling a negative emotion does not preclude the coexistence of a positive one. At the other end, Havlena and Holbrook (1986) compared the Plutchik and the Mehrabian and Russell (M-R) schemes with respect

to their suitability for consumption activities. The results showed evidence in favour for the latter, concluding that the three PAD dimensions captured more information about the emotional character of the consumption experience than did Plutchik's eight distinct categories. The model has further been validated in many consumption settings and its suitability to accurately describe consumers' emotional responses, especially in context specific settings, has been demonstrated (e.g. Foxall, 1997b).

### **5.5. Approach- Avoidance Behaviour**

The three aforementioned emotional responses—pleasure, arousal, dominance—have been proved to mediate overt consumer behaviours (approach-avoidance). The concept of approach-avoidance has been the subject of research as one of the possible conceptualisations of *psychological coping*. Coping mechanisms are adopted by lay people in order to manage situations which can be classified as unpleasant, taxing or exceeding the capacities of a person. The manifestations of coping have been studied extensively within psychology (Lazarus & Folkman, 1984; Carver et al., 1989). Coping has been considered an imperative and simultaneously complex psychological process (Carver & Scheier, 1994). This complexity is indeed reflected in existing coping models which illustrate that coping can be either problem or emotion focused (Lazarus & Folkman, 1984), cognitive and behavioural (Carver et al., 1989) or as in the case of the MR model an approach-avoidance motivational issue (Mehrabian & Russell, 1974).

The original behavioural measures (see table 5.3) of approach-avoidance included such dimensions as relating to others, staying in or escaping from the setting, the desire to explore and work in a situation and spending time there. More recently, and specifically in consumer behaviour settings, more dimensions like the desire to consume or to spend

more money have been added (Mehrabian & Russell, 1974; Russell & Mehrabian, 1978; Donovan & Rossiter, 1982).

**Table 5.3 The four dimensions of Approach-Avoidance behaviour**

Desire to stay	<ul style="list-style-type: none"> <li>• How much time would you like to spend in this situation?</li> <li>• How much would you try to leave or get out of this situation?</li> </ul>
Desire to explore the situation	<ul style="list-style-type: none"> <li>• Once in this situation, how much would you enjoy exploring around?</li> <li>• How much would you try to avoid looking around or exploring this situation?</li> </ul>
Desire to work in the situation	<ul style="list-style-type: none"> <li>• To what extent is this situation a good opportunity to think out some difficult task you have been working on?</li> <li>• How much would you dislike having to work in this situation?</li> </ul>
Desire to affiliate in the situation	<ul style="list-style-type: none"> <li>• To what extent in this situation would you feel friendly and talkative to a stranger who happens to be near you?</li> <li>• Is this a situation in which you might try to avoid other people, avoid having to talk to them?</li> </ul>

Source: Mehrabian & Russell, 1974 (original measures of Approach-Avoidance behaviour).

The theory was originally tested by Mehrabian and Russell (1974) with three questionnaire experiments, where undergraduate students had to indicate their emotional and behavioural responses to a varied set of described hypothetical situations, ranging from being in a room listening to music to shopping in a grocery store. The results proved that: 1) behaviours like exploration, affiliation and desire to stay in a situation are inter-correlated and can be represented by the simple concepts of approach and avoidance behaviour, 2) the emotional dimension of pleasure indicates the highest effect on behavioural variables and 3) mixed results were identified as to the relationship between arousal and approach which is said to be an inverted U-shaped relationship. In addition, an

interaction effect between pleasure and arousal in determining approach-avoidance behaviour was identified (see also Soriano et al., 2013).

### **5.6. Applying the Mehrabian and Russell Approach**

The Mehrabian and Russell (M-R) approach has been applied to consumer behaviour research notably when situational effects of marketing are examined (Bitner, 1992). This is very much in accordance with the theoretical basis of the PAD model which argues that the impact of the situation on behaviour is mediated by emotional responses. The application of the approach has however produced mixed and varied results. Lutz and Kakkar (1975) did not find imposing results regarding the significance of situational effects on consumer behaviour and contended for the inclusion of 'other variables'—possibly cognitive in nature—in the exploration of consumer behaviour so that the situational approach does not remain isolated from other influences. It was Donovan and Rossiter (1982) who re-introduced this environmental approach to consumer behaviour. They measured the information rate (degree of complexity of an environment), the emotional dimensions and approach-avoidance behaviour caused by several retail environments.

Since then the approach has been applied in several contexts in order to measure all kinds of environmental influences on consumers (atmospherics- Kotler, 1973); these include but are not limited to external variables (buildings, architecture, surrounding area and parking), interior environment (music, scent, temperature, lighting), store layout, interior displays and human variables like crowding (as in Turley & Milliman, 2000).

More recently Walsh et al. (2011) have also attempted to portray a model with a complexity of variables that could possibly influence consumers' store satisfaction and loyalty. They assumed that the relationship between store environmental cues (music and

aroma) - store choice criteria (merchandise quality, service quality and price) to satisfaction and loyalty is mediated by the emotional variables of pleasure and arousal. This study has then extended the exploration of the effect of pleasure and arousal to additional variables than the typical approach-avoidance behaviour and has examined more dimensions of consumer experience.

The results of the studies involving the MR approach are however varied and indicate that at a basic level of explanation: 1) many variables can act as moderators when examining such environmental influences and 2) results can be described as context and person specific (Turley & Milliman, 2000). Regarding, for example, the effect of music it is proved that the music played in a store has significant influence on emotional reactions and several behavioural variables, like sales and time spent in the store, still this effect is frequently moderated by variables like the age of the shopper (Yalch & Spangenberg, 1990 as in Turley & Milliman, 2000, p. 195), music tempo (Milliman, 1982 as in Turley & Milliman, 2000, p. 195) and music preference (Herrington & Capella, 1996 as in Turley & Milliman, 2000, p. 195). Moreover, varied results have been found as to the effects of music on the emotional dimensions. Kellaris & Kent (1993) find a link between music tempo and pleasure and arousal but Spangenberg et al., (2005) cannot find a direct link between music and levels of arousal or pleasure. In addition, differences have been reported in the effects of the emotional variables (especially dominance) on behavioural measures with Donovan and Rossiter (1982) suggesting that the MR model is only a good starting point for the exploration of consumer situations but more empirical work is required for its reliable application.

Foxall (1997c) and Foxall and Greenley (1998; 1999) indicated that a possible reason for these poor results has been that most studies use situations which are small in scope and chosen arbitrarily. Studies based on the Behavioural Perspective Model have indicated

more consistent results regarding the applicability of the PAD model to varied descriptions of consumer situations. These situations are formed based on the levels of utilitarian and informational reinforcement and the closeness or openness of the setting as described by the BPM and have been consistently been found to be explained on the basis of the variables of the MR model (Foxall, 1997b; 1997c; Foxall & Greenley; 1998; 1999; 2000; Foxall & Soriano, 2005; Abu Hasan, 2011).

Specifically, pleasure has been described as an index of the utilitarian reinforcement signalled by the situations or by the usage of products and services implicated. This is so because utilitarian reinforcement consists of the benefits and satisfaction contingent in a situation. Arousal is a measure of the informational reinforcement which indicates the feedback on consumer performance and finally, dominance is predicted to increase with the degree of openness of the behavioural setting. Thus consumers are expected to feel more controlling influential and important in an open rather than a closed setting (Foxall & Soriano, 2005). These theoretical explanations have resulted to the following complete BPM contingency matrix (figure 5.2) where levels of the PAD are indicated.

**Figure 5.2 The BPM Contingency Matrix**

		BEHAVIOUR SETTING SCOPE	
		Closed	Open
ACCOMPLISHMENT (high utilitarian, high informational)	Contingency Category 2	Contingency Category 1	
	<b>Fulfilment</b>	<b>Status Consumption</b>	
	+P +A -D	+P +A +D	
	Contingency Category 4	Contingency Category 3	
HEDONISM (high utilitarian, low informational)	<b>Inescapable Entertainment/Pleasure</b>	<b>Popular Entertainment</b>	
	+P -A -D	+P -A +D	
	Contingency Category 6	Contingency Category 5	
	<b>Token-Based Consumption</b>	<b>Saving and Collecting</b>	
ACCUMULATION (low utilitarian, high informational)	+P +A -D	+P +A +D	
	Contingency Category 8	Contingency Category 7	
	<b>Mandatory Consumption</b>	<b>Routine Purchasing</b>	
	-P -A -D	-P -A +D	
MAINTENANCE (low utilitarian, low informational)			

Source: Foxall, 1992a and b

Regarding the behavioural measures, approach behaviour is expected to increase with the total quantity and quality of reinforcement (utilitarian or informational) while avoidance is expected for lower levels of reinforcement. It is accepted that people will have the tendency to approach situations that offer more and better reinforcements and will avoid those that lack such reinforcing qualities. In addition, approach minus avoidance behaviour (a variable named aminusa and which will be described in more detail in the methodology chapter) is also expected to increase with the openness of the setting. In simple terms, consumers are predicted to have a tendency to approach open situations and avoid closed ones.

This examination of the BPM until now uses ‘within-the-skin events’ (Skinner, 1974) like emotions and approach- avoidance behaviour and argues for the empirical interest of such terms. In this case, emotional and behavioural variables represent the emphasis of radical behaviourism on the use of language as an indication of ***verbal behaviour***. This language no matter if it is overt and public (as in conversations) or covert and private (as in thinking), it can be representative of behaviour (Foxall, 1990; Foxall; 1998; Foxall et al., 1998). Thus verbal behaviour in the way that has been used to explore the BPM until recently should be understood as plain statement of the facts and a description of its functional relationships with environmental events, and particularly the relationship with its contingencies and consequences.

### **5.7. A Role for Dominance**

Extending on the research implicating the emotional dimensions of Mehrabian and Russell (1974), one final clarification is essential regarding the emotional dimension of dominance. Dominance is the least researched of all 3 PAD components in retail environments (Soriano & Foxall, 2006).

Russell (1978; 1979) and Russell & Pratt (1980) first claimed that, without the dominance dimension, only pleasure and arousal can adequately capture the emotional reactions to stimuli. They based their argument on empirical and theoretical grounds. They claimed that pleasure and arousal account for large proportions of variance of the affective quality of environments while dominance has a minor role and can be perceived as a secondary and possibly cognitive dimension. Namely, dominance might denote beliefs about consequences and antecedents of the emotional states and in that sense requires cognitive intervention. This conception of dominance is more in accordance with appraisal theories of emotions (e.g., Roseman, 1984; 1991; Smith & Ellsworth, 1985; Lazarus, 1991) which

argue for the cognitive antecedents of emotions and less in accordance with a theory searching for the affective qualities of environments (Russell & Pratt, 1980).

This claim has however gained partial support by empirical studies in consumer behaviour (Donovan & Rossiter, 1982). Donovan and Rossiter (1982) were the first to indicate that dominance might not have an effect on behaviour in diverse shopping environments. They gave justice to their results based on Russell and Pratt's (1980) work and acted as the milestone for future retail research, which based on Donovan and Rossiter (1982) removed dominance from their theoretical argument and measuring instruments (e.g. Baker et al., 1992; Donovan et al., 1994; Mattila & Wirtz, 2001; Lee et al., 2011; Walsh et al., 2011).

Although the use of only two factors (pleasure and arousal) is enticing due to greater simplicity, at the other end, important distinctions between emotions can only be accomplished by using all three emotional dimensions (Mehrabian, 1996 cited in Soriano & Foxall, 2006). Soriano & Foxall (2006) support this argument and meticulously indicate the importance of dominance in consumer behaviour. Utilising valid arguments it is indicated that dominance has been mistreated in consumer behaviour research, since Donovan and Rossiter (1982) replaced some of the items of dominance with random terms and did not use the original scale, and has been removed on arbitrary reasons and without enough and clear evidence. Dominance can consistently discriminate between closed and open environments according to the classification of the Behavioural Perspective Model (Foxall & Greenley, 2000; Soriano et al., 2002) and Ward and Barnes (2001) also proved that at least in a particular environment, that of fast food restaurants, dominance has a direct effect on affect, store involvement, attitude and behaviour. Recent articles that utilise the bi-dimensional emotional approach by using only pleasure and arousal also point to the importance of further tests on the effect of dominance in

retail/choice environments in order to further test/validate its applicability to these contexts (Walsh et al., 2011).

Finally, consumers have been found to connect confusing situations with feelings of 'helplessness' and 'being overpowered' (Plutchik, 1994; Schweizer, 2004) and perceived lack of control has been identified as a central appraisal leading to confusion. On these grounds, dominance will be included in this study.

## **5.8. Conclusion**

Although the theory of Mehrabian and Russell (1974) is not designed to capture specific and distinct emotions and it was initially intended to describe affective reactions to diverse environments (including but not limited to consumer situations), the approach has been widely applied to consumer environments. The results of these studies are not definite and leave much space for further exploration for example in terms of the situations used, the interactions among the emotional terms and especially, the role of dominance in consumer settings.

The main strength of the approach, as noted by Lutz and Kakkar (1975) and successfully utilised by the BPM research programme, is that its implementation allows not only the description of distinct conditions but also facilitates the comparison of different situations. Since all situations can be described based on the level of pleasure, arousal, dominance and approach-avoidance behaviour that these produce to individuals then a comparison of diverse situations is feasible based on the analysis of the relevant scores. Then it is easy to examine situational differences based on either the personal (groups of consumers with similar characteristics) or the aggregate level (the summative scores produced for the situation) and reach interesting conclusions about the qualities of such settings.

Specifically Mehrabian and Russell's affective and behavioural measures as verbal responses have been used in previous research as psychometric measures of the consumers' verbal behaviours in specific situations (Foxall, 1997b; Foxall & Greenley, 1999; 2000; Foxall & Soriano, 2005). The test of the BPM (Behavioural Perspective Model) has been done through the prediction of consumers' verbal responses to descriptions of specific consumer situations. This research programme that linked a consumer's verbal behaviour of his or her emotional reaction to consumer situations has clearly supported the link between verbal reports and BPM's prediction of consumer behaviour (Foxall, 1997b; Foxall & Soriano, 2005).

In the case of this research, verbal behaviours are expected to arise in response to the interaction between verbal descriptions of the situated consumer behaviour and the respondents' history of reinforcement or punishment in similar situations.

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## 6. CONCEPTUAL FRAMEWORK

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### 6.1. Introduction

The preceding four chapters have been an overall evaluation and presentation of the extant literature. These have been an attempt to present and justify the necessity for this novel proposition on the nature of confusion and simultaneously lay the foundations for the theoretical underpinnings of this study. Chapter six on the conceptual framework connects relevant arguments in order to provide the overarching theoretical framework that will guide this knowledge inquiry. It starts by providing a briefing on the state of confusion and proceeds by re-examining the current state of the Behavioural Perspective Model (BPM) as a device using an extensional language (BPM-E). It will continue by placing the model within the framework and study of an intentional explanation (BPM-I). Confusion can be defined in terms of a self-based rule (or better a rule for the lack of rules). There is however a differing language that can be used to describe confusion— the first, extensional, deals with confusion as an overall response to physical and social stimuli and the other, intentional, deals with it in terms of human intentionality (as in Foxall, 2013, p. 118). The explanatory or interpretative role that the construct can play in these models will be described. Specific research hypotheses that correspond to these explanations are developed. Overall, this conceptual framework supports the supposition put forward by Foxall (2004; 2007a; 2007b; 2013) that when the extensional understanding becomes exhausted we need to turn to intentional language in order to expand our understanding; both of these approaches are offered to researchers to facilitate their endeavours.

## 6.2. The State of Confusion

In an attempt to summarise previous chapters and although a consensus on the state of confusion has not been reached, most psychology and consumer behaviour researchers agree that confusion as a state can be meaningfully characterised by the following qualities (Ellsworth, 2003; Hess, 2003; Keltner & Shiota, 2003; Rozin & Cohen, 2003a and 2003b; Schweizer, 2004; Walsh & Mitchell, 2007; 2010):

- A state of not knowing/ understanding.
- A sense of goal obstruction which in consumer behaviour might equal to either an inability to choose the preferred/ best product or to the impediment of an enjoyable shopping.
- Perceived higher levels of effort, higher attention needed and possibly a sense of lack of control.
- Intense uncertainty and/or impressions of overload, similarity, novelty etc., especially operationalised as such in consumer research.

These characteristics are depicted<sup>5</sup> in table 6.1.

**Table 6.1 A depiction of the main characteristics ('qualia') of the state of confusion**

A state of not knowing/ lacking understanding		
Sense of goal obstruction	Inability to choose/ enjoy the shopping experience	Ambiguity/ Similarity/ Overload.
		Variety/ Novelty/ Complexity/ Conflict/ Comfort/ Reliability
		Higher levels of perceived effort and attention necessary

Source: this study (based on the characteristics attributed to confusion in previous theoretical and empirical papers).

<sup>5</sup> In light of the fact that diagrams are usually perceived by readers as representing a 'flow' and possibly cause and effect relationships, a diagrammatic presentation of the qualia of confusion as described in previous research has been avoided in this instance. Rather 'qualia' is the subjective experience, the 'overall feeling' of a situation and this idea should not be reduced to impressions of causal relationships. A table which merely signifies the characteristics has been used instead.

Based on the literature as reviewed in chapters 2 and 3, the theoretical opportunities offered through the study of states like confusion have been established (Rozin & Cohen, 2003).

Confusion has been further described as a pure emotion, a pure cognition, a combination of the two (cognitive and emotional situation) or a cognitive feeling and also as either a context and time specific response to an environment or as a personality proneness (like the general psychological tendencies established in psychology). There is also extended debate on the differences between the conscious and subconscious parts of confusion, with conscious parts being described as the easier to capture and measure.

This study will extend the intellectual interest for the study of confusion based on a concept deriving from behavioural psychology; the idea of rule-governed behaviour and specifically self-based rules.

### **6.3. Confusion as a Self-Based Rule**

The concept and especially the importance of rule-governed behaviour (other or self instructed) for the study of behaviour have been described before (refer to chapter 4). Rules are usually defined by social norms however self-rules are dictated when the speaker and the listener are the same, thus are dictated by the self. Self-rules act as instructions and are effective as long as they adhere to norms to which an organism has followed throughout its history (Foxall, 1997a). Based on the categories of rules developed by Zettle & Hayes, (1982), especially the case of tracking is concerned with corresponding to a description of the state of affairs (Zettle & Hayes, 1982, p. 79–92) or according to Foxall, 2013 (p. 118) it is a case of '*responding to brute facts*' like the arrangement of the physical environment. The arrangement of the physical environment indicates the state of affairs as the consumer is usually powerless to change it and needs to

adhere to that. Tracking can be viewed as predominantly a contingency-shaped behaviour and although most theorists (Zettle & Hayes, 1982; Foxall, 1997b; Törneke et al., 2008; Foxall, 2013) argue that it is a challenging task to clearly define and understand the different cases of rule-based behaviour and discern among plys, tracks and augments, confusion can be understood as a case of a self-based track due to its special relationship with environmental conditions.

#### **6.4. Confusion as ‘Anomy’**

In an attempt to further the above understanding, the concept of anomy (or ‘*anomie*’) will be brought to the fore. In its true meaning anomy comes from the Greek language and it means the absence of law. The concept of anomy was initially introduced by the French sociologist Émile Durkheim and subsequently deeply analysed by Merton (as in McClosky & Schaar, 1965). In sociology Durkheim used the term to describe a state of normlessness, deregulation and loss of social control usually produced by too sudden social change. Merton extended the concept to indicate (Merton, 1938; also Merton, 1957 as analysed in Lowe & Damankos, 1968) that this deregulation is the result of the Western (USA) society’s increasing emphasis on accumulation of wealth which is not accompanied by the relevant emphasis on the means to obtain these monetary goals. This is causing strain to the relevant social groups that do not have the means to attain the goals, leading to their isolation. In sociology, anomy is then a characteristic of social groups whose access to goals is blocked by social-structural barriers. Merton’s approach to anomy is reputed as the pre-eminent sociological theory of deviant behaviour.

In psychological research anomy has been portrayed as a state of mind rather than a state of the society or social groups (McClosky & Schaar, 1965). It has mainly been described in terms of the alienation and dis-institutionalisation of the individual from others, the

society or the goals that the social system approves, and it is usually measured by a relevant scale and conceptualisation developed by J. L. Srole (Merton, 1957; Taylor, 1968). According to a more general definition and approach which is focused on an even less sociological and increasingly psychological perspective (as in McClosky & Schaar, 1965, p. 19):

*'anomie is a state of mind...it is the feeling that the world and oneself are adrift, wandering, lacking in clear rules and stable moorings...for him (for the individual) the norms governing behaviour are weak, ambiguous and remote.'*

Anomy, simply defined, is a rule for the lacking of rules; it is a state where norms or rules are confused, unclear (complexity/ ambiguity confusion) or absent (similarity confusion) and learning of the norms is severely impeded due to all of these reasons (McClosky & Schaar, 1965). The case of confusion seems to correspond to this kind of reasoning. Different kinds of confusion can be characterised by the lack of market rules and norms which interfere with learning and impede behaviour. Confusion can be characterised intensely by the sense of market anomie, this sense of disorientation, which can be defined as a rule characterising the lack of other relevant rules.

## **6.5. Confusion as a Self-Based Rule (or 'A Rule for the Lack of Rules')**

Confusion can then be perceived as a case of self-tracking (self-based rule) and more specifically a 'rule' suitable to describe the lack of other relevant rules. The role of self-rules as summarised by Zettle & Hayes (1982) has been to '*being personal*' in the sense that a person can react more effectively now or in a future occasion than when based on the contingencies alone.

Extending further on this theoretical reasoning, a fundamental faculty of rule-governed behaviour according to Foxall (2013) is the capacity of being treated and expressed in

both *extensional* and *intentional* terms. This logic follows Searle (as in Foxall, 2013) who concludes that items can be perceived in both an extensional account of ‘*brute facts*’ and an intentional based on ‘*human intentionality*’. The meaning and application of this principle in the case of confusion will be described in the following sections. This study will then extend the understanding of confusion by placing it within the framework of extensional and intentional BPM and thus a novel understanding of the construct and the application of the BPM will be offered.

## 6.6. The Languages of Explanation

Having described confusion as a self-based rule (or better the lack of rules that can guide behaviour) and examining rules’ unique characteristic to be described in terms of either an extensional or an intentional language it is essential to re-examine what these languages represent.

Lay people very often use language which attributes actions and intentions to other individuals’ desires and beliefs, and both people (and researchers as already explained) widely use this approach in order to understand and often predict human behaviour. Behavioural science on the other end deals with such an approach with circumspect due to the ease with which explanations of any behaviour can be adduced by assuming that goals and dispositions from the behaviour they are said to explain are used to explain that same behaviour (Foxall, 2013). This has resulted in reaching a state resembling the chicken and the egg situation. On these grounds, the preferred approach for the investigation of the BPM until recently has been the use of an extensional language (in terms of simple verbal behaviour), the avoidance of intentional or cognitive terms and at the same time the determination of the explanations that the extensional language can provide by observing the inadequacies of the intentional stance.

It must be clear by now that these ways of expressing reality correspond to the contextual and the intentional stance previously discussed. This conceptual framework chapter concerns and will expand on the ways that the principles of intentional behaviourism can be applied to the exploration of consumer choice when the main device of exploration is the BPM and part of this endeavour is the understanding of the different languages that can be used to explore this model.

More specifically, the most important characteristic of extensional language is simply that it avoids intentional terms. In this kind of reasoning '*a stimulus is a part of the environment which is consistently followed by a response*' (Foxall, 2013, p. 108) and the idea that an organism expects, believes or desires something do not have a role in this explanation. At the other end, the intentional explanation exists exactly at the level of personal beliefs and desires and embodies terms that refer or represent something other than themselves.

In order to properly mark the difference between the two languages, the defining characteristics that distinguish between the two can be exemplified as following:

1. The extensional language is characterised by *referential transparency* while intentional idioms are *referentially opaque*. Referential transparency means that in any extensional sentence synonymous terms can be used to substitute one another without changing the value or meaning of the sentence. This is not valid in intentional idioms. One example used to indicate this property (Foxall, 2007a and b; Foxall, 2013) is the sentence 'That planet is Mars'. In this extensional use of the language 'Mars' can be easily substituted by the 'forth planet from the sun'. However when saying, 'John believes that this planet is Mars' Mars cannot be substituted by 'the forth planet from the sun' simply because John might not know

or believe that mars is the forth planet from the sun and thus by substitution the meaning of the sentence might completely change and lose its original meaning.

2. Intentional language is characterised by *intensional inexistence* (while extensional language by *physical existence*). This characteristic of intentional language has been described before (see also chapter 4). It means that an intentional sentence does not imply its true existence or non-existence. When an extensional sentence states that 'John bought a BMW' this implies that John and a car brand named BMW exist. However, an intentional explanation which argues that: 'George thinks that John bought a BMW' does not imply the existence of either the action or the brand itself. This belief is inside the individual and it is not necessarily positioned in the actual word.
3. Finally, according to Brentano (1874/ 1973 as in Foxall, 2013) and based on both the above characteristics it is difficult to translate intentional into extensional sentences. However according to Searle items and constructs can be identified and described in the extensional -the physical level- but also in accordance to human intentionality. According to Foxall, 2013 (p. 118) rule-governed behaviour (in the form of tracks, plys and augments- Zettle & Hayes, 1982) are behaviours that carry this property. Rule-governed behaviour (directed by self or other rules) can be explained both as responses to social and physical stimuli and as ideas expressed in accordance with human intentionality.

On these grounds and the overall understanding of the two accounts it is safe to argue that intentionality does not provide the same kind of description as an extensional explanation, however it can be used to explain behaviour whenever an extensional language no longer suffices (Foxall, 2007a; 2007b; 2013). This is usually when the continuity or discontinuity of behaviour, the personal level of explanation and the delimitation of behavioural

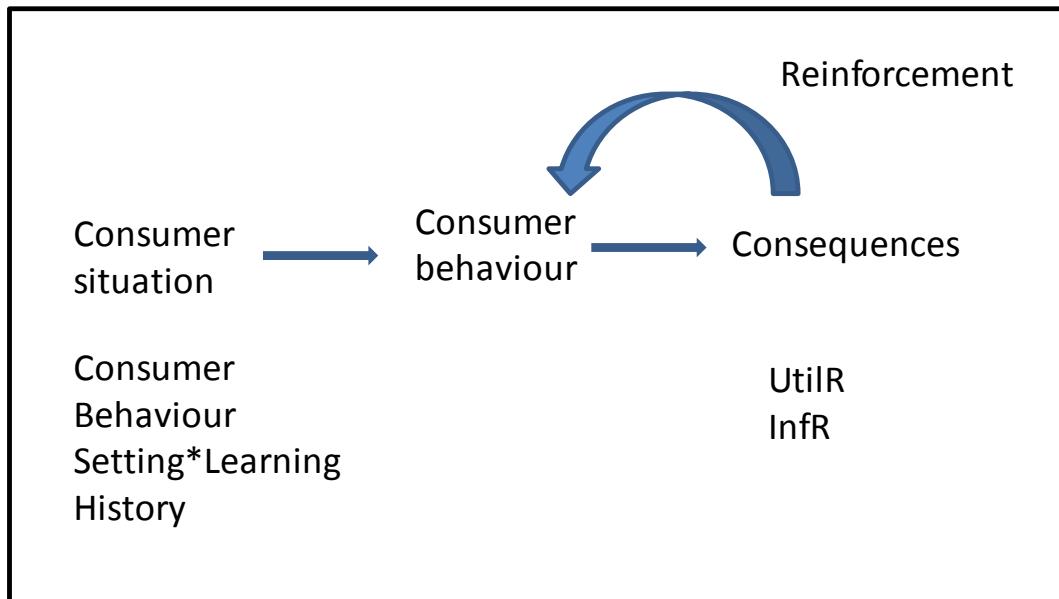
interpretation is sought (Foxall, 2004). In this manner two distinct models are proposed, the extensional (BPM-E) and the intentional model (BPM-I).

### **6.7. The Behavioural Perspective Model Extensional– (BPM-E)**

The benefits of using the behavioural perspective model have been described in previous research (Foxall, 1992a and all subsequent research). This model which has been until recently depicted in the extensional language of stimuli, behaviour and behavioural consequences (lacking reference to beliefs, desires or other intentional attitudes) has been introduced as an attempt to overcome the limitations of the cognitive portrayal of choice, especially the de-contextualisation of theoretical models. To start with, the model offers a relevant framework which accommodates the two main reinforcers innate in consumer situations, utilitarian and informational. It further describes decision-making with respect to settings that range from the routine, habitual and everyday to the extreme. When using the model several diverse situations have been described and categorised based on the reinforcers and behavioural setting. It places distinctive emphasis on the idea of *consumer situation*, which is the way that behaviour is located in space and time by the extensional model. Figure 6.1 depicts the model and explains its main constructs (see also chapter 4).

**Figure 6.1 BPM-E**

The Extensional Behavioural Perspective Model. The variables are extensionally defined as responses to physical and social stimuli embedded in the consumer situation. The consumer situation (coterminous with the consumer behaviour setting scope) consists of the consumer behaviour setting (discriminative stimulus, motivating operations and verbal rules) and the learning history. Reinforcement is comprised of Utilitarian (UtilR) and Informational (InfR). Punishing or aversive consequences are also part of the possible consequences, conceptualised and examined in previous research mainly in terms of the cost of buying.



Source: Foxall, 2013, p. 110.

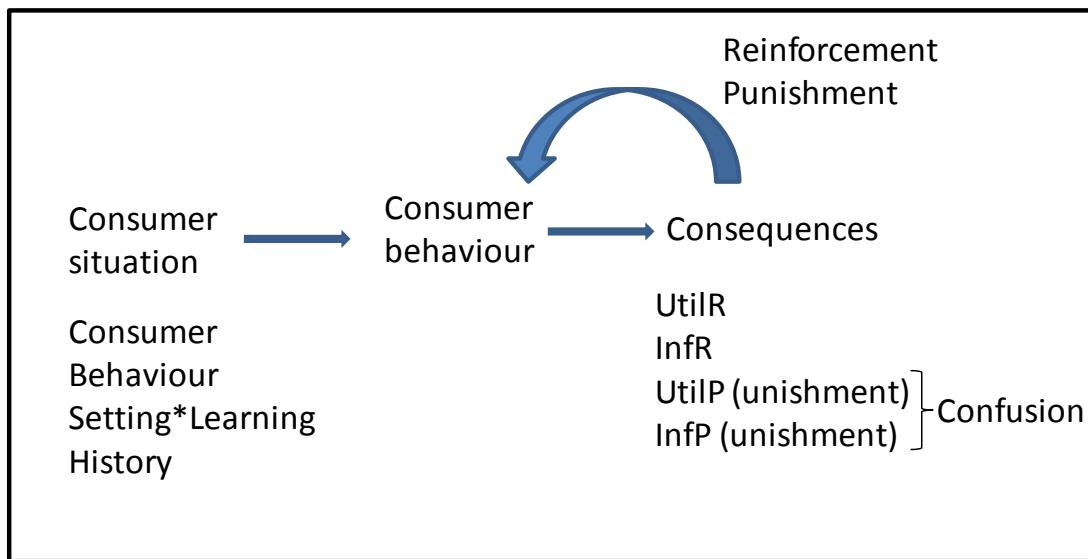
Following the extensive previous literature these constructs have been conceptualised as the Pleasure (UtilR), Arousal (InfR), Dominance (consumer situation/ behaviour setting scope) and the approach/avoidance behaviour as the consumer behaviour element. The way these have been used in the extensional construct has been in terms of *overall responses to stimuli*. These represent then *verbal behaviour* (in accordance with Skinner, 1974) expressed with the help of an *extensional language* and should not be perceived as representing consumer's beliefs of attitudes. The language of radical behaviourism is very specific in this occasion and it is very strict on the role of a discriminative stimulus. Thus a discriminative stimulus does not represent or signal utilitarian and informational reinforcers or punishers it simply '*sets the occasion*' for them (Foxall, 2013, p. 111). It

neither allows for personal or group differences, disregarding in this manner the personal level of explanation.

In the boundaries of the BPM-E confusion can then be defined as a rule-governed behaviour (tracking) which is a '*response to the physical and social environment*'. It is an aversive, extensionally defined- objective consequence of environmental exposure to specific discriminative stimuli/ markets. The role of the UtilR, InfR and confusion (which can have both UtilP and InfP implications) can facilitate the examination and establishment of overall differences in stimuli means. Figure 6.2 below adds confusion to the BPM-E.

**Figure 6.2 BPM-E**

The addition of confusion is depicted in this revised model.



Source: this study (Foxall, 2013, p. 110 the model has been revised to depict the extensional understanding of confusion as a response to a stimulus).

It is also relevant to argue that for the purposes of this research (which deals with the nature, effect and addition of confusion in the BPM) the whole situational complexity of the BPM cannot find application. Consumers do not hold confusion for the range of operant classes (accomplishment, hedonism, accumulation and maintenance) and situations previously described by the model. Situations like being in a job-related

seminar, driving an expensive car, being on a cruise or collecting loyalty card points (these are all situations used to describe the contingency categories of the BPM in previous research) are inappropriate for this research. Such situations have been specifically chosen and manipulated in previous research mainly in order to establish the measurement of the Mehrabian and Russell variables as good indicators for the aspects of the behavioural perspective model.

In order to achieve the explanation of the contextual and intentional stance in the case of confusion other specific choice/shopping related situations had to be used. Thus this study maintains the basic premises of the model on the importance of the reinforcers, the behaviour setting scope (proved to be conceptualised and measured in past research as the pleasure-arousal-dominance variables of the Mehrabian and Russell model) and approach/avoidance behaviour and will extend the basic principles of the BPM beyond the original model in different shopping situations where confusion is expected to pose an effect. In that sense this study will allow for a free exploration of differing consumer situations and will not predetermine/manipulate but only hypothesise the expected levels of the extensional value of the different variables.

A main limitation of the BPM as examined until now is that the model has only been tested in terms of reinforcements- utilitarian (pleasure) and informational (arousal). However, the effect of aversive consequences although depicted in the original BPM (as a line connecting utilitarian and informational reinforcement with aversive consequences) has been examined mainly as the effect of monetary cost, which is indeed one of the main aversive consequences of consumer choices (Sigurdsson et al., 2010). Confusion can be described as self-based rule which in an extensional language is translated into '*an aversive consequence/punishment of shopping*' and the extent of its effect needs to be examined.

An additional main limitation of this ‘extensional’ approach and conception of the BPM and specifically confusion is that it removes the personal level of explanation (the level of personal rules in the form of beliefs/ propositional attitudes) from the understanding developed. In order to examine this personal level, behaviour should be reconstructed and discussed in terms of an intentional account. This account takes into consideration not only the environmental effect but also the consumer’s perception of shopping, what the consumer has been led to believe in terms of their own experiences of other similar or not situations and actually what he/she desires. It is then possible that a consumer might find a complex environment as more acceptable than another consumer who based on a previous experience was not able to buy the desired product based on unavailability. This consumer will act differently to the variety of products on offer than another consumer with different perception and experience. In this case of the personal level of explanation, we have no other resort than to turn to the language of intentionality, the language of beliefs and desires. By adopting the intentional language or stance we adopt a ‘*less scientific*’ approach to the study of phenomena; but since the social world lacks the comfort of constant experimental conditions, where the complexity of the learning history of objects can be known, social scientists need to resort to such language in order to better explore phenomena (Foxall, 2013).

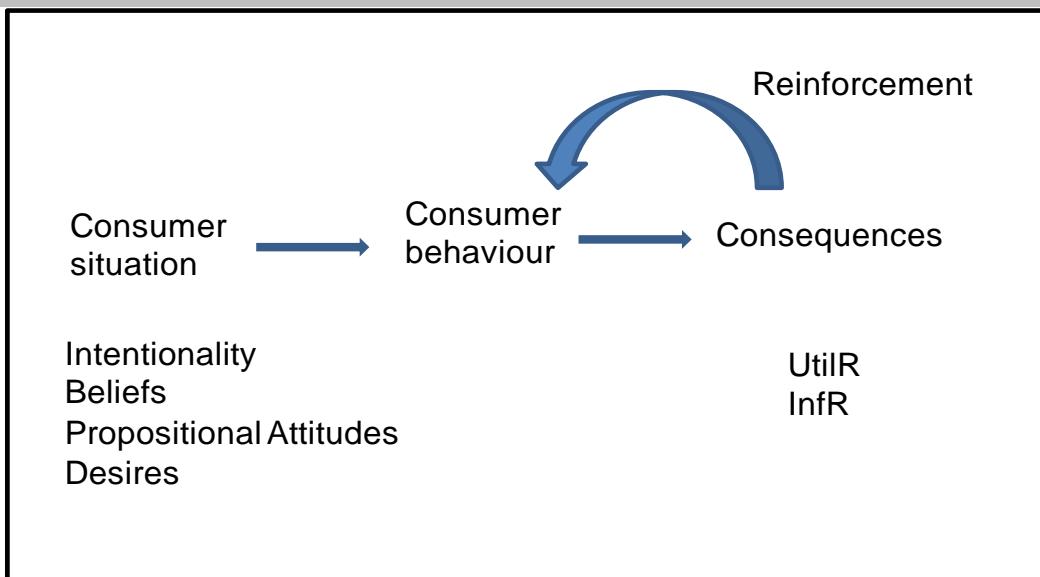
It is on these grounds that the inclusion of intentional terms and finally an intentional conception of the BPM (BPM-I) is proposed (Foxall, 2004; 2007a; 2007b; 2013) so that these shortcomings of the extensional BPM can be faced. The flexibility that Searle offers on the multiple uses of terms allow us to employ the same constructs in both the extensional and intentional way and this rule will be followed here in order to indicate the ways that an intentional BPM can add to the understanding provided by the extensional BPM.

## 6.8. The Behavioural Perspective Model Intentional– (BPM-I)

In order to prove and describe the value of the Intentional Behavioural Perspective Model (BPM-I), Foxall (2013) describes the addition of the concept of collective intentionality and explains the implications of this collective understanding for the model. This study will extend on this idea but contrary, the individual intentionality in the form of a tracking self-based rule (confusion) will be examined in order to incorporate the personal level of explanation to the model. Figure 6.3 depicts the intentional BPM.

**Figure 6.3 BPM-I**

The Intentional Behavioural Perspective Model. The central explanatory component of the BPM, the consumer situation is redefined in this new understanding. Consumer Situation in this intentional model can be found '*in the complex of the representation and meaning which intentional construals*' supply (Foxall, 2013, p. 107). Behaviour is then transformed from reactions to presented stimuli into intentionality-directed behaviour.



Source: Foxall, 2013, p. 116.

Rules and rule-governed behaviour are capable of contributing to the two kinds of explanations as described above. These can be described in both the extensional sense, as stimuli that come to have the same effect as non-verbal contingencies that can act to predict behaviour. In addition, the alternative intentional explanation treats rules as

representations of the three term contingencies that act at the personal level and can be described using the *language of beliefs, the intentional language*.

On these grounds and as one of the least proposed ideas in the psychology and consumer behaviour realm confusion can also have the characteristics of an intentional state meaning that it can act at the belief/ propositional attitude level. At this level confusion can be described as:

‘An individual belief about something else —in the case of consumer research— a personal belief that a specific market is confusing’.

Although it is critical to acknowledge a) that some instances of confusion can be objectless (as described by Searle, 1983), meaning that there can be cases that one is difficult to describe what one is confused about and b) that some personality types have the tendency to get (or describe oneself as getting) more easily confused than others; this study advocates that confusion can have the properties of an intentional state meaning it is directed towards specific objects which in that instance are particular markets/shopping situations.

The adoption of the intentional stance in this case can theoretically provide a solution to the two important debates on the construct which derive from previous psychological and consumer behaviour theory and research, namely the everlasting cognition-affect debate and the one related to the conscious- subconscious nature of confusion.

### **6.8.1. The Debate on the Cognitive-Affective (or Binary) Nature of Confusion**

Based on the previous discussion on intentionality<sup>6</sup>, this philosophical concept has been described as proposing the loosening of the ties of the strict hypotheses guiding cognitive psychology. It does not need to resort to the language of internal mental or information processes. Intentionality expresses the ability of the mind to stand about something else, which usually takes the form of beliefs/ attitudes/ desires and which are part of an individual experience and learning history in connection with the environments it deals with. On these grounds, distinctions and debates on the cognitive and affective nature of constructs are not an integral part of intentional explanation. Following these arguments the exact nature of constructs, principally in terms of cognition/ affect is not epistemologically necessary in this kind of explanation.

### **6.8.2. The Conscious-Subconscious Debate**

Confusion can be described as an intentional belief/ propositional attitude held by consumers. In this proposed intentional conception of confusion the distinction between conscious and subconscious confusion is again an argument without real value. As described by Searle (1983) an intentional construct might be subconscious (consumers might perceive a market as confusing without ever realising it) but this can come to the fore only when consumers are actually asked specifically about it.

Intentional behaviourism maintains that ‘*intentional ascription in terms of beliefs, attitudes, desires is rational for an individual to have in view of a specific situation defined by the intersection of his/her learning history and the setting he/she faces*’ (Foxall,

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<sup>6</sup> Refer to chapter 4.

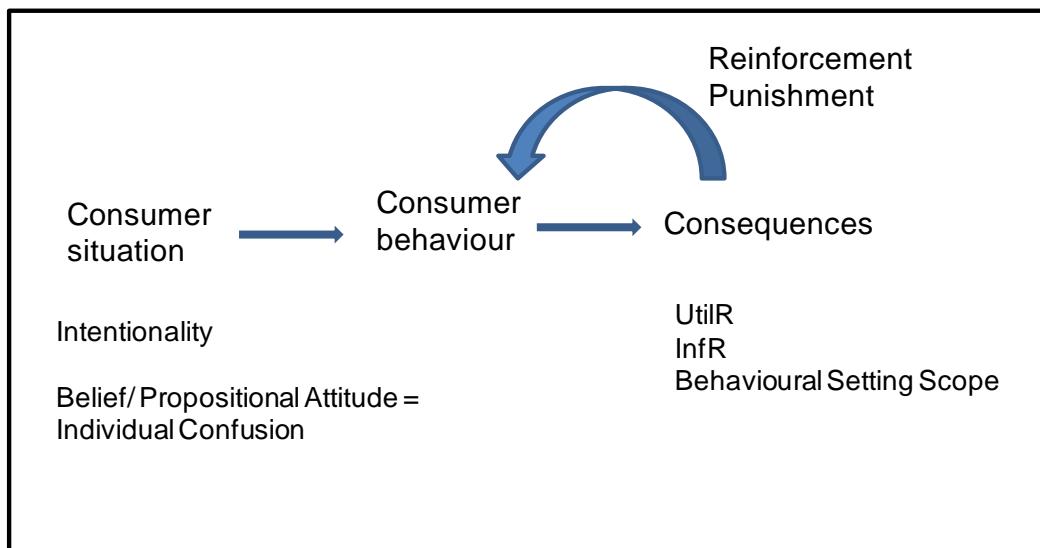
2007, p. 43). It is then reasonable to suggest that intentional confusion can be a kind of propositional attitude which takes the form of a developed self-based rule about specific shopping environments (thus it takes the form of track) that in accordance with intentional behaviourism is the result of previous consumers' experiences with the setting (the result of a learning history) along with individual/personal differences, which in this explanation can signal the consumer situation. This learning history can result to consequences in cases consumers are to behave within the specific setting (which acts as the discriminative stimulus) in the future. It is imperative to clarify that based on the above definition and the nature of intentionality, intentionality is ascribed to the individual<sup>7</sup> (Foxall et al., 2012, p. 477) and is developed through consumers' idiosyncratic experiences and characteristics. In this manner not all consumers face environments in the same way and nor do all consumers have the same learning histories in a setting. This is exactly what has been described as '*the personal level of explanation*' by intentional behaviourism. In this manner not all consumers are holding the intentional confusion in specific settings. The level of reported confusion varies based on the specific characteristics of the setting and especially individual understanding. Consumers can then be arrayed on a mental continuum which extends between confused and not confused consumers in each setting. In this study the distinction between confused and non-confused consumers will be treated as dichotomous (due to the nature of statistical tests, like ANOVA, which requires splitting variables in order to implement hypothesis testing); however the continuous nature of confusion should be kept in mind when interpreting the results. Figure 6.4 depicts the inclusion of confusion in the intentional BPM.

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<sup>7</sup> For an exception of this idea see the concept of collective intentionality (e.g. Searle, 1990), which is attributed to collective entities.

**Figure 6.4 BPM-I**

The Intentional Behavioural Perspective Model based on the understanding provided by rule-governed behaviour. Behaviour is transformed from reactions to presented stimuli into intentionality-directed behaviour.



Source: this study (as in Foxall, 2013, p. 116 figure has been revised for the requirements of this study).

Foxall (2000, p. 777) describes that the contextual stance can and should be used whenever the intentional stance is used because the juxtaposition of opposing arguments can help knowledge to grow.

The reason for using both the intentional and the contextual stance is that the observed behaviour can be fully explained only by ascribing it to both stances (Foxall, 2009, p. 219). It is then evident that by ascribing beliefs and attitudes, the personal level of explanation and the way that works in specific markets can be explained. However it is also relevant to argue that the intentional and contextual stance can interact to produce an effect on behaviour and this aspect will also be examined in this study, mainly drawing on the concept of experience.

## 6.9. Main Proposition of this Thesis

Based on the underpinnings of the above theoretical understanding, the main proposition suggested by this study is:

Confusion is a self-based rule (based on the propositions of rule-governed behaviour). It is more specifically, a rule for the lack of other rules (a case of market anomy). Due to its relationship with the state of affairs (environmental situations), it can be characterised as a self-based track and as such it can be treated at two levels.

At the *extensional level*, it can be treated as a response to specific (discriminative) stimuli and can act along with verbal contingencies to predict behaviour. In this case it represents verbal behaviour; it is a plain statement of the facts.

At the *intentional level*, it is the result of the interplay between an individual and specific situations and in this case it can take the role of the consumer situation that signals consumer responses. By adopting this ‘*less scientific*’ route, it can be assumed that confusion can have an impact on actual situational contingencies. Such an approach based on intentionality allows for the personal level of explanation to be examined.

**Table 6.2 The nature of confusion at the two levels (extensional and intentional) proposed by this study**

<b>BPM-E</b>	Lack of (complex, weak or similar) market rules or norms that impede behaviour; measured as plain facts and overall responses to consumer situations.
<b>BPM-I</b>	Individual perception of the lack of (complex, weak or similar) market rules or norms that impede personal behaviour.

Source: this study

When levels of intentional confusion are accompanied by a further lack of other self/personal rules that can guide decisions and choices then confusion is expected to have a stronger effect on emotional and behavioural aspects in this situation. This thesis will then attempt to combine and investigate a possible combined effect of the contextual (situational effects) with the intentional stance (see group of hypothesis 2).

## 6.10. Development of Research Hypotheses

The following examination of the hypotheses will commence by building on the intentional understanding of the differences between confused and non-confused consumers. Based on this level of analysis the choice of the specific retail situations examined will be justified and the chapter will proceed to the extensional description of the BPM and the hypotheses guided by this approach.

### 6.10.1. Group of Hypotheses 1

Foxall & Soriano, 2011 acted as the first attempt to establish Roll's proposition (Roll, 2000; 2005) that '*individual differences influence both conditionality and emotionality*' via hypothesis based on the theory of adaptive-innovative cognitive style (Kirton, 1976 as in Foxall & Soriano, 2011). Their study used the eight situations proposed by the BPM and was based on the fact that adoption-innovation as a cognitive style correlates positively with such characteristics as extraversion-introversion, flexibility, tolerance of ambiguity, self-esteem and sensation-seeking (as in Foxall & Soriano, 2011). They propose then that consumers characterised as innovators should prefer relatively open settings and in these settings they should report higher PAD and approach scores than adaptors. At the other end, adaptors should prefer relatively closed settings. The BPM indicated once again its robustness as a theoretical model, however no relationships with the cognitive variables (adoption-innovation) as described were identified (Foxall & Soriano, 2011). This is one indication of the way previous research has integrated the use of behavioural and cognitive approaches.

In the context of this research and considering the character of confusion as a self-based rule, markets act as the external agents that provide the environment and are supposed to provide the norms of shopping. Success or failure depends upon the progress of the

individual. Reinforcement is provided by understanding the rules and performing the act while punishment by failing. Confusion is then understood as an aversive consequence/punishment of consumption and shopping and for those consumers who hold the intentional confusion, there will be personal changes inside the contingencies of the market (expressing in that sense the personal level of explanation), measured as a difference in the behavioural variables and consequently to emotional (reinforcement). Specifically, it has been indicated (Foxall, 2010b, p. 328) that the physical contingencies can be influenced by verbally based contingencies that can have the power to augment, decrease or in cases even replace the naturally-occurring reward system. Following the flow of figure 6.4, confusion is expected to influence consumer behaviour in specific settings and this should then have an effect on the utilitarian and informational reinforcement that is experienced in such settings. It should be kept in mind that the two situations in this case are perceived as either highly confusing or non-confusing.

#### *a. Behavioural Variables*

Due to the nature of confusion as an aversive consequence/punishment, approach is expected to be lower for confused consumers while higher levels of avoidance are expected when compared to non-confused consumers:

**Hypothesis 1:** Overall, the range of confused consumers will indicate lower levels of approach behaviour than the range of non-confused consumers.

**Hypothesis 2:** Overall, the range of confused consumers will indicate higher levels of avoidance behaviour than the range of non-confused consumers.

**Hypothesis 3:** Overall, the range of confused consumers will indicate lower levels of aminusa (approach-avoidance) behaviour than the range of non-confused consumers.

***b. Pleasure/ Utilitarian Consequences***

Confusion has been connected in past research with affective consequences and coping mechanisms. Utilitarian consequences have been described as the functional results which are usually mediated by both the situation but also the buying and usage of products themselves. One of the reasons confusion is related to situational affect is because it is connected to the consumers' judgement of whether the environment will facilitate or frustrate goal achievement (Ellsworth, 2003). Pleasantness is defined as the hedonic valence (pleasant or unpleasant) of the affective response to a stimulus; it is based on the extent to which the stimulus (the object of the affective response) enables people to achieve their salient goals. Namely in the case of situations that are perceived as facilitating goal achievement (perceived as non confusing) these engender positive affect and are experienced as having higher utilitarian reinforcement. When environments are perceived as impeding goal achievement (by confused consumers) these evoke the opposite effects and are experienced as offering lower utilitarian reinforcement (Kaltcheva & Weitz, 2006; Ward & Barnes 2001; for a full review Clore et al., 1994). Regarding the case of product buying and usage, it is also expected that confused consumers will feel less pleased overall with the products they buy due to the feelings of uncertainty that the buying process has developed. Confusion has been proven to have a significant negative impact on consumers' overall macro satisfaction with situations (Walsh & Mitchell, 2010).

**Hypothesis 4:** Overall, the range of confused consumers will indicate lower levels of pleasure (utilitarian reinforcement) than the range of non-confused consumers.

***c. Arousal/ Informational Consequences***

Moving to the topic of informational reinforcement, the discussion becomes more complicated. Drawing upon information theory, Mehrabian and Russell (1974) have

demonstrated that the arousing quality of an environment correlates highly with its information rate, which increases with the novelty complexity, intensity, unfamiliarity, improbability, change, mobility or uncertainty of the setting- characteristics that have been conceptualised and measured as confusion. However, Russell and Mehrabian's (1997) second study of the article '*Evidence for a three factor theory of emotions*' found significant evidence that confusion can be described as an unpleasant (mean= -0.53), unaroused (mean= 0.27) and submissive state (mean= -0.32), means ranging from -1 to 1 (see table 4 of the aforementioned article—case 121— confusion). It is then a controversial matter whether the aversive consequence of confusion influence consumers' arousal levels or not and one that has scarcely been examined by previous research.

In light of the proposal of the BPM that arousal levels indicate and measure the informational value of an environment (described as feedback on personal performance usually mediated by social rules and described as indicating social status) an alternative theoretical explanation for the relationship between confusion and arousal will be proposed. The theoretical propositions of the BPM conceptualise arousal mainly as a measure of the '*symbolic power*' such as social status and self esteem of situations and this symbolic power is what provides the feedback on performance. It will then be of great value to test whether a different kind of feedback on performance, the one provided by confusion, which can be perceived as a feedback on the level of understanding/ 'cleverness' of the consumer, which might result to a decrease in self-esteem will actually have an effect on arousal.

In case consumers perceive confusion as their personal incompetence this will have a negative effect on the perceived levels of personal performance, thus:

**Hypothesis 5a:** Overall, the range of confused consumers will indicate lower levels of arousal (informational reinforcement) than the level of non-confused consumers.

This study will also keep a more open approach on the relationship between arousal and confusion, because according to the principles of the BPM there are chances that arousal measures status/ symbolic feedback on performance only and not the kind proposed by confusion. Thus, the possibility that the null hypothesis of 5a (that there is no relationship between the two variables) has a theoretical meaning will be considered:

**Hypothesis 5b:** Overall, the range of confused consumers will indicate the same levels of arousal (informational reinforcement) with the range of non-confused consumers.

It is interesting to note that based on the theoretical grounds of this study (mainly the proposition of the BPM that arousal is a measure of the feedback on performance) the relationship between confusion and arousal can be either negative or lacking (in agreement with Russell and Mehrabian, 1997 who identified that confusion is a relative un-aroused situation) but not positive in the way that the relationship between information rate and arousal has been described in previous research. It should also be kept in mind that Donovan and Rossiter's study (1982, p. 54) reported that three information rate measures (novelty, density and size) had a positive relationship with arousal, variety a negative one, while irregularity had no significant relationship with it. All of these findings are then an indication of a relationship that requires further clarification.

#### ***d. Dominance/Behaviour Setting Scope***

In terms of the third and least researched emotional element of the PAD one should draw upon the special meaning of dominance (as a measurement of the scope of the behaviour setting- openness or closeness of situations) in the BPM. It can be said that confused consumers will feel more that their choices are dictated by agents outside themselves (as

they themselves are incapable of reaching decisions or consider markets to be outside their understanding) and on these grounds will perceive environments as more closed. Confusion has anyway been connected to feelings of helplessness and being overpowered as described previously (Schweizer, 2004). Following this logic:

**Hypothesis 6:** Overall, the range of confused consumers will indicate lower levels of dominance than the range of non-confused consumers.

As described by the previous handling of the BPM, behaviour would also be expected to increase with the total quantity and quality of reinforcement available to reinforce it (Foxall & Soriano, 2005). It has also been expected that Approach–Avoidance scores for open consumer behaviour settings will significantly exceed those for closed settings. Aminusa (the overall behavioural evaluation) is then expected to be lower for confused consumers for those two additional reasons as described above. In confusing ‘situations’ the overall levels of reinforcement (utilitarian/informational) are expected to be lower and these ‘situations’ are also expected to be perceived as more closed (refer above).

This first group of hypothesis describes the personal level of explanation as put forward by intentional behaviourism. It is here expected and hypothesised without giving a true ontological nature and using it only as a way to understand reality that personal rules developed by individuals in the form of intentionality will have an effect on the contingencies of the markets, because confusion represents an environmental punishment in any environment.

### ***6.10.2. Group of Hypotheses 2***

According to Foxall (1997a, p. 105-106), the levels of experience characterising a situation regulate decision-making in this context. When a market is characterised by high levels of experience, it is perceived as more habitual and consumers eventually develop

more tracks, which are akin to the rules identified by Zettle & Hayes (1982). They will then use these tracks in order to reach easier decisions and get easier to a particular goal point. In this manner, it is expected that the effect of confusion, as a self-based rule, will be less in the market with the higher overall levels of experience.

**Table 6.3 Behavioural and cognitive approaches to decision-making.**

	<b>Low experience</b>	<b>High experience</b>
<b>BPM</b>	<b>Other rules.</b> Consumers lack a relevant learning history-prompt search for other rules- external or internal to the individual.	<b>Self rules.</b> Acquisition of a learning history, from which self rules can be extracted.
<b>Elaboration Likelihood Model</b>	Central route	Peripheral route
<b>Mode</b>	Deliberation	Spontaneity
<b>Heuristic-systematic processing</b>	Systematic processing	Heuristic processing

Source: Foxall, 1997a; Foxall, 2000.

More specifically, when the learning history in a market is such that known consequences have followed regularly and unimpeded from specific acts, the discriminative stimuli in the setting will provide signals that more quickly result in the performance of the requisite behaviour. In accordance with this logic, when the market has become a routine the actual contingencies in this habitual market are **stronger** and consumers on average are expected to have already **developed a repertoire of rules and norms to act upon** (Foxall, 1997, p. 105-106; also Foxall, 2000). Experience within a market represents the result of a stronger previous learning history in this situation. Thus, an environmentally determined context (we are turning here to an extensional language again), is expected to act as a kind of moderator in the relationships among confusion- PAD and A\_A. This relationship seems to be especially relevant to consumer confusion. Confusion is a construct strongly related to understanding and anomaly, thus it seems very concordant to argue that the decreased levels of experience in a market can increase its expected effect in that market.

Thus the following hypotheses have been developed to depict the relationships expected:

**Hypothesis 7:** The effect of confusion on pleasure will be stronger for the market characterised by overall lower levels of experience.

**Hypothesis 8:** The effect of confusion on arousal will be stronger for the market characterised by overall lower levels of experience.

**Hypothesis 9:** The effect of confusion on dominance will be stronger for the market characterised by overall lower levels of experience.

**Hypothesis 10:** The effect of confusion on approach behaviour will be stronger for the market characterised by overall lower levels of experience.

**Hypothesis 11:** The effect of confusion on avoidance will be stronger for the market characterised by overall lower levels of experience.

**Hypothesis 12:** The effect of confusion on aminusa (approach-avoidance) will be stronger for the market characterised by overall lower levels of experience.

This group of hypotheses examines the way that the contextual and the intentional stance interact and indicate whether the effect of confusion on the emotional and behavioural variables depends on the situational influence of the markets examined.

#### ***6.10.3. Choice of Situations Examined***

Based on the above two groups of hypothesis the relevant situations used in this study need to adhere to the following criteria:

- Situations that confusion is expected to be an issue and have an effect; in that sense mainly choice/shopping situations should be used.

- Situations that could be agreed (based on theoretical and practical arguments) to differ in terms of expected levels of experience.

Several situations and markets have been examined when it comes to confusion as explained in chapter 3. In addition, several situations were considered by this study when examining the situations that could fit the above criteria. The final choice was to perform a comparison between two markets that could fit the above criteria, namely: the grocery market and the buying of high technology products. Confusion has been described as been a problem in both situations (Friedman, 1966; Khermouch, 1994; Cahill, 1995; Leek & Chansawatkit, 2006; Schweizer et al., 2006). In addition, the level of familiarity and experience is expected to differ in the two markets for multiple reasons.

Grocery shopping has been described and used in previous research in cases that '*a routine buying situation*' (Baharrel & Denison, 1995) is sought for, while buying of high technology products has been used when '*exciting- novel*' and innovative situations (Parasuraman & Colby, 2001; Lee et al., 2011) are examined as part of a research. In terms of shopping frequency it is also expected that consumers are on average much more familiar with grocery shopping compared to high technology products' shopping, as grocery shopping is a much more frequent and every day activity.

To finish with, even the stresses and hassles examined in the literature are associated with not knowing how to make decisions or deal with product characteristics when examining high-technology products (Mick & Fournier, 1998). Anxieties and stresses described for grocery shopping (Aylott & Mitchell, 1999) are of an everyday and procedural nature, like parking availability and trolley shortage.

Based on these arguments grocery shopping and high-technology shopping have been the preferred situations for this project. In order to facilitate understanding and achieve better

focus the shopping of high technology products has been represented by the description of PC/Laptop shopping. The levels of consumer experience with each market have been measured based on an overall-macro evaluation of experience and secondarily based on the reported frequency of shopping; the results of both of these measurements are reported later in the analysis.

The following hypotheses will now turn to the extensional understanding and the developed hypotheses will correspond to that kind of language:

#### **6.10.4. Group of Hypotheses 3**

The approach taken to examine the BPM has established the use of the MR model as a useful and adequate tool in order to compare situations based on the levels of utilitarian and informational reinforcement, levels of closeness or openness (e.g. Foxall & Soriano, 2005). In the case of the BPM-E the discriminative stimuli are the descriptions of the situations and the contingencies acting in the situations are what cause the differences in the levels of the variables. In the case of this study the discriminative stimuli (SD) are the two chosen markets/choice situations. Grocery shopping has been used in past studies of the BPM as a description of the situation used to depict the *Contingency Category 7* described as '*Routine Purchasing*' (relatively open setting scope- compared to the rest of the situations in the model). It is further placed within the wider operant class of '*Maintenance*', based on low utilitarian and low informational reinforcement compared to the other categories of the model. It is then worthwhile to examine the relevant position of a High Technology purchasing situation into the categories and classes of the BPM. This answer seems difficult because conceptually (and following close examination of the other categories of the BPM model- Fulfilment/ Status Consumption/ Inescapable Entertainment/ Popular Entertainment/ Token-based Consumption/ Saving and Collecting/ Mandatory Consumption) it only seems to belong to the same category and operant class

as grocery shopping. It is however evident that the two situations are not exactly similar, several characteristics of the two markets differ. In addition, although high technology products are more and more everyday devices, PC/Laptop in itself might equally have some characteristics of hedonism (pleasure seeking), considering the value of high technology products as passing-time/ entertainment appliances/ gadgets. It is then worthwhile to wonder whether situations that conceptually seem to belong in the same contingency category and operant class differ significantly in their levels of reinforcement. Based on theoretical, practical and empirical arguments hypotheses on the comparison of the levels of utilitarian, informational, closeness-openness, confusion and behavioural responses of the two markets will be developed.

However in accordance with this study's exploratory nature, data will finally reveal whether differences can be expected in the case of such situations. However based on the nature of the products, purchases and situations involved the expected relationships will be described.

***a. Pleasure/ Utilitarian Reinforcement***

As utilitarian consequences indicate the value-in-use, the economic, pragmatic or material consequences of purchases (Foxall et al., 2006, p. 103)

**Hypothesis 13:** The two markets are expected to differ in terms of utilitarian reinforcement with the high technology market expected to have higher pleasure than the grocery market.

***b. Arousal/Informational Reinforcement***

**Hypothesis 14:** The two markets are expected to differ in terms of informational reinforcement with the high technology market expected to have higher arousal than the grocery market.

*c. Dominance/ Behaviour Setting Scope*

The two markets chosen for this endeavour are both expected to be open situations and consequently to indicate higher levels of dominance since the modern retail competition allows for what has been previously described as ‘consumer democracy’ (Lane, 2000; Schweizer et al., 2006). Consumer democracy is expressing the attempt of all markets to place consumer in the centre of all choices and offer freedom of choice by providing all the necessary products. However it can be reasoned that due to the fact that grocery market is more of an everyday situation consumers will be freer to act (external agents will have a lesser influence upon their decisions) within this market. Thus:

**Hypothesis 15:** The two markets are expected to differ in terms of dominance with the high technology market expected to have lower dominance than the grocery market.

*d. Confusion*

Being in the choice situations like the ones proposed in this study entails some punishing utilitarian and informational consequences. Any situation entails both punishing and reinforcing consequences as described by the BPM. For instance the utilitarian reinforcement of being in an exotic holiday has to do with the rest and relaxation it can offer. This type of holiday might equally produce punishing utilitarian consequences like the cost of buying the trip and a long and tiring flight. Equally informational reinforcement involves the prestige and sense of accomplishment, however punishment might also derive from negative social comments that this kind of trip is snobbish and culturally meaningless (example as in Foxall et al., 2006, 103-104). In the same manner one of the aversive consequences of choice situations are levels of confusion (environmental anomaly) that consumers are exposed to and have to deal with. As described before confusion can possibly have both utilitarian and informational consequences and these consequences can determine behaviour.

At the levels of the comparison regarding levels of confusion in the two markets, there is not enough evidence to argue for or against any possible comparison. The following hypothesis will be left open ended (post-hoc comparison) and allow for the data to indicate the final relationship.

**Hypothesis 16:** Possible differences are expected in the levels of confusion in the two markets that act as discriminate stimuli in this study.

#### **e. Behavioural Variables**

This study will further test the assumption laid forward by the BPM that behaviour will be expected to increase with the total quantity and quality of reinforcement available to reinforce it. Thus:

**Hypothesis 17:** Approach will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation is expected to have higher approach).

**Hypothesis 18:** Avoidance will be higher in the market characterised by lower levels of utilitarian and information reinforcement (thus the grocery market is expected to have higher avoidance).

**Hypothesis 19:** Aminusa, the net difference between approach and avoidance will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation is expected to have higher levels of aminusa).

Thus the levels of pleasure/arousal/ dominance/ A\_A and the comparison between the markets will depend on the discriminative stimuli which in this case are the descriptions of the situations.

### ***6.10.5. Group of Hypotheses 4***

This study will finally test its main theoretical argument that pleasure, arousal, dominance and confusion will determine approach-avoidance consumer behaviour. The two situations have been chosen in order to represent pure shopping/choice situations and in this manner a re-examination of the robustness of the MR model in consumer environments will be achieved. More importantly, the capacity of confusion as a valid construct that can work along with the PAD variables to add value to the BPM is to be examined. Based on the literature on the PAD, the BPM and the propositions of this study the following hypotheses are proposed:

**Hypothesis 20:** Affective variables of pleasure, arousal and dominance will each have a positive relationship with approach. Confusion will have a negative relationship with approach.

**Hypothesis 21:** Affective variables of pleasure, arousal and dominance will each have a negative relationship with avoidance. Confusion will have a positive relationship with avoidance.

**Hypothesis 22:** Affective variables of pleasure, arousal and dominance will each have a positive relationship with aminusa, the net difference between approach and avoidance. Confusion will have a negative relationship with aminusa.

**Hypothesis 23:** Aminusa (the net difference between approach-avoidance) will be determined by the variables pleasure, arousal, dominance and confusion.

**Hypothesis 24:** Two-way interactions may be identified between the affective variables pleasure and arousal (possibly dominance) when considering their effect on aminusa.

## 6.11. Conclusion

This chapter has laid the foundations and achieved the description of the conceptual framework that this research is based on. The exploration of the theoretical underpinnings and the findings of previous research regarding confusion, rule-governed behaviour, the BPM, and the applications of intentional behaviourism in the extension of the BPM to an intentional understanding (BPM-E/ BPM-I) resulted in the extraction of important information, based on which the proposed framework of this research was structured and the hypotheses were developed.

An understanding of confusion based on the principles of rule-governed behaviour has been offered and the implications for the conception and study of confusion have been discussed. Essentially confusion has been described as contributing to an extensional and an intentional exploration of the BPM and the way these ideas can drive theoretical development and research practice into new directions are presented.

The Mehrabian and Russell (1974) model has been described as possessing the faculty to measure the main variables of the BPM model, utilitarian and informational reinforcement, behaviour setting scope and approach-avoidance behaviour. The capacity of these measurements to represent such ideas has been proven in previous research (Foxall, 1997b).

Leaving aside the main propositions of the proposed frameworks (the BPM-E and the BPM-I), the issue still remains that very limited research has examined in a systematic manner the level and effect of confusion on differing consumer situations and the relationship with emotional and behavioural responses, notably concerning the variables proposed by the MR model; this will act as a supplementary objective of this study.

On these grounds, one bi-directional main proposition (using an extensional and intentional language) and several research hypotheses based on theoretical grounds and concepts have been described. For the purposes of facilitating this knowledge inquiry, an appropriate research methodology has been utilised and will be deployed in the subsequent chapter.

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## 7. RESEARCH METHODOLOGY

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### 7.1. Introduction

Many researchers still remain very much preoccupied with the choice between quantitative and qualitative methods. However, issues related to research conduct go far beyond research methods because the choice of *research methods* is just one of the four elements of research methodology. The others are: the *scientific research paradigm*, identification of the *research design* and also the *data analysis techniques* (Saunders et al., 2009, p. 108). Chapter seven will be organised around those four major topics of methodology. It explains the position of this study in relation to the scientific research paradigms. It further describes the research design and methods used to collect and analyse the data allowing for the exploration of the research questions and hypotheses that were previously proposed. The criteria to establish and judge research integrity and quality will also be discussed.

The issues around research methodology are of decisive importance for every research because these have a threefold goal: to determine what can be accepted as knowledge in a research project and to legitimise that knowledge within an acceptable framework of processes (Benton & Craig, 2001). To finish with, it dictates the way the methods and the analysis of findings will be conducted.

### 7.2. Scientific Research Paradigm

The examination of the scientific research paradigm of this thesis will commence with an exploration of established philosophical frameworks for conducting research. Based on a critical examination of these philosophical frameworks, two basic beliefs that guide the overall conduct of this research will be established. The section will then extend to the

explicit philosophical beliefs of this study in terms of ontology, epistemology and methodology.

### ***7.2.1. Overview of Research Paradigms and Guiding Beliefs of this Inquiry***

Scientific research paradigms are overarching conceptual frameworks within which some researchers work, that is, a paradigm is a world-view or a set of linked assumptions about research conduct which is shared by a community of scientists investigating the world (Kuhn, 1962 as in Deshpande, 1983, p. 101). Philosophical paradigms act as an attempt to organise the confused and contradictory world of common sense and provide guidance to research (Foxall, 1995). It has been conventional since Kuhn (1962) to call these particular combinations of assumptions *paradigms*. Kuhn's work in the natural sciences presupposed that paradigms generally succeeded one another. Contrary, in the social sciences, it has been admitted that a set of antithetical paradigms can exist simultaneously (Mingers, 2001).

Specifically for the broad area of marketing and consumer behaviour research, Pachauri (2002) argues (see also Shankar & Patterson, 2001 on the same topic) that these have been generally characterised by two broader paradigms, positivist (emphasising the economic, behavioural, cognitive, motivational, trait, attitudinal perspectives)—which is dominant since the late 50's, giving a culturally neutral 'etic' account (see also Foxall, 1995; Goulding, 1999) and non-positivist (interpretive and post-modern perspectives—emphasising the symbolic, subjective experience), which emerged during 1980's exploring a culture-specific 'emic' account. Peter and Olson (1983, p. 120) have summarised the defining characteristics of these broader approaches where empiricist science is determined by the discovery of the true nature of reality, and relativism by the more 'loose' approach, where science is allowed to create many versions of reality.

One of the most cited tables (and book chapters) illuminating different paradigms in social sciences is the one by Guba & Lincoln (1994, p. 109) — table adapted here based on Perry et al., 1997 as in Healy & Perry, 2000 and Guba & Lincoln, 2005). Table 7.1 distinguishes then four major research paradigms: positivism, post-positivism, critical theory and interpretivism/constructivism, and explains them in terms of their defining elements: ontology, epistemology and methodology.

**Table 7.1 Four social research paradigms explained**

	<b>Positivism</b>	<b>Post positivism (realism)</b>	<b>Critical Theory</b>	<b>Interpretivism/Constructivism</b>
<b>Ontology</b>	Naive realism- reality is real and apprehensible. Reality is driven by immutable natural laws and its true nature can only be obtained by testing theories about objects, processes or structures in the real world.	Reality is real but only imperfectly and probabilistically apprehensible.	Virtual reality shaped by social, economic, ethnic, cultural and gender values, crystallized over time. It has also been named <i>historical realism</i> as social reality is perceived as historically constituted.	Relativism: Multiple, local and specific constructed realities. The social world is produced and reinforced by human through their action and interaction.
<b>Epistemology</b>	Objectivist: findings are true. Verification of hypotheses through rigorous empirical testing, search for universal laws. Tight coupling among explanations, predictions and control.	Modified objectivist: findings probably true.	Transactional/subjectivist: value mediated findings. Knowledge is grounded in social and historical practices; knowledge is generated/ justified by a critical evaluation of social systems.	Transactional/subjectivist; understanding of the social world through the participants perspective; through interpretation of their meanings and actions; researchers come into research with previous assumptions.
<b>Methods</b>	Hypothetical-deductive experiments/ manipulative; hypotheses testing; chiefly quantitative methods.	Case studies/ convergent interviewing: triangulation, interpretation of research issues by qualitative and by	Dialogic/ dialectical; researcher as a ‘transformative intellectual, changes the social world within which participants	Hermeneutical/ dialectical: researcher as a passionate participant within the world. Interpretive case study, action

		quantitative methods.	leave. Critical ethnography; interpretive case study; action research.	research, holistic ethnography.
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Source: Based on Guba & Lincoln (1994, p. 109); Perry *et al.*, 1997 as in Healy and Perry, 2000; Guba & Lincoln, 2005.

A paradigm is thus a construct that specifies a general set of philosophical assumptions covering **ontology**—the form and nature of reality. This is a term used to describe the answer to the question: '*What kind of things are there in the world?*' (Benton & Craib, 2001), **epistemology**—the relationship between the researcher and what can be known, the nature of valid knowledge and the **methods**—the techniques and practices used by the researcher to investigate that reality (Krauss, 2005) .

The less influential but very relevant for the scopes of every research project is **praxiology**. Praxiology defines the way that researchers act in an informed and reflective manner. According to Habermas (1993) (as in Mingers & Brocklesby, 1997) praxiology is subdivided into *research effectiveness* (a. the relevance of research questions to the paradigm employed and b. practical issues such as how trained a researcher is on specific methods and way of thinking) and *ethics* (also called axiology).

It has then been described that the established paradigm in consumer behaviour has been the 'traditional' positivist philosophies of science (Shankar & Patterson, 2001; Pachauri, 2002). These philosophies assume '*that the social sciences adhere to a single scientific method for the justification of their knowledge claim*' (Anderson, 1986, p. 156). Hirschman (1986, p. 237) believes that the reason of various forms of positivism dominance in the field has been marketing's roots in logistics and economic issues (areas which are preoccupied with the incorporation of concepts like profitability, cost minimisation and marginal returns).

Coinciding however with the broadening of analytical perspectives in the 1980's, many prominent names in the field (Belk, 1988; Belk et al., 1989; Hirschman, 1986; Thompson et al., 1990; Venkatesh, 1992; Firat & Venkatesh, 1995; Thompson & Hirschman, 1995; Shankar & Patterson, 2001; Goulding, 2005) challenged its defining characteristics and sought to understand consumer practice in their own language (by adopting interpretivism approaches to marketing research). This transition has of course not gone unmarked by defence and reaction (Hunt, 1991), and it is still one that has not been fully embraced within the discipline.

In addition, a further paradigm of consumer research which is based on a behavioural conception of consumption flourished around that same period (see also chapter 4). The behavioural analysis of consumption can well be based on the principles of radical behaviourism (Foxall, 1986; 1987). It advocates that consumer behaviour is operant, private events are behavioural in character rather than mental and that the locus of behavioural control can be found within the environment/situation.

In an attempt to justify and maintain the integrity of such philosophical distinctions, researchers usually draw on Kuhn's (1962) incommensurability thesis (as in Davies & Fitchett, 2005). However, the paradigms above (see table 7.1 and the discussion that followed the table) and the perspectives that these represent should not be perceived as prescriptions; rather wide variations and differentiations exist even within the paradigms themselves. These variations make the boundaries among the paradigms blur and the main ideas behind them not so clear cut. Hunt (1991) described how '*the main problem with realism is that there are so many different kinds of it*' and interpretivism/constructivism are two approaches that steer a researcher into a particular outlook but even within these alternatives one can find different research agendas and diverse ways of examining and understanding the data (Goulding, 1999; 2005). Foxall (2007a; Foxall; 2007b) a supporter

of the behavioural approach has also advocated the inclusion of intentional terms when examining consumers' behaviour in behavioural terms, thus accomplishing the best of both approaches (see also chapter 4).

Equally, the common definition of research paradigms based on their connections with particular research methods (usually quantitative methods for positivism- qualitative for interpretivism) does not really dictate any actual reasons why the whole range of methods cannot be used in a way concordant with the different goals and assumptions of the different paradigms (as in Wilk, 2001; Davies & Fitchett, 2005).

As a foundation statement then, this thesis has been written under two basic beliefs.

**Firstly**, in a 'rigorous' consumer behaviour research all kinds of perspectives are necessary and all paradigms add up to the maximisation of types of questions researchers are able to address (Foxall, 1987; Hunt, 1991, p. 41; Foxall, 1995, p. 13; Wilk, 2001).

**Secondly**, although the question regarding paradigms commensurability has not been answered yet and paradigms are supposedly different on some or all of their dimensions, recent voices argue (Szmigin & Foxall, 2000; Cupchic, 2001; Davies & Fitchett, 2005; Foxall, 2007a; Foxall, 2007b; Foxall, 2008) that in order to re-appraise the dichotomies and to build bridges between different social ontologies, researchers must engage in a transcendental act of reflection and look for similarities rather than differences.

### **7.2.2. *Philosophical Position***

Both radical and intentional behaviourism are not only distinctive schools of psychology but also appropriate philosophical frameworks of the science of behaviour. Overall, radical behaviourism has been connected to a naive, Machian, positivism where no distinction can be assumed between scientific perception and reality (Foxall, 1995, p. 23). This study will adopt this positivistic philosophical perspective where reality is perceived

as real and apprehensible by researchers. Further, specific philosophical assumptions underlying this knowledge quest are based on the principles of intentional behaviourism and are summarised in the following table 7.2.

**Table 7.2 Ontology, epistemology and research methods of this study**

	Intentional Behaviourism
<b>Ontology</b>	<ul style="list-style-type: none"> <li>➤ Behaviour is the subject matter of psychological inquiry.</li> <li>➤ The locus of behavioural control is to be found within the situation.</li> <li>➤ Discriminative stimuli control operant behaviour.</li> <li>➤ Intentional terms (in terms of beliefs, attitudes and desires) have a role in such inquiry because these contribute to explanation.</li> <li>➤ Intentional terms maintain their linguistic properties but not their ontological.</li> </ul>
<b>Epistemology</b>	<ul style="list-style-type: none"> <li>➤ Theory is empirically based and leads to sound interventions to solve practical problems.</li> <li>➤ The aim is to establish functional relationships. Relationships that occur when a change in an independent variable results in a change in a dependent variable.</li> <li>➤ Operant behaviour is ‘voluntarily’. It operates upon the environment to produce consequences which determine its future occurrence based on a learning history.</li> <li>➤ Operant behaviour is of two broad kinds: <i>contingency-shaped</i> that is shaped by direct contact with the environment and <i>rule-governed</i> that is determined by verbal descriptions of contingencies.</li> </ul>
<b>Research Methods</b>	Use of quantitative methods (online survey, informed however by multiple pilot tests).

Source: Table compiled for this study from the following sources: Foxall, 1995, p. 21–22; Foxall, 2007a; 2007b; 2008; 2010a, p. 50–56.

The specific knowledge inquiry has been reached by adopting a more focused approach to its research philosophy which is based on the specific pragmatic research needs of this study. On the grounds of the aforementioned bridging, of what appears to be incommensurable ideas, the ontology of intentional behaviourism which accommodates elements of both the *intentional and the contextual stance*, the epistemology of radical behaviourism which advocates the importance of *functional relations* and *contingency and*

*rule-governed behaviour* and a quantitative research methods approach, are the most vigorous choice to serve and achieve this study's objectives.

### **7.3. Research Design**

The following sections will deal with the research design of this study. With an aim to facilitate understanding of the processes and decisions involved when considering the design of a research, three aspects of research design are discussed, namely: the research process (inductive, deductive and abductive reasoning), the research purpose (exploratory, descriptive and explanatory or causal) and the timeframe of data collection (the difference between longitudinal and cross-sectional data is of main concern here). A summary of research objectives and hypotheses in the form of several tables (see tables 7.3; 7.4 and figure 7.2) describe the ways that the choices of the research design have served the objectives of this research.

#### **7.3.1. *Research Process***

Aristotle was the first to summarise two processes of research: inductive and deductive processes. In the recent history of social sciences many scholars have examined the topic of these types of reasoning and the implications for research (Blaikie, 2000; Hyde, 2000; Saunders et al., 2009). It is widely acknowledged that the difference between these approaches lies with the role and relationship of theory and data collection. The *inductive process* moves mainly from the data or observations to viewpoints (theoretical conceptualisations) while the *deductive process* moves mainly from viewpoints (theoretical conceptualisations) to data collection.

The kind of research which emphasises the continuous questioning has been named *abductive reasoning* and Rudestam and Newton (2007) prefer to describe this process as a 'wheel' to indicate that research is usually a system where parts interact in order to

produce the necessary validity (see figure 7.1 below). In abductive reasoning then the researcher moves constantly between the theory and the findings in order to produce the necessary understanding.

Advocating the fact that the emphasis of this research was placed on a) the examination of an existing conceptual model of consumer behaviour (even though the model was investigated from the different perspectives of an extensional and an intentional understanding) and equally b) the development of hypotheses based on theoretical arguments, a deductive research process has been utilised where the formulated hypotheses could conceivably be falsified by a test on observable data.

### **7.3.2. *Research Purpose***

Another useful distinction that should be discussed in this research strategy section is the distinction among the diverse purposes that a research design can serve. The most common classifications are exploratory, descriptive and explanatory (or causal) (Kent, 2007; Burns & Bush, 2010). *Exploratory research* has been widely associated with the initial stages of a research where topics are examined with no prior knowledge or with a purpose to shed new light to existing topics (or see familiar topics with new eyes). Exploratory research is usually used to define terms and generate insights for further elaboration and additional research. *Descriptive research* is mainly concerned with the characteristics of a phenomenon. In marketing it is usually concerned with answering questions like who, what, where. According to Burns and Bush (2010) it is usually cross-sectional in nature (meaning that data collection occurs at one point in time and usually act as a depiction of a population). Descriptive research is finally also suited for hypothesis testing and can be regarded as an extension, forerunner, originator, or part of explanatory research (Saunders et al., 2009). That is because, for the explanation of a phenomenon, an accurate view of its facts, elements and dimensions should be known to

facilitate predictions, hypotheses development and examination of relationships. *Explanatory research* then attempts to explain the reasons behind situations and behaviours. When the aim is the determination of cause and effect relationships between variables these studies are also called causal. The usual way to ascertain causality is the use of experimental designs where variables are manipulated and effects can be established.

Although this categorisation of research purposes seems theoretically useful, in practice according to Kent (2007, p. 12) it is somewhat inadequate to capture the reality of conducting research. Pure exploratory designs would only involve generating new ideas and pure descriptive ones would be limited to the analysis of variables one at a time, however most research projects include an exploratory phase where ideas are refined, a descriptive phase for description and will then move on to the establishment of possible relationships between variables (even if these relationships are described as functional and not causal as is the case in this research).

In an attempt to characterise this research, two of the aforementioned research purposes will be mainly used in order to adequately answer the problems posed by this research. The first stage of research instrument development will be described as purely exploratory because in accordance with the definition of exploratory research this will seek to generate new insights, critically debate the existing knowledge and elaborate on the constructs of interest and their proposed conceptualisations. As there are no previous conceptualisations of contextual confusion, an exploratory pilot test has assisted to move confidently to subsequent pilot tests and finally create the main data collection instrument. Subsequently a research approach which carries elements of both exploratory and descriptive research was undertaken. This kind of research is suitable when testing general hypotheses and when causality is not a prerequisite of a study.

As usual, there are criticisms and shortcomings of the aforementioned research purposes. Exploratory research is often described as '*a brief, fleeting, preliminary stage that gives way to the real thing*' (Stebbins, 2001). However, as described by the same author, the heart of research in social sciences is exploratory as research in its own right should be characterised as a learning and cumulative process which is governed by exploratory choices and personal interest (Stebbins, 2001). In this way no single study can be definitive and all research is characterised by exploration.

Additionally, although some researchers argue that especially descriptive research is mainly a technical matter downgrading in that manner the need for theory and agreeing that merely measuring variables and identifying the relationships and correlations is enough, Blaikie (2000) counter-argues that all kind of concepts carry theoretical implications and thus there is no escape or other way to conduct a research but to accept that there are theoretical implications in any study.

A summary of the way these two research designs are combined in order to serve the research objectives and questions of each research stage are presented in table 7.3.

**Table 7.3 Summary of research objectives and questions of each research stage**

Research stage	Objectives	Research Questions/ Hypotheses
Exploratory	<p>To assist the process of <b>questionnaire development</b> by <b>identifying the conceptualisation of consumer confusion</b> that best describes the concept as a state directed towards specific markets. This conceptualisation should be free (as far as possible) from other states like frustration, bother, annoyance etc.</p>	<p>What is consumer confusion? Which of the previous conceptualisations of confusion (if any) better depicts the state in specific markets?</p>
Descriptive	<p><b>BPM-I.</b> To examine whether situational contingencies can be modified by the person's rule-making (personal level of explanation). Thus, the aim is to identify the effect of confusion as a punishment to the situational reinforcements (utilitarian and informational) and to behavioural responses. <b>Hypotheses 1-6</b></p>	<p><b>H4:</b> Overall, the range of confused consumers will indicate lower levels of Pleasure than the range of non-confused consumers.</p> <p><b>H5a:</b> Overall, the range of confused consumers will indicate lower levels of Arousal than the range of non-confused consumers.</p> <p><b>H5b:</b> Overall, the range of confused consumers will indicate the same levels of Arousal with the range of non-confused consumers.</p> <p><b>H6:</b> Overall, the range of confused consumers will indicate lower levels of Dominance than the range of non-confused consumers.</p> <p><b>H1:</b> Overall, the range of confused consumers will indicate lower levels of Approach behaviour than the range of non-confused consumers.</p> <p><b>H2:</b> Overall, the range of confused consumers will indicate higher levels of Avoidance behaviour than the range of non-confused consumers.</p>

		<b>H3:</b> Overall, the range of confused consumers will indicate lower levels of Aminusa (Approach-Avoidance) behaviour than the range of non-confused consumers.
		<p><b>Proposition:</b> The effect of confusion on reinforcement and behaviour will depend on the situational effect of the market.</p> <p><b>H7:</b> The effect of confusion on Pleasure will be stronger for the market characterised by overall lower levels of experience.</p> <p><b>H8:</b> The effect of confusion on Arousal will be stronger for the market characterised by overall lower levels of experience.</p>
	<p>To identify areas that the intentional and the contextual stance are found to interact to produce an effect on behaviour.</p> <p><b>Hypotheses 7-12.</b></p>	<p><b>H9:</b> The effect of confusion on Dominance will be stronger for the market characterised by overall lower levels of experience.</p> <p><b>H10:</b> The effect of confusion on Approach behaviour will be stronger for the market characterised by overall lower levels of experience.</p> <p><b>H11:</b> The effect of confusion on Avoidance will be stronger for the market characterised by overall lower levels of experience.</p> <p><b>H12:</b> The effect of confusion on Aminusa (approach-avoidance) will be stronger for the market characterised by overall lower levels of experience.</p>
		<b>H13:</b> The two markets are expected to differ in terms of utilitarian reinforcement with the high technology market expected to have higher Pleasure than the grocery market.

	<p><b>BPM-E.</b> To examine the predictive power of the BPM in terms of the reinforcing qualities and behaviours of consumer situations, which are beyond the original model.</p> <p><b>Hypotheses 13-19.</b></p>	<p><b>H14:</b> The two markets are expected to differ in terms of informational reinforcement with the high technology market expected to have higher Arousal than the grocery market.</p> <p><b>H15:</b> The two markets are expected to differ in terms of dominance with the high technology market expected to have lower Dominance than the grocery market.</p> <p><b>H16:</b> Possible differences are expected in the levels of Confusion between the two markets that act as discriminative stimuli in this study.</p> <p><b>H17:</b> Approach will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).</p> <p><b>H18:</b> Avoidance will be higher in the market characterised by lower levels of utilitarian and information reinforcement (thus the grocery market is expected to have higher avoidance).</p> <p><b>H19:</b> Aminusa, the net difference between approach and avoidance will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).</p>
		<p><b>H20:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with Approach. Confusion will have a negative relationship.</p>

	<p>To examine whether reinforcement, aversive consequences and behaviour setting scope will determine behavioural variables as expected by the models.</p> <p><b>Hypotheses 20-24.</b></p>	<p><b>H21:</b> Affective variables of Pleasure, Arousal and Dominance will each have a negative relationship with Avoidance. Confusion will have a positive relationship.</p> <p><b>H22:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with aminusa, the net difference between approach and avoidance. Confusion will have a negative relationship.</p> <p><b>H23:</b> Aminusa (the net difference between approach- avoidance) will be determined by the variables Pleasure, Arousal, Dominance and Confusion.</p> <p><b>H24:</b> Two-way interactions can be identified between the affective variables Pleasure- Arousal when examining their effect on Aminusa.</p>
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Source: this study

### 7.3.3. *Data Collection Timeframe*

Another important element of any research, positioned within the boundaries of a research design (Saunders et al., 2009), is the consideration of the element of time in the study of the topic of interest. This aspect is crucial because it can determine the results and generalisability expected from a study. Among the diverse research designs proposed (Bryman & Bell, 2007, p. 44) the cross-sectional and longitudinal approaches are the ones more closely describing the time frame of data collection. For longitudinal research, time is a dimension that plays a particular role in addressing the research objectives as it advocates for data that have been collected in at least two waves on the same variables and on the same participants. Such data facilitate research objectives connected with change and evolution of phenomena (Bryman & Bell, 2007, p. 61). On the other hand,

cross-sectional designs study phenomena at one particular point in time and although there are certainly practical limitations and considerations for this choice, there might equally be theoretical reasons that support this option according to the study's objectives. Apart from the element of time, cross-sectional designs are usually characterised by survey strategies and the collection of quantitative data (Saunders et al., 2009).

Turning the interest to this study, the approach to data collection adopted is cross-sectional in nature, where a subset of the population is measured at one specific point in time. The reason for that choice is twofold; the orientation of this study is beyond measuring change or development over time, which makes longitudinal data unnecessary. Cross sectional data are particularly suited and sufficient for the comparison of differences among situations or groups of participants and establishment of relationships, which is the case and objective in this inquiry.

#### **7.4. Research Methods**

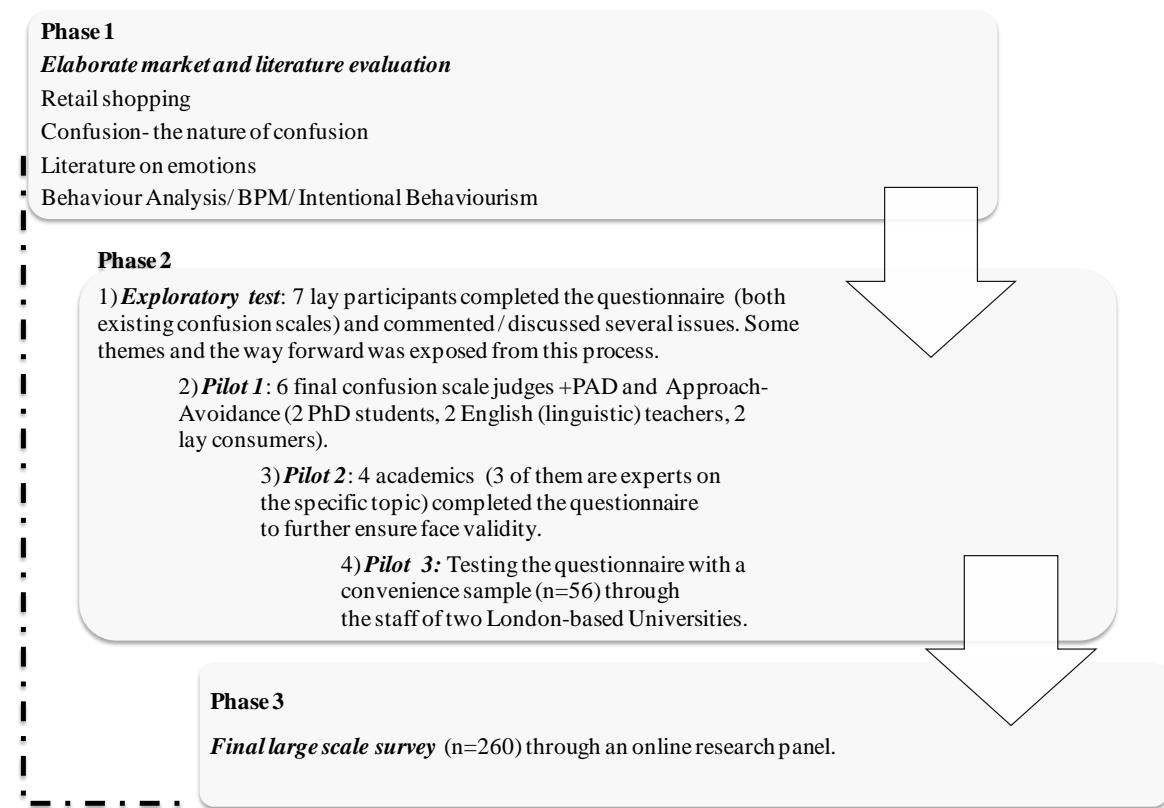
Following reflection on the strengths and limitations of several research methods and more specifically examining the differences between qualitative and quantitative approaches (see Appendix 3 for the strengths/weaknesses and overall framework that has been proposed as more suitable for using each approach based on Mack et al, 2005<sup>8</sup>) and further the state of the theoretical model of this study, this research has advocated for the use of a quantitative approach. The development of the research instrument (questionnaire) has been informed by several meticulous exploratory research studies/pilot tests (DeVaus, 2001). This meticulous research approach can be justified when considering the online nature of main data collection. The emphasis has been placed on a

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<sup>8</sup> The framework proposed and described in Appendix 3 is only suggestive and generalised. It is acknowledged that there are specific approaches in each method that do not adhere to these rules.

quantitative survey; however each step of the process has added the necessary knowledge for the completion of this project. Figure 7.2 summarises the research steps used in this study in order to achieve the questionnaire development by adopting an approach based on 3 research phases.

**Figure 7.1 Summary of the research steps for the development of the main research instrument and the implementation of this study.**



Source: this study

This research has been informed by secondary information following a critical evaluation of the literature (research phase 1). The information gathered helped with the progression and enrichment of the subsequent stages of collecting data from primary sources (research phases 2 and 3). However, as the dotted line starting from the literature review and extending to all other research stages indicates the evaluation of the literature extended throughout this research project and has enriched all subsequent research stages.

#### ***7.4.1. Research Phase 1- Critical Evaluation of the Literature***

The collection and critical understanding of literature has been conducted throughout the duration of this research project. Various types of resources including but not limited to academic journals, books, past theses, conference proceedings, knowledge over the internet and workshop and seminars material have been used. Most of these resources have been collected through scientific databases like: ABI Inform Global (ProQuest), EBSCO, Emerald Library, Google Scholar, IngentaConnect, PsycINFO, Management and Business Studies Portal (British Library), ProQuest Dissertation and Theses, Science Direct, Social Science Citation Index, Scopus and Zetoc. Several keywords organised through excel files have been used for the more systematic implementation of the literature task. Keywords used include: retail environment, retail shopping, (consumer) confusion, emotions, intentionality, behaviourism, BPM and intentional behaviourism. The Boolean logic (AND, OR, NOT, \*, ?) that allows the limitation, expansion or combination of items found was used (Saunders et al., 2009, p. 83). The logic of ‘snowballing’ in the sense that the reference list of several key articles informed the choice of further literature search was also implemented.

#### ***7.4.2. Research Phase 2 and 3- Use of Different Kinds of Interviews***

In terms of the research methods for the collection of primary data an approach based on a quantitative methodology was used in this study. Although Creswell and Plano Clack (2007) indicate the diverse ways<sup>9</sup> that qualitative and quantitative methods can be used during a research project, the use of a behavioural approach and especially of the BPM in this study (a conceptual model that has been developed through previous research and can offer researchers with firm theoretical guidelines) dictates and justifies the use of a

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<sup>9</sup> The ways they suggest are: merging of the data, connect the data in a kind of sequential order and finally, embed the data

quantitative approach. The process of preparing and developing the research questionnaire itself has been however informed by a number of different data, in the form of a small scale qualitative/ exploratory test and several interactions with knowledgeable and lay participants (pilot tests). This technique is one frequently utilised due to the nature of qualitative and quantitative data. Pilot tests and qualitative kind of interactions with participants is very much suited to generate a deeper understanding of the phenomena in question and help develop and test the research instrument and quantitative methods can be used to test specific hypotheses (Patton, 2002).

Table 7.4 presents each of the preliminary methods used, along with goals achieved, details on the pool of relevant participants, sample design, ways of analysing data and time periods of data collection.

**Table 7.4 Details of research methods used in this study for the purposes of questionnaire development, testing and data collection.**

Research method	Goal	Pool of participants	Sample	Analysis	Time Period
Structured Personal Interviews	To facilitate the development of the main quantitative instrument. To develop an understanding of confusion and place it in context.	✓ Cardiff Business School staff. ✓ Snowballing from personal acquaintances.	Non-probability convenience sampling.	Continuous memo-writing, interpretive and reflexive readings, comparisons of answers, and formulation of the common understanding, which was enriched with judgement based on theoretical knowledge.	February-March 2012
Self-completion of initial questionnaires.	To facilitate the development of the main quantitative instrument by ensuring a) face validity and b) ease of use and understanding of the general structure of the research instrument.	✓ Cardiff Business School staff. ✓ Cardiff University Invigilators. ✓ Academics in the field of marketing and consumer behaviour.	Non-probability purposive sampling.	Comparison of comments. Personal judgement based on the requirements of this research.	March-June 2012
Questionnaires: Online and self-administered	To test the research hypotheses.	✓ Study 1: University staff. ✓ Study 2: Qualtrics online research panel.	Study 1: Non-probability convenience sampling. Study 2: Probability sampling.	EFA, correlation, ANOVA, factorial ANOVA and multiple regression.	Study 1: July 2012 Study 2: November 2012

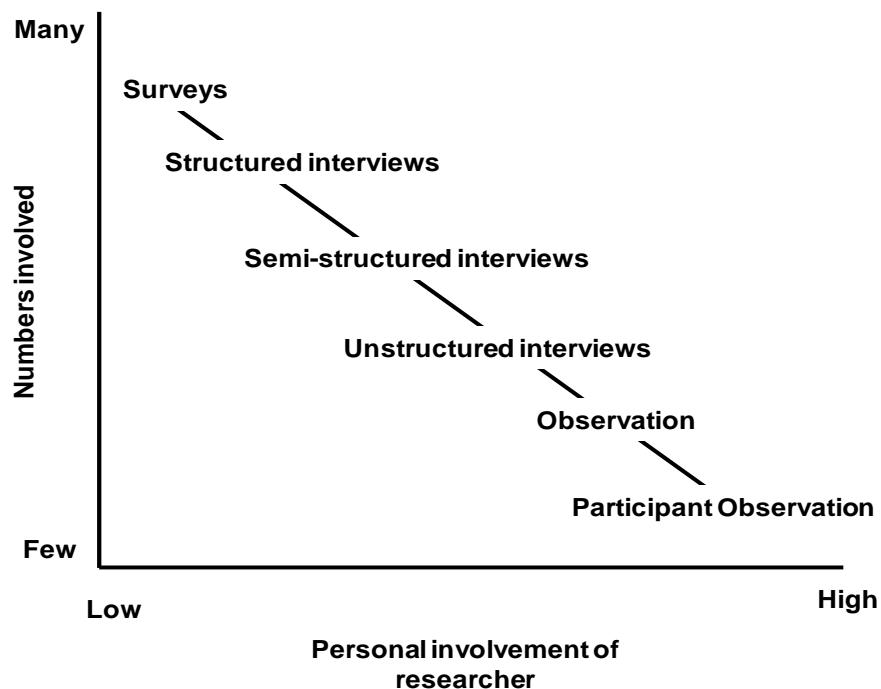
Source: this study

### 7.4.3. Interviews

Following the description of the way this research employed several steps to questionnaire development, it is essential to state the different forms of personal interviews as the main secondary data collection method. Figure 7.4 categorises the diverse research methods available to researchers based on two dimensions, according to the number of participants

involved and the involvement of the researcher in each process. The research methods repertoire includes different kinds of interviews (ranging from structured to unstructured) and also involves more unobtrusive methods, like participant observation.

**Figure 7.2 Data collection methods**



Source: McNeill & Chapman, 2005, p. 22 (original source: Worsley, 1977).

In view of the varied limitations and strengths of these research methods, their practical implications along with the specific research objectives of this study, both semi-structured interviews (a combination of open and closed questions used during the small scale exploratory test and the pilot tests) and a structured questionnaire/ survey (simple, specific, closed questions) (Gillham, 2000) were utilised in the different stages of this research. Although social science researchers and generally our society has been called an '*interview society*', accused of placing a distinctive emphasis on interviewing as a form of data collection (Atkinson & Silverman, 1997), interviews have also been described as the 'bastion' of research in social sciences and their importance is unambiguous (Briggs, 1986).

The use of interviews is justified in this endeavour considering two aspects of this research a) the emphasis that radical behaviourism places on verbal behaviour of individuals (BPM-E) and also b) the necessity to use intentional terms which describe individuals as bearers of beliefs, desires and propositional attitudes (BPM-I). Such entities are more precisely described by those bearing them and could not be as accurately examined by observation or other unobtrusive methods (Murphy & Dingwall, 2003, p. 78). As admitted by Murphy and Dingwall (2003, p. 78) everyday interactions and discourse might produce such spontaneous narratives of factors that influence behaviour but there is no predictable place or time where consumers routinely do so. It would be necessary thus to observe them for an inordinately long period to secure very little data.

The following sections will proceed with the ways that the use of interviews has found application in the initial exploratory step, the pilot tests and will describe the ways these research steps have facilitated the development of the main research instrument of this project.

#### **7.4.4. *Exploratory (Pilot) Test***

##### **a. *Semi-Structured Interviews***

###### *Aim- sample-criteria for participation*

The aim of this exploratory step has been to inform the questionnaire development by identifying which of the two previous conceptualisations of consumer confusion can find a better application in a contextual manner. The two confusion scales (see chapter 3, p. 49-52) were previously generated to serve different purposes. However, both conceptualisations could potentially find application to the measurement of confusion on different occasions as admitted by the researchers who developed them (Walsh et al., 2007; Walsh & Mitchell, 2010; Schweizer et al., 2006). Specifically, Walsh et al., (2007) invite future inquiries which will act to extend and test the appropriateness of their scale for use in specific contexts and shopping situations.

The decision to re-examine an existing scale in different situations and in that manner broaden its context of applicability, was also based on the acknowledgment of the increasing voices in the field of advertisement, consumer and marketing research indicating that theory development and refinement have suffered from the phenomenon of the '*isolated study*' indicating the lack of an explicit replication tradition in these fields (Easley et al., 2000). Although this is not a replication study per se it will seek to examine which of the previous conceptualisations of confusion best depicts the conception of confusion as applied to specific shopping environments/markets. By extending the applicability of this scale to a contextual manner and re-testing its validity/ reliability, the accretion of knowledge is facilitated.

It was then a conscious decision not to develop a new confusion scale. Two characteristics were judged as essential for the adoption of one of the two existing conceptualisations of confusion for this project:

- 1) The conceptualisation should be received with consensus concerning its capacity to represent confusion in both of the situations in question, and
- 2) This conceptualisation is not characterised or is minimally characterised by other states like annoyance and frustration.

In order to implement the aim of this exploratory step a non-probability convenience sample was judged as sufficient. Seven participants were chosen based on their willingness to take part and their ability to answer questions regarding confusion. The lack of specific sample size rules to follow when conducting such essential ‘qualitative’ parts complicates the choices made at that level. As the main objective of this step has been to enhance the researcher’s understanding concerning consumers’ thinking and perception of confusion and connect these ideas with theoretical constructs, interviews stopped when it was clearly felt that data were enough to inform the study and its results. This approach has been called theoretical saturation (as in grounded theory) however in this study *judgement saturation* seems more appropriate (the point where the researcher felt a choice could be made with confidence).

Table 7.5 describes the characteristics of this sample:

**Table 7.5 Participants of the exploratory test**

	<b>Gender</b>	<b>Age Group</b>	
Participant 1	Female	55-64	Vocational/technical school
Participant 2	Female	55-64	High School
Participant 3	Female	65 and over	High School
Participant 4	Female	25-34	Graduate School (MSc/PhD)
Participant 5	Female	25-34	Undergraduate Degree (BA/BSc)
Participant 6	Female	45-54	Undergraduate Degree (BA/BSc)
Participant 7	Male	25-34	Graduate School (MSc/PhD)

Source: this study

The over-representation of female participants is not considered problematic, as the research objectives were of exploratory nature and following the completion of these seven interviews objectives were evaluated as successfully achieved. The researcher

compared and combined the participants' discourse with previous research, theory and understanding and a firm decision on the best course of action for the quantitative measurement of confusion was reached.

One issue identified during the conduct of the interviews concerned the most recent shopping trip for the majority of these participants. This in most cases was reported to be a grocery trip, thus consumers in the short first part of the interviews very much focused on this shopping occasion (this is however probably not connected to the nature of the sample, more possibly it can be attributed to the frequent and mundane nature of grocery shopping). This issue was overcome with the introduction of the PC/laptop context in the next stage of the questionnaires' administration.

#### *Procedures of the interviews*

During these interviews a short interview guide along with four structured questionnaires (the role of the questionnaires was to act as stimuli for easier elaboration on the topic) were used in order to achieve the research objectives. To start with, only two initial open questions were introduced to participants. The first question concerned participants' definition/understanding of consumer confusion in general and they were then asked if they could describe a confusing experience they experienced during their most recent shopping occasion or one that they could remember. This process was very general but was necessary in order to introduce participants to the subject and empower them to think in terms of their own perception of the topic.

Subsequently, the two confusion scales were given to the participants in paper (4 questionnaires in total- one of the scales in the two markets and again the other scale in the other two markets). This part was left more open with no specific questions. Respondents were left to read (and if they wish complete) the two scales in the two

contexts and were then asked to express their own thoughts on the suitability of each in those two contexts.

Interviews were voice recorded (mainly concerning the first interview part) and then only partially transcribed. As consumers spend much of the interview time completing and commenting on the questionnaires, full transcription of the interviews was judged as unnecessary. Note-taking at the moment of the interview seemed as a meaningful approach for this part of the research. The analysis was based on multiple and reflective readings, comparisons of the transcripts and memo-writing following each interview, in accordance with the principles introduced by Charmaz (2006, p. 80-81). This process helped to retain the overview of the interviews, to maintain understanding between the interviews and thus to better appreciate consumers' discourse and reach conclusions easier. The findings were further compared with and very much based on researcher's judgement and previous theoretical conclusions from relevant research.

### *Findings*

Table 7.6 contains the spontaneous answers on what constitutes consumer confusion according to the participants:

**Table 7.6 Spontaneous answers on the topic of 'consumer confusion' according to the participants**

	<i>Abstracts</i>	<i>Code given by the researcher</i>
Participant 1	<i>I would say that confusion is like if you have two sugars for instance...different kinds of sugar which one is the right one for you to buy? You know...and actually like that sugar...the half spoon sugar...that half spoon sugar....I did not realise it was half sugar and half something else, it must be the artificial sugar or something in that packet...and when I did buy it was very powdery and I did not realise why until somebody else told me...so that would be confusion.'</i>	Overload- Ambiguity

Participant 2	<i>'Well the best example of confusion that I can think...is possibly conflicting medical sort of theories about what is good for you and what is bad for you that seem to change on a regular basis...one minute everyone must eat say...berries and somebody else saying no they are actually bad for you.....'</i>	Ambiguity
Participant 3	<i>'Sometimes it is packaging, especially when they re-package something you go and you know you could have bought that package in grey with black writing and they change the packaging and you are looking at it and then you have to start and read it to make sure it is the one that you bought before...and it is still suitable for vegetarians and'...</i>	Novelty
Participant 4	<i>'Confusion can happen with the pricing because particularly when there are offers, at least at the super market they write the price of products by weight or by volume so you can compare but sometimes especially in other kind of stores like when buying a computer, like here for example, you need to compare all kind of information and that might also be confusing if you need to arrange your budget as well...sometimes the selection it is not quite...if there is so much selection it might take more time to choose...Sometimes you cannot really feel the difference...if it is just small differences...is it really worth buying the most expensive? ...'</i>	Ambiguous pricing information, Overload of products and offers
Participant 5	<i>'and I would define as confusing the case when you know what you are looking for but cannot really locate it in a store or even in a website'.</i>  <i>AND</i>  <i>'I suppose...I suppose the advertising of all the products is misleading ehm...for instance there is a product and I cannot even remember what it is but its beauty type product and I think at the bottom of the ad ...I think they even said that it wasn't used in the ad...the disclaimers that they actually put at the bottom of these ads...you know...your eyelashes are going to be like this long meanwhile it says false eyelashes used- you know- I just find this misleading and confusing'</i>	Novelty  Ambiguity
Participant 6	<i>'that is for me the biggest confusion when I go to any kind of store, if the price is not displayed correctly or if it is not there at all. And also when...you know if something is in promotion and it's not, they should...for me that is absolutely appalling because if in promotion obviously you got to go quite fast, if it's not there I am not buying anything you are losing business, I don't get it...'</i>	Ambiguity

Participant 7	<i>'I think...confusing...let me think...sometimes there are just too many products or in terms of information, yes...finding the one for you.... Even when you know the brands and the characteristics to look for but yes I still think...when there is...how do you call it, too much of everything'</i>	Overload
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Source: this study

A general but important observation regarding the defining characteristic of the state of confusion is that most consumers add the element of '*self-related consequences*' in their answers. 'Not being able to do the best for me' concerning products, prices, nutritional or general information and due to several market reasons- ambiguous information, overload etc., seems to characterise confusion beyond all else.

Adopting the reflective approach characterising this data analysis, the interviews indicated that the 'overload-similarity and ambiguity' scale more accurately characterise the state of confusion in diverse settings. The conceptualisation introduced by this scale is more general and can find application in more shopping situations including online shopping. Although the similarity factor was not spontaneously mentioned by any of the respondents, consensus was achieved that similarity of products and brand logos are indeed a source of confusion. In addition, overload and ambiguity were unambiguously mentioned (even when no specific stimuli were provided) by the majority of individuals as representing confusion (as in table 7.6).

The environmental scale at the other end was suited in a retail environment like a grocery store but could not accurately capture the reality in other situations. Participants found it difficult for example to answer several items when the scale was applied in a PC/Laptop situation. Scale items on the loyalty card data (stimuli conflict) or questions regarding the product packaging which is not such an important and obvious element in a PC/laptop setting, added to participants' frustration and uncertainty when completing this scale.

The most important setback with this measurement scale was however that some of its main elements were not described as confusing but rather as frustrating or annoying by a majority of participants. Not all participants found elements like crowding and long waiting queues (comfort factor) or continuously changing the position of items and products been replaced too often in a retail setting (novelty factor) as confusing e.g.:

*'once I was looking for coconut and I looked and I looked and I was getting quite annoyed that I could not find it because then you have to go to another shop to find it but actually I did find it at the end but I would not think of that as confusing, really frustrating yes....'* (participant 1)

*'the worst thing is when they move everything round or the store is really scrappy and you go in any store from jeans and jumpers to grocery stores and you are in a hurry...and you go down to where you know the product and everything is and it isn't there any more...and oh...no it's not there or we have moved it down to the end of the store...why? this is annoying but I wouldn't say confusing'.* (participant 3)

*'but I don't regard that (not being able to locate products because of moving or replacing them) as confusing because every sort of store has their own way of displaying their products in different areas...I don't know'.* (participant 6)

*'confusion...no it doesn't ...I don't really go down that road like when products are missing from shelves and you are in a hurry and you cannot really find what you are looking for...'.* (participant 7)

*'This is actually a bad experience when...you know having all these people in the aisles and you cannot move, you cannot stand- you know- on Saturday and Sunday...like weekends shopping and I am thinking...Oh my God! I can't endure it. That for me would be an absolute nightmare- absolute nightmare.'* (participant 6)

Considering the earlier demarcation of the terms ‘confusion’ and ‘frustration’ in psychological research (see chapter 3) this finding does not come as an imposing finding. Confusion is characterised by a lack of understanding and elements like crowding or loyalty card data management do not seem to be part of confusion but rather frustration. In addition, previous consumer behaviour research has never found evidence which could corroborate the addition of crowding as a confusing element. Crowding has been described in the past as stressful (Aylott & Mitchell, 1999) and dissatisfying (Machleit et al., 2000) but never as confusing.

To finish with, the latter environmental scale was overall more difficult in administration and had on average a longer completion time. On all of these grounds, a conceptualisation based on the ‘overload-similarity and ambiguity’ scale was assessed as an adequate representation of the concept of confusion in this study that can find unequivocal application in different settings. It is more representative of the concept of confusion, minimising the risk of measuring other elements like frustration or annoyance.

#### **7.4.5. Pilot Tests**

##### **a. Personal Interviews- Self Completion of Initial Questionnaires (pilot test 1)**

*Aim- Sample- Criteria for participation*

This second stage of the instrument development has used more structured personal interviews (10 participants agreed to take part in this stage) in order to serve a very specific aim: to improve and finalise several elements of the research questionnaire. After establishing which existing conceptualisation of confusion is more appropriate to be adopted in this study, the following elements were checked:

- ✓ Were the questions placed in the best format and order?
- ✓ Were questions well received and understandable by the respondents?
- ✓ Were the instructions comprehensive and detailed on what was expected to do?
- ✓ Was the change of situation (market) clear to the respondents each time?

Although the questionnaire was mainly created based on the previous critical evaluation of the literature and the exploratory stage, this step was also judged as essential. The understanding and ease of use of the main elements of the questionnaire are imperative and should be established in every survey research (De Vaus, 2002). However, due to the nature of this instrument, a self-paced, self-administered online questionnaire, any sources of misunderstanding should be eliminated as these could impose a danger to the validity

and reliability of the results. In addition, several problems which were identified from the previous step were brought to the fore in this phase for further elaboration.

As the aim of this stage was to increase the readability of the questionnaire, knowledgeable participants on aspects of language and questionnaire structure along with lay people were identified as the best source of information. This stage then took place between April and June 2012. Five knowledgeable participants who all had relevant market experience (including 2 PhD candidates of consumer behaviour, 2 English/linguistic teachers and 2 lay people) and 4 academics (3 of which are experts on the specific topic) agreed to take part. The inclusion criteria for this stage were then multiple: 1) willingness to take part, 2) good knowledge of the English language and 3) ability to provide relevant information.

#### *Procedures of the interviews*

A copy of the questionnaire was provided to all participants who were asked to fully complete it based on their judgement. No additional ethical form was provided as the first page of the questionnaire clearly indicated the relevant ethical issues, which are applied in the case of this research phase. Participants were then asked to comment on unusual or confusing issues especially when it comes to its wording, structure and content. Some of the participants preferred to write down their comments but some chose to examine the questionnaire question by question and comment separately on each part. Two of the participants (the linguistic teachers) required more time to examine the questionnaire and returned it the next day along with their comments. The whole process was then left open and up to the discretion of each participant. If an issue was of concern to the researcher and it was not mentioned by one of the participants they were asked to comment on that. These interviews were not voice recorded. Notes-keeping was the preferred method for

this stage. In most cases, questionnaires were returned to the researcher and the key observations of each participant were written on them.

The analysis has been based on comparisons between participants' comments and reflective practices achieved through the negotiation of participants' comments and researcher's knowledge of the topic/theories applied and research objectives.

### *Findings*

Through this process the approximate time of completing the questionnaire was established to 20-25 minutes depending on the individual. Also several questionnaire improvements were implemented. The confusion scale had several problems of wording and phrases that are not widely used or were perceived as obsolete/pretentious. The phrase '*host of stores*' was replaced by '*too many stores*', '*between scores of similar products*' was replaced by '*among similar products*', the verb '*detect*' was replaced by '*spot*', '*owing to the great similarity of many products*' was assessed as being too pretentious and was replaced by '*there are many similar products*'. Another important contribution of this stage has been the addition of the words groceries or PC/laptops in the confusion scale. The original scale was generally referring to products and information and it was initially decided to leave the scale intact. The participants would then use the questionnaire instructions to understand which market the scale is referring to at each stage. Most participants found this unclear and all advocated for the inclusion of the specific words in the final scales so that these better represent each of the two market situations. For example, the statement '*there are many similar products*' was replaced by '*there are many similar grocery (or PC/laptop) products*'.

Some other comments regarding the emotional/PAD scale were brought to the fore. Both of the linguistic teachers and one academic suggested for example that '*relaxed*' is not an

exact opposite of ‘*bored*’ (as in the pleasure dimension of PAD). Such suggestions were not implemented as the PAD scale has been widely used in previous research. During this phase, it was evaluated as essential to perform some changes to one of the behavioural items of the variable Approach, ‘how much time do you spend in a store?’ This decision was based on its inadequacy to capture the reality of people in retail settings. Mehrabian and Russell (1974) advocate the adjustment of the behavioural scales based on specific research situations and this critical step assured that the item would fit the research context. The general presentation and instructions of the questionnaire were appraised as adequate with only a few format changes necessary.

***b. Online Self Completion of Questionnaires (pilot test 2)***

*Aim- Sample- Criteria for participation*

This second phase of pilot testing took the form of participants answering the questionnaire online. An invitation to answer the questionnaire was sent to some staff of two London-based universities. Out of 79 clicks on the survey link, 56 completed questionnaires were received. Sample characteristics for this pilot test are presented in Appendix 4. Out of these 56 participants, only 6 buy groceries online and the rest in-store, while 33 buy technological products online and 23 in-store.

*Findings*

The aspects examined through these 56 completed questionnaires were in accordance with De Vaus, (2002, p. 116). The testing included examination of the levels of missing data and non-response for specific questions, relative variation in answers in order to ensure that questions will be useful in subsequent analysis; finally, aspects of meaning misunderstanding and any other difficulties or errors were asked to be raised by the participants by contacting the researcher through email. Participants of this pilot test were

university staff and thus knowledgeable in the conduct of research. Being asked to contact the researcher in case of being encountered with difficulties in completing the questionnaire was not seen as incongruent. One email was received by one participant who indicated two unintended spelling mistakes in the questionnaire.

Further to that at the level of analysis, not many results could be drawn from only 56 participants, however responses were coded and a general rehearsal on the way analysis would be conducted was implemented. The way that some survey mechanisms, like the '*block randomisation option*', work was also tested (see section 7.4.6 on the questionnaire design for more details on this option). The mean time of answering the questionnaire was 17 minutes.

#### **7.4.6. The Research Instrument- Questionnaire**

##### **a. Designing the Questionnaire**

Several decisions were taken regarding the format of the questionnaire (the final research questionnaire is attached in Appendix 7). To start with verbal descriptions of the situations was the preferred method in order to describe the situations. Foxall (1997c) describes that the use of verbal description of the situations is a better research approach when compared with the use of more sophisticated techniques like videos, slides or photographs of the same situations. In the case of written descriptions consumers reflect on the situations and make use of their own learning history and previous experiences in similar conditions. The use of photos, slides or videos could evoke specific reactions to the depicted scenes rather than compel consumers to use their own rules and previous learning in the specific settings.

Regarding the presentation and description of market situations, an approach based on simplicity was preferred. The situations were presented as simply as possible, trying to accomplish the integration of the respondent with the situation. Participants were asked to

imagine they are in the specific situations and then answer the relevant questions. The most challenging issue was whether to include the online element in the descriptions of the market situations. Online shopping has become a prevalent medium of shopping in many markets. It was however decided to include the description of online shopping only in the high/ technology market. Despite the impressive growth (134% growth in value over the period 2005–2009) of the UK online grocery retailing, it still accounts for only 3% of sales of the total grocery sector, making it a niche channel when estimated in the broader context (Mintel, 2009). Findings from this study (see chapter 8 on analysis) supported this decision.

Additional issues of sections and questions' order were also considered. The questionnaire commenced with some guidance on the topic and the relevant informed consent (see ethics section below). The questionnaire comprised of two main sections. **Section A** concerned consumers' socio-demographic information. Specifically, information on age, gender, higher completed educational level, ethnic group, household size, working status and finally, some buying habits were included in this section.

Although it is a widely adopted practice to include the socio-demographic information of the consumers at the end of the questionnaire (Parasuraman et al., 2004), this study has preferred to ask this information at the beginning of the questionnaire. The reason behind this choice is based on the following reasons: First of all, it was seen as imperative not to lose valuable socio-demographic information from respondents. Secondly, it was appraised that the level of information asked was not going to cause any harm or discomfort to participants and thus it was seen as harmless for the response rate of this research to include it at the beginning; thirdly, this information acted as a pattern that facilitated the collection of data based on approximate sample quota. For all these reasons socio-demographic information was seen as essential to be presented at the beginning.

Following the collection of sociodemographic information, the subsequent section, **section B**, has been the main part of the questionnaire where the description of situations was given to consumers. The emotional variables of PAD were presented before all other variables for each market, followed by the behavioural approach-avoidance variables and the multi-item confusion scale was presented last. This way of presentation was decided based on the consideration that the answers to the emotional and behavioural variables should be left unbiased from participants' answers to the confusion scale. The experience items along with the questions of frequency of shopping followed (see Appendix 7 for the questionnaire).

It is also essential to mention that the presentation of the markets was randomly assigned using the '*block randomisation option*' of Qualtrics software. In this instance, approximately equal numbers of participants answered the grocery market first and PC/Laptop second (134 participants) and 126 participants answered the PC/laptop market first and the grocery next. The choice was unsystematic and was based on a random procedure chosen by the program. This process was chosen in order to minimise any order bias that could be imposed by the order of market presentation. If one of the two markets was consistently presented second, this could invalidate the results and question the validity of the findings as the constant presentation of one of the markets first could cause participants to understand the objectives and lead their answers to the ones they thought as desirables. This problem was easy to overcome by the process of random presentation of the markets introduced.

### **b. Measures**

Mehrabian and Russell's (1974) scales of the measurement of affective responses of Pleasure, Arousal, and Dominance (PAD) were used without modification in this study. These three variables are constructed after the semantic differential approach (Foxall &

Greenley, 1998; Soriano et al., 2002). Each affective variable was measured on six items in terms of which the situation in question was rated on a nine-point scale. The Pleasure (e.g., unsatisfied – satisfied) dimension ranged from extreme feelings of dissatisfaction to extreme satisfaction. The Arousal (e.g., calm – excited) dimensions ranged from extreme feelings of calmness to extreme excitement. The Dominance (e.g., submission – dominance) dimension ranged from extreme feelings of lack of control upon one's environment to feelings of being extremely in control. Following the original instructions by Mehrabian and Russell (1974) three of each PAD six items (nine in total) were inverted in their direction in order to minimise bias and all the items were presented in a random order.

Approach-avoidance was measured by means of six of Mehrabian and Russell's (1974) eight statements for these items (those to do with thinking out a difficult task and working in the situation have been described as inappropriate to consumer behaviour). The six statements selected in accordance with all previous research of the BPM were, for approach, 'How much time would you like to spend in this situation?', 'Once in this situation, how much would you enjoy exploring around?' and 'To what extent is this a situation in which you would feel friendly and talkative to a stranger who happens to be near you?' and for avoidance, 'How much would you try to leave or get out of this situation?', 'How much would you try to avoid any looking around or exploration in this situation?' and 'Is this a situation in which you might try to avoid other people, avoid having to talk to them?'. Confusion was measured by the Walsh & Mitchell (2007; 2010) scale and market experience with one item measuring the overall market experience with a market.

Finally, general market experience was measured with a single item. As described by Walsh and Mitchell (2010) single item use is increasingly common in marketing research

(see also van Birgelen et al., 2001). The most substantive issue in this occasion is whether the item is sufficient to measure the construct. In this case what the study is examining is not specific experience with aspects of the market/product design, use or price, but is more concerned with the (general) macro experience, which is a more overall evaluation. In that sense a multi-item scale is not needed to capture the nature of this macro-concept. This is in-line with Bergvist and Rossiter (2007) who explain that for constructs that consist of a singular object, single-item measures should be preferred. Fuchs and Diamantopoulos (2009) provide a detailed account of the rationale for and against multi and single item scales. They explain that single item constructs should be preferred when the construct does not act as a dependent or independent variable but rather as a control variable and when very high precision is not an absolute necessity as in this case. Also, multiple-item measurement instruments can occasionally aggravate respondent behaviour, overload respondents and undermine their reliability (Drolet & Morrison, 2001; Fuchs & Diamantopoulos, 2009), supporting the use of a single-item scale in the case of market experience measurement. On these grounds, it was decided that in order to capture market experience one item would be sufficient for the purposes of this study. Item used was adapted from Laroche et al., 2003.

#### ***7.4.7. Sample Procedure and Size***

A study's population consists of the entire body of units of interest to decision makers in a situation and a sample is a subset of this population. Samples are often described in representative terms, but this is not always feasible or even desirable (Parasuraman et al., 2004, p. 356). A sampling frame is a listing of population units from which a sample is chosen (Parasuraman et al., 2004, p. 356). In this study the population is the general consumers who have any levels of shopping experience, the sampling frame is the participants of an online research panel and the sample size and method of choice for this

study was selected in light of the diverse techniques used and was also based on the purposes of this study.

Several sampling methodologies have been proposed which can be classified under two broad categories: probability and non-probability sampling. Probability sampling is '*an objective procedure in which the probability of selection is known in advance for each population unit*'; simple random sampling, stratified sampling and cluster sampling, are some of the choices of probability sampling available to researchers. At the other end, non-probability sampling is '*a subjective procedure in which the probability of selection of each population unit is unknown beforehand*' (text for probability-non-probability sampling is from Parasuraman et al., 2004, p. 360-362); methods like convenience sampling, judgement and quota sampling are examples of this approach. This study used a *simple random sampling* with an aim to ensure a varied sample.

Continuing on the topic of sample size, several considerations guide the decision on the necessary and adequate sample size to perform statistical tests. Specific research and statistical requirements have been reckoned before deciding on the necessary size for this study.

Especially the literature on factor analysis is characterised by the topic of the appropriate sample size principally when it comes to pure factor analytic studies. According to Comrey and Lee (1992) (as cited in MacCallum et al., 1999) for the purposes of factor analysis the categorisation of adequate sample sizes is as following: *100 poor, 200 fair, 300 good, 500 very good and 1000 or more excellent*. Although such rules of thumb have been criticised for their inadequacy to capture the requirements of different studies, the alternatives proposed usually entail knowledge of previous comparable studies, like for example knowledge of communalities produced by similar scales during previous factor

analysis (MacCallum et al., 1999). This is not always feasible. In order to overcome this problem another rule of thumb guided the choice in this case. Specifically, Tabachnick and Fidell (2007, p. 613) propose that '*it is comforting to have at least 300 cases for factor analysis*'. This analysis has more than 500 cases for factor analysis which has been described as a very good size.

Overall, such sample numbers are the rule of thumb for conducting General Linear Model (GLM) approaches like ANOVA and regression. Specifically, Tabachnick and Fidell (2007; see also Pallant, 2010) describe how a sample of 200 cases or individuals is usually adequate for safely performing most statistics and it is even an adequate sample to assume that parametric statistical tests would indicate safe results even if the assumption of normality is somewhat violated. In addition, it has been suggested that when it comes to multiple regression (Stevens, 1996, cited in Pallant, 2010, p. 148), '*about 15 subjects per predictor are needed for a reliable equation*'. Thus the sample of 260 (520 when both situations are studied together) used in this research is more than adequate to serve the statistics and purposes of this study.

#### **7.4.8. Data Collection Procedures**

This section will highlight the way quantitative data were collected. The method of online collection of data and specifically an online research panel based in the UK was the preferred method. The choice of the research panel was taken after weighting the benefits against the disadvantages of using online panels. The rational for choosing them will be explained, details of the data collection process will be described and reflections regarding the experience of cooperating with a research agency which can facilitate other researchers with their decision-making will be provided.

**a. *Online Research Panels***

The wide penetration and technological advancement the internet is offering has increased the use of online data collection processes. The promise of online data collection mainly concerns the easier reach of larger samples combined with the reduction in the complexity of accessing special populations. In order for research companies to respond to this need for increasing research participants, to overcome participation fatigue and resistance and as a result facilitate online research, online research panels have been introduced. *An online research panel is a pool of registered persons who have agreed to take part in online studies on a regular basis* (Göritz et al., 2000). The use of online research panels has increased over the recent years in both academic and market research (Göritz et al., 2000). In the same manner as any other type of data collection, online panels have advantages and disadvantages which are summarised in table 7.7.

**Table 7.7 Advantages and disadvantages of online research panels for (academic) research**

Advantages	Disadvantages
✓ Internet access has now reached 80% of total households in the UK (ONS, 2012). More research participants can now be reached.	✓ No internet access for certain populations.
✓ Online research panels are suitable for 'hard to reach groups' and representative or probability samples.	
✓ Rapid and timely data gathering process.	
✓ Less non-response and coverage issues.	
✓ The collection of longitudinal data is facilitated.	
✓ Less ethical issues as participants in research panels have already agreed to be contacted for research purposes.	
✓ Less costly compared to organising telephone or face to face interviews which require more intense man labour.	
✓ No face to face interaction with respondents means minimisation of social desirability bias.	✓ No face to face interaction with respondents means the research instrument should be pilot tested well before use.
✓ Online data quality is promoted through an evolving set of guidelines and standards by industry and professional associations. ✓ Panel companies are actively designing new programs and procedures aimed at validating panellists more carefully and eliminating duplicate members or false identities from their databases. ✓ More research efforts are directed towards an understanding of what drives panellist behaviours and attempt to design techniques to reduce the impact of those behaviours on survey results.	✓ Some panellists might complete large numbers of surveys (what is often called as 'professional' respondents) or complete the same survey multiple times (by being registered for example with multiple email accounts or IP addresses in the same database).
✓ Data collection is conducted in several phases (waves). Data collection improvements can take place (see below how this measure took effect in this project).	✓ Researchers cannot maintain a control over the process and the data quality. The whole process very much relies on developing a trusting relationship with the research panel firm.

Source: Table compiled through 1) A reflection of this research experience, 2) Baker et al., 2010, 3) Dennis, 2001, 4) Göritz, 2004, 5) Göritz, 2007.

The table indicates that the use of online panels bears all the positive and negative aspects of conducting online research in general. In the case of this research an online panel was used in order to secure a diverse sample that could bear the characteristics of real consumers and the UK population and which can differentiate this sample from the

convenient but widespread use of student participants (see Wells, 2001). In addition, a rapid, more accurate and reliable online data collection process is secured.

As described in table 7.8 one of the central threats to the research integrity when using research panels is the quality of the panel participants and the fact that over time they can turn into '*professional*' respondents. It has been discussed in previous research that many psychological mechanisms play a role in this occasion (Dennis, 2001). For example completion of multiple questionnaires can increase response bias by augmenting participants' sensitivity to what is expected from their answers each time and change their attitudes accordingly (Dennis, 2001). Following email communication with the research panel provider for this research the aforementioned issue was clarified as following. Each member of the specific panel receive on average three to four email invitations to surveys per month and are getting paid between £0.5 to £1 depending on 1) how long these respondents have been registered with the panel and 2) the topic, length and difficulty of the survey. In addition, survey sampling is controlled in that way so that the same panellists are not assigned more than one survey on the same or similar topic (in this case retail shopping) in at least a four-month period. It is essential but self-evident to note the importance of developing a trusting communication and relationship between the researcher and the panel provider throughout the duration of the project. For the better administration of this research a dedicated project manager was assigned. That person acted as the point of communication with the researcher and as the sole responsible for the accurate completion of data collection. This practice was helpful and effective in terms of providing and receiving information from the same source.

Actual data collection was implemented in November 2012. In order to ensure the optimum data quality, three waves of email invitations were sent by the research agency to their participants. The first wave of emails was called a '*soft launch*' phase. The

purpose of this test according to the research panel agency was to examine for the level of missing data, fully completed responses, and further test the time of completion. Such simple statistics could indicate questionnaire issues that could be resolved before fully collecting the data. Following the first wave of responses it was spotted that out of a hundred- 6 questionnaires were answered in less than 6 minutes; this timeframe to answer the whole questionnaire was evaluated as unfeasible. The average time of completing the questionnaire was estimated at approximately twenty minutes and anything less than eight minutes should be received with reservation. These 6 questionnaires were then checked, set response bias was identified and these were eliminated from the count of completed questionnaires. It was also decided that for the duration of the data collection, time limitation was set to six minutes (meaning that participants submitting the questionnaire in less than six minutes were eliminated from the count of fully completed questionnaires). The next two data collection waves were almost simultaneous. The vast majority of completed questionnaires were completed through the second wave and the third wave only acted to improve and add to the socio-demographic diversity of the sample.

The markets were presented in a random order in order to avoid creating bias and this resulted to a situation where 134 respondents answered grocery shopping first while 126 answered high technology, PC/Laptop shopping first. This random choice was valued as a sufficient variation for evading a biased context. A biased context was further avoided by the integration of other measurements like market experience and frequency of purchase.

#### ***7.4.9. Praxiology***

Following the description of the philosophical framework underpinning this study, the research design and finally the methodological approach and considerations, this section will guide the reader through another important element of research methodology and also of the philosophical research paradigm, that of praxiology. Based on Habermas (1993) (as

in Mingers & Brocklesby, 1997) this will be subdivided into efficiency and research ethics.

*a. Efficiency*

Regarding the issue of efficiency, the research questions are tailored to the specific philosophical paradigm as these have been developed to explore the propositions put forward by intentional behaviourism (Foxall, 2004; Foxall, 2007b) regarding the relevance of applying intentional terms in endeavours theoretically guided by the principles of behaviour analysis. This research has been developed within the Consumer Behaviour Analysis Research Group and has been received with enthusiasm by all relevant research members. Several research method seminars, including those for research methods, statistics, publications and ways of effective time/project management and writing, all provided by Cardiff University Graduate School and participation in research festivals and two Doctoral Colloquiums (part of academic conferences<sup>10</sup>) have provided further understanding of the topic and opportunities for discussion and elaboration.

*b. Ethics*

The considerations of ethical mechanisms have become central to the design and practice of social research. Researchers are expected to act in an informed way, with the physical and psychological wellbeing of participants, and their right to be informed of every research aspect being the main concern. Codes of ethical practice have been introduced by the major research societies (e.g. The British Psychological Society, 2009; ESRC Research Ethics Framework (REF), 2010), while every research project should now have

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<sup>10</sup> While developing this research topic, the author has participated in the International Marketing Trends Conference, Venice (January, 2010), the 2<sup>nd</sup> Biennial Academy of Marketing Science Doctoral Colloquium, Reims (July, 2011) and the 5<sup>th</sup> ESRC Research Methods Festival, Oxford (July, 2012).

the ethical approval of an appropriate ethics committee. Since the introduction of the Data Protection Act (1998) which came into effect on 1 March 2000, the concern with issues related to anonymity and privacy is no longer simply a matter of ethical conduct; it can also have legal implications.

But how does one go about deciding what is the best course of ethical actions a researcher should take? Should researchers just follow whatever their instinct tells them? Do they just follow what people in authority (previous research, ethics committees) propose or did in the past? Do they just go with what the law dictates? The present research followed *a middle ground* between the two key approaches to answer such questions. Between the *teleological* approach (the practice of estimating the likely outcomes of a given course of action, and then choosing the method that has the most positive consequences and the fewest negative consequences) and the *deontological* practices (a duty-based system that directly and simply explain what the code of ethical practice is) (Larry & Michael, 2012), this research considered both the requirements of the ethical committee but also tried to tailor these to the needs of the specific research.

Within this framework several ethical issues concerning this research have been considered. Starting with, the research itself is not related to aspects of personal freedom, vulnerable groups and it does not concern a particularly extreme, sensitive or personal topic. Even though an examination of confusion might create the phenomenon of '*self-affirmation*', this issue is mainly a methodological concern rather than an ethical one. '*Self-affirmation*' theory (Steele, 1988) has been proposed as an extension of cognitive-dissonance theory. The theory proposes that the motivation to affirm the integrity of one's self image is very strong and can cause embarrassment, discomfort and attitude change. In this case admitting confusion in the marketplace, a situation that can be perceived as participants' inadequacy to perform, could potentially cause discomfort or embarrassment

(Steele, 1988). However, such bias was not evident during the initial qualitative- pilot interviews, where participants freely expressed their views, without constraints. Quantitative data also showed evidence of being free from self affirmation. This problem seems then not to be so strong when considering the issue of consumer confusion.

Focusing further on the complex issue of anonymity and confidentiality, Singer et al., (1992; Singer et al., 1995) concluded that mentioning the issue of confidentiality in cases of surveys of not sensitive topics might have an adverse effect on response rates. If the survey is indeed sensitive, respondents' willingness to participate is likely to be low originally, but some of the concerns raised may be reduced by assurances of confidentiality. Supposing, however, that the topic is not sensitive, respondents' willingness to participate is likely to be high. If the researcher nevertheless introduces an assurance of confidentiality, this may suggest to respondents that the questions asked are more sensitive than the topic implies. Hence, assurances of confidentiality may actually decrease the response rate in this case. No matter the importance of this observation, issues of confidentiality and anonymity were raised at the informed consent of this study.

On these grounds, an appropriate full ethical approval form was submitted and approved by the Cardiff Business School Ethics Committee (see Appendix 8). The form detailed issues of informed consent, anonymity and confidentiality, sampling, recruitment and secure data storage. There were two issues that made the data collection process more demanding in terms of ethics than similar designs. First of all, since data were collected with the help of a third party (research agency) the communication and arrangements between the researcher and the research agency have been of outmost importance. Secondly, the use of an internet-based approach requires review of all the basic research processes in order to avoid any possible negative implications of research online (security of data transmission and storage, potential exposure of confidential data, absence of the

researcher during the research process as in Nosek et al., 2002; Ess & the AoIR (Association of Internet Researchers) ethics committee, 2002; Eynon, et al., 2008).

As the main data collection method was an online survey, the first two pages of the survey would act as informed consent and explain consumers the above issues. The first page then explained that the survey will be part of a PhD research project at Cardiff Business School. Other issues covered included the aim of the research and the maximum time required to complete the survey. Participants were further provided names and contact details of the researcher and primary supervisor in case they either wished to get a copy of the report's findings or wished to discuss any concerns they had regarding the research process.

An issue requiring further detailing is the issue of anonymity. During this research, personal details were known only to the research agency which posses all necessary consent forms and extended knowledge on dealing with personal information; such personal information was not transmitted to the researcher. In addition, providing names or signing the informed consent was not necessary as participants indicated their consent electronically. The problem with this practice is that if data cannot be attributed to specific participants (complete anonymity) the option of deleting data at a later point in time, in case participants decide to withdraw from the study for any reason, is unavailable in this study.

## **7.5. Data Analysis Techniques**

### **7.5.1. *Hypothesis Testing***

According to Burns (2000, p. 6-7) hypothesis testing is the '*systematic creation of a hypothesis and subjecting it to an empirical test*'. Essentially, hypotheses (see chapter 6) are the statements about population parameters like expected value and variance. In each

problem considered, the question of interest is simplified into two competing claims/hypotheses; the null hypothesis ( $H_0$ ) is a hypothesis of no relationship between the two variables (Bryman & Bell, 2007), against the alternative hypothesis, denoted  $H_1$ . In essence, the statistical outcome of a hypothesis test is to ‘reject  $H_0$  in favour of  $H_1$ ’ or ‘not to reject  $H_0$ ’ based on sample information. This principle has facilitated the formation of accurate hypotheses which along with the use of appropriate statistical techniques have dealt with the considerations of minimising Type I and Type II errors.

### **7.5.2. *Descriptive and Uni-Bi-Multi-Variate Techniques***

In this manner, several steps have been adopted in order to accurately analyse the data of the questionnaires. First a description of the socio-demographic profile of the sample is an essential step in order to understand the ‘who’ of this survey. The next step is the preliminary analysis, which includes all necessary elements of data management like exploration of the data for missing data, outliers and normality and finally provision of some descriptive statistics for the items. The psychometric properties of the scales were next examined. Following this preliminary analysis, which lays the foundations for the more valid and reliable analysis of hypotheses, several univariate, bivariate and multivariate statistical techniques have been applied to the data in order to test the hypotheses.

Multivariate analysis and methods are not easy to define. According to Hair et al., (1998, p. 6) *‘it refers to all statistical methods that simultaneously analyse multiple measurements on each individual or object under investigation’*. In this manner any simultaneous analysis of more than two variables is considered multivariate while univariate refers to the analysis of one variable only and bivariate to the simultaneous analysis of two variables.

Factor analysis is the first method used with an aim to examine the unidimensionality of the scales (the idea that several items are strongly associated and present a single concept). Factor analysis is a very generic name given to a class of multivariate techniques which address the problem of analysing the structure of the correlations among a large number of variables (Hair et al., 1998, p. 90). In this way data reduction can be achieved by substituting each underlying dimension for their original variable. One further important but generic issue needs to be addressed in this initial explanation of factor analysis. There are two approaches that one can take to conduct factor analysis: one is exploratory and the other confirmatory (Hair et al., 1998; Pallant, 2010). Exploratory factor analysis (EFA) is often used in order to explore the possible interrelationships between the variables without imposing a structure to the outcome based on theoretical support or prior research. Confirmatory factor analysis (CFA) is a more complex technique which requires a preconceived structure for the data again based on previous theory and the model (understanding) developed by the researcher. Concerning the right choice for this study it was judged that an approach based on an *exploratory factor analysis* is more appropriate. Although the Mehrabian and Russell model (PAD and behavioural variables) is well established in previous research, the model has been applied in two different settings and the suitability of the model for these settings should be examined. In addition, especially for the confusion scale an approach based on an EFA is a proper choice at this early stage of testing. It is essential to note that Schweizer et al., (2006) have challenged the overload- similarity and ambiguity tri-dimensional conceptualisation of confusion by arguing and empirically proving that, at least in the context of their research, overload and similarity confusion load together/ form one dimension that was named as the ‘Variety’ factor. This finding further establishes the necessity to explore the fit of the scale in specific contexts. For all these reasons an

approach based on EFA was preferred. Other assumptions and choices around factor analysis will be explained in more detail in the analysis chapter.

Beyond EFA, correlation coefficients will be examined and other statistical approaches more widely known as being part of the overall approach of the General Linear Model (GLM) will be used. ANOVA, factorial ANOVA and regression have been utilised for the hypothesis testing of this study. ANOVA is called this way because it compares the variance (variability in scores) between different groups (believed to be due to the independent variable) with the variability within the groups (believed to be due to chance). An F ratio is calculated to represent the variance between the groups, divided by the variance within the groups (Pallant, 2010, p. 214). The use of ANOVA is to compare the differences between different groups. Multiple regression is again a family of techniques used to predict relationships between one continuous dependent variable and one continuous independent variables used as predictor (usually continuous). It is based on correlation but it allows for a more sophisticated exploration of the relationships of variables which can be used for prediction and determination (Pallant, 2010, p. 140). The assumptions that the data need to meet along with the way these techniques serve the examination of hypotheses will be provided in chapter 8.

## **7.6. Research Integrity and Quality Criteria**

Several criteria to judge the quality of social research have been introduced. The most prominent approach is to search and establish the three following criteria: replicability, validity and reliability (Bryman & Bell, 2007, p. 40-43). Generalisability has also been proposed as central for the conduct of quantitative research (Bryman & Bell, 2007, p. 169). Especially the concept of validity (and the sub-concepts of internal, external, ecological and construct validity) originated from Campbell and Stanley (1966 as in

Calder et al., 1982) and has had a substantial impact on the way researchers think of their work (Calder et al., 1982). These criteria have been primarily connected with the conduct of quantitative research and the way these criteria are met by this research will be described below.

### **7.6.1. *Quality Criteria for Judging the Research as a Whole***

According to Bryman and Bell (2007) *replicability* concerns the possibility of accurate potential research replication. The replication of studies is a widely debated topic in the social sciences (Hubbard & Armstrong, 1994; Madden et al., 1995; Easley et al., 2000). The main issue with replication studies over the years is the perceived lack of importance and creativity that these have been connected with, resulting in the minimum publication of replication studies. Notwithstanding, the importance of replication studies should not be downgraded as such studies add to the establishment of external validity and additionally, a successful replication promotes confidence as to research and scientific integrity (Madden et al., 1995; Easley et al., 2000). The way for a study to be replicable is to provide a detailed explanation of the approach, the research methods, scales, sampling and measurement and analysis techniques. This methodology chapter along with the four thorough chapters on the literature review and the subsequent analysis have spelled out all the necessary details that make this study replicable. The survey instrument (questionnaire) used is also attached in Appendix 7.

‘*Validity is concerned with the integrity of the conclusions that are generated from a piece of research*’ (Bryman & Bell, 2007, p. 41) and has been distinguished into internal, external, ecological and construct validity. Reliability in turn has been defined as the extent to which measures are free from errors and capable of yielding consistent results. In that manner, internal, external and ecological validity concern the research as a whole

while reliability and measurement validity mainly concern the structure and items of the questionnaire.

Internal validity refers to '*the approximate validity with which we can infer that a relationship is causal*' (Cook & Campbell, 1979, p. 37). This kind of validity is usually established through experimental designs where one variable is manipulated and the effect on another is examined. Cross-sectional survey designs are usually weak in internal validity and it is also essential to state that this study is not looking to establish causal but rather functional relationships between the constructs as dictated by the theoretical and philosophical framework. In this manner this study does not own the faculty of assessing the criterion of internal validity, which is considered as inappropriate for the specific endeavour.

External validity '*examines whether observed relationships should be generalised to and across different measures, persons, settings and times*' (Calder et al., 1982). External validity is one of the main reasons that quantitative researchers are striving to generate representative samples. Calder et al., (1982) based on arguments by Cook and Campbell (1979) describe however that when a researcher's interest is mainly theoretical, external validity can be of little concern, because by trying to achieve external validity other validity kinds like internal or construct can be compromised (Campbell & Stanley, 1966 and in Calder et al., 1982). It is then a choice of each study whether one of the aims will be to achieve external validity. This study's intentions are primarily theoretical but it has aimed for real-world data (descriptions of every-day situations) from a non-student sample in order to achieve the most accurate depiction of different groups of the population and to provide a safe picture of the way people and situations interact. In addition, in order to achieve the '*delimitation*' of consumer behaviour, everyday situations that people confront are used in this study; although these are not placed in the actual

settings of occurrence but are rather examined through situational descriptions, these are expressed in a naturalistic manner which allows consumers to respond to situations in their own idiosyncratic ways (this goes beyond an experimental design where levels of variables would be manipulated). Thus although the main aim of this study is clearly theory testing and extension this study has conformed to the calling of Wells (2001, p. 496) for studies that '*confront rather than evade*' external validity and achieved some levels of external validity and generalisability when considering both methodology and sampling techniques. However, a replication of this study and the examination of additional market situations (that could go beyond the two examined in this study) would be necessary in order to argue for the situational generalisability of the findings.

Ecological validity is the extent to which the instrument is capturing the daily life conditions, opinions, values, attitudes and knowledge base of the study's population, as expressed in their natural habitat (Bryman & Bell, 2007, p. 42). The criterion of ecological validity seems to be satisfied in two ways by the present quest. First of all, data have been gathered based on real world- retail situations that participants are familiar with. Secondly, the Mehrabian and Russell (1974) scales have been adopted widely in consumer settings and have been considered as adequate to capturing consumers' emotions and behaviours in such settings. The other main scale, the confusion one has been validated through previous qualitative and quantitative research and has been further refined through the exploratory/ questionnaire development phase of this research. This scale has gained acceptance by participants during these initial phases.

Overall, several steps have been adopted in order to assure the most reliable and valid results, especially considering the online nature of this inquiry (Göritz, 2007). The questionnaire was meticulously pre-tested for usability; it was as much possible tailored to the requirements of the sample (this was perceived as a great opportunity to test the

responsiveness of especially the PAD scale to online research). It has further been based on scales tested and established in previous research and extends their applicability in other situations, it has provided details and information on the two markets and detailed guidance on the way to complete it, provided information on the approximate completion time, assured confidentiality and complete anonymity of the data (which is anyway assured through the quantitative-online nature- information is presented in aggregate form and no personal information was provided to the research), the main survey data were collected in three waves including an additional soft-launch phase following which corrective actions took effect. This research further provided the contact information of the researcher in case any issues occurred. Finally, a small debriefing was provided at the end of the questionnaire. Main objectives of this project were explained to the participants, in an attempt to inform them on the ways their answers would be used.

### ***7.6.2. Specific Quality Criteria for Judging the Quantitative Constructs***

Further to those general criteria to judge research, a description of construct validity and reliability will follow in this section. These aspects are mainly concerned with the measurement instrument and refer very much to the constructs and items used (full assessment of the relevant concepts will however be more fully implemented and measured in the analysis chapter as part of the examination of the psychometric properties of the scales).

#### ***a. Construct Validity***

*'Construct validity considers whether or not the operational variables used to observe covariation can be interpreted in terms of theoretical constructs'* (Calder et al., 1982). Elements of construct validity are unidimensionality, convergent and discriminant validity. With respect to unidimensionality, which examines the existence of one construct underlying a set of items (Steenkamp & van Trijp, 1991), this study has examined whether

items of the questionnaire have loaded to their corresponding theoretical construct. In case this is not so, a further theoretical assessment is necessary in order to examine the possibility of a new construct that makes theoretical sense (Hair et al., 1998). This principle has taken effect in this study (see chapter 8) and the theoretical importance of this finding will be further discussed in chapter 10. Convergent and discriminant validity require an examination of the strength of the relationships between the variables. Variables which measure the same construct are expected to have higher correlations (convergent validity), while those that measure different constructs are having discriminant validity if their inter-correlations are not too high (De Vaus, 2002). Exploratory Factor Analysis and an examination of the correlations among the constructs will be the preferred methods for examining these aspects of validity.

### ***b. Reliability***

Reliability is a measurement of the consistency of a measure (Bryman & Bell, 2007). Generally, the concept is used to examine whether measures produce consistent results under different circumstances (Peter, 1979, p. 6). In this manner different general classes of reliability have been proposed (Parasuraman et al., 2004, p. 295-296).

*Inter-rater reliability:* assesses the consistency of results when tests are taken by different respondents but using the same methods.

*Test-retest reliability:* assesses the degree to which scores are consistent from one test to the next. The same respondents answer the same tests and in the same conditions.

*Inter-method reliability:* assesses the degree to which scores are consistent when there are variations in the methods or instruments used.

*Internal consistency reliability:* assesses the consistency of results across items within a specific project.

Internal consistency will be the preferred and suitable method for this project and will be examined in the analysis chapter through Cronbach alpha and ITC. Inter-method reliability will also be discussed as measures will be juxtaposed to previous research findings in the further analysis chapter (chapter 9).

### 7.7. Data Preparation for Analysis

For all likert scales a 7-point items scale was preferred as 5-point was evaluated as being too coarse and thus not being able to capture small differences of the variables (7-point scales were also preferred in order to increase response variability and minimise ceiling effects in connection to the PAD variables which are measured on a 9 point scale, e.g. Zimet, 1988). For the PAD the original nine point bipolar scale was used and a seven point for Approach-Avoidance ranging from 1 to 7 was preferred. Aminusa which is the net difference between approach and avoidance (approach minus avoidance) had to be created as a new variable following the examination of the scales. The statistical software used for this analysis was IBM SPSS Statistics 20. The main literature used for the implementation of the analysis was: Hair et al., 1998; De Vaus, 2002; Tabachnick & Fidell, 2007; Pallant, 2010; Brace et al., 2012. Several other sources were used when more detailed explanation for a statistical phenomenon was sought.

Nine of the eighteen PAD items were reversed coded before analysis as following:

**Table 7.8 Reversed items of the PAD scale**

Measured Items	Reversed items
Happy 1.....9 Unhappy	Unhappy 1.....9 Happy
Autonomous 1.....9 Guided	Guided 1.....9 Autonomous
Relaxed 1.....9 Bored	Bored 1.....9 Relaxed
Satisfied 1.....9 Unsatisfied	Unsatisfied 1.....9 Satisfied
Frenzied 1.....9 Sluggish	Sluggish 1.....9 Frenzied
Aroused 1.....9 Unaroused	Unaroused 1.....9 Aroused
Controlling 1.....9 Controlled	Controlled 1.....9 Controlling
Stimulated 1.....9 Relaxed	Relaxed 1.....9 Stimulated
In-control 1.....9 Cared for	Cared for 1.....9 In control

Source: this study (following the instructions of Mehrabian & Russell, 1974)

The reversing of items resulted to the three items of the PAD pleasure, arousal and dominance scales scoring from 1= maximal displeasure/ minimal stimulation/ least dominance to 9= maximal pleasure/maximal stimulation/ maximal dominance. Approach responses were scored from 1= minimal tendency to approach, to 7= maximal approach, yielding a range from 1 to 21. Similarly, avoidance responses were scored from 1= minimal avoidance to 7= maximal avoidance, again yielding a range from 1 to 21. Approach-avoidance (aminusa) scores were measured as the mean difference between approach and avoidance; the feasible range was -20 to +20. In addition, the range for confusion was from 1= minimal confusion to 7= maximal confusion and for market experience 1= minimal experience to 7= maximal experience.

The items of the high technology situation were placed beneath their corresponding grocery market items, creating a database of 520 points. In order to facilitate analysis an additional variable named 'Market' (2 values 1=Grocery Market, n=260 and 2= High Technology Market, n=260) was created.

## **7.8. Conclusion**

This chapter has provided information on the research methodology utilised in order to answer the research objectives and hypotheses of this inquiry. This research has embraced a pluralistic conception of marketing research philosophy and has been based on a philosophical position advocating the principles of intentional behaviourism, which clearly corroborates the main conceptual edifice behind this thesis; it has utilised a deductive research design and has defined the purpose of this research as exploratory/descriptive. It has followed a quantitative design with the emphasis being placed on a cross-sectional quantitative online survey. The use of the online research survey has facilitated the examination of research objectives and hypotheses and the

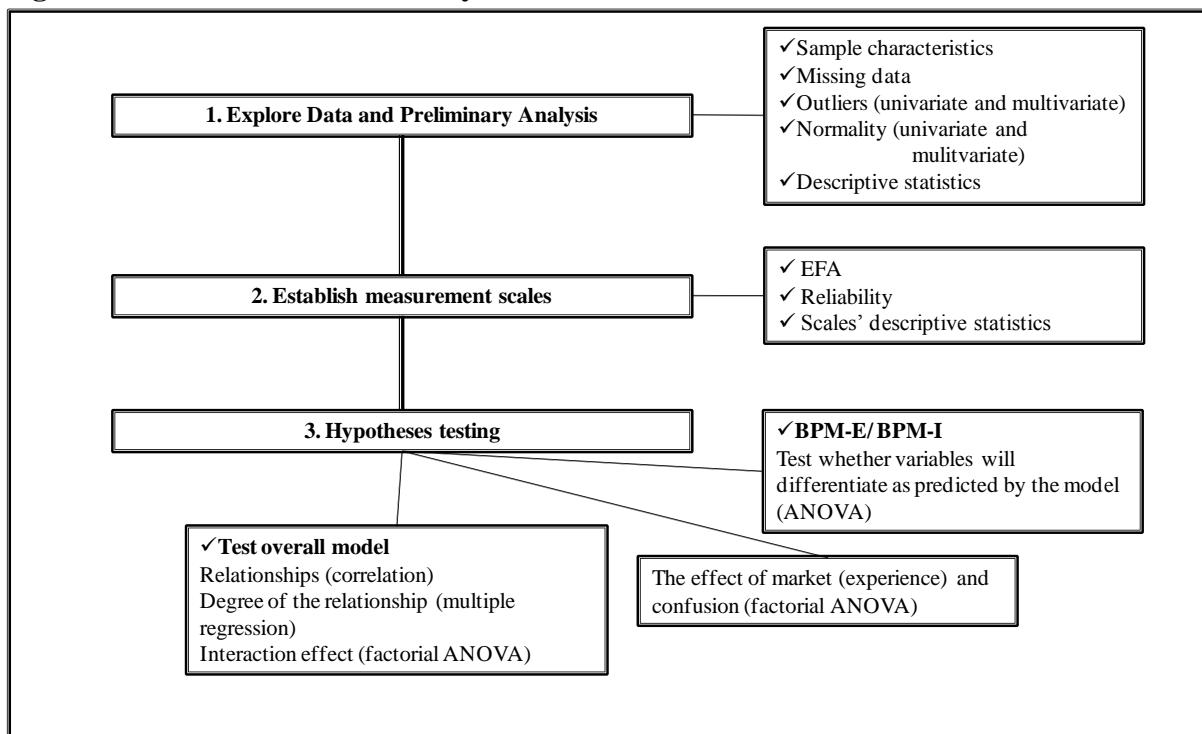
exploration of the proposed theoretical frameworks. Multiple pilot tests and assessments have examined the fit of the questionnaire and the multi-item scales for online research as data were gathered through the use of an online research panel. The next chapter will illustrate the process of data analysis used to reach the conclusions of this research.

## 8. DATA ANALYSIS

### 8.1. Introduction

Chapter 8 of this thesis deals with the analysis of the quantitative data collected through the online questionnaire. The purpose of this chapter is to examine the procedures that were followed in order to test the research hypotheses proposed in the conceptual framework. The process used to conduct this data analysis is summarised below in figure 8.1:

**Figure 8.1 Process of data analysis**



Source: this study

This chapter will commence with an overview of the survey participants' demographic characteristics, the way data were examined and managed, the results of descriptive, univariate analysis and will then proceed to the results of various bivariate and multivariate statistical tests.

## 8.2. Sample Demographic Profile

The respondents of this research were members of an online research panel. In total 264 fully completed (with the occasional missing data) questionnaires were provided by the research panel agency. The requirement was for a diverse sample which would be representative of the characteristics of the UK population. During the soft launch 2,000 invites were sent in order to collect 100 fully completed questionnaires. The second main phase included 6,000 invites and during the last complementary phase 1,400 invites were sent. In total 321 questionnaires were collected (this excludes participants who were excluded in early stages due to this quota sampling) of which 264 were judged as been usable, passing the research panel quality control (less than 10% missing data and completion time of more than 6 minutes). All 321 questionnaires usable or not based on the research agency judgement were provided to the researcher for further elaboration. One week time period was offered in order to allow sufficient time for initial analysis in case any further quality problems were identified (many missing data, half completed, not good sampling etc.). All questionnaires were checked for set response bias and four were discarded since these respondents had completed the same or very similar answers in the scale items. This resulted in a usable number of 260 respondents/questionnaires.

In total eight questions of this questionnaire concerned questions on participants' demographic profile. These same demographic questions were used by the research agency for quota purposes. More specifically information regarding age, gender, higher completed educational level, ethnic group, working status, household size and finally grocery and PC/Laptop shopping habits were collected.

123 participants identified themselves as males (47.3%) and 137 as females (52.7%). They further identified their ethnic group as following: 89.2% white, 2.3 mixed, 6.5% Asian (or Asian British), 1.2% as black and 0.8% as other (e.g. Arabic). A majority of

respondents (60%) lives in larger households (more than 2 persons). However, following the trend towards smaller households 40% live in either 1 person (15%) or 2 person households (25%). Useful information concerns the channels that respondents typically use in order to shop for their groceries and technological products. More specifically, these statistics justify the choice to include the online element to the description of the PC/Laptop situation as 49.2% (128 respondents) of the respondents use this channel to shop for technological products, while the same statistic is much lower in the case of grocery shopping— 15.4% (40 respondents).

A complete description of the sample's socio-demographic profile is provided in table 8.1

**Table 8.1 Sample demographic profile**

n=260

		n	%
Gender	Males	123	47.3%
	Females	137	52.7%
Age	18–24	41	15.8%
	25–34	70	26.9%
	35–44	72	27.7%
	45–54	48	18.5%
	55–64	23	8.8%
	65+	6	2.3%
Higher completed education	GCSE/ A-levels	101	38.8%
	Vocational or Technical School	30	11.5%
	Higher Education	91	35%
	Postgraduate Degree	35	13.5%
	Other	3	1.2%
Ethnic Group	White	232	89.2%
	Mixed	6	2.3%
	Asian (Asian British)	17	6.5%
	Black (Black British)	3	1.2%
	Other	2	0.8%
Working Status	Employed full-time (30+ hours per week)	109	41.9%
	Employed part time (less than 30hours per week)	37	14.2%
	Unemployed	24	9.2%
	Student	26	10%
	Retired	17	6.5%
	Self-employed	11	4.2%
Household Size	Housewife/husband	36	13.8%
	1 person	39	15%
	2 person	65	25%
Channel for buying groceries	More than 2 persons	156	60%
	In store	40	84.6%
Channel for buying PC/laptops	Online	220	15.4%
	In store	132	50.8%
	Online	128	49.2%

Source: this study

Regarding the answer to the question, how frequently do you shop for either technology or grocery products the average answer for groceries was *2-3 times a month* (113 out of the 260 respondents) and the average answer for PC/Laptops was *between once a year and once every two years* (154 out of 260 respondents). This has been perceived as an

additional proof of the lesser experience characterising shopping for high technology products.

### **8.3. Preliminary Analysis**

#### ***8.3.1. Missing Data***

Missing data is a pervasive problem in any data analysis (Tabachnick & Fidell, 2007, p. 62; Baraldi & Enders, 2010). Missing data can be the result of data entry (in cases that the questionnaires take the ‘pen and paper’ form and data entry is manual) and software malfunctions (when online software is used). It can further be attributed to participants becoming bored, recalcitrant or simply confused from the structure of the questionnaire or the mere amount of questions and thus fail to answer some items. Missing data can pose a problem, both regarding their proportion but also depending on the ‘mechanism’ of missing data (Baraldi & Enders, 2010). The ‘mechanism’ of missing data refers to the classification system more frequently used today to describe the pattern behind missing values (Little & Rubin, 2002 as in Baraldi & Enders, 2010). These patterns have been described as following: Missing Completely At Random (MCAR), Missing At Random (MAR) and Missing Not At Random (MNAR). Actually according to Tabachnick and Fidell (2007, p. 62) the pattern of missing data is more important than the amount missing. Missing data which are scattered randomly pose less serious problems because there are statistical valid ways to diminish their effect (Baraldi & Enders, 2010; Hair et al., 1998) while non-randomly distributed missing data (even if less in number) can be an issue for the generalisability of results and require further elaboration to examine the reasons of occurrence, occasionally even require the deletion of variables that seem to cause or present the non-random distribution of the missing values (De Vaus, 2002, p. 176).

### **a. Handling of Missing Data**

There are several methods that have been proposed to handle the problem of missing data. There are two big categories, one category involves the deletion of cases, namely list-wise or pair-wise deletion and the other is the estimation of valid values for the replacement of missing data, namely mean imputation and regression-based substitution (De Vaus, 2002, p. 176-177; Allison, 2009). *Listwise deletion* involves the exclusion of cases or respondents with missing items from the analysis. That means that if any case has missing data, this case is omitted from the computation. The problem with this approach is that it can easily result to the loss of lots of data and information, especially when the number of missing data is large. *Pairwise deletion* involves the use of all cases that have no missing items even if those cases have missing values on other variables being used in the analysis. When using this approach we end up with a situation where each coefficient may be based on a different number of cases (De Vaus, 2002, p. 176; Allison, 2009, p. 76) were results produced might be unappealing.

The second group of missing data ‘treatment’ is the replacement of missing values with some estimated scores. These scores are the result of respondents’ pattern of answers in other questions and are used to replace the missing data. The most common of these approaches is mean imputation and regression based substitution. *Mean imputation* technique advocates the replacement of the missing value with the best guess for that missing value which is the measure of the central tendency of that variable or the mean for interval level variables (De Vaus, 2002). This approach has been however, widely questioned because it can easily decrease the variability in the dataset and can result in reduction of correlations between the variables (Malhotra & Birks, 2007). The final approach of regression based substitution is a more complex approach using regressions based on cases with complete data to predict values for the incomplete cases (Allison,

2009). The positive thing about it is that the imputed value is at least somehow conditional to the rest of the information about the case. It has generally been described as producing accurate estimates and has been seen as the recommended approach when considering the aforementioned traditional approaches to missing data handling (Allison, 2009, p. 87).

On the grounds of the sections on missing data and handling of missing data, any decisions on the most suitable missing data handling method for the present research, took into consideration both the amount and ‘mechanism’ of missing data and the aforementioned strengths and weaknesses of the methods. Specifically, in terms of numbers this dataset has not suffered significantly from missing data, especially when considering the main variables like emotions and confusion. Overall missing items were dispersed across cases. One alarming issue is that questions on socio-demographics present a bigger however not extreme indication of missing data. Specifically, overall only 34 cases are counted as missing data in this database. Appendix 5 shows the frequencies and percentages of missing responses for each item (the items are presented collectively for both markets).

In terms of the missing data mechanism, some handbooks of statistics usually advocate for the creation of two groups- missing and non-missing items groups- and the performance of t-tests accordingly (De Vaus, 2002) in order to spot any differences among groups. Recently the Roderick J. A. Little's chi-square statistic (Little, 1988) for testing whether values are missing completely at random (MCAR) is printed as a footnote to the EM (Expectation Maximisation) matrices of the MVA (Missing Value Analysis) of SPSS. For this test, the null hypothesis is that the data are missing completely at random, and the  $p$  value is significant at the 0.05 level. If the value is less than 0.05, then the data are not missing completely at random and this might be a problem for data analysis. If the test indicates that data are not missing at random then further analysis would be necessary in

order to assess the extent of the problem. Little's chi square statistic is a chi-square statistic and for this study it is reported as:

Overall data (including socio-demographics):  $\chi^2$  (295, N = 520) = 277.161, p = .765

(*Grocery Market*:  $\chi^2$  (222, N = 260) = 175.564, p = .991 and

*PC/Laptop Market*:  $\chi^2$  (221, N = 260) = 233.080, p = .276).

On the grounds that the dataset suffers from a very small number of missing data, the Little's MCAR (Missing Completely At Random) test has indicated that data are indeed missing completely at random and considering that the regression based substitution is generally the proposed method (Allison, 2009, p. 87), this study has utilised this approach for handling the missing cases<sup>11</sup>.

### **8.3.2. *Outliers (Univariate and Multivariate)***

The second issue of importance in the preliminary analysis is the existence of outliers in the database. An outlier is a case with an extreme value on one variable widely separated from the rest of the data (this is called a univariate outlier) (Howell, 2007, p. 20) or with a strange combination of scores on one or two variables (named a multivariate outlier) (Tabachnick & Fidell, 2007, p. 72). In that sense, outliers are observations that are inconsistent with the remainder of that data. The problem with outliers is that due to their extreme values these can have an increased impact and distort statistical values. They can once again be the result of error in data entry or a measurement error. However, one should not neglect the case that an outlier is a legitimate and correct value that just happens to be extreme, however it represents reality. This is the reason that deciding

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<sup>11</sup> This research acknowledges the superiority of the modern techniques of missing data handling, like maximum likelihood technique and multiple imputation, as explained by their advocates (Allison, 2009; Baraldi & Enders, 2010). The complexity of these methods, the requirement for specialised statistical software (SPSS does not support these techniques) along with the minor impact (very little cases and no sign of missing data bias) that missing data seems to have in this dataset have resulted in a balanced and informed choice to follow one of the traditional techniques.

between deleting and retaining these cases is a difficult endeavour (Hair et al., 1998, p. 67; Tabachnick & Fidell, 2007, p. 72).

Following instructions by Pallant (2010, p. 58-62) and Brace et al., (2012) univariate outliers have been examined using box plots and histograms for all individual items of the questionnaire. In accordance with Pallant (2010) all trimmed means for all items were checked. Trimmed means represent the value of the mean when the top and bottom 5% of the cases are removed. This is a good indication of the effect of the outliers. Trimmed means are especially important in this study where Anova (mean comparisons) will be frequently used. The investigation of the univariate outliers did not revealed any significant differences between the means and the trimmed means and any outliers were within the expected range for the variables. An overall observation that could guide future research is that most univariate outliers were identified with the arousal items like for example Frenzied-Sluggish and Dull-Jittery. This finding might be an indication of what Donovan et al. (1994) also pointed in their research. They based their argument on anecdotal feedback from their participants who indicated that those two items plus the aroused-unaroused item could not really correspond to the feelings experienced in a retail setting.

The criterion for multivariate outliers is Mahalanobis distance at  $p < .001$ , assessed as a chi square ( $\chi^2$ ) with degrees of freedom equal to the number of variables (Tabachnick & Fidell, 2007, p. 99). The calculation of the Mahalanobis distance was performed using the regression process. Specifically, the ID number of the cases was selected as the dependent variable and the 38 items of the questionnaire as the independent variables. For 38 items the criterion of  $\chi^2$  at  $p < .001$  is 73.402 (table of critical values of  $\chi^2$  as in Tabachnick & Fidell, 2007, p. 949). Any value with Mahalanobis distance above this threshold is considered a multivariate outlier. The analysis revealed seven cases (out of 520) of

multivariate outliers. The values for five cases are reported by SPSS: Case 164 with Mahalanobis distance 127.79, case 424 with a value of 127.48, case 296 with a value of 122.34, case 159 with a Mahalanobis value 113.14 and case 316 with a value of 100.32.

All cases of univariate and multivariate outliers were checked elaborately and outliers could not be attributed to a data entry or a re-coding problem. In accordance with several researchers that argue (Hair et al., 1998, p. 66) that in social sciences outliers are usually a valid representation of reality (when there are no obvious data entry errors), outliers were retained in this dataset for further analysis<sup>12</sup>.

### ***8.3.3. Normality (Univariate and Multivariate)***

Normality refers to the distribution of variables. Specifically, it is a way to describe the way that a distribution corresponds or fits to the normal distribution (Howell, 2007, p. 67). It is accessed through the measurement of skewness and kurtosis (Tabachnick & Fidell, 2007, p. 79) of each variable or the composite scores. Skewness is the degree of asymmetry of a distribution (Howell, 2007, p. 27), referring to the position of the mean. Kurtosis refers to the shape of the curve mainly in terms of concentration of the values around the centre and the two tails (Howell, 2007, p. 29). The normal distribution (widely named as Gaussian) has a mean, a skewness and a kurtosis of 0 (zero) and a standard deviation of 1 (Howell, 2007, p. 73).

As in the case of outliers normality can also be described in terms of univariate and multivariate normality.

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<sup>12</sup> In order to reach this decision analysis was re-run without the identified multivariate outliers. The results did not vary significantly to the ones produced in case these outliers remain in the dataset. Outliers were then retained in order to provide a picture as close to the data collected as possible.

Univariate normality implicates the examination of the distributions. Univariate normality is an assumption underlying the performance of several statistical techniques and as such it is a focal point for the researcher in order to make the choice of certain analysis techniques rather than others. For this reason it is a matter of great importance and it is included in this section of data management.

Specifically, the category of parametric statistical tests (e.g. pearson's r correlation coefficient) have been designed on the assumption that data correspond to the normal distribution while non-parametric tests (e.g. spearman's rank correlation coefficient), are not based on this assumption and should be the choice when data are not normally distributed (Micceri, 1989). The use of one approach over the other (parametric versus non parametric) is usually not fatal in terms of identifying relationships between the data. It usually however means that when the inappropriate technique is used some estimates will be under- or over- determined depending on the approach (Tabachnick & Fidell, 2007).

Normally distributed data is a pragmatically uncommon occurrence in social sciences (Micceri, 1989; Pallant, 2010) but non-parametric tests are not to be considered appropriate immediately and without further judgement. According to Micceri (1989, p. 161) :*‘adequate research is available to suggest that most parametric statistics should be fairly robust to both alpha and beta given light tail weights and moderate contaminations’*.

Many parameters should then be taken into consideration when choosing the appropriate techniques in connection with normality. Three of these parameters are considered in this study: 1) How far the data differ from the normal distribution? Analysis should be performed by non-parametric tests only if the data are abnormally distributed, that is

according to Brace et al., (2012, p. 85) severely skewed. Severe kurtosis can also result in an underestimation of variance but it is not fatal for larger samples. 2) Sample size is then another crucial element that the decision should be based with most statistical books (Tabachnick & Fidell, 2007 as in Pallant, 2010) arguing that a sample of 200 cases or more is sufficient in order to overcome the issues faced by non-normal distributions. 3) Finally one additional parameter is the availability of non-parametric alternatives. Several statistical techniques, like Factorial Anova (GLM) for example, have no non-parametric alternative (Pallant, 2010, p. 241) and in this case it lies with the researcher to decide whether the use of this technique is justifiable or it would be advisable to find an alternative statistical method. The sample size along with the consideration of the fine levels of skewness and kurtosis, nonchalantly allows the use of parametric tests in this study.

The second kind of normality, multivariate normality depends on univariate normality (De Vaus, 2002, p. 344) and is an indication of whether each variable and all linear combinations of variables are normally distributed. It is mainly an issue in such techniques as multiple linear regression and it is examined in cases such statistical approaches are to be used by consulting the distribution and independence of the residuals (Tabachnick & Fidell, 2007, p. 78) -see the residual plots of the multiple regressions of this analysis where multivariate normality is assessed along with the assumption of heteroskedasticity.

#### *a. Assessing Univariate Normality*

This research has used several ways to access normality. The Kolmogorov-Smirnov test of normality (SAS Institute, 1985 as in Micceri, 1989) can be used to access a distribution's normality, however as it adopts very stringent assumptions it usually finds distributions not to be normal at the .01 alpha level. For larger samples sizes the

likelihood of rejecting a variable that deviates only slightly from normality increases (Howell, 2007). Examination of the actual parameters of skewness and kurtosis (descriptive statistics) and graphical inspection of the data in terms of histograms, stem-and-leaf plots and Q-Q plots assisted the examinations of the distributions in this study.

Among the ways to deal with not normally distributed date are the use of non-parametric tests as described before, the use of trimmed means (for heavy-tailed distributions) and also the transformation of the values which is applied in order to transform their distribution (Howell, 2007, p. 317-323). Data transformations usually involve such processes as transforming the original data into their logarithms or square roots (Howell, 2007, p. 317-323). It is not unusual to see such transformations although considering that after performing the transformations, researcher is not working any more with the real data, caution should be taken in the results and explanations extracted. Generally, it is suggested that such extreme measures should not be taken in social science data if distributions are reasonably distributed with only a few outliers (Howell, 2007, p. 323).

## **8.4. Descriptive Analysis**

This section will provide the descriptive analysis of the individual items used in this study (descriptive statistics for the composite scales will be provided later in this analysis). Descriptive statistics provide a summary of what a research has found. Means, standard deviation and measures of normality (skewness and kurtosis) of all the items will be provided. All negatively worded items have been reversed prior to these calculations.

### ***8.4.1. Means (Sd)/ Skewness/ Kurtosis of Individual Items***

The following table 8.2 summarises the descriptive statistics of the individual items of this study. Specifically, mean and standard deviation, skewness and kurtosis values are presented for all items.

**Table 8.2 Descriptive statistics of individual items**

Item	Mean (SD)	Skewness	Kurtosis
P1. Unhappy- Happy	6.55 (1.8)	-.534	-.178
P2. Annoyed- Pleased	6.21 (1.9)	-.338	-.471
D1. Guided-Autonomous	4.99 (1.6)	.079	-.001
P3. Bored- Relaxed	6.28 (1.9)	-.412	-.461
A1. Excited- Calm	4.78 (1.9)	.242	-.542
P4. Unsatisfied- Satisfied	6.34 (1.7)	-.251	-.336
P5. Melancholic- Contented	6.05 (1.8)	-.244	-.098
P6. Despairing- Hopeful	6.36 (1.7)	-.412	-.080
A2. Frenzied- Sluggish	5.18 (1.4)	.122	1.49
D2. Awed- Important	5.37 (1.3)	.343	.817
A3. Dull-Jittery	5.07 (1.3)	-.051	1.74
A4. Unaroused- Aroused	4.63 (1.9)	-.332	-.143
D3. Controlled- Controlling	5.10 (1.7)	.199	-.214
A5. Relaxed- Stimulated	5.51 (1.8)	-.213	-.294
D4. Influenced- Influential	4.70 (1.5)	.097	-.120
D5. Cared-for- In control	5.89 (1.5)	-.323	.109
A6. Sleepy- Wide-awake	6.19 (1.8)	-.390	-.242
D6. Submissive- Dominant	5.46 (1.4)	-.059	.438
AP1. Time spent	3.96 (1.2)	.350	.362
AV1. Try to leave	2.70 (1.7)	.658	-.575
AP2. Enjoy exploring	4.44 (1.6)	-.311	-.627
AV2. Avoid others	3.33 (1.8)	.226	-1.009
AP3. Feel friendly	3.60 (1.6)	.179	-.542
AV3. Avoid looking around	2.59 (1.7)	.755	-.404
S1. Difficult to spot new products	4.32 (1.6)	-.403	-.553
S2. Difficult to detect differences	4.39 (1.6)	-.432	-.443
S3. Hard to distinguish	4.09 (1.5)	-.107	-.662
S4. Made by the same manufacturer	4.13 (1.5)	-.122	-.526
O1. The harder it gets to choose the best	4.17 (1.7)	-.127	-.872
O2. Many brands- feel confused	4.14 (1.6)	-.194	-.710
O3. Many shops to shop at	3.86 (1.7)	.010	-.899
O4. Too much information	3.67 (1.7)	.152	-.749
O5. Too many products to choose from	4.02 (1.7)	-.020	-.616
AM1. The comparison of brands is difficult	4.03 (1.6)	-.145	-.647
AM2. I feel uninformed	3.49 (1.4)	.211	-.222
AM3. I get vague information	4.11 (1.5)	.040	-.403
AM4. Uncertainty about product characteristics	3.90 (1.6)	-.022	-.580
ME1. Market experience	5.08 (1.4)	-.686	.278

Source: this study

Distributions are in their majority platykurtic (negative kurtosis), indicative of relatively flat distributions (Pallant, 2010). Largely, the items<sup>13</sup> do not indicate extreme skewness and kurtosis values, the sample of this study is far above the 200 cases proposed (Tabachnick & Fidell, 2007) -260 cases for each situation and 520 when taken collectively- allowing the confident use of parametric statistics; this analysis has valid statistical reasons to follow the norms of relevant studies that used parametric statistics for the investigation of the relevant hypotheses.

## 8.5. Psychometric Properties of the Scales

This study has used multivariate measurements, more widely known as summated scales or scales for measurement purposes. The practice of using summated scales is widely utilised in marketing and psychology and the objective is to avoid the use of only a single variable to represent a concept. Instead summated scales are comprised of several variables joined together in a ‘composite measure’ to represent that concept (Hair et al., 1998, p. 10). As explained in the methodology chapter there are recent voices (Drolet & Morrison, 2001; van Birgelen et al., 2001; Fuchs & Diamantopoulos, 2009) advocating that the use of single items in specific research cases is not only justified but in addition desirable, and such voices should not be disregarded. However, this study has used scales for its main constructs (apart from the measurement of market experience) where each single variable of the scale is supposed to characterise differing facets of the concept and altogether to represent a more coherent perspective of the concept under investigation (researcher is basing findings on the ‘average’ response to a set of related responses). Specifically, psychometrics is the field of study examining the theory and technique of psychological measurement, which is especially concerned with the construction and

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13 Items were also examined on a split by market basis and the results indicated approximately similar results. For reasons of clarity of presentation only the overall items are presented here.

validation of measuring instruments (Borsboom, 2005). Methodology chapter has defined the basic issues when judging the quality of a measurement scale and these are: dimensionality, measurement validity and reliability. The following two sections will deal with dimensionality and reliability.

### **8.5.1. Dimensionality**

Dimensionality of the scales is empirically assessed by factor analysis (Hair et al., 1998). Factor analysis (FA) is the statistical approach used to analyse the interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). By providing the necessary estimate of the structure of the variables considered, this method has acted as a basis for creating and assessing the quality of summated scales (Hair et al., 1998, p. 14). It simplifies the correlations and reveals important information by a new and smaller set of variables. Its purpose is then the identification of the structure of the data.

The first issue to consider when performing factor analysis is the distinction between Exploratory (EFA) and Confirmatory (CFA) Factor Analysis. This distinction has been described before (chapter 7- Methodology) and the choice of the exploratory approach (EFA) in this research has been justified. Another issue to mention is that EFA can be performed without assuming normality of the data and in that manner the assumption of normality is not in force here (Tabachnick & Fidell, 2007, p. 613).

This study has then preferred EFA and specifically the method of Principal Component Analysis and mainly followed guidelines by Brace et al., 2006; Tabachnick & Fidell, 2007 and Pallant, 2010. Especially Tabachnick & Fidell (2007, p. 608) propose that the steps in PCA include the measurement of the variables, examining the correlation matrix for all individual items for both extreme correlations ( $>.90$  or  $>.80$  according to De Vaus, 2002,

p. 116) or items that have no correlations with any other items, extracting a set of factors and determining the number of factors and ‘rotating’ the factors in order to increase interpretability. The final step is the interpretation of the results based on theoretical and practical considerations. The rotation of factors is a process by which the solution is made more interpretable. There are two general classes of rotation: *orthogonal and oblique*. If rotation is orthogonal (the proposed method here is usually varimax rotation- see all aforementioned sources) then interpretation is the result of the produced ‘*loading matrix*’ which indicates which observed variables are correlated with each factor. At the other end, oblique rotation implies and allows for the factors extracted being correlated (Zimet et al., 1988) and produces several additional matrices. The structure matrix indicates correlations between factors and variables and the pattern matrix reveals the unique relationships between the factors. Following oblique rotation, the meaning of the factors is ascertained from the pattern matrix (Ho, 2006, p. 220; Tabachnick & Fidell, 2007, p. 609).

The interpretation of the matrices depends on the understanding of the underlying dimensions that unifies the group of variables that load on this factor. These loadings are usually indications of the correlations between the variables and the factors these underlie. Tabachnick & Fidell, (2007, p. 649) identify that a rule of thumb for the items’ loadings would be that loadings of .32 and above are interpreted. Hair et al., (1998, p. 112, table 3.2) offer a more standard approach which takes into consideration the sample size of the study. To this latter source any sample size over 350 (n=350) requires a loading of .30 for significant interpretation. In the case of this research this required factor loading is then very similar to the rule of thumb proposed by Tabachnick & Fidell (2007). However the required factor loading increases significantly for smaller sample sizes (a sample size of 100 requires a factor loading of at least .55 in order for the item to be considered a valid

component of the scale). Overall, the greater the loading the better because this indicates that the item is a pure measure of the specific factor.

Further to the aforementioned issue, according to De Vaus (2002, p. 187) caution should be drawn to one theoretical and another practical fact. Firstly, since the factor analysis solution is based on the correlations between the variables, regardless of the variables used a set of underlying factors might be produced- whether they make theoretical sense or not. The understanding developed then necessitates judgement on theoretical basis. Secondly, the statistical suitability of data for factor analysis should be verified. In order to assess whether a set of variables is suitable for factor analysis further to be based on the conceptual definition, the need to examine the matrix of correlations along with the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity is crucial (Pallant, 2010; Brace et al., 2012). De Vaus (2002, p. 188) suggests that KMO values above 0.7 indicate adequate correlations for the factor analysis to be performed and values between 0.5 and 0.69 indicate that more care should be taken when analysing the factors produced. Values below 0.5 clearly indicate unsuitable data. However, Pallant, 2010 suggests that a *KMO value of 0.6 and above* and *a significant Bartlett's test of Sphericity (p<0.05)* are enough for the factor analysis to be considered appropriate.

In order to access the overall suitability of the data and verify that variables like for instance confusion and dominance do not load together an overall Principal Component Analysis was performed without rotating the data.

These statistics are presented in the table below:

**Table 8.3 KMO and BTS measure of sampling adequacy. All items**

Kaiser-Meyer-Olkin measure of sampling adequacy		.912
Barlett's test of sphericity	Approx. Chi- Square	10679.886
	Df	703
	Sig.	.000

Source: this study

Kaiser's criterion or eigenvalue rule of 1.0 or more was used in all cases to assist in the decision concerning the number of factors to maintain. The findings are shown in Table 8.4.

**Table 8.4 Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.401	24.741	24.741	9.401	24.741	24.741	7.081	18.634	18.634
2	6.053	15.929	40.669	6.053	15.929	40.669	5.996	15.778	34.412
3	2.302	6.057	46.727	2.302	6.057	46.727	2.665	7.013	41.426
4	1.779	4.682	51.409	1.779	4.682	51.409	2.511	6.608	48.033
5	1.396	3.675	55.084	1.396	3.675	55.084	1.906	5.015	53.049
6	1.214	3.196	58.279	1.214	3.196	58.279	1.586	4.174	57.223
7	1.171	3.083	61.362	1.171	3.083	61.362	1.455	3.828	61.051
8	1.100	2.894	64.256	1.100	2.894	64.256	1.218	3.205	64.256

Source: this study

Extraction method: Principal Component Analysis

Overall, the variance explained by all of the items is 64% and the items loaded correctly to their responding factors. An alarming finding however was that although confusion did not load together with any of the other constructs, all items of different kinds of confusion loaded together on the first factor of this factor analysis, apart from item AM2. In order to deal with this issue and examine the structure of emotional- behavioural and confusion variables more accurately separate factor analysis (with varimax rotation) was run for the emotional items as these items are expected to be orthogonal and a further factor analysis with oblique rotation was run for confusion. Oblique rotation is frequently used when factors are expected to be correlated and has been used in the past when multidimensional scales are examined (Zimet, 1988). In that case the factors underlying confusion could potentially indicate high correlations as these underlie a common theme, that of confusion.

## Principal Component Analysis for emotional- behavioural variables (Varimax Rotation)

**Table 8.5 KMO and BTS measure of sampling adequacy. Emotional variables**

Kaiser-Meyer-Olkin measure of sampling adequacy		.909
Barlett's test of sphericity	Approx. Chi- Square Df Sig.	4099.638 153 .000

Source: this study

**Table 8.6 Factor Analysis (varimax rotation) of the affective and behavioural measures**

Item	Affective			Behavioural
	Factor 1: Pleasure	Factor 2: Dominance	Factor 3: Arousal	Factor 1: Approach-Avoidance
P2. Annoyed-Pleased	.846			
P1. Unhappy-Happy	.828			
P4. Unsatisfied-Satisfied	.822			
P3. Bored-Relaxed	.815			
P6. Despairing-Hopeful	.799			
P5. Melancholic-Contented	.748			
D3. Controlled-Controlling		.747		
D4. Influenced-Influential		.724		
D1. Guided-Autonomous		.718		
D5. Cared for- In control		.591		
D6. Submissive-Dominant		.570		
D2. Awed-Important	.409	.457		
A2. Sluggish-Frenzied			.683	
A5. Relaxed-Stimulated			.665	
A3. Dull-Jittery			.649	
A1. Calm-Excited.			.593	
A4. Unaroused-Aroused			.577	
A6. Sleepy-Wide-awake	.537		.546	
AV3. Avoid looking around				.843
AV2. Avoid other				.762

people					
AV1. Try to leave				.748	
AP2. Enjoy exploring				-.312	.804
AP1. Time spent					.742
AP3. Feel friendly and talkative					.666
Explained Variance	26.9%	14.8%	14.2%	44.5%	17.5%
Total	56%			62.14%	

Source: this study

Extraction method: Principal Component Analysis

*Note.* The items are sorted by size. Loadings less than .32 do not appear in order to facilitate the presentation.

These results indicate that overall the items load well on their corresponding factors. All of the items of the first factor ‘pleasure’ indicate the best consistency and loadings greater than 0.70. This factor accounts for 26.9% of the variance.

Regarding the second factor ‘Dominance’ one of the items ‘D2. Awed-Important’ that should conceptually load on this factor has loaded almost equally on both the first and second factor and thus it is one of the items considered for elimination. The same problem is evident with one of the items of the third factor ‘Arousal’. This item which should conceptually belong to arousal again loads equally on both the first ‘pleasure’ and the third factor ‘arousal’. Item ‘A6. Sleepy-wide-awake’ is also considered for elimination. The problem with items that so clearly and equally load on two factors is that these artificially inflate the correlation between the constructs after these have been summated. A second factor analysis was conducted after the decision to eliminate these two items. The new factor analysis explained 57.48% of the variance and all of the remaining 16 items loaded on their respective factor.

## Principal Component Analysis for the confusion scale (Oblique Rotation)

**Table 8.7 KMO and BTS of sampling adequacy. Confusion**

Kaiser-Meyer-Olkin measure of sampling adequacy		.935
Barlett's test of sphericity	Approx. Chi- Square	4450.541
	Df	78
	Sig.	.000

Source: this study

**Table 8.8 Factor Analysis (oblique rotation) of the confusion measures**

Item	Factor 1: complexity	Factor 2: similarity
O4. Too much information	.817	
AM4. Uncertainty about product characteristics	.750	
O5. Too many products to choose from	.716	
O2. Many brands-feel confused	.710	
AM1. The comparison of brands is difficult	.695	
O3. Many shops to shop at	.691	
AM2. I feel uninformed	.560	.364
AM3. I get vague information	.555	
O1. The harder it gets to choose the best	.530	-.386
S2. Difficult to detect differences		-.855
S3. Hard to distinguish		-.815
S1. Difficult to spot new products		-.794
S4. Made by the same manufacturer		-.671
Explained Variance	47.28	16.88
Total		64.16

Source: this study.

Extraction method: Principal Component Analysis

Rotation Method: Oblimin with Kaiser Normalization

Following the results of this factor analysis with oblique rotation, it is evident that the scale on confusion indicates two factors (as the items load on two factors only). The second factor clearly indicates the factor of similarity (all items conceptualised as measuring similarity have clearly loaded there). Items of both the overload and ambiguity confusion loaded together on the first factor. The common characteristic of these two kinds of confusion is that these create a complex environment (in contradiction to the homogeneity caused by product similarity) for consumers. Based on this theoretical argument this factor was kept as it is, as the underlying interpretation has been revealed and has been perceived as indicating complexity confusion. Two of the item AM2 and O1 were dropped. The problem with these items is that these load on both factors. As the

factors are already expected to have high inter-correlation, these were dropped to reduce this issue. Keeping them would not be an issue for the factor itself as for the higher correlation with the second factor. Thus 4 items are measuring similarity and 7 items complexity confusion in this research. The implications of this finding for the study of confusion will be further discussed in the concluding chapter (chapter 10).

### **8.5.2. *Reliability***

Reliability is used in this study in order to measure the internal consistency. It will then be assessed by determining the overall consistency of the measures. Cronbach's alpha is the preferred coefficient used to measure the internal consistency and this coefficient has been established as one of the first measurements calculated to assess the quality of a measurement (Churchill, 1979; Steenkamp & van Trijp, 1991; Cortina, 1993). However reliability assessment has been the result of an interaction with the technique of EFA (Exploratory Factor Analysis), which was used to determine the constructs.

The cut off value of alpha for accepting a construct is 0.5 (below that the construct can be described as unacceptable). However a more up to standard  $\alpha > 0.7$  is proposed and 0.6 has been described as acceptable especially for exploratory research (Hair et al., 1998, p. 118). In addition, as part of alpha value examination another indication will be used to examine and establish reliability in this study, this is the Item-Total-Correlations (ITC). The final scale for any construct should not include any items with items score lower than .30 (Leech et al., 2005, p. 66). The higher the item-total-correlation index for an item (especially moderately high to high correlations around .40 and over) indicates that the item will be a good component of a scale. All the decisions to drop/ keep items should be of course negotiated based on the results of the factor analysis, the findings of ITC, alpha values, and judgement by the researcher based on previous research and theoretical grounds. The alpha coefficients of this study are presented in table 8.9. Along with the

overall evaluation (N=520), a presentation of the alpha coefficient per situation (N=260) is also provided:

**Table 8.9 Reliability (cronbach's alpha) for the scales of this study**

Variables	Number of items	Cronbach's alpha (overall)	Cronbach's alpha (per market)	
Pleasure	6	.923	Grocery	.919
			High- technology	.919
Arousal	5	.661	Grocery	.690
			High- technology	.605
Dominance	5	.731	Grocery	.726
			High- technology	.739
Approach	3	.633	Grocery	.653
			High- technology	.600
Avoidance	3	.727	Grocery	.722
			High- technology	.654
Aminusa	AP-AV	N/A	Grocery	N/A
			High- technology	N/A
Similarity Confusion	4	.916	Grocery	.915
			High- technology	.917
Complexity Confusion	7	.903	Grocery	.877
			High- technology	.919
Market Experience	1	N/A	Grocery	N/A
			High- technology	N/A

Source: this study

Because of negative average covariance among items, the behavioural factor cannot yield a single alpha coefficient (Foxall & Soriano, 2011). Thus alpha coefficient is provided distinctively for the Approach and Avoidance constructs.

In summary and in accordance with the proposed cut-off point of 0.60 this study has achieved good internal consistency, with all items alpha coefficient ranging from above 0.60 to 0.90. This is consistent at an overall and situational level.

In addition, the levels of ITC were satisfactory for all items. Only 2 items had ITC lower than .40. Item AP1 (time spent) with ITC of .388 and item A1 (calm-excited) with ITC .336. However because both values are above 0.3 and in addition the cronbach's alpha value of the specific scales these items are part (meaning approach and arousal) was

actually dropping rather than increasing when removing these items (for Approach alpha coefficient if item deleted would be .614 and for Arousal alpha if item deleted .655) and based on previous research, these items were not removed from the summated constructs.

## 8.6. Hypothesis Testing

Following data examination, this section will then move to test the hypotheses of this research project.

Before proceeding to the specific tests a table (table 8.10) with the descriptive statistics of the composite measures (means (Sd)/ skewness/ kurtosis) is provided:

**Table 8.10 Descriptive statistics of composite variables**

Item	Mean (SD)	Skewness	Kurtosis
Pleasure	37.79 (9.18)	-.258	-.180
Arousal	25.16 (5.53)	-.084	.773
Dominance	26.17 (5.37)	.173	.717
AP	11.99 (3.33)	-.052	-.154
AV	8.61 (4.16)	.566	-.146
AP_AV (Aminusa)	3.38 (6.37)	-.438	.350
Similarity confusion	16.93 (5.49)	-.289	-.276
Complexity confusion	27.73 (9.03)	-.055	-.162
Market Experience	5.08 (1.34)	-.686	.278

Source: this study

### 8.6.1. Examining the BPM-E (The Extensional Behavioural Perspective Model)

This section will examine the patterns that the affective, behavioural, confusion and levels of experience will indicate in the two market situations used in this study. The overall reported levels for these variables will be reported and a comparison will be made in order to examine if these follow the principles of the BPM. In order to compare the two situations either one way Analysis of Variance (ANOVA) or t-test could be used. Although t-test is the norm when only two means are to be compared, this study used ANOVA as it is said to have more advantages in terms of helping to protect against Type

1 and Type 2 errors (Pallant, 2010). In this case an F-ratio is calculated. A significant F test indicates that the null hypothesis (that there are no differences between the groups) can be rejected. The following table indicates the means for all variables in this study per situation and the ANOVA F test along with its significance.

In order to test for the assumption of the homogeneity of variances (Tabachnick & Fidell, 2007, p 85), tests like Levene's test of homogeneity of variance have been introduced. Levene's test is provided by all ANOVA-like statistical processes. In this case the preference would be for a significance level of greater than .05. In case this is not so, a more stringent significance level should be used to judge the results of ANOVA. In case Levene's test sig is less than the .05 level a significance of .025 should be used for moderate violation and of .01 for severe violation when evaluating the results of ANOVA-Pallant, 2010. In case t-tests are used SPSS provides an output of both the equal and unequal variance method and the correct level should be used to guide analysis.

**Table 8.11 Means and ANOVA results for the two situations (N=260 for each market)**

Context	Pleasure	Arousal	Dominance	Approach	Avoidance	A_A	Similarity	Complexity	Market Exp/nce
<b>Grocery (a)</b>	35.70 (9.1)	23.70 (5.6)	26.48 (5.1)	11.22 (3.2)	9.30 (4.4)	1.88 (6.5)	16.68 (5.2)	26.33 (8.17)	5.32
<b>PC/Laptop (b)</b>	39.88 (8.7)	26.62 (5.1)	25.87 (5.6)	12.80 (3.3)	7.90 (3.8)	4.87 (5.8)	17.17 (5.7)	29.13 (9.6)	4.80
<b>Anova Results (Difference between the markets)</b>	F(1,519) = 28.430**	F(1,519) = 38.857**	F(1,519) = 1.253	F(1,519) = 30.010**	F(1,519) = 15.831**	F(1,519) = 30.337**	F(1, 159) = 1.009	F(1, 159) = 12.807**	F(1,519) = 18.295**

\*\*Difference significant at the 0.01 level (2-tailed)

\*Difference significant at the 0.05 level (2-tailed)

Source: this study

The table indicates that a comparison of different markets in accordance with the principles of the BPM is possible even when the situations are not part of the clear boundaries of the operant classes and categories introduced by the original model.

Grocery shopping indicates significantly less utilitarian and informational reinforcement than high technology buying. The levels of dominance reported differ with the high technology market indicating lower levels of dominance however the difference is not significant (most possibly a result of the two markets being part of today's open retail environments). This leads us to conclude that high technology buying should have more approach and aminusa but less avoidance behaviour because it is overall characterised by higher levels of reinforcement. This is in accordance with our data.

Levels of similarity confusion do not indicate significant differences between the two markets while complexity is higher for the PC/Laptop market. It is interesting to note that the levels of our behavioural variables (Approach-Avoidance) are not determined by levels of punishment (levels of approach and avoidance might be influenced but not determined by the difference of confusion between the two markets) but from the overall levels of reinforcement. This is in accordance with theoretical arguments that say that it is usually the level of reinforcement that defines the responses within a situation.

Overall, participants have reported that the grocery market has higher levels of experience. The difference is significant although the markets do not differ as much as expected.

### 8.6.2. Examining the BPM-I (The Intentional Behavioural Perspective Model)

In order to perform this analysis similarity and complexity confusion levels had to be reduced to levels in order to be able to conduct one-way ANOVA compare the groups of confused and non confused consumers. Both a median and a mean split have been considered following instructions from previous research (Ward & Banes, 2001). The median split was implemented as dictated by the ‘visual binning’ process of SPSS.

**Table 8.12 Mean and median for the two confusion variables**

	Mean	Median
Similarity	16.93	17.00
Complexity	27.73	28.00

Source: this study

The results for similarity confusion are presented in table 8.13 below:

**Table 8.13 Means and ANOVA results for similarity confusion (BPM-I)**

Context	Pleasure	Arousal	Dominance	Approach	Avoidance	Aminusa
<i>High similarity Confusion</i>	36.05 (9.3)	24.7 (5.7)	25.50 (5.2)	11.40 (3.2)	9.20 (4.0)	2.30 (6.0)
<i>Low similarity Confusion</i>	39.4 (8.7)	25.5 (5.3)	26.07 (5.4)	12.50 (3.4)	8.00 (4.2)	4.40 (6.4)
<b>Anova Results (Difference between the intentional situations)</b>	F(1,519)= 18.456**	F(1,519)= 2.757 <sup>a</sup>	F (1,519)= 6.192*	F(1,519)= 11.030**	F(1,159= 10.174**	F(1,159)= 14.755**
Levene's test	F (1, 518)= .217	F(1,518)= 2.661	F(1, 518)= .852	F(1, 518)= .496	F (1,518)= .128	F (1,518)= 3.649
Levene's significance	.641	.103	.356	.482	.721	.057

\*\*Difference significant at the 0.01 level (2-tailed)

\*Difference significant at the 0.05 level (2-tailed)

<sup>a</sup> .097

Source: this study

These results confirm the hypotheses (H1- H6) related to BPM-I. The situation which is characterised as more open and indicates higher utilitarian and informational

reinforcement (low confusion as understood by consumers) will indicate higher approach and aminusa but lower avoidance.

The results for complexity confusion are presented in table 8.14 below:

**Table 8.14 Means and ANOVA results for complexity confusion (BPM-I)**

Context	Pleasure	Arousal	Dominance	Approach	Avoidance	Aminusa
<i>High complexity Confusion</i>	37.05	25.86	24.97	11.86	9.26	2.60
<i>Low complexity Confusion</i>	38.50	24.57	27.11	12.10	8.07	4.04
<b>Anova Results (Difference between the intentional situations)</b>	F(1,519)= 2.843*	F(1,519)= 7.076**	F (1,519)= 21347**	F(1,519)= .674	F(1,159)= 10.823**	F(1,159)= 6.637**
Levene's test	F(1,518)= .394	F(1,518)= 2.805	F (1,518)= .329	F(1,518)= .260	F(1,158)= .234	F(1,158)= .631
Levene's significance	.530	.095	.567	.610	.629	.427

\*\*Difference significant at the 0.01 level (2-tailed)

\*Difference significant at the 0.05 level (2-tailed)

Source: this study

ANOVA results indicate that arousal (informational reinforcement) seems to be higher (although non-significant) for consumers suffering from complexity confusion. This finding might simply indicate that complexity confusion is at some level similar to the measurement of information rate of environments and it might include elements of this construct.

Overall, however, findings support the notion that confusion is an un-aroused situation, most possibly indicating that the level of feedback on performance that arousal is capable of measuring is the one connected to social recognition in the form of consumer social status rather than the self- esteem caused from understanding and increased experience/learning of situations.

### ***8.6.3. The Relationships Between the Variables***

This section will deal with the relationships of the variables of this study. Examining the correlation matrix of the variables of this study is crucial because this step can give a first indication of both the direction and the strength of the association between variables. Pearson-product moment correlation (r) has been used (in line with the use of parametric tests in this study). This coefficient is designed for continuous variables and this assumption is met by the variables of this study. An initial indication on the relationships among PAD, confusion and behavioural variables will be examined in this section.

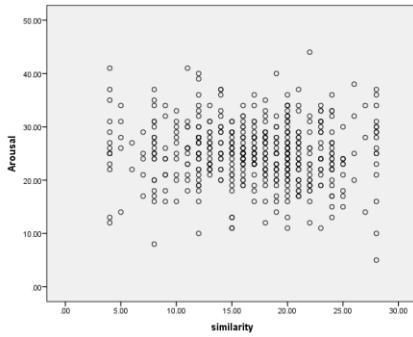
Before getting into the examination of the direction and strength of correlations and in order to test for the assumption of linearity (Hair et al., p. 75), preliminary analysis in the form of scatterplots of all relationships was conducted. The point is that correlations represent only the linear association between variables, non-linear effects will not be represented in the correlation value. Thus, when non-linearity is not taken into consideration the results might be an underestimation of the actual strength<sup>14</sup> of the relationship (Hair et al., p. 75). All scatterplots of the relationships between variables have been examined and the ones indicating the relationships with the behavioural variables are presented as an indication of the linear relationships found in this analysis in Appendix 6. Due to the lack of correlation between similarity/ complexity confusion with arousal (refer to table of correlations 8.16) the scatterplot of the relationship between arousal and confusion is presented below.

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<sup>14</sup> Linearity is not as important for factor analysis. In case relationships are not linear FA can be used, with a main issue that the results might not indicate the same levels of quality (DeVaus, 2002, p. 385).

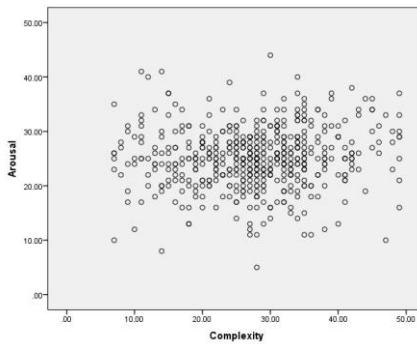
**Figure 8.2 Scatterplots of the relationship between arousal and confusion**  
**Similarity confusion**

**Arousal**



**Complexity confusion**

**Arousal**



Source: this study

The scatterplots indicate that curvilinearity is not an issue in this study. Some issues with heteroskedasticity are evident in the relationship between similarity/ complexity confusion and the behavioural variables. These indications will be considered in the different analysis by applying the rules developed for dealing with this issue. When data are grouped, meaning in ANOVA like applications, more stringent levels for accepting the results, in light of the Levene's test of homogeneity of variance in all cases, will be applied (Tabachnick & Fidell, 2007, p. 86). In view of the fact that heteroskedasticity is not a problem for the interpretation of results because the results of any analysis are mainly weakened but not invalidated due to this issue, this study has not performed the solution of transformations. The problem with transformations is that the analysis is then only limited to the transformed data and cannot be easily extended to the actual social

phenomena. Interpretations should be taken with extreme caution. Prior to the execution of multiple regression the residual plots will also be examined and heteroskedasticity will be taken into consideration. Following instructions by many expert academics and statisticians (Allison, 1999; Tabachnick & Fidell, 2007) overall regression estimation is not de-validated by heteroskedasticity.

Following the data examination for the linearity of the relationships, the actual examination of pearson correlation coefficient values can be conducted. The value of the Pearson correlation ranges from -1.00 to 1.00. 1.00 indicates a perfect positive correlation and -1.00 a perfect negative. The value of  $r$  is the value that determines the strength of the relationship. Several authors propose different interpretations of this correlation coefficient. Pallant (2010, p. 126) is based on Cohen (1988) and provides the following table to indicate the interpretation of the value of the correlation.

**Table 8.15 Interpretation of pearson correlation (r)**

$r = .10$ to $.29$ or $r = -.10$ to $-.29$	Small
$r = .30$ to $.49$ or $r = -.30$ to $-.49$	Medium
$R = .50$ to $1.0$ or $r = -.50$ to $-1.0$	Large

Source: Cohen, 1988 as in Pallant, 2010.

Following this estimation the subsequent table (8.16) presents the findings of the correlations between the variables:

**Table 8.16 Correlation coefficients of this study (N=520)**

Variable	Mean	SD	Cronbach Alpha	Correlation Coefficients										
				P	A	D	AP	AV	A_A	SC	CC	Ex		
<b>Pleasure</b>	37.79	(9.18)	.923	1										
<b>Arousal</b>	25.16	(5.5)	.661	.433**	1									
<b>Dominance</b>	26.17	(5.4)	.731	.354**	.113**	1								
<b>Approach</b>	11.99	(3.3)	.633	.641**	.339**	.256**	1							
<b>Avoidance</b>	8.61	(4.16)	.727	-.496**	-.252**	-.170**	-.434**	1						
<b>AP_AV</b>	3.38	(6.3)	-	.660**	.342**	.245**	-.808**	-.882**	1					
<b>Similarity Confusion</b>	16.93	(5.5)	.916	-.177**	<b>-.066</b>	-.204**	-.189**	.185**	-.220**	1				
<b>Complexity Confusion</b>	27.73	(9.03)	.903	-.155**	<b>.088</b>	-.287**	-.115**	.217**	-.202**	.680**	1			
<b>Experience</b>	5.08	(1.34)	1 item only (overall, macro experience with a market)	.296**	<b>-.021</b>	.340**	.321**	-.121**	.247**	-.244**	-.364**	1		

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

\*Correlation significant at the 0.05 level (2-tailed)

Source: this study

Table 8.16 on the correlations is overall in accordance with the expectations of the Mehrabian and Russell (1974) model, the BPM and the expectations of this study. The level of correlation between similarity and complexity confusion is an issue if variables are to be entered in an analysis (especially regression) as predictors together (multicollinearity will be discussed as an assumption of regression- see section 8.6.5). Similar strong correlations have been reported in past research for variables underlying the same construct (e.g. Zimet, 1988). The fact that EFA indicated two different constructs with high correlation point to the fact that these constructs are dissimilar but underlie the same theoretical idea.

The inter-correlations among pleasure and arousal, and pleasure and dominance are not sufficiently high to breach Mehrabian and Russell's assumption of the orthogonality of these variables, though the values found could raise some concerns about multicollinearity. This issue will be examined in the regression analysis based on the values of VIF and tolerance.

A theoretically interesting finding in this table is the relationship between similarity-complexity confusion and arousal. In both cases a significant relationship is lacking. Similarity however has a negative relationship, while complexity a positive. The theoretical implications of this finding for future research will be discussed in the concluding chapter (chapter 10).

Two additional interesting correlations will be presented in the form of table 8.17 below:

**Table 8.17 Correlation coefficients between kinds of confusion in the two markets**

	Similarity (High technology market)	Complexity (High technology market)
Similarity (Grocery)	.323**	
Complexity (Grocery)		.394**

\*\*Difference significant at the 0.01 level (2-tailed)

Source: this study

These correlation coefficients indicate the correlation between similarity confusion and complexity confusion in the two markets. These are not important for the structure of this analysis per se. However, there might be important theoretical implications pointing to a better treatment of confusion in future research. The main question would be whether a contextual treatment of confusion is really worthwhile. These theoretical implications will be discussed in more detail in the final discussion chapter (chapter 10).

#### ***8.6.4. The Effect of Consumer Confusion***

Before examining the relationship of confusion with the emotional and behavioural variables per market/ situation, the following table summarises the relevant correlation coefficients per market:

**Table 8.18 Correlation coefficients per situation**

	Similarity confusion		Complexity confusion	
	Grocery	PC/Laptop	Grocery	PC/Laptop
<b>P</b>	-.137**	-.247**	<b>-.082</b>	-.305**
<b>A</b>	<b>-.111</b>	<b>-.051</b>	<b>-.002</b>	<b>.097</b>
<b>D</b>	-.105*	-.284**	-.156**	-.382**
<b>AP</b>	-.174**	-.234**	<b>-.047</b>	-.251**
<b>AV</b>	.174**	.220**	.261**	.244**
<b>Aminusa</b>	-.201**	-.276**	-.197**	-.302**

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

\*Correlation significant at the 0.05 level (2-tailed)

Source: this study

Overall, the direction of the relationships is as theoretically expected for all relationships examined. It is negative for Pleasure, Dominance, Approach, Aminusa and positive for Avoidance. Arousal seems to be the unique variable that has a more complicated relationship. Specifically, all correlation coefficients are non significant, however all relationships are weak but negative with the exception of the relationship between complexity and arousal in the high-technology market which is weak, non-significant but positive.

It is also important to note that the stronger relationships are between **confusion and pleasure, confusion and dominance and from the behavioural variables confusion and avoidance**. Previous theoretical arguments support this finding by indicating that the absence of confusion will not increase satisfaction and approach but its presence will increase dissatisfaction and avoidance.

In order to test for a possible combined effect of the market/situation (mainly representing the levels of experience of each market) and confusion on each emotional and behavioural variables (representing the ideas of BPM) factorial ANOVA will be used. Factorial ANOVA allows for the exploration of both the main and interaction effects (Kinnear & Gray, 2000). The main effect is the effect of each variable on its own whereby the influence of the other is disregarded. An interaction effect occurs when the effect of one variable is not the same under all conditions of the other variable (Pallant, 2010; Brace et al., 2012). Both main and interaction effects are significant, when  $p \leq .05$ . When interaction effects are present the interpretation of the main effects should take these into consideration. This approach will then be used for the examination and establishment of hypotheses 7-12. In order to complete this step again 2 groups of similarity and complexity confusion were used (based on a median split as explained previously) and the calculations were based on these and the two market levels as a dummy variable (1=Grocery market and 2=PC/Laptop). The General Linear Model process of SPSS was used for this analysis.

For the factorial ANOVA applications the guidelines for acceptance of results have become equally strict as any other ANOVA. As already explained above, in order to test for the assumption of the homogeneity of variances, tests like Levene's test of homogeneity of variance have been introduced. Levene's test is provided by all ANOVA like statistical processes and a more stringent significance level should be used to judge

the results (if levene's test is significant at the .05 then a significance of .025 should be used for moderate violation and of .01 for severe violation to accept the ANOVA results. This principle has guided the following analysis.

In addition, eta-squared values (Cohen, 1988 as in Pallant, 2010), which indicate the effect size of the results, will be provided. Cohen's guidelines (1988) indicate that: 0.01 = small, 0.06 = medium, 0.13 = large effect size.

Table 8.19 summarises the results for similarity and table 8.20 the results obtained for complexity confusion.

**Table 8.19 Factorial ANOVA results for similarity confusion**

Similarity Confusion		F (1, 519)	P<	Eta Squared
<b>Pleasure</b>	<b>S. Confusion</b>	24.071	.000**	.05
	<b>Markets</b>	33.882	.000**	.06
	<b>Confusion*Markets</b>	.970	<b>.325</b>	-
<b>Arousal</b>	<b>S. Confusion</b>	5.126	.024*	.01
	<b>Markets</b>	41.511	.000**	.08
	<b>Confusion*Markets</b>	.688	<b>.407</b>	-
<b>Dominance</b>	<b>S. Confusion</b>	5.751	.017*	.03
	<b>Markets</b>	.904	.342	-
	<b>Confusion*Markets</b>	1.979	<b>.160</b>	-
<b>Approach</b>	<b>S. Confusion</b>	15.255	.000**	.04
	<b>Markets</b>	34.155	.000**	.06
	<b>Confusion*Markets</b>	.416	<b>.519</b>	-
<b>Avoidance</b>	<b>S. Confusion</b>	12.907	.000	.03
	<b>Markets</b>	18.430	.000	.04
	<b>Confusion*Markets</b>	.639	<b>.425</b>	-
<b>AP_AV</b>	<b>S. Confusion</b>	19.833	.000**	.04
	<b>Markets</b>	35.297	.000**	.07
	<b>Confusion*Markets</b>	.762	<b>.383</b>	-

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

\*Correlation significant at the 0.05 level (2-tailed)

Source: this study

Considering that eta-squared values typically range from .01 to .09 in the social sciences (Cohen, 1988) and following Cohen's guidelines (1988 as in Pallant, 2010), that: 0.01 =

small, 0.06 = medium, 0.13 = large effect size, mainly small to medium **significant main effects** were found in the study of similarity confusion. This indicates that the effect of similarity confusion does not depend on the characteristics of each market and it possibly signifies that the effect of similarity confusion is independent of the overall levels of consumer experience as developed in specific choice situations. This finding has multiple managerial consequences which will be discussed in the final chapter of this thesis (chapter 10).

**Table 8.20 Factorial ANOVA results for complexity confusion**

Complexity Confusion		F (1,519)	P<	Eta Squared (variance explained)
<b>Pleasure</b>	<b>C. Confusion</b>	6.672	.010*	.02
	<b>Markets</b>	30.291	.000**	.06
	<b>Confusion*Markets</b>	6.189	.013	.02
<b>Arousal</b>	<b>C. Confusion</b>	3.086	<b>.080</b>	.02
	<b>Markets</b>	34.092	.000**	.08
	<b>Confusion*Markets</b>	.015	<b>.902</b>	-
<b>Dominance</b>	<b>C. Confusion</b>	19.726	.000**	.04
	<b>Markets</b>	.384	<b>.536</b>	-
	<b>Confusion*Markets</b>	6.197	.013*	.02
<b>Approach</b>	<b>C. Confusion</b>	2.890	<b>.090</b>	-
	<b>Markets</b>	30.210	.000**	.06
	<b>Confusion*Markets</b>	5.360	.01*	.015
<b>Avoidance</b>	<b>C. Confusion</b>	16.388	.000**	.04
	<b>Markets</b>	21.073	.000**	.05
	<b>Confusion*Markets</b>	.115	<b>.735</b>	-
<b>AP_AV</b>	<b>C. Confusion</b>	12.795	.000**	.03
	<b>Markets</b>	35.253	.000**	.07
	<b>Confusion*Markets</b>	2.088	<b>.149</b>	-

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

\*Correlation significant at the 0.05 level (2-tailed)

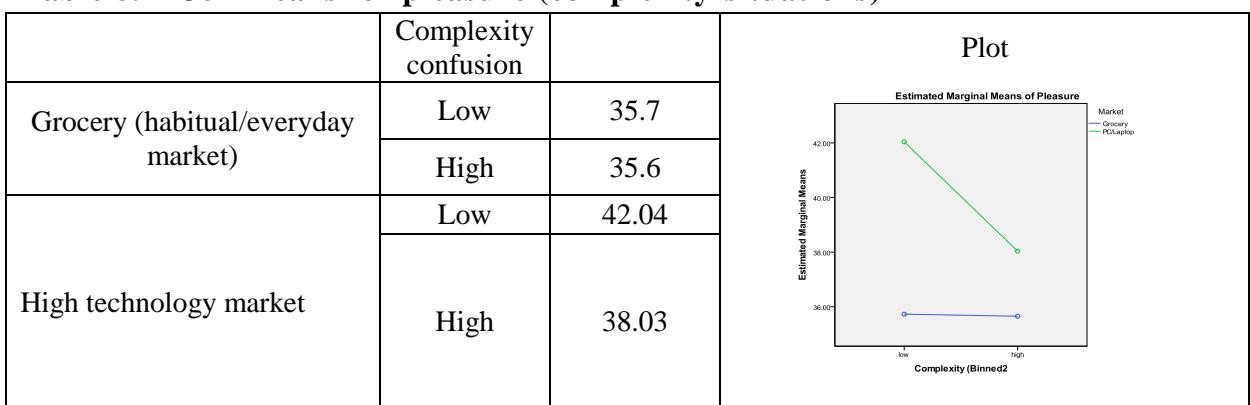
Source: this study

Again mainly small to medium **significant main effects** were found in the study of complexity confusion. Further to the above results and due to the fact that **interaction effects** were found for the variables Pleasure, Dominance and Approach behaviour, the

following factorial matrices are presented for these three variables. The results indicate that indeed complexity confusion has a stronger effect in the market with the overall lower levels of experience (that of high technology market) when it comes to utilitarian reinforcement, behaviour setting scope and approach behaviour. However, this effect is obviously very limited in scope as the eta squares indicate. In addition, this finding does not extend to the other two behavioural variables that of aminusa and especially avoidance.

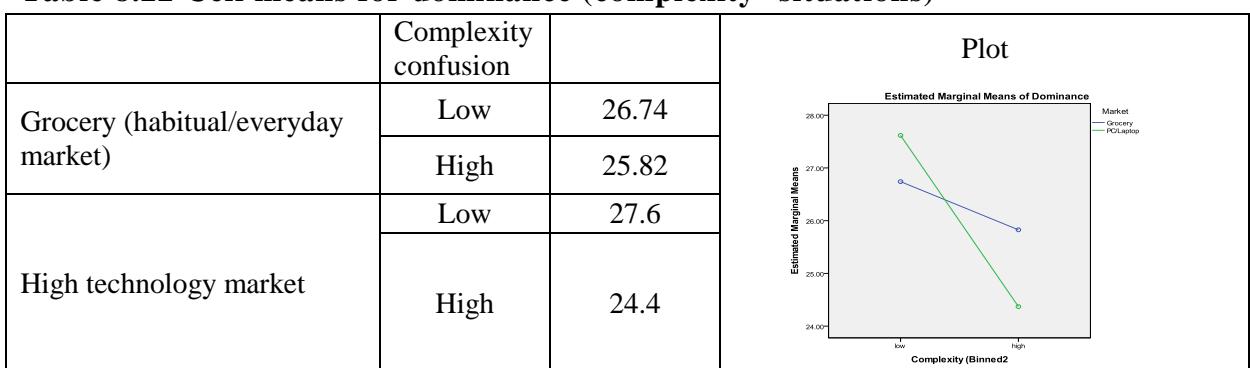
The cell means (factorial ANOVA matrices and plots) for the three variables (pleasure, dominance, approach) are presented below:

**Table 8.21**Cell means for pleasure (complexity-situations)

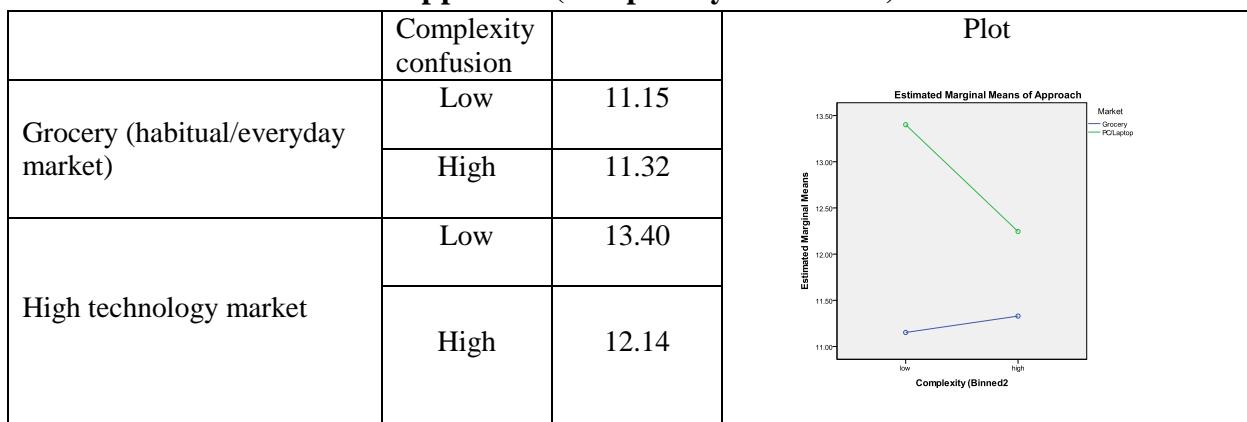


Source: this study

**Table 8.22** Cell means for dominance (complexity- situations)



Source: this study

**Table 8.23**Cell means for approach (complexity-situations)

Source: this study

### 8.6.5. The Degree of the Relationship between the Affective-Confusion and Behavioural Variables

This section deals with the degree of the relationship between the affective and behavioural variables. In addition to the typical PAD emotional reactions, this study will add confusion to the model. Multiple regression analysis (main effects only) has been used to assess the relationship between one DV and several IVs. The results of multiple regression should not be confused with those of correlation, as correlation intents to assess the relationship while regression is used for prediction (Tabachnick & Fidell, 2007, p. 117)

The first task before starting a multiple regression and more accurately described as the *assumptions* that need to be met are the efficiency of the sample size to perform regression, levels of multicollinearity and levels of linearity and heteroskedasticity (Tabachnick & Fidell, 2007, p. 123).

#### a. Sample Size

Regarding sample size, there are different guidelines concerning the number of cases required for multiple regression. It has been said (Stevens, 1996, cited in Pallant, 2010, p. 148) that for social science research, ‘*about 15 subjects per predictor are needed for a reliable equation*’. Tabachnick and Fidell (2007, p. 123) state a formula for calculating

sample size whereby ' $N > 50 + 8m$ ,  $m$  is the number of independent variables'. The current research has four independent variables; therefore,  $N$  should be more than 60 cases ( $N > 60$ ) or 82 cases ( $N > 82$ ). It can be concluded that the sample size of this study clearly satisfies the sample size assumptions required for multiple regression analysis.

### ***b. Multicollinearity***

Multicollinearity is a problem with multivariate techniques of data analysis that occurs when independent variables are too highly correlated and the lack of multicollinearity is a crucial assumption to meet in regression. The effect of a possible multicollinearity problem would have been that small data changes or arithmetic errors could be translated into very large changes or errors in the regression analysis. The issue with this is that the calculation of the regression coefficients requires the inversion of the matrix of correlations among the independent variables, and this cannot be made when multicollinearity is present (Tabachnick & Fidell, 2007, p. 124). A rule of thumb that signifies problems indicating further investigation is the mere fact that independent variables are highly correlated (usually above 0.7). In addition, SPSS performs a relevant analysis of 'collinearity diagnostics'. The two statistical indexes used as the result of this analysis are VIF (Variable Inflation Matrix) indicates the inflation of the variance of the coefficient of regression as a consequence of the correlation between independent variables and tolerance ( $1-R^2$ ;  $R^2$  is the squared multiple correlation). VIF should not exceed 5 and tolerance should not fall below 0.1 in order to indicate that a regression does not suffer from multicollinearity. Additional, examinations would include the Collinearity Diagnostics table (provided by SPSS as a result of regression); there the Condition Index should not be over 30 and at the variance proportions column no variables should have variance proportions more than 0.50. Multicollinearity was not an issue for the regressions of this study (VIF and tolerance statistics are presented in the regression tables below).

**c. *Linearity and Homoskedasticity- Visual Examination of Residual***

Linearity refers to the relationship between two variables (Hair et al., 1998, p. 75) and homoskedasticity is an assumption related to the dependence relationships between variables (Hair et al., p. 73). Specifically, linearity implies that there are linear relationships between the variables as already described above. The most common way to access it has been to examine scatterplots of the variables and to examine any nonlinear pattern to the data. This has been done as described before in the Pearson's correlation matrix. No curvilinearity has been detected (see section 8.6.3 this analysis).

Homoskedasticity at the other end indicates whether the dependent variables signify equal levels of variance across the range of independent variables (Hair et al., 1998, p. 73-75). The existence of homoskedasticity is not fatal for the analysis of the data it is just that the predictability is better if heteroskedasticity is accounted for. Specifically, Tabachnick and Fidell (2007, p. 85 and p. 127) ascertain that heteroscedasticity in multiple regression does not invalidate the results as much as weakens them. Allison (1999, p. 128) further argues that heteroskedasticity is worth checking but it has to be pretty severe before it leads to serious bias in the standard errors. The conclusion is: '*Although it is certainly worth checking, I wouldn't get overly anxious about it.*'

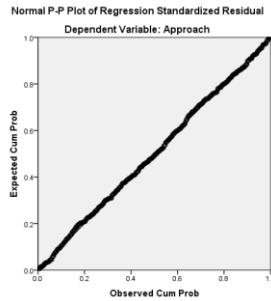
Anyhow, following the assessment of linearity this study has found it relevant to examine for the assumption of homoskedasticity before running the regressions. Results can then be interpreted with more certainty. This analysis has been conducted through the inspection of the analysis of the regression residuals (Tabachnick & Fidell, 2007, p. 78). Problems with regression are generally more easily judged when plotting the residuals rather than the original data. Two types of residual plots have been examined following instructions by Pallant (2010), the normal probability plot of the regression standardised residuals and scatterplot of standardised residuals. Both residual plots are given along

with the results of the regression. The line of normal probability plot should lie in a fairly straight diagonal line and in the second plot the residuals should be indicating a pattern of being roughly rectangularly distributed (Pallant, 2010, p. 156). The plots for testing the assumption of homoskedasticity and linearity together for the regression analysis are provided in the next pages.

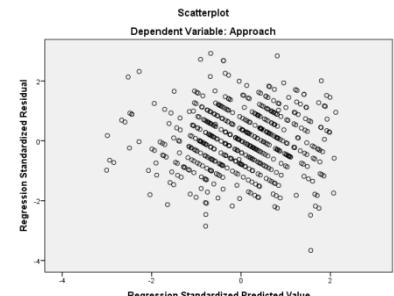
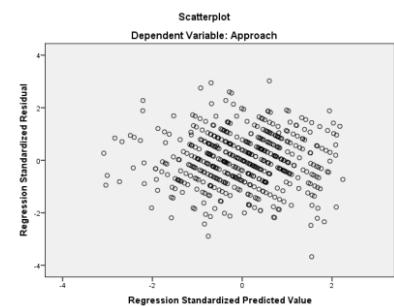
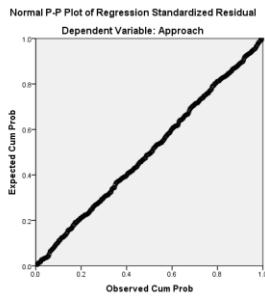
**Figure 8.3 Normal P-P plots of regression standardised residual for Approach**

**Figure 8.4 Scatterplots of standardised residuals for Approach**

PAD+Similarity



PAD+Complexity

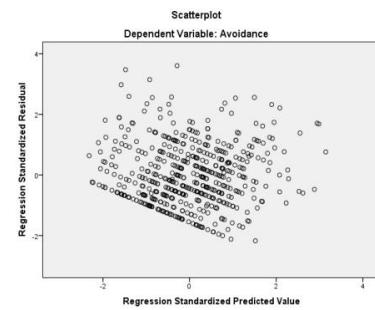
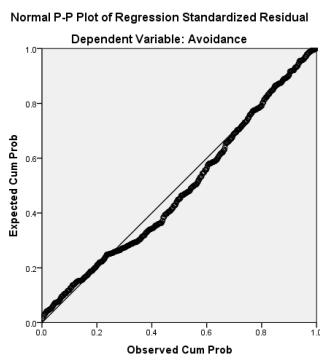


Source: this study

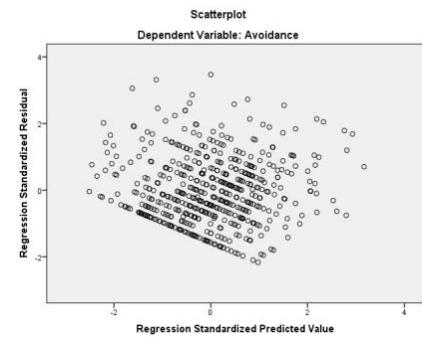
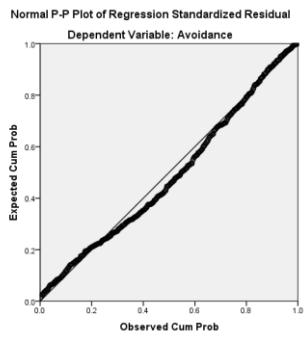
**Figure 8.5 Normal P-P plots of regression standardised residual for Avoidance**

**Figure 8.6 Scatterplots of standardised residual for Avoidance**

PAD+Similarity



PAD+Complexity

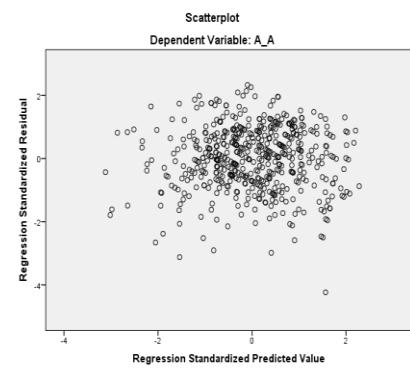
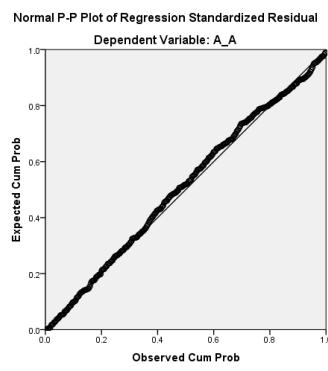


Source: this study

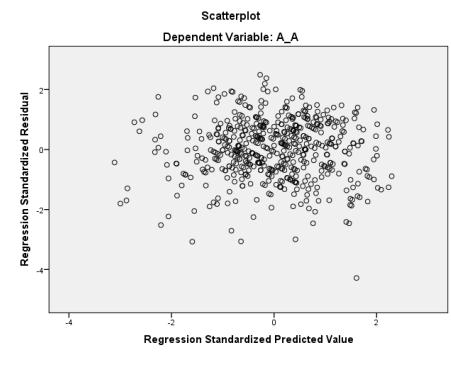
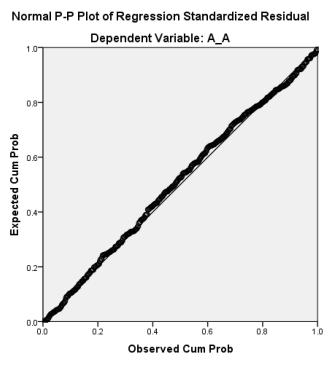
**Figure 8.7 Normal P-P plots of regression standardised residual for AMINUSA**

**Figure 8.8 Scatterplots of standardised residual for AMINUSA**

PAD+Similarity



PAD+Complexity



Source: this study

The inspection of the plots indicates that multiple regression can be performed with a high degree of confidence for approach and aminusa behaviour. For avoidance behaviour the line of the P-P plots is not a perfect straight line and there are some concerns for the level

of multivariate normality. These levels of abnormality have been however decided to be tolerated by this study. The main rational for that is based on all previous assertions that this problem has to be rather severe in order to have an effect on regression. Tabachnick and Fidell (2007, p. 85 and p. 127) ascertain that heteroscedasticity in multiple regression does not invalidate the results as much as weakens them. On these grounds multiple regression was used for the prediction of all behavioural variables.

#### ***d. Performing the Regression***

In regression there are two values reported indicating the overall fit of the model—  $R^2$  and adjusted  $R^2$ . As more independent variables are added to the regression model, unadjusted  $R^2$  will generally increase. This will occur even when the additional variables do little to help explain the dependent variable. Adjusted  $R^2$  is used to compensate for the addition of variables to the model, because adjusted  $R^2$  is corrected for the number of independent variables of the model (Brace et al., 2006).

Reporting the unadjusted  $R^2$  is acceptable but the adjusted  $R^2$  is the requirement when there are multiple models presented with varying numbers of independent variables. Based on these reasons the adjusted  $R^2$  will be reported in this section.

In addition, it is essential to state that by adding one or more independent variables to a multiple regression model, two things can potentially occur as a result:

1. Change the overall R-square value
2. Change the contribution of the other independent variables

Thus, the comparison of two or more multiple regression models where variables have been added is not efficient by just comparing the change in adjusted R- square value itself. Adding a new independent variable might improve the adjusted R-square (at least a little), but it is an optimisation of sorts that may mean reducing or increasing the contribution of

another variable. Thus the  $R^2$  change, stepwise regression SPPS process will be used and will be reported specifically for consumer confusion which is the added element in the model.

Model 1 is the model with the 3 PAD variables only and models 2 are the PAD variables with the addition of either the similarity or complexity confusion. When both similarity and complexity are added to the model, there are elements of multi-collinearity. This step was not implemented as it was not seen as essential or imperative for the requirements of this research.

**Table 8.24 Regression for Approach Behaviour, N=520**

	Model	F ()	P<	Adjusted R Square	R square change <sup>15</sup>	β	P<	Tolerance	VIF
<b>Model 1</b>	<b>Approach=</b>	F(3,519) = 123.083	.000	<b>.414</b>					
	Pleasure+					.59	.000	.718	1.393
	Arousal+					.12	.01	.810	1.239
	Dominance					.037	<b>.308</b>	.873	1.146
<b>Model 2</b>	<b>Approach=</b>	F(4,519) = 94.166	.000	<b>.418</b>					
	Pleasure+					.58	.000	.710	1.409
	Arousal+					.12	.01	.810	1.234
	Dominance+					.025	<b>.497</b>	.852	1.173
	Similarity Confusion				<b>.005</b>	-.075	.03	.946	1.057
<b>Model 2</b>	<b>Approach=</b>	F(4,519) = 92.291	.000	<b>.413</b>					
	Pleasure+					.59	.000	.706	1.416
	Arousal+					.14	.001	.788	1.270
	Dominance+					.031	<b>.402</b>	.820	1.220
	Complexity confusion				.000	-.022	<b>.544</b>	.888	1.126

Source: this study

<sup>15</sup> Change attributed specifically to the addition of confusion.

**Table 8.25 Regression for Avoidance Behaviour, N=520**

	Model	F ()	P<	Adjusted R Square	R square change	β	P<	Tolerance	VIF
<b>Model 1</b>	<b>Avoidance=</b>	F(3, 516)= 56.571	.000	<b>.242</b>					
	Pleasure+					-.48	.000	.718	1.393
	Arousal+					-.06	<b>.278</b>	.810	1.239
	Dominance					.004	<b>.913</b>	.873	1.146
<b>Model 2</b>	<b>Avoidance=</b>	F(4, 515)= 44.685	.000	<b>.252</b>					
	Pleasure+					-.46	.000		
	Arousal+					-.06	<b>.278</b>		
	Dominance+					.02	<b>.606</b>		
	<b>Similarity Confusion</b>				<b>.010</b>	.104	.008		
<b>Model 2</b>	<b>Avoidance=</b>	F (4, 515)= 47.738	.000	<b>.266</b>					
	Pleasure+					-.45	.000	.709	1.411
	Arousal+					-.07	<b>.084</b>	.788	1.268
	Dominance+					.047	<b>.269</b>	.819	1.221
	<b>Complexity confusion</b>				<b>.025</b>	.16	.000	.892	1.120

Source: this study

**Table 8.26 Regression for AMINUSA Behaviour, N=520**

	Model	F ()	P<	Adjusted R Square	R square change	β	P<	Tolerance	VIF
<b>Model 1</b>	<b>Aminusa=</b>	F (3,516)= 135.151	.000	<b>.437</b>					
	Pleasure+					.624	.000	.718	1.393
	Arousal+					.106	.03	.810	1.234
	Dominance					.016	<b>.462</b>	.873	1.146
<b>Model 2</b>	<b>Aminusa=</b>	F (4,515)= 105.703	.000	<b>.447</b>					
	Pleasure+					.611	.000	.710	1.409
	Arousal+					.107	.002	.810	1.234
	Dominance+					-.001	<b>.978</b>	.852	1.173
	<b>Similarity Confusion</b>				<b>.011</b>	-.071	.004	.946	1.057
<b>Model 2</b>	<b>Aminusa=</b>	F (4,515)= 106.232	.000	<b>.449</b>					
	Pleasure+					.609	.000	.706	1.416
	Arousal+					.116	.001	.787	1.270
	Dominance+					-.015	<b>.686</b>	.820	1.220
	<b>Complexity confusion</b>				<b>.013</b>	-.091	.002	.888	1.126

Source: this study

Hypotheses 20-23 are examined above. Confusion has a rather small but significant contribution to the overall model. This contribution is greater with avoidance and aminusa and less with approach behaviour. Pleasure has the largest and strongest beta value (β) and seems to be the most important element when considering behaviour in market/shopping situations. Dominance has no contribution to the models.

### ***8.6.6. The Pattern of the Relationship between the Affective/Confusion Variables and Aminusa***

Finally, in order to explore hypothesis 24 on the possible interaction between pleasure and arousal again the General Linear Model will be used. Following instructions from Soriano et al., (2013) in this case all pleasure, arousal, dominance and both confusion variables had to be subdivided into low, medium and high levels. This procedure was necessary to carry out the study, but it should be noted that this subdivision of mean scores inevitably reduces the accuracy of estimated interactions among continuous variables. The Tukey HSD test was used in order to test the differences between the groups and the visual binding of SPSS was used to guide the choice of groups' subdivisions. Specifically, pleasure was reduced into three groups were low (6-34), medium (35-42) and high (43 and more). Arousal was reduced into low (5-23), medium (24-27) and high (28 and more), dominance low (5-24), medium (25-28) and high (29 and more), similarity confusion low (4-15), medium (15-20) and high (20 and more) and finally complexity confusion low (7-25), medium (26-32) and high (33 and more). The results are presented in the tables below:

**Table 8.27 ANOVA results for Approach-Avoidance (AMINUSA)  
PAD+Similarity.**

	<b>F</b>	<b>Sig.</b>
<b>Main effects</b>		
Pleasure	<b>44.789</b>	<b>.000</b>
Arousal	<b>9.836</b>	<b>.000</b>
Dominance	1.484	.228
Similarity	<b>2.637</b>	<b>.053</b>
<b>Two-way interactions</b>		
Pleasure*Arousal	<b>3.629</b>	<b>.006</b>
Pleasure*Dominance	.611	.655
Arousal*Dominance	.419	.795
Pleasure*Similarity	.630	.641
Arousal*Similarity	<b>2.825</b>	<b>.025</b>
Dominance*Similarity	.196	.940
<b>Three-way interactions</b>		
Pleasure*Arousal*Dominance	.366	.938
Pleasure*Arousal*Similarity	1.251	.268
Pleasure*Dominance*Similarity	1.053	.396
Arousal*Dominance*Similarity	.655	.731
Pleasure*Arousal*Dominance*Similarity	.590	.850

Source: this study

The results indicate (in accordance with the regression results) significant main effect for Pleasure, Arousal and Similarity confusion and also an interaction effect between Pleasure and Arousal. The table of the cell means for this interaction is presented below.

**Table 8.28 Pleasure and arousal interaction. Cell means for AMINUSA**

<b>Pleasure</b>	Descriptive statistics	<b>Arousal</b>			Total
		Low	Moderate	High	
Unpleasant environment	M	<b>-2.87</b>	<b>.10</b>	<b>1.6</b>	<b>-1.1</b>
	SD	5.1	6.2	5	5.8
	N	88	83	21	192
Neutral environment	M	<b>2.17</b>	<b>5.06</b>	<b>4.67</b>	<b>3.99</b>
	SD	3.9	4.4	4.2	4.3
	N	53	57	52	162
Pleasant environment	M	<b>7.38</b>	<b>7.77</b>	<b>8.3</b>	<b>7.96</b>
	SD	4.3	5.6	4.9	4.6
	N	39	40	87	166

Source: this study

The Tukey HSD test has indicated that the means score for pleasure and arousal are highly significantly ( $p<.001$ ) different between the three levels of means (low, medium, high).

**Table 8.29 ANOVA results for Approach-Avoidance (AMINUSA)  
PAD+Complexity**

	<b>F</b>	<b>Sig.</b>
<b>Main effects</b>		
Pleasure	<b>35.417</b>	<b>.000</b>
Arousal	<b>11.377</b>	<b>.000</b>
Dominance	.624	.536
Complexity	<b>6.851</b>	<b>.001</b>
<b>Two-way interactions</b>		
Pleasure*Arousal	1.857	.117
Pleasure*Dominance	.405	.805
Arousal*Dominance	.451	.772
Pleasure*Complexity	1.449	.217
Arousal*Complexity	1.899	.110
Dominance*Complexity	.559	.693
<b>Three-way interactions</b>		
Pleasure*Arousal*Dominance	.628	.754
Pleasure*Arousal*Complexity	.524	.839
Pleasure*Dominance*Complexity	1.805	.084
Arousal*Dominance*Complexity	.860	.551
Pleasure*Arousal*Dominance*Complexity	.715	.759

Source: this study

The table indicates only main significant effects for pleasure, arousal and complexity confusion. No interaction effects have been identified in this model.

## 8.7. The Results of the Statistical Hypothesis Testing

The main objective of this study has been to propose a novel understanding for the concept of consumer confusion based on the theoretical principles of behaviourism and thus extend the applications and ways of treating the construct. Confusion has been measured and conceptualised based on previous studies of consumer behaviour as similarity and complexity confusion and both of these conceptualisations are in accordance with the idea of anomaly- which implies the lack of market rules that can guide behaviour, making confusion a punishing aspect of markets. The main aim has been then to indicate that either as an extensional or intentional construct confusion can have implications for consumer behaviour and will determine along with the bifurcation of reinforcement and behaviour setting scope behavioural responses. Results of multiple

regression (tables 8.24- 8.26) and ANOVA (tables 8.27 and 8.29) provide support for this assumption. Other hypothesis based on the previous studies and theoretical propositions of the BPM were developed to further describe the relationships expected among the variables. Overall, support is provided for the patterns expected with behavioural variables following the pattern of reinforcement (BPM-E) and contingencies indeed being modified by the persons' rule making (BPM-I).

Table 8.30 summarises the predictions set by research hypotheses (as in chapter 6) and further describes the findings of this analysis.

**Table 8.30 Results of statistical hypothesis testing**

	<b>Similarity</b>	<b>Complexity</b>
<b>H1:</b> Overall, the range of confused consumers will indicate lower levels of Approach behaviour than the range of non-confused consumers.	Supported	Not supported No sig. difference.
<b>H2:</b> Overall, the range of confused consumers will indicate higher levels of Avoidance behaviour than the range of non-confused consumers.	Supported	Supported
<b>H3:</b> Overall, the range of confused consumers will indicate lower levels of Aminusa (approach-avoidance) than the range of non-confused consumers.	Supported	Supported
<b>H4:</b> Overall, the range of confused consumers will indicate lower levels of Pleasure than the range of non-confused consumers.	Supported	Supported
<b>H5a:</b> Overall, the range of confused consumers will indicate lower levels of Arousal than the range of non-confused consumers.	Not supported (The difference is as expected but small).	Not supported
<b>H5b:</b> Overall, the range of confused consumers will indicate the same levels of Arousal with the range of non-confused consumers.	Supported	Partially supported
<b>H6:</b> Overall, the range of confused consumers will indicate lower levels of Dominance than the range of non-confused consumers.	Supported	Supported
<b>H7:</b> The effect of confusion on Pleasure will be stronger for the market characterised by overall lower levels of experience.	Not supported	Supported
<b>H8:</b> The effect of confusion on Arousal will be stronger for the market characterised by overall lower levels of experience.	Not supported	Not supported
<b>H9:</b> The effect of confusion on Dominance will be stronger for the market characterised by overall lower levels of experience.	Not supported	Supported
<b>H10:</b> The effect of confusion on Approach behaviour will be stronger for the market characterised by overall lower levels of experience.	Not supported	Supported
<b>H11:</b> The effect of confusion on Avoidance will be stronger for the market characterised by overall lower levels of experience.	Not supported	Not supported
<b>H12:</b> The effect of confusion on Aminusa (approach-avoidance) will be stronger for the market characterised by overall lower levels of experience.	Not supported	Not supported

<b>H13:</b> The two markets are expected to differ in terms of utilitarian reinforcement with the high technology market expected to have higher Pleasure than the grocery market.	Supported	
<b>H14:</b> The two markets are expected to differ in terms of informational reinforcement with the high technology market expected to have higher Arousal than the grocery market.	Supported	
<b>H15:</b> The two markets are expected to differ in terms of dominance with the high technology market expected to have lower Dominance than the grocery market.	No significant difference identified between the markets.	
<b>H16:</b> Possible differences are expected in the levels of Confusion between the two markets of this study.	Supported for complexity confusion, Same levels for similarity confusion.	
<b>H17:</b> Approach will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).	Supported	
<b>H18:</b> Avoidance will be higher in the market characterised by lower levels of utilitarian and information reinforcement (thus the grocery market is expected to have higher avoidance).	Supported	
<b>H19:</b> Aminusa, the net difference between approach and avoidance will be higher in the market characterised by higher levels of utilitarian and informational reinforcement (thus the high technology purchasing situation).	Supported	
<b>H20:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with Approach. Confusion will have a negative relationship.	Supported	Supported
<b>H21:</b> Affective variables of Pleasure, Arousal and Dominance will each have a negative relationship with Avoidance. Confusion will have a positive relationship.	Supported for P, A, SC. Not supported for dominance.	Confirmed for P, A, CC. Not supported for dominance.
<b>H22:</b> Affective variables of Pleasure, Arousal and Dominance will each have a positive relationship with Aminusa, the net difference between Approach and Avoidance. Confusion will have a negative relationship.	Supported for P, A, SC. Not supported for dominance.	Supported for P, A, CC. Not supported for dominance.
<b>H23:</b> Aminusa (the net difference between Approach- Avoidance) will be determined by the variables pleasure, arousal, dominance and confusion.	Supported for P/A/SC. Not for dominance	Supported for P/A/ CC. Not for dominance
<b>H24:</b> Two-way interactions can be identified between the affective variables Pleasure and Arousal when examining their effect on Aminusa.	Supported for the model of similarity confusion.	

Source: this study

## **8.8. Conclusion**

Chapter 8 deals with the exploratory/descriptive findings obtained from the empirical survey. Data were analysed based on a variety of different types of analysis. Analysis was based on statistical principles but also the norms established in previous relevant studies. Different tests were conducted in order to describe both the sample's characteristics and the data, to establish reliability and validity and to test the hypotheses. Overall, the analysis provides support for the majority of the hypothesis and expectations but not for others as discussed and presented in the table above. An extended discussion of the findings and the contributions of this study will follow in Chapter 9 (further analysis) and 10 (discussion, implications and future research).

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## 9. FURTHER ANALYSIS

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### 9.1. Introduction

Chapter 9 provides a discussion of the research findings in the context of some further analysis, which mainly examines the comparison of these results with previous studies and findings. The chapter is divided into several parts: (1) the first part is concerned with an examination of whether consumer socio-demographic characteristics influence perceptions of confusion. The results of this inquiry corroborate previous findings which argue that socio-demographics are not a consistent segmentation predictor, (2) a discussion and comparison of the scales' reliability and elements of validity as applied in this and previous studies will be discussed in part two and finally (3) the ways that the two situations examined as part of this study's BPM-E, could fit the operant classes and categories of the BPM will be implemented. This analysis will be based on previously reported levels of the PAD and behavioural variables. As part of this section the prospect of organising previous findings and establishing a unique range for each contingency category will be examined.

In these two last sections, the current findings are to be compared with some of the results of previous applications of the original BPM in England, Venezuela and Wales (Foxall, 1997a; Foxall, 1997b; Foxall & Greenley, 1998; 1999; Foxall & Soriano, 2005).

### 9.2. Intentional Confusion and Consumer Socio-Demographic Characteristics

The marketing literature has attempted to use many variables in order to profile, target and segment consumers. These include variables likeographics, cultural, personality and importantly socio-demographic characteristics. Especially socio-demographic characteristics have been used widely by companies and academic researchers for two reasons: these are readily and easily available data and can be applied to segmentation

with relative ease (Myers, 1996). Despite this wide application, several previous studies, ranging from environmental behaviour and levels of confusion (Diamantopoulos et al., 2003; Walsh & Mitchell, 2005b), have identified a limited or to the best ambiguous value of socio-demographic characteristics for segmenting and targeting consumers. Therefore empirical findings on this issue can extend existing knowledge by pointing towards the proper direction. That said if socio-demographics fail to be an adequate segmentation basis then more complicated segmentation and targeting approaches ought to be applied in the attempt to understand and explain consumer behaviour (Myers, 1996).

Based on the examination of confusion as an individual self-based rule, determined by the experiences of an individual in the environment, it is then of value to extend our understanding to additional issues like the effect of socio-demographic characteristics on the levels of this rule-governed behaviour in each market.

Walsh and Mitchell (2005b) aimed to establish the socio-demographic characteristics of consumer who find it difficult to choose. They described their research as both unique and useful based on the segmentation possibilities of this approach. Specifically they tried to investigate whether confusion is *positively related to age* (older consumers are more likely to report higher levels of confusion) and *negatively related to education* (less educated consumers might be more vulnerable to ambiguous environments). Using a sample of 264 consumers, drawn to represent the shopping public in a northern German city they administered a questionnaire and tried to report differences based on their socio-demographic characteristics. Their attempt failed to provide evident supporting the proposed relationships. They could identify a difference in the age group of 45-53 who were found to perceive more confusion than those aged under 29, but that was the only identified difference when it comes to age. In regard to education again only one

significant difference between participants having attended secondary school and those with a university degree is reported.

The advantage of the present study compared to the above findings is that it has been conducted in two contexts/markets rather than at the level of general confusion from the market place (which can be described as a personality tendency), thus more distinct differences might be determined. For this reason and in order to add to the complete understanding of the phenomenon, analysis will be conducted in the contextual level of the two markets rather than at the aggregate, overall level.

The findings of this study are very much in accordance with the previously mentioned results and could not find impressive evident that socio-demographics are a useful segmentation basis for categorising and treating consumer confusion. ANOVA was used in order to determine differences between groups as described in table 9.1. Table 9.1 includes all findings for 1) age; 2) gender; 3) levels of education, and finally 4) the differences between consumers who choose to shop online or in-store. The results are presented below per market.

**Table 9.1 ANOVA results for socio-demographic characteristics and levels of confusion in the two markets**

1. Age (for the purposes of this ANOVA age was transformed to a new variable with 3 levels rather than 6)		Levels	Means	N	Anova-F	Sig.
<b>Grocery Market</b>	Complexity confusion	1= 18-34 2=35-54 3= 55-65+	26.31 26.54 25.51	111 120 29	F (2, 259)=.182	.833
	Similarity confusion	1=18-34 2=35-54 3=55-65+	16.6 16.9 16.4	111 120 29	F(2, 259)=.088	.916
	Complexity confusion	1= 18-34 2=35-54 3= 55-65+	<b>28.4</b> <b>29.5</b> <b>30.4</b>	111 120 29	F(2, 259)= .695	.500
	Similarity confusion	1=18-34 2=35-54 3=55-65+	<b>16.7</b> <b>17.2</b> <b>18.5</b>	111 120 29	F(2, 259)= 1.108	.332
2. Gender		Levels	Means	N	Anova-F	Sig.
<b>Grocery Market</b>	Complexity confusion	Male Female	27.2 25.5	123 136	F (1, 258)= 2.491	.116
	Similarity confusion	Male Female	<b>17.2</b> <b>16.1</b>	123 136	F(2, 258)= 2.863*	<b>.04</b>
	Complexity confusion	Male Female	<b>26.9</b> <b>31.2</b>	123 136	F(1, 258)=13.289**	<b>.000</b>
	Similarity confusion	Male Female	<b>16.5</b> <b>17.8</b>	123 136	F(1, 258)= 3.179*	<b>.02</b>
3. Education <sup>16</sup> (for the purposes of this ANOVA education was transformed to a new variable with 2 levels)		Levels	Means	N	Anova-F	Sig.
<b>Grocery Market</b>	Complexity confusion	Lower education Higher education	<b>25.5</b> <b>27.0</b>	131 129	F(1, 253)= 2.243	.135
	Similarity confusion	Lower education Higher education	16.2 17	131 129	F(1, 253)= 1.172	.280

<sup>16</sup> GCSE/A levels-Vocational and technical school were coded 1/ Higher education and Postgraduate degrees and other were coded 2.

<b>High technology market</b>	Complexity confusion	Lower education	29.3	131	F(1, 253)=.005	.945
		Higher education	29.2	129		
	Similarity confusion	Lower education	17.04	131	F(1, 253)=.486	.487
		Higher education	17.53	129		
<b>4. Shopping channel</b>		<b>Levels</b>	<b>Means</b>	<b>N</b>	<b>Anova-F</b>	<b>Sig.</b>
<b>Grocery Market</b>	Complexity confusion	Online	26.8	40	F(1, 254)= .155	.694
		In-store	26.2	220		
<b>High technology market</b>	Similarity confusion	Online	<b>17.9</b>	40	F(1, 254)= 2.723*	<b>.043</b>
		In-store	<b>16.3</b>	220		
	Complexity confusion	Online	<b>27.2</b>	128	F(1, 258)= 11.158**	<b>.001</b>
		In-store	<b>31.12</b>	133		
	Similarity confusion	Online	<b>16.4</b>	128	F(1,258)= 4.328*	<b>.038</b>
		In-store	<b>17.9</b>	133		

Source: this study

Commencing on the findings, it is evident that levels of similarity and complexity confusion in the high technology market increase with age, however according to Tukey's test none of these differences are significant. Remaining in the high technology market differences are observed in gender with females reporting higher levels of complexity and similarity confusion than males. Although the result is still not significant it is interesting to note that in the grocery market consumers of lower education report lower levels of complexity confusion. Although this study is against stereotyping, this result might indicate that less educated consumers spend more time to choose their grocery products (more discretionary time and less income) and are thus more familiarised with the industry. Finally, consumers who shop in store for PC/Laptops report to be significantly more confused than those shopping online. This is an interesting finding that might be explained on multiple levels and which should concern retailers of high technology products. It could be assumed that either consumers who shop online are doing so because they are not confused and thus they feel capable to cope with this task uninstructed by

store staff. In that same logic applies the fact that consumers who feel confused, prefer to shop in-store in order to get help and instructions from store staff. Finally, an alternative explanation is that shopping for high technology products in store is more confusing than online shopping. It is however a finding that can have multiple implications for retailers and the exact cause of this finding should be examined further. Finally, the finding that consumers who shop for groceries online suffer from bigger levels of similarity confusion should concern food and grocery retailers and especially web-developers and marketers.

### 9.3. The Scale of Confusion

The subsequent tables 9.2 and 9.3 will compare the results of this study with the ones of previous applications of the measurement of confusion.

**Table 9.2 A comparison of the internal consistency of the confusion measures**

	Walsh & Mitchell (2010) study		This study	
	Number of items	Cronbach's alpha	Number of items	Cronbach's alpha
Similarity	3	.59	4	.916
Overload	3	.70		
Ambiguity	4	.75	7	.903

Source: Walsh et al., 2007; Walsh & Mitchell, 2010; this study.

**Table 9.3 A comparison of the correlations of the confusion measures**

	Walsh & Mitchell (2010) study			This study		
	Similarity	Overload	Ambiguity		Similarity	Complexity
Similarity				Similarity		
Overload	.310					
Ambiguity	.141	.441		Complexity	.680	

Source: Walsh & Mitchell, 2010; this study.

For the more efficient comparison of the results, it has to be reminded that this study applied the scale in a contextual manner; meaning that the measurement involved the levels of confusion in specific situations.

A comparison of the results above indicate that similarity confusion has demonstrated better levels of reliability in this study as all four items proposed for the measurement

loaded correctly and with a rather high reliability coefficient alpha. The next important implication is that overload and ambiguity confusion have clearly loaded on one factor which based on theoretical reasons has been conceptualised as complexity confusion. These two factors have actually indicated the higher correlation of all three constructs (.441) in previous research also. The theoretical implications of this finding will be discussed in the discussion chapter (see section 10.3.2). Finally, similarity and complexity confusion indicate a higher correlation (.68) in this study. This finding should be assessed by future research in case both kinds of confusion are to be used as indicators in a multivariate model (regression or SEM). This high level of correlation might be the cause of multicollinearity concerns and should be noted.

#### **9.4. The PAD and Behavioural Variables**

This study has further used the measures of the PAD and AP-AV behaviour as developed by Mehrabian & Russell (1974). The decision to use these scales was facilitated based on previous research findings which have proven the reliability and validity of the scales (Foxall, 1997b, Soriano & Foxall, 2006). Although some researchers have questioned the use of these scales in consumer environments (e.g. Donovan et al., 1994), the conceptual connection of this study with the study of the BPM drove the decision to use the specific measurements. In accordance with these observations, it was important to re-test the unidimensionality and reliability of the scales due to the nature of the present study, which used different consumer situations in a new research context. Thus, exploratory factor analysis was used to assess the unidimensionality of the measurement scales for the present study via the Principal Component Analysis (PCA) technique. The following tables present the findings of this study, compared with previous studies of the eight contingency situations.

**Table 9.4 A comparison of the internal consistency of the measures**

	English Sub-study		Cardiff Study		Venezuelan Sub-study (1)		This study	
	Number of items	Cronbach 's alpha	Number of items	Cronbach's alpha	Number of items	Cronbach's alpha	Number of items	Cronbach's alpha
<b>Pleasure</b>	6	.88	6	.93	6	.93	6	.92
<b>Arousal</b>	6	.82	6	.83	6	.75	5	.66
<b>Dominance</b>	6	.89	6	.85	6	.82	5	.73
<b>Approach</b>	3	-	3	.74	3	.77	3	.63
<b>Avoidance</b>	3	-	3	.64	3	.79	3	.73

Source: Foxall & Greenley, 1999; Foxall & Soriano, 2011; Foxall & Soriano, 2005; this study.

**Table 9.5 A comparison of the correlations of the PAD measures**

	English Sub-study			Cardiff Study			This study		
	Pleasure	Arousal	Dominance	Pleasure	Arousal	Dominance	Pleasure	Arousal	Dominance
<b>Pleasure</b>									
<b>Arousal</b>	.26**			.50**			.43**		
<b>Dominance</b>	.33**	.28**		.50**	.38**		.35**	.11**	

Source: Foxall & Greenley, 1999; Foxall & Soriano, 2011; this study.

The present findings show that the items of the PAD scale are uni-dimensional, however rather strongly associated with each other, which is not unusual when the scale is applied in other settings as table 9.5 indicates. However multicollinearity was not a problem in this study (and equally not in any of the previous studies). Factor analysis revealed that one item of arousal (A6. Sleepy- Wide-awake) and one of dominance (D2. Awed-Important) loaded equally on their corresponding factor and Pleasure and had to be removed from the constructs. Thus although 6 items loaded for Pleasure, only 5 items worked for arousal and dominance.

Regarding reliability, all of the scales indicated acceptable alpha coefficients (>.60). Nevertheless previous research which included all diverse categories of the BPM contingency matrix indicated higher values, especially considering arousal and approach behaviour.

## 9.5. Placing This Study's Situations in the Context of the BPM Operant Classes and Contingency Categories

In comparison to the previous studies of the BPM, the present inquiry has utilised different consumer situations; however, the same measurement scales have been used, perceived as underlying the same theoretical perspective. Beyond the main contribution of this thesis which is the extension and study of consumer confusion based on an alternative theoretical framework and importantly an extension of the behavioural perspective model to an intentional mode, some additional research problems have been dealt in this study. These issues include the consumer feelings and behaviour when it comes to specific descriptions of retail situations and whether the BPM is capable of providing an explanatory framework for the findings when situations are not manipulated.

Previous studies have measured situations that were specifically chosen to vary in terms of the main BPM variables- see Foxall, 1999a for an analysis of the '*consensibility and consensuality*' of the description of situations used in the exploration of the BPM. Thus situations were chosen and established to vary in terms of utilitarian-informational and openness-closeness levels in accordance with the contingency categories of the BPM. Although such a treatment has been adequate in establishing the PAD scales as sufficient measurements of the constructs of reinforcement and behaviour setting scope, further exploration of the applicability of the model is sought with this study. Thus, discussion can be fruitful in identifying similarities or differences among the previous studies and possibly placing the present situations in the boundaries of the operant classes and contingency categories of the original model.

Following a comparison of the two situations the following table can be presented on the conceptual comparison of the two markets of this study.

**Table 9.6 Conceptual comparison of the two retail situations (based on BPM-E)**

Grocery	High Technology		
pleasure	PLEASURE	Utilitarian reinforcement	
arousal	AROUSAL	Informational reinforcement	
dominance	dominance	Closeness/ Openness PC/Laptop indicated lower levels of dominance (difference not significant).	
approach	APPROACH	Approach increases with the total quantity and quality of reinforcement, thus high technology buying has been expected to have more approach.	
AVOIDANCE	avoidance	Avoidance decreases with the total quantity and quality of reinforcement, thus high technology buying has been expected to have less avoidance.	
aminusa	AMINUSA	Aminusa increases with the total quantity and quality of reinforcement, thus high technology buying has been expected to have higher approach.	
similarity confusion	similarity confusion		No effect of levels of confusion on the comparison of the levels of the behavioural variables.
complexity confusion	COMPLEXITY CONFUSION	Higher levels of complexity confusion for buying of high technology.	

Source: this study (capital letters indicate higher levels of the specific variable, small letters lower, same way of writing indicates same levels)

Table 9.6 facilitates the conceptual comparison of the two markets measured in this study.

The table is sufficient to indicate the differences between the two markets it cannot

however describe their positioning relatively to the operant classes and categories of the BPM. During the development of the theoretical framework (see chapter 6) it was subject to discussion whether the two specific retail situations will be part of the same contingency category. Grocery shopping has been consistently been used as a situation representing '*maintenance*' and '*routine purchasing*' (CC7) and the possible position of the high technology buying situation was questioned and is worthy of investigation. The high technology market was perceived as possibly sharing some qualities with the categories of the '*hedonism*' operant class. This was however described simultaneously as a possibly ambiguous fact due to the nature of PC/Laptops. Although PC/Laptop use can be connected with indulgence, these are nowadays very much work-related products.

In the boundaries of an attempt to provide an understanding of this issue, a table that compiles the possible range and means that could meaningfully describe or define each one of the eight contingency categories of the BPM has been constructed. The table has summarised the findings of 8 studies conducted in England, Venezuela and Wales, based on both the range of variables' means (higher and lower means found in the relevant studies) and the overall mean of the studies. It should be reminded that the situations used in some studies differed, but in every case the main relationships as defined by the BPM were identified from the corresponding research (higher pleasure for situations maintained by higher utilitarian reinforcement, higher arousal for situations maintained by higher informational reinforcement and higher dominance characterising open situations).

**Table 9.7 Range and Means of PAD and AMINUSA for the eight published studies of the BPM**

Contingency Category	Range of Pleasure (higher and lower means reported in relevant studies)	Mean of Pleasure (8 studies)	Range of Arousal (higher and lower means reported in relevant studies)	Mean of Arousal (8 studies)	Range of Dominance (higher and lower means reported in relevant studies)	Mean of Dominance (8 studies)	Range of Aminusa (higher and lower means reported in relevant studies)	Mean of Aminusa (8 studies)
1	43.33-51.57	47.39	38.33-45.09	41.49	35.72-46.00	39.86	5.49-13.78	9.49
2	36.93-45.73	43.30	37.83-43.52	40.20	26.37-33.74	29.40	1.87-12.12	7.22
3	37.96-47.20	44.04	27.17-35.24	31.69	34.00-40.89	36.34	-0.07-8.44	5.96
4	27.51-40.75	34.51	22.89-30.64	26.78	18.96-29.66	25.73	-7.24-1.22	-3.88
5	33.99-44.39	37.05	34.30-41.92	37.93	33.33-40.38	36.37	-4.06-0.85	-1.50
6	26.89-41.33	33.82	30.35-38.73	35.67	27.67-32.44	29.44	-6.72-1.98	-2.18
7	27.96-37.22	32.53	25.53-31.92	27.56	33.19-38.82	35.41	-4.19-4.71	-0.47
8	21.73-38.97	25.31	22.92-31.04	27.14	19.52-28.71	24.77	-6.58-0.21	-4.13

Source: Compilation of the eight studies published in the following journal articles and book chapter: Foxall, 1997b; Foxall, 1997c; Foxall & Greenley, 1999; Foxall & Soriano, 2005; Foxall & Soriano, 2011; Foxall et al., 2012.

The main issue is that the attempt to define a specific range that could uniquely characterise each category has failed. There are too many overlaps both at the level of range and the levels of means which make the task of defining specific numeric boundaries for the categories' unattainable. It is a fact that dissimilar situations have been used to describe the categories in the past (for example hedonism has been described by situations ranging from been at the cinema to being at a party and fulfilment with situations ranging from driving an expensive car to enjoying a luxurious holiday at an exotic island). The comparison among the categories of each study is taking place among the specific descriptions of situations of every study. However based on this table (table 9.7) and the findings of this study (table 9.8), it will be attempted to compare the two situations used in this study with the numbers of previous studies.

**Table 9.8 Means for the two situations examined in this study. Grocery and high technology products (PC/Laptop) buying**

Context	Pleasure	Arousal	Dominance	Approach	Avoidance	A_A
<b>Grocery (a)</b>	35.70 (9.1)	23.70 (5.6)	26.48 (5.1)	11.22 (3.2)	9.30 (4.4)	1.88 (6.5)
<b>PC/Laptops (b)</b>	39.88 (8.7)	26.62 (5.1)	25.87 (5.6)	12.80 (3.3)	7.90 (3.8)	4.87 (5.8)
<b>Anova Results (Difference between the markets)</b>	F(1,519)= 28.430**	F(1,519)= 38.857**	F(1, 519)= 1.253	F(1,519)= 30.010**	F(1,519)= 15.831**	F(1, 519)= 30.337**

Source: this study

In order to facilitate comparisons and in light of the fact that five out of the six items of arousal and dominance formed the constructs in this study, the table has been transformed by dividing all values with 6 (the number of variables that loaded correctly in all of the previous BPM studies).

**Table 9.9 Range and Means of PAD and AMINUSA for the eight published studies of the BPM (all means divided by 6 so as to facilitate comparison)**

Contingency Category	Range of Pleasure (higher and lower means reported in relevant studies)	Mean of Pleasure (8 studies)	Range of Arousal (higher and lower means reported in relevant studies)	Mean of Arousal (8 studies)	Range of Dominance (higher and lower means reported in relevant studies)	Mean of Dominance (8 studies)	Range of Aminusa (higher and lower means reported in relevant studies)	Mean of Aminusa (8 studies)
1	7.2- 8.6	7.9	6.4-7.5	6.9	5.9-7.6	6.7	5.5-13.8	9.49
2	6.2- 7.6	7.2	6.3-7.2	6.7	4.4-5.6	4.9	1.8-12.1	7.22
3	6.3-7.8	7.3	4.5-5.8	5.3	5.6-6.8	6.0	-0.07-8.5	5.96
4	4.6-6.8	5.7	3.8-5.1	4.5	3.2-4.9	4.3	-7.2-1.2	-3.88
5	5.7-7.4	6.1	5.7-6.9	6.3	5.5-6.7	6.0	-4.06-0.85	-1.50
6	4.5-6.9	6.4	5.0-6.5	5.9	4.6-5.4	4.9	-6.7-1.98	-2.18
7	4.7-6.2	5.4	4.2-5.3	4.6	5.5-6.4	5.9	-4.2-4.7	-0.47
8	3.6-6.5	4.2	3.8-5.2	4.5	3.2-4.8	4.1	-6.6-0.21	-4.13

Source: Compilation of the eight studies published in the following journal articles and book chapter: Foxall, 1997b; Foxall, 1997c; Foxall & Greenley, 1999; Foxall & Soriano, 2005; Foxall & Soriano, 2011; Foxall et al., 2012.

**Table 9.10 Means for the two situations examined in this study. Grocery and high technology products (PC/Laptop) buying.**

Context	Pleasure	Arousal	Dominance	Approach	Avoidance	A_A
Grocery (a)	5.95	4.74	5.30	3.74	3.10	1.88 (6.5)
PC/Laptops (b)	6.64	5.32	5.17	4.26	2.63	4.87 (5.8)
Anova Results (Difference between the markets)	F(1,519) = 28.430**	F(1,519) = 38.857**	F(1,519)= 1.253	F(1,519)= 30.010**	F(1,519)= 15.831**	F(1,519)= 30.337**

Source: this study

Starting with the grocery market, pleasure and arousal levels are very much within the boundaries of category 7 'routine purchasing', although pleasure levels reported in this study are to the higher end of the range for this category. Dominance is however to the

lower end of this category and below the range reported in previous studies. Aminusa (the net difference between approach and avoidance) is again within the range, although to the higher end of the range.

Interestingly the mean of pleasure in the high technology market is above the mean and range of situations usually positioned and conceptualised as measuring category 7 '*routine purchasing*'. These levels of pleasure indicate that it could be positioned within the hedonism operant class (it is within the range measured for categories 3 and 4 which represents hedonism). The levels of arousal position high technology market closer to the contingency category 3 '*popular entertainment*' as the mean of arousal is closer to the mean of this category and it is also higher than '*routine purchasing*'. In terms of dominance matters are also complicated as the mean of 5.17 for dominance for the high technology market seems to position this market towards the categories of the matrix characterised as closed. The mean for aminusa indicates a similar pattern. It is rather higher than '*routine purchasing*' and could be more relevant with category 3 '*popular entertainment*'.

In conclusion, it is easy to compare the levels of reinforcement and behaviour setting scope of the two markets to each other and the results indicate the differences between the two situations. Specifically, high technology market offers higher utilitarian and informational reinforcement and these markets seem to be characterised by similar levels of closeness and openness, however finding their exact positioning in the situations established by the BPM seems a difficult task.

## 9.6. Conclusion

This chapter has provided some further analysis of the data of this study. First of all, consumer socio-demographic information was examined in order to establish possible differences in the way different categories of consumers perceive confusion in the two retail markets. Further to that, a juxtaposition of the present findings with previous studies of the BPM has been conducted. Based on this comparison high technology market was found to only partially belong to the contingency category of '*routine purchasing*' as it has rather higher levels of utilitarian reinforcement and rather lower levels of dominance than expected from the range determined from previous studies. It is applicable then to argue that there are situations beyond the ones proposed by the contingency matrix of the BPM which might have partial characteristics from one of the categories of the model and partial from another. For example, high-technology shopping cannot be positioned within the category of '*routine purchasing*' per se but it might have elements of classes that are characterised by higher levels of utilitarian and informational reinforcement, like those of *hedonism*. Evidently, even in these cases the PAD and A\_A measurement are able to provide consistent results.

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# **10. DISCUSSION, IMPLICATIONS AND FUTURE RESEARCH**

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## **10.1. Introduction**

This thesis will conclude with the discussion of the research findings. Apart from the arguments on the attainment of the main research objective which is the inclusion of rule-governed behaviour and intentionality in the BPM, other areas of interest like the implications for theory refinement and the study of confusion, the Behavioural Perspective Model (Foxall, 1990) and the Mehrabian and Russell (1974) approach, managerial implications, directions for future research and reflections on the process will be offered in this section. The theoretical and methodological contributions of this study will be discussed adopting both a chapter by chapter and a holistic approach.

## **10.2. Research Overview**

This quest has described the BPM as an alternative model of consumer behaviour which is based on the principles of operant conditioning. The model dictates that the rate of recurrence of economic behaviour depends on the outcomes that similar behaviour has had in the past (Foxall, 1992b). The principles of operant conditioning differ from those of cognitive psychology, mainly because operant conditioning avoids the use of any cognitive terms which implicate mental and internal to the individual processes. Without implying that one approach is superior to the other but arguing that there are limitations to both and that both can help knowledge to grow from their own perspective, Foxall (1990 and all subsequent research) developed the BPM which is based on a bifurcation of situational consequences informed by consumer behaviour and consumer situation.

In what has been described as an example of '*academic honesty*' (Oliveira-Castro, 2013, p. 130), the problematic of the specific model has been identified, which mainly concentrates on the hindering of the explanation of some aspects of behaviour. Specifically, aspects like the continuity of behaviour, the personal level and the delimitation of behavioural explanation (Foxall, 2004; Foxall, 2007b) seem to require an alternative non-behavioural treatment and elucidation.

One of the suggestions to solve this issue involves the treatment of other kinds of psychological concepts, found in ordinary language, that have been avoided by behaviouristic approaches. For example, it has been suggested that the model should consider dispositional concepts, in general, which include, in addition to propositional attitudes, abilities, propensities, and personal emotions, or even personality traits (Foxall, 2007b; Oliveira-Castro, 2013). Considering that dispositional concepts and intentional idioms in general describe, imprecisely, what individuals have done and predict what they are likely to do under certain situations, they are good candidates to be included in the description of consumers' learning history (Oliveira-Castro, 2013). This is the reason that Foxall (2007, p. 43) argues that intentional ascription is the result of the intersection of the individual and the experiences in the specific situation.

Further to that, rules that derive either from others or the self (refer to rule-governed behaviour) are good candidates to explore the two alternative BPMs proposed, the BPM-E and the BPM-I (Foxall, 2013). The first model (BPM-E) advocates the use of an extensional language (the language of objective facts) in terms of descriptions of 'brute facts' and the second (BPM-I) the use of an intentional language where internal to the individual beliefs and dispositional entities are allowed and facilitate the exploration of behaviour. Rules are such aspects of human behaviour that can allow treatment at both levels (Searle as in Foxall, 2013).

An alternative concept proposed and explored in this thesis is the idea that consumer confusion can be treated as a self-based rule and specifically as a case of track. Tracks as cases of rules are usually responses to the state of affairs- usually environmental affairs (Zettle & Hayes, 1982). In that sense environmental arrangements are dictated by the marketplace and confusion is a result of the state of affairs and environmental arrangements (Glenn, 1987; Foxall, 2013). Taking this argument a step further the concept of anomie (McClosky & Schaar, 1965), in terms of the lack of clear or concise rules that can guide consumer behaviour, has been introduced in order to elucidate the concept further. This treatment of confusion is a novel proposal for the construct which in the past has been mainly treated and examined within the boundaries of the eminent cognition-emotion debate (Zajonc, 1980; Lazarus, 1984).

Based on this theoretical framework (chapter 6) two models have been built and examined. The first examines the BPM-E and treats confusion as an overall aversive consequence of being and shopping in retail settings. In this case the levels of confusion reported for each consumer situation have been treated at an overall level and describe the levels of similarity and complexity confusion that being at different situations entail. Concurrently, levels of utilitarian, informational and closeness- openness of the settings have been described in accordance with the principles of the BPM. It is relevant to argue that according to the principles of the BPM these variables should be perceived as orthogonal, in the sense that any level of any variable could be accompanied by any levels of the other (Foxall & Soriano, 2005; Foxall et al., 2006). What is meant by that can be better described with the following example (as in Foxall et al., 2006). When a consumer takes a trip to an exotic island this ‘situation’ can be accompanied by high levels of utilitarian and informational reinforcement and at the same time high levels of aversive consequences (increased cost, increased negative gossip etc.). However all of these are

expected to determine consumer behaviour at differing levels. This principle was indeed verified by the present data. A possible connection between higher confusion indicating lower levels of dominance (in the comparison between the two situations) was only partly verified. High-technology market indicated lower levels of dominance however the difference was very small and non-significant, which indicates that there are other elements to determine the levels of dominance of a situation.

The next model examined consumer confusion as an intentional construct (and in that sense identified the importance of personal characteristics and the individual apprehension of situations). This conception of the BPM-I placed confusion in the position of the consumer situation and examined the implications of this model. Different levels of utilitarian reinforcement and perception of the behaviour setting scope were measured however same levels of informational reinforcement were reported by different groups of consumers. This is an interesting finding as it indicates that arousal (in the form of the Mehrabian and Russell (1974) measurement) measures symbolic feedback on performance which is mainly status related and possibly not knowledge/ understanding connected. Other possible explanations for this relationship will be discussed in the following sections.

A possible interaction effect between the market and confusion which are based on theoretical arguments on the role of rule-governed behaviour and the idea that consumers develop tracks in every-day situations has been examined. Evidence of this relationship has also been found in the qualitative-pilot research in the form of consumer discourse:

**Participant 2 (exploratory pilot research):** *No, no I don't get confused when in a supermarket. I have been shopping too long now to let it confuse me. No, I honestly quite enjoy shopping.*

Such effects were identified only for complexity confusion but not for similarity of products (brands) which seems to be a more pervasive problem in retail environments.

Overall, this study has many findings and contributions which are described and discussed in more detail in the following sections.

### **10.3. Theoretical Findings and Implications**

The main findings of this study are summarised in this section of the thesis. In accordance to the research objectives, apart from the arguments on the nature and measurement of confusion, the section will extend to findings on its contextual treatment and effects and the main theoretical models the BPM-E and BPM-I.

#### ***10.3.1. The Nature of Confusion***

This study has extended the concept of confusion and placed it within the boundaries of rule-governed behaviour (Skinner, 1969; Catania, 1986; Catania et al., 1990; Foxall; 1997a; Törneke et al., 2008; Foxall, 2013). In accordance with the categorisation proposed by Zettle and Hayes (1982) the case of self-tracking can be used to describe the case of confusion as a self- based rule, as this treatment implies the special relationship with the state of affairs and environmental issues (Zettle and Hayes, 1982; Glenn, 1987). In order to elucidate the actual nature of confusion, anomie, a concept introduced by sociologists (mainly Durkheim and Merton) but which has been extended to a more general psychological concept that indicates that '*the world and the individual are adrift*' has been used to place confusion in its actual position as a rule characterising the lack of other rules. This position is in reality the case when clear rules are lacking and as described by this research, market rules are either too similar or too complex.

Beyond the treatment of confusion at the extensional level as an overall situational description in terms of brute facts, the findings indicate that the delimitation of

behavioural explanation and the personal level of explanation have been achieved by the treatment of the construct at the less scientific level of intentionality. It is evident then that intentional terms can be used to describe the consumer learning history and situation.

Moving from the ‘behavioural’ to a different theoretical background, namely the one dealing with the nature of cognitions, emotions and emotional experiences (see chapters 2 and 5), the findings of this study might be of immense interest. Although, such considerations are not part of the main theoretical framework of this research per se it is worthwhile to explore the possible theoretical implications of this study for this area. The effect of confusion on behavioural variables would have been treated in most research studies (see for example Schweizer, 2004) as being mediated by emotional elements, especially pleasure or dominance. The fact that confusion seems to have a significant main effect along with these emotional elements could possibly be perceived as corroborating the findings by Rozin & Cohen (2003a). In this case and following Rozin & Cohen (2003a) the possibility that confusion can be perceived as having the characteristics of emotions will be examined.

When considering the parameters that are usually measured to establish the nature of entities as emotions these have been described as been (see also chapter 2): (1) the language of emotions; (2) reflexive physiological activity (somatic and autonomic reactions such as characteristic facial expressions (Ekman, 2001; 2003); and (3) behavioural (e.g., approach and avoidance, ‘freezing’, and performance deficits or enhancements). Rozin & Cohen (2003a) in their study very much based their findings on the first two categories of measurement, language (students that acted as participants in their study were asked to collect indications of emotions; in this case confusion was repeatedly reported as belonging to this category) and facial expressions (confusion was reported as an emotion in both the case of symmetrical and asymmetrical facial

expressions). The findings of this study could then suggest that the present analysis can provide evidence to support the latter of the three criteria, that of determining behavioural consequences in the form of approach-avoidance behaviour.

In this case the question remains: ‘would it be possible to argue that confusion is an emotion?’ A clear answer should be prevented to be given based on the findings of this study. At the most obvious level this study was not designed to pose an argument towards that direction and additionally, an answer to such a question requires repeated empirical investigations. An additional point would be that pleasure, arousal and dominance have been described as the affective qualities of situations and environments (Russell & Pratt, 1980) and consequently these dimensions are either way not treated as emotions *per se* but rather as dimensions with emotional inferences.

What can be possibly argued from the findings of this study is then that seen from this perspective, confusion might have clear emotional implications in consumer settings, which can be easily translated into behavioural consequences. If pleasure and arousal are treated as being the ‘*affective qualities attributed to an environment*’ (Russell & Pratt, 1980) then confusion is likely to have the same emotional qualities (see also the arguments that confusion can be described as a ‘*cognitive feeling*’ and that it admittedly possess both informational and affective value in chapter 2) without however implying that it can be placed in the category of pure emotions.

### **10.3.2. *The Conceptualisation of Confusion***

In order to achieve the measurement of confusion as a self-based rule, which describes the lack of environmental/market rules in either a way that such rules are weak, unclear or complex, an existing conceptualisation was used based on the idea that there are three kinds of confusion, namely similarity (of products), overload (big variety of products and

information) and ambiguity (unclear information). The exploratory pilot test of this study has managed to establish the ecological validity of these three kinds of confusion in the retail settings of this study and in addition has established the validity of this measurement in measuring actual traits connected to confusion rather than entities that can be more meaningfully characterised as frustrating or annoying. The scale used has been validated in a de-contextualised way in previous research (Walsh & Mitchell, 2005b; Walsh et al., 2007; Walsh & Mitchell, 2010). This study acknowledges a problematic area with the use of the characterisation ‘overload’ for what has been described as being faced with too many products and information. The problem with this treatment is that a person can be ‘overloaded’ in the sense of facing ‘too much of a burden’ due to many reasons, ambiguity of information can be easily perceived as one of them. However in order to correspond with previous research (e.g. Sproles & Kendall, 1986) this naming has been kept intact.

In this study, overload and ambiguity confusion were found to load together and form one common factor named complexity confusion. This issue might be understood as a problem with the dimensionality of the scale. The scale has however been tested in previous research and it indicated elements of good dimensionality; it is suggested then that this is a contextual issue rather than anything else. There are also firm theoretical explanations for the common loading of overload with ambiguity confusion that will be described. Specifically, conceptualised as one of the factors that characterised one of the dimensions of information rate (Mehrabian & Russell, 1974), ‘complexity’ has been defined as the ‘*number and changes of environmental stimuli*’. This conception clearly coincides with the understanding of the factor that resulted from this factor analysis in this study and has been named complexity.

The question then remains, how are the two constructs (similarity and complexity confusion) resulting from this study dissimilar and what underlies their similarity? Can these results theoretically be justified and connected with the understanding of confusion as a self based-rule in this study? To start with both of these constructs can be considered a case of anomy, rules developed to accommodate the lack of rules (McClosky & Schaar, 1965) as described in this research. High similarity of products is a kind of confusion that creates ***homogeneity*** in a marketplace. It impedes behavioural responses by removing the expected norms/rules (the expected differences in packaging/brand names etc.) that could guide behaviour and thus acts as an aversive consequence of shopping. This impediment of behaviour is based on everything being/looking similar. At the other end both overload and ambiguity (complexity) impede behaviour due to ultimately different reasons which are an increase in the ***complexity*** of an environment and actually have the opposite effect (of making the environment more complex and disarrayed rather than homogenous). The high correlation between the two constructs (oblique rotation was used in order to discern between similarity and complexity confusion) indicate at the theoretical level that these constructs indeed underlie the same idea, that of consumer confusion and anomy (although the cause roots of behavioural impediment should be perceived as being different).

At the practical level of managing consumer markets it indicates that managers should remain very much focused on removing any sources of consumer behavioural impediment because these seem to interact to produce a combined ‘difficult environment’ and act on consumers’ inability to behave (choose products, shop etc.). Finding the ideal number of products and information to be provided, which at the same time allows for the discrimination between different alternatives seems to be the ideal case.

It is evident that in light of the results of this study, more (qualitative) research is required in order to ensure scientific integrity and specifically delineate whether overload and ambiguity confusion should be indeed treated as the same construct in future research, a construct that can meaningfully point to complexity confusion. Taking as evidence this study and the aforementioned theoretical arguments, all directions indicate that two factors rather than three (the first indicating homogeneity and the other complexity) could be a more meaningful way to measure and conceptualise contextual confusion in future research.

### ***10.3.3. The Contextual Treatment of Confusion***

An additional issue that is worthwhile of a section in this final discussion chapter is whether the treatment of confusion at a contextual, attitudinal level is, on balance, of any research interest. Previous research has treated confusion at multiple levels with one of them being the level of a personality trait- a personal proneness (Walsh & Mitchell, 2010). This approach is de-contextualised and treats the market at an overall level. When confusion was treated at a contextual level the measurement included just one market situation for example the market of telecommunications (Turnbull et al. 2000). Other contextual treatments are once again concentrating on one market and have also been store and time specific approaches (Schweizer, 2004). The approach of this study can then add an interesting statistic (refer to table 10.1) to the relevant discourse. This statistic is the level of correlation between the kinds of confusion in the two different situations.

**Table 10.1 Correlation coefficients between kinds of confusion in the two markets**

	Similarity (High technology market)	Complexity (High technology market)
Similarity (Grocery)	.323**	
Complexity (Grocery)		.394**

\*\*Difference significant at the 0.01 level (2-tailed)

Source: this study

This interesting statistic was presented without extensive explanation in the analysis chapter. As this is one of the studies to apply confusion in a context specific manner both at the level of overall response to situations and as a propositional attitude towards a situation, this correlation should be a good suggestion for future endeavours to indicate whether confusion can add information when treated at the contextual level of every market. A rather high correlation might indicate that confusion is better treated at the personality level rather than the contextual. In this manner future research can have some further guidance on whether this treatment is a justified and worthwhile approach.

The problem here is that to the best of this study's knowledge there are no previously published materials or relevant articles that could be used to lead the decision on whether such correlation coefficients can be an adequate statistic to guide a decision of this nature. It is evident that the relevant correlation coefficients indicate a medium positive relationship between confusion levels in the two markets (both coefficients are below the .50 value); it is however questionable whether such level of association would indicate that confusion should be treated at the contextual level rather than as a personality trait.

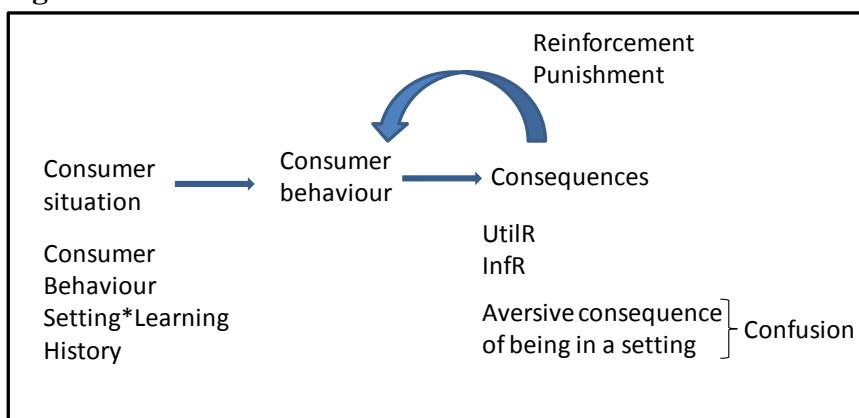
Based on this fact, this study will adopt and extend on the approach taken by Mehrabian and Russell (1974). In their 1974 book Mehrabian and Russell conceptualised the PAD variables as potentially having both the properties of a personality disposition to react with almost similar PAD levels in every situation (in that sense measuring emotional reactions as personality traits) and a second one that treated the PAD as responses to specific situations. The difference lies with the way the question is asked and the manner the measurement takes place. A similar approach was presented in chapter 2, where literature indicates that all states can have dual natures, one characterised as personality traits and another one as contextual responses (e.g. Scherer, 2005).

To enrich this argument, specifically in this research, a correlation of .316\*\* of the reported levels of dominance in the grocery market with the reported levels of dominance in the pc/laptop market was found. Similar correlation levels (e.g. .332\*\* for approach-avoidance behaviour) applied to the rest of the variables. In addition, in light of the differing effect of complexity confusion on some of the PAD elements and approach behaviour (interaction effects) between the two markets, there are obvious differences on the ways confusion affects the two markets. In that sense the measurement and treatment of confusion at the contextual level seems justified and is recommended for use in future research.

#### **10.3.4. The Extensional Model (BPM-E)**

In the extensional behavioural perspective model, the discriminative stimuli set the occasion for consequences, which can be classified into reinforcing and punishing consequences of being in a setting. Figure 10.1 summarises this conception of the BPM were utilitarian, informational reinforcement and the aversive consequence of confusion is positioned at the right of the model and are described as the consequences of situational exposure.

**Figure 10.1 BPM-E**



Source: Adapted from Foxall, 2013, p. 110.

This kind of reasoning, which used the extensional language of verbal behaviour, allowed for the theorising of constructs at the overall level of responding to market conditions and thus facilitated the attainment of the aim of the comparison of the two retail settings used in this study, which seem to differ significantly in accordance to the principles of the BPM (higher levels of reinforcement signal higher aminusa behaviour). In an attempt to position the two research (retail) situations in accordance to the classification proposed by the BPM contingency matrix the central contribution of the previous chapter has been the compilation of a table with all means and range of the contingency situations as found in previous studies and has conceptually tried to identify the relevant position of this study's situations.

The two levels of situational taxonomy that are proposed by the BPM (operant class and contingency category) are described below and the relationship with the current situations is discussed:

*Level 1: Operant Class.* The BPM model recognises 4 operant classes, accomplishment, hedonism, accumulation and maintenance (Foxall, 1996). The main criteria are the relevant levels of utilitarian and informational reinforcement. As data and means indicated (see chapter 9) in terms of pleasure and arousal the grocery market can easily be placed within the maintenance operant class. At the other end, the high technology market seems to be more easily positioned beyond the maintenance class and shares the levels of utilitarian and informational means with hedonism.

*Level 2: Contingency Category.* The concept of contingency category extends the concept of the four operant classes and introduces the Behaviour Setting Scope as a way to distinguish between open and closed situations. Openness is connected to being able to define the setting, while closeness is identified in settings that are determined by agents

outside the individual. The levels of dominance reported for the two situations in this study are relatively medium (5.30 for Grocery and 5.17 for the high technology market). This is fairly a surprise as levels of dominance for such open situations like retail shopping were expected to be higher (see also the relevant range of such situations in previous studies of the BPM). The reason for that is that such shopping situations, which are taking place in affluent, consumer orientated economies, marked by high levels of discretionary income, open settings are supposed to be commonplace and consumer choice is supposed to be sustained by competition among providers (Foxall, 1992b). It is however relevant to mention that levels of dominance for the routine purchasing have been found to range between 5.5-6.4 and have a mean of 5.9. These means are relatively higher from the ones found in this study.

Regarding the comparison between the two specific situations, the grocery market indicates a slightly higher mean than the high technology market but this difference is neither big nor significant. It is interesting to state that the levels of reported confusion would justify (significant) lower levels of dominance for the high technology market, however it seems that because there are other reasons that influence the closeness or openness of a situation there seems to be no further implications. It has been proposed that levels of closeness-openness are influenced by the number of accessible alternatives from being to the setting and it seems that both of these consumer oriented situations offer alternatives.

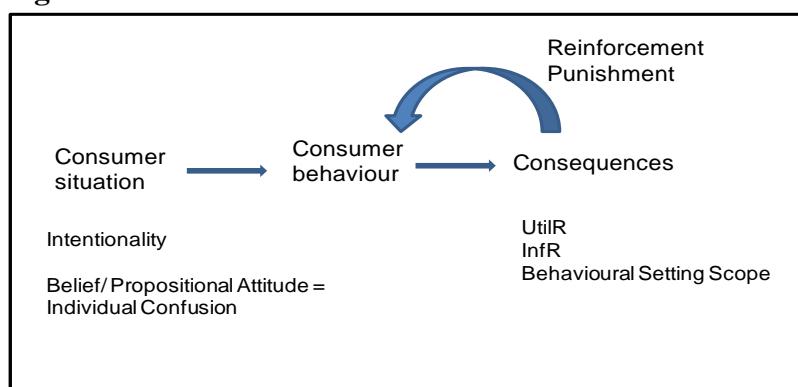
Further to the above established measures of utilitarian, informational and behaviour setting scope, this study introduced the idea that the overall levels of similarity and complexity confusion are part of the aversive consequences of shopping and has measured them in both markets in order to identify their extend. Similarity confusion has been found to have similar levels in the two markets while complexity confusion is higher in the high

technology market. According to the principles of behaviourism any levels of one dimension (meaning reinforcement- aversive consequences) can be accompanied by any levels of the other as there are situations (buying an expensive car) characterised by high utilitarian reinforcement (good quality) and high aversive consequences (increased cost), however the levels of behavioural responses expected are determined by the reinforcement received.

#### **10.3.5. The Intentional Model (BPM-I)**

The Behavioural Perspective Model has been extended in this study to include intentional constructs in the form of an individual propositional attitude and more specifically confusion in the model. In this case confusion is described in the form of the individual beliefs (avoiding a more cognitive language) and has been used to indicate that individual rule-making can modify situational contingencies by increasing or decreasing the reinforcement consumers receive and the way consumers perceive the behaviour setting scope at the personal level of explanation this time. In order to adopt this approach a less ‘scientific’ route is adopted (Foxall, 2013) where beliefs and intentional constructs are positioned at the left of the model as in figure 10.2, mainly indicating consumer learning history and acting as the consumer situation that signals appropriate responses.

**Figure 10.2 BPM-I**



Source: Adapted for this study from Foxall, 2013, p. 116.

Based on this understanding the following relationships have been explored:

***a. Confusion- Utilitarian Reinforcement/ Behaviour Setting Scope/ Behavioural Responses***

Levels of both similarity and complexity confusion have been found to have a negative relationship with the utilitarian reinforcement that groups of consumers perceive as receiving from situations. This is also relevant for the behaviour setting scope with confused consumers perceiving that their access to reinforcers (mainly the choice of products in this case) is being regulated by other agents. The interaction effect of the two markets when it comes to complexity confusion should be reminded however, this is the case where pleasure, dominance and approach behaviour have been found to be more highly negatively influenced in the high technology market (market characterised by overall lower levels of experience).

On these grounds approach and avoidance behaviour have been found to correspond accordingly to the lack of perceived reinforcers. It should be noted that especially avoidance behaviour seems to be more highly influenced by both kinds of lack of rules and in both market situations.

***b. Confusion- Arousal/ Informational Reinforcement***

The relationship between confusion and arousal has been described as a rather unexplored matter that is worthy of deeper investigation. Elements like the proposed relationship of information rate with arousal (Mehrabian & Russell, 1974), the additional findings from psychological research that found evidence that confusion is to be understood as an unaroused state (Russell & Mehrabian, 1997) and further ambiguous results from subsequent research of consumer behaviour (Donovan & Rossiter, 1982) complicate the matters. The findings of this study confirm that overall confusion should be indeed perceived as an un-aroused state. In reality, the conceptual development and hypotheses of

this study propose the possible reason for this lack of relationship. In case arousal is perceived as measuring the feedback on performance which has until now connected to levels of self-esteem/ status associated feedback, this is the kind of status that comes from symbolic reinforcement (e.g. Foxall & Soriano, 2005). It is possible then that either confusion does not create such kind of symbolic/ status related punishment or that simply arousal is not in a position to measure the kind of feedback on performance produced by confusion which is possibly more of a ‘personal’ feedback on the levels of understanding.

Regarding the relationship between confusion and arousal, this study will also bring to the fore a proposal based on an alternative explanation. This explanation is still based on the conception of arousal as a measure of feedback on performance, however elements of **attribution theory** (mainly the distinction between internal and external attribution) that can be used to explain the relationship between confusion and arousal.

Kelley & Michela (1980, p. 458) argue that there are many kinds of ‘attribution theory’ as the term overall refers to the perception of influence of a cause on a behaviour. The common theme underlying these theories is the way that ordinary people explain events and make sense of the world the way they do. The theme of internal and external attribution (or locus of control) is recurring in attribution theory and describes the attribution of an event to either internal (within the individual) factors, or contrary to external, possibly environmental factors (Kelley & Michela, 1980, p. 487). It is then suggested that consumers as naive psychologists (Heider, 1958) have the tendency to attribute confusion either internally (to the incompetence of oneself to understand and interpret environmental stimuli efficiently) or externally (to the incompetence of the industry to provide a clear and unambiguous environment for them) - see also Mitchell et al., 2005 on the topic of confusion and attribution. Specifically, it is suggested that attribution can shape the relationship of confusion with arousal in the following manner:

In case consumers perceive confusion as their personal incompetence this will have a negative effect on the perceived levels of personal performance, thus lower levels of arousal (informational reinforcement) are expected for confused consumers than non-confused consumers (providing that consumers attribute confusion internally and thus it does have an effect on the informational reinforcement they receive).

In case consumers attribute confusion externally no effect of confusion on arousal will be identified, thus confused consumers are expected to indicate the same levels of arousal with non confused consumers (providing that confusion will be attributed externally and thus it has no effect on the levels of informational reinforcement). This theoretical argument and the findings of this research might dictate that confusion is not perceived as providing any feedback on individual performance thus it might be an indication that confusion is perceived as more of an external characteristic of a market and thus this situation is attributed 'externally' by consumers. Theoretically, this finding is interesting because it extends the possible theoretical connection of attribution theory with confusion. An initial proposal on this matter has been that attribution theory serves to determine the consequences of confusion (Mitchell et al., 2005). According to this rational, the more consumers attribute their confusion to external sources, the greater the suggested effect on company-related consequences like negative word of mouth for example. This study proposes then a possible extension of the relevance of attribution theory to the effect of feedback on performance which is worthwhile of further investigation.

Further to that, the overall relationship between arousal and similarity was negative, small and not significant. The small, non-significant but positive relationship of arousal with complexity confusion might indicate the possible theoretical connection of the complexity confusion construct with the information rate of an environment. Previous research has found mixed results on the relationship of information rate with arousal. As one of the

cautions of this study it is then suggested that future research could examine the relationship between information rate and confusion and place it on better grounds. Further theoretical arguments are then necessary to understand the concept and measurement of confusion. As such, further measurements of the construct could abandon the well-grounded treatment of consumer confusion based on its antecedents (as summarised in the conclusion of chapter 3) and could focus on alternative characteristics. Characteristics as the ones proposed by psychological research could offer a breakthrough to this issue. For example elements such as the perceived intense added effort or attention required or the sense of goal obstruction, all summarised by previous studies (e.g. Ellsworth, 2003) to characterise the '*qualia*' of confusion—the individual instance of subjective, conscious experience—could find a role in future research in an attempt to develop a measurement for the construct based on an alternative perspective. This perspective could have less of a relationship with information rate and could add value on the debate on the relationship between confusion and arousal.

## **The BPM and the MR Approach**

As discussed in both chapters 8 and 9 (analysis and further analysis), contrary to some evidence from previous research (Donovan et al., 1994) which have been critical on the way the measurement and specific conceptualisation of arousal and dominance represents emotions felt within retail environments, this study confirms that overall the original scales indicate good reliability and validity in retail settings. One item of dominance (awed-important) and one of arousal (sleepy- wide-awake) had to be removed from the corresponding measurements. Approach-Avoidance measurements also signified good reliability and uni-dimensionality (although it is relevant to remind that especially for one of the items of approach which concerned the time spent in a retail situation some modifications had to be applied, in order to reflect consumers' understanding of the specific settings).

Confusion as a variable has a rather small but significant contribution (ranging from 0.5%- 2.5% unique R square change) to the overall models when the three behavioural variables acted as the depended variables. This small but significant contribution has been judged as sufficient for the requirements of this study. The greater contribution is with avoidance and aminusa and the contribution is much less with approach. It should not be forgotten that confusion was measured at the level of responding to stimuli and has been treated as an overall belief about specific markets; thus this small contribution should not be perceived as insignificant. It indicates that elements of the overall understanding that consumers develop for specific markets do have an effect on behavioural variables and work along with the reinforcement received from these situations to have an effect on behaviour.

The main aim of this study has not been to identify variables that could increase the explanatory power of the MR model but rather variables that as aversive consequences and in accordance with the BPM, work along with utilitarian (pleasure) and informational (arousal) reinforcement and the behaviour setting scope (dominance) to determine consumer behaviour. This study has been successful at that aim. It has above all strived to identify a way to, theoretically and based on appropriate research practices accommodate and examine situations that the contextual and the intentional stance can hold together and explain behaviour. Based on Foxall (2013) this can be achieved due to the property of rule-governed behaviour to be described in an extensional and intentional language and confusion has been defined in this study as an ideal case for such an endeavour.

Overall, levels of utilitarian reinforcement (in the form of pleasure) seem to be a very important element that determines behaviour in choice settings. In accordance with previous research and although in this study the original Mehrabian & Russell (1974) scale was used, dominance has been found to have no contribution to the overall model when applied to consumer settings/markets. The implications of this finding will be discussed in more detail in the section that follows.

#### ***10.3.6. The Role of Dominance***

Chapter 5 of this thesis on the Mehrabian and Russell (1974) model included a theoretical section dedicated to one of the elements of the PAD, dominance. The reason behind this ‘special’ and extended treatment of dominance has been its ambiguous nature and inclusion in the model. Arguments regarding its removal from the PAD model derive both from psychological research (Russell, 1980) and its possible unsuitability as one of the variables used to characterise emotional reactions (based on the propositions put forward by the dimensional theories of emotions) but also its possible inadequacy to explain behavioural responses in retail settings (Donovan & Rossiter, 1982). As a

counterargument Soriano & Foxall (2006) propose that dominance has been found to discriminate well between open and closed situations as defined by the Behavioural Perspective Model. In addition, in cases a structured approach based on the situations of the BPM contingency matrix is adopted (Foxall & Greenley, 1998) all three elements of the PAD seem to indicate more consistent results when considering their relationships with the behavioural variables (Foxall & Soriano, 2005).

Regarding the levels of dominance between the two shopping situations examined, these situations indicated same levels of dominance and this has significant implications both for theory and for the management of retail settings. In addition, based on the alternative model BPM-I confused respondents have been found to report lower levels of dominance, and in that sense at the personal level, settings are perceived as more closed.

Regarding the lack of dominance capacity to determine behavioural responses, it seems that the effect of the situational consequences (reinforcing and aversive) is stronger in the case of retail settings. The following four observations have been developed and will be discussed in terms of this aspect and the fact that dominance was found to be deficient in defining Approach-Avoidance (Aminusa) behaviour along with pleasure, arousal and confusion:

1. Foxall & Greenley (1998) attributed the insignificant results of dominance in previous retail research to the allocation and examination of arbitrary situations. This has been the result of the lack of a systematic approach to the way situations are structured which has turned the prediction of differences among them in terms of behavioural responses difficult. Dominance has subsequently shown good signs regarding its capacity to determine behaviour when all eight diverse situations proposed by the BPM are measured. It should be taken into consideration that the

present study has due to the very nature of the measurement and situations necessary (as explained in the conceptual framework) fallen into this ‘fatal’ unsystematic error (according to Foxall & Greenley, 1998). Thus, it is possibly the lack of the entire array of situations which does not allow for all different levels of dominance to be present that might cause dominance not to work in cases that not all of the eight situations are examined.

As much as this explanation seems to be plausible, the problem remains that not all everyday consumer reality and equally not all research situations to be examined are to include all eight contingency categories as proposed by the BPM. The ‘systematic approach’ of the BPM although theoretically useful it cannot find exact application in every research. In most research cases it is desirable that less than eight situations or most commonly only one situation is to be studied. The definition of a theory will be brought to the fore to explain the reasons that such a treatment seems to be problematic. Blaikie (2000, p. 142-143) compiled several different definitions of theory and have resulted to the following composite meaning. A theory is then:

*‘a related set of statements about relationships between concepts with a certain level of generality which are empirically testable and which when tested, have a certain level of validity’* (Blaikie, 2000, p. 142-143).

If then dominance cannot determine behaviour when only one or few situations are tested this is a challenging area because it questions the generality of this theory (as has already been done in the literature of consumer behaviour) or that a more accurate classification of consumer cases that this construct should be included or not should be constructed.

2. The second point is very much related to the above reasoning but extends the argument based on research related with the dimensions of emotions. Morgan and

Heise (1988) administered emotional words to college students and asked them on their ratings of relevant dimensions. One of these dimensions was dominance which was conceptualised as potency in their study. The relevant measurement included only one bipolar phrase: big, powerful versus little, powerless. Their results indicate that potency indeed differentiates between the negative emotions of fear (terror) and anger (fury) however little evidence was manifested for the effect on any other negative emotions or especially on any positive ones because all positive emotions generate a sense of powerlessness. It is then concordant to say that because most retail environments are not the kind that would produce intense unpleasant emotions (e.g. Donovan and Rossiter, 1982 could not find enough negative shopping occasions in their research), future research should focus on creating a classification of consumer situations that dominance could be relevant or not. It seems then that one possible explanation for the inability of dominance to explain approach-avoidance behaviour is that retail settings are so designed that on average produce a pleasant consumer situation, which do not allow for dominance to really differentiate or have an impact upon.

3. Another plausible explanation for this research aspect should evidently extend to the definition of consumer situation according to the BPM-I. The consumer situation has been deconstructed in this case and includes intentional elements other than the behaviour setting scope. In this explanation dominance is then not a defining aspect of the model but has been conceptualised as a possible consequence of being in different settings. Are we, the theorists, then allowed to argue that: 1) possibly dominance is not a necessary or better a 'defining' characteristic of the BPM-I and even that 2) possibly the BPM-I can act as a better conceptual edifice of some consumer situations? The answer to such matters cannot be clear yet. The answer might be 'yes' these argument

are valid' or 'no this is not the case' in other instances. In order to have a definite response more intentional models need to be examined and more intentional constructs need to be added to the model.

4. Finally this lack of capacity to determine behaviour should turn our focus once again to the literature of emotions and cognitions and the explanation proposed by Russell (1980) (see chapters 2 and 5). In that sense a possible mediating effect of the emotional dimension of pleasure (and possibly arousal) on the relationship between dominance and A\_A might be assumed. According to Russell (1980) dominance was excluded from the bipolar (pleasure and activation) affective environmental qualities on the grounds that it requires cognitive intervention. This requirement for cognitive intervention has been seen as its defining difference from the emotional dimensions of pleasure and arousal. Keeping this fact on the one hand and the original definition and process of the process to identify mediation by Baron and Kenny (1986) at the other, then the conclusion of mediation is effortlessly reached.

In Baron & Kenny's (1986) description a mediator is defined as a variable that explains the relation between a predictor and an outcome variable. The criteria to establish mediation then dictate that: a relationship should exist between the predictor and the outcome variable, the predictor and the mediator variable and the mediator and the predictor variable but the mediator variable has to **reduce** (partial mediation) or **eliminate** (total mediation) the link between the predictor and the outcome variable when entered into the relationship. Bringing that in terms of this specific research a relationship between dominance and approach/avoidance exists and dominance has been found to have an effect on both pleasure and arousal in past research- Ward & Barnes, 2001- a correlation between the variables exists in this research- however this relationship is eliminated when the variables pleasure and arousal are entered into the

regression. Future research should examine the possibility that there is a mediating effect of pleasure or/and arousal to the relationship between dominance and approach-avoidance in consumer environments. In order to examine such a relationship a different theoretical perspective is necessary from the one in this study and would further require the application of relevant mediating statistics. The significance of the present study lies in the way in which the study's findings and research questions are illuminated by using behaviourism, the BPM and the philosophy of intentionality as a major frame to enlighten the phenomena and thus this topic is beyond the interest of this study.

However, a query caused when adopting this theoretical approach is the examination of the reason that confusion seems to work along with pleasure and arousal to determine behaviour while dominance is not. When following the aforementioned logic and previous theoretical arguments confusion can similarly to dominance well be a construct requiring cognitive intervention. The only plausible answer to that is that specifically in consumer environments confusion might have more intense emotional implications than dominance. Our time is the era of marketing and huge importance has been placed to consumer rights and well-being. Thus confusion which is an aversive consequence of shopping might have stronger emotional implications than dominance in such contexts.

Following this examination of the issue, the exclusion of dominance from future endeavours is not suggested. Rather, seen from multiple theoretical perspectives dominance has a significant role to play especially in emotional ascription but also in behavioural understanding. It is however advised that more studies should specifically focus on the relationships and effect of this variable in one or more environments. It is strongly proposed that further situational classifications could delineate the role of

dominance especially when distinguishing between pleasant and unpleasant situations (similar to the differentiation of the effect of dominance on positive and negative emotions).

#### **10.4. Managerial Implications**

The need to address situational influences when creating retail settings/stores has been a conventional practise for retail managers for years now. By adopting the BPM and the specific approach of this study, more specific advice on situational effects like the levels of pleasure, arousal, dominance and confusion that seem to encompass individuals' emotional responses to social and physical environments (see also Foxall & Soriano, 2005), are offered to retailers as an advice on how to form retail settings.

Although such advice is not new to retailers and the PAD approach has been used before as a meaningful way to study retail settings, the approach of the BPM contributes to an alternative manner that retailers could perceive their environments. The conceptualisation of arousal for example as the level of informational reinforcement provide retailers with evidence that along with elements that increase utilitarian reinforcement (good product and service quality), other elements of the markets that increase social prestige, performance feedback and self-esteem (like for example either the nature and use of the product- a PC brand carries with it more informational implications than groceries or the implementation of a loyalty/ point collection scheme) are important determinants of positive consumer behaviour but should not be so strong as to detract from the pleasure responses generated by such environments.

Turning the focus on the central variable of this study, consumer confusion, it has been indicated that by reducing the levels of complexity and similarity confusion and conversely increasing clarity, pleasure and dominance could be a major source of competitive advantage in any market, but particularly in those markets where confusion

has been proved to be an aversive consequence like the grocery and high technology markets in this study.

Considering the limited marketing resources, organisations need to consider how best to deploy them in order to assess and reduce confusion causing activities. In order to implement this task, the conceptualisation of confusion in this study provides marketers with guidance on the areas where attention may be required. In this manner, this study has established that: 1) confusion can indeed be described as a situation characterised by the 'lack of market rules' that impedes consumer behaviour and 2) that it is essential for marketers and retailers to check and control both of the two dimensions of confusion (similarity and complexity) and further examine the ways that these different dimensions influence consumer behaviour in retail settings. As a first, essential recommendation then marketers ought to systematically identify sources of stimuli similarity and complexity and try to rectify them.

Specifically, the dimension of ***similarity confusion*** concerns aspects of product and brand similarity and has been established as an issue in markets with varied levels of experience and other characteristics (no interaction effect between markets and similarity confusion was found). This factor seems then to be influencing consumer vulnerability (in terms of behavioural and emotional dimensions) in any market and it is independent of the levels of market experience or other market characteristics. This finding should concern especially policy makers and marketers of the grocery market who can use the measurement of this study to examine further whether consumers actually perceive very little differences between their own and competing brands. If this is the case, they should as a first step seriously examine and reconsider their brand positioning and product differentiation policies. As retailers wish to retain the clarity of their environments, lucid positioning and differentiation of products can increase the selling power of products and

provide rules to facilitate consumers' decisions. At the other end, through clear positioning and differentiation, product managers and sales departments can increase sales but also increase their company's purchasing and negotiation power over retailers.

It is true that plenty of studies have been implemented in the past, concerning especially the existence of me-too, 'copycats' or look-alike products and brands and these studies have been especially focused in the grocery industry (Balabanis & Craven, 1997). The finding that similarity confusion is an equal problem in both markets in this study might be especially so due to the exact nature of grocery retail environments. Grocery stores are the kinds of environments where all products are positioned very close together (consider and compare a grocery store in comparison to an Apple store) and this fact might induce the strong effect of the similarity confusion. Thus, although in a high technology market consumers lack experience, this lack of familiarity might be compensated by the attempts of the industry to provide more structured retail environments and better differentiated products. Extending on this same argument marketers and store designers ought to 1) pay more attention to the design of grocery stores, 2) to revise category management techniques which focus on shelf arrangement and 3) to re-examine the practice of constant introduction of new products which simultaneously make use of very similar marketing strategies as their counterparts.

The second dimension of confusion, **complexity**, deals with issues like the vast variety of products/ stores and offers in the market-place but the problem does not end there; rather, unclear and ambiguous information is part of the complex environment created. Marketers should try to reduce this complexity in multiple ways. To start with, they should rethink the tactic of constant new product launches as a way to gain instant profit. Information provided should be clearer and the different market sectors (with the help and support of policy makers) could potentially agree on some common guidelines or official definitions

for the use of confusing or constantly changing terms on packaging. Policy makers could also establish a *free public* body in the same logic as ‘Which’ organisation which can provide guidance and support to consumers when faced with important choices.

The additional finding that complexity of markets is very much correlated with the dimension of product similarity should concern retailers and marketers. Although the causality of this strong relationship is difficult to be established this finding indicates that the optimum market environment should be considerate of both complexity and homogeneity which are both causes that impede consumer choices. This optimum market environment is however difficult to be achieved and requires extensive effort and further research from retailers.

In this study confusion has been established as a problem in retail settings and seems to be especially connected to avoidance behaviour in all markets. As such retailers have an additional benefit to strive for the creation of the above mentioned ‘optimum environment’ because in such retail environments consumers would be more willing to leave, or feel unfriendly. As already described, environments might become less confusing if better differentiation strategies, clearer packaging, store sign-posting and well educated staff are used in stores so that environments and products become clearer, less ambiguous and easier to understand.

Beyond the issue of confusion, this study has established that a measurement scale like the PAD can meaningfully identify differences in the contingencies of different markets. The use of the PAD and behavioural measures in cases retailers wish to identify the levels of reinforcement or the levels of openness/closeness and behavioural consequences of a market situation has been established following this research. Retailers and marketers could well use the PAD scale for comparison of the levels of utilitarian and informational reinforcement which are induced by different alternatives of products before any new

product launches or adequately test retailers' concept stores so that they can measure the relevant responses induced to consumers by these situations. In that manner a more informed decision-making on whether to launch specific products or on the way to create a retail environment can be made based on the results of their research.

It is then evident that the findings of this study have implications for practitioners (marketers, retailers and policy-makers), who will all benefit from following some of the guidelines that this study offers.

## **10.5. Contributions of this Thesis**

Based on its findings, this study has attained its research objectives and has many theoretical and practical contributions. The main contributions of this study are twofold. Most importantly it adds to the extant literature on the BPM. Second it offers a furthering of the concept of confusion towards an alternative philosophy which enables many future further explorations. More specifically, the contributions of this study in the respective areas are presented below.

### ***10.5.1. Contributions by Chapter***

***Chapter 2:*** Chapter 2 reviews theoretical and practical studies of general psychology and more specifically discusses the ways that confusion has been dealt in that part of the literature. This is to the best of this study's knowledge the first attempt to summarise such diverse sources and adopt such an angle and focus to the study of confusion.

***Chapter 3:*** Chapter 3 has expanded on the concept of confusion and the ways it has been explored in consumer behaviour. This chapter offers a comprehensive updated description of the state in the literature. Starting from concepts like variety-seeking but also optimum stimulation level, the way that these have led to the study of confusion has been exemplified. Previous conceptualisations of confusion are described and most importantly

the demarcation of terms like confusion and other psychological states (cognitive dissonance, perceived risk and frustration) are discussed. This chapter contributes to the literature on confusion through the comprehensive approach taken.

**Chapter 4:** Chapter 4 is mainly a theoretical chapter which along with chapter 5 lays the foundations for the conceptual framework. The two chief psychological frameworks of conducting research, cognitive and behavioural psychology, are explained identifying their theoretical strengths and weaknesses. The chapter deals with the theoretical basis of the Behavioural Perspective Model (the contextual stance/ extensional language) and moves one step further to support the importance of intentional terms in the study of human behaviour as proposed by the work of Foxall (Foxall, 2004; 2007a; 2007b; 2008; 2013).

**Chapter 5:** The framework proposed by Mehrabian and Russell (1974) (discussed in this study as the MR approach) has evolved into one of the most useful approaches to examining environmental and situational influences on behaviour. Chapter 5 places the model among other theories of emotional ascription, summarises the initial work on the development of the model and extends to recent approaches utilised for its application. The ways this framework has found application in the examination of the BPM is discussed.

**Chapter 6:** The conceptual understanding developed in chapter 6 is one of the main contributions of this study. The chapter provides a novel proposition on the nature and treatment of confusion. It then places this idea in the frameworks of the extensional and the intentional behavioural perspective model (BPM-E/ BPM-I). Consumer confusion has been proposed to be a case of self-based rule, better understood as a rule about the lack of rules (in this case weak (*-similarity confusion*) or complicated (*-complexity confusion*))

rules that can impede behaviour), and more specifically a case of track. Tracks are rules resulting from the state of affairs (or environmental affairs). This construct is then placed and explained in terms of both the aforementioned models, specific research hypotheses were developed and research was conducted based on this novel framework.

**Chapter 7:** Chapter 7 on research methodology placed this research into the philosophical boundaries of intentional behaviourism and methodologically described it as a quantitative study. A quantitative survey possesses a prominent role over the qualitative element, which has a supportive/ pilot role to facilitate the process of questionnaire development. The results of the small scale exploratory pilot study were incorporated/ presented in this chapter. These findings, enriched with appropriate theoretical arguments, indicate the more suitable and free from other traits conceptualisation of confusion as used in this study.

**Chapter 8:** Chapter 8 is concerned with the analysis of the survey/ quantitative data. Several different uni- bi- and multi-variate statistical tests have been used in the exploration of the data.

**Chapter 9:** This chapter offers further data insights and juxtapose present findings with previous studies. The possibility of establishing socio-demographics as a viable segmentation basis for confused consumers was examined. Further to that, the results of this study were compared with previous findings. Tables 9.7 and 9.9, where all findings of the studies of the BPM have been compiled, has been helpful in describing that the high technology market seems to differ considerably from the contingency category 7 '*routine purchasing*' and especially in terms of informational and utilitarian reinforcement it is characterised by the operant class of '*hedonism*'.

**Chapter 10:** This is the final chapter of this thesis. Findings are discussed and interpreted based on the main theoretical assumptions of this study, the principles of the BPM. Additionally, results are illuminated based on other theoretical approaches. In light of this chapter several alternative venues for research are proposed.

### ***10.5.2. Objective Driven (and Overall) Contribution***

Following this examination of the contributions of each chapter of this study the overall contribution should be understood as having multiple levels in accordance with this study's objectives.

1. This has been the first attempt to explain an interesting phenomenon like confusion from a behavioural perspective and apply the principles of this stream of research (especially rule-governed behaviour) to the understanding of its study.
2. Although the literature on consumer confusion lacks deeper knowledge of the emotional implications of confusion (Mitchell et al., 2005), the PAD measurement of emotional reactions to environments has been used in its alternative conceptualisation of the utilitarian, informational reinforcement and behaviour setting scope of situations/settings. This is a proven capacity of the measurements of the PAD to represent these concepts as proved by research on the BPM contingency matrix (Foxall, 1997b and all subsequent research). Based on these ideas relationships between confusion and the PAD and behavioural elements have been described. The theoretical positioning of this thesis allows for the elucidation of the relationships in an alternative theoretical manner. For instance, the relationship between confusion and dominance has taken the argument a step further by extending the idea that consumers feel helpless when confused and adding the dimension of closeness (meaning that other agents have more power over the self in a situation) in the understanding of this relationship.

3. This study further provides theoretical support and validation of a recently developed scale of consumer confusion<sup>17</sup> through its application and testing in a contextual manner and in a different array of consumers.
4. Corroborating research objectives, both similarity and complexity confusion along with pleasure (utilitarian reinforcement) and arousal (informational reinforcement) have been proved to determine especially avoidance and aminusa behaviour. This indicates that the integration of confusion in both the BPM-E and BPM-I, as either an aversive consequence or a summate of the consumer situation and learning history indicating the personal level of explanation is supported by the data and acts as one of the most important contributions of this study. The implications of this finding not only for the study of the BPM but also the extant theory on consumer emotions have been analysed before.
5. This study has then achieved the exploration of the two alternative models that are offered to researchers to study consumer behaviour, the BPM-E and the BPM-I.
6. Methodologically, enough evidence is provided to demonstrate the responsiveness of the original PAD and behavioural scales to retail environments and an online survey methodology.

## 10.6. Limitations and Directions for Future Research

Wells (2001) argues that both marketers and government officials need theory that they can trust and need to know the way that '*real consumers make real decisions*'. This study has adopted all measures in order to satisfy this demand by producing reliable and valid results from real consumers (see chapter 7 on sampling techniques and methodological choices to ensure validity and reliability, and chapter 9 on comparison of the present

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<sup>17</sup> Confusion scale developed by Walsh et al., 2007.

results with previous studies). As one of the few attempts for the incorporation of intentionality (and especially individual intentionality) into the Behavioural Perspective Model many opportunities for future research are offered (both in terms of replications and theoretical and empirical debates and extensions).

It might be objected that one of the limitations of this study lies with the fact that consumers were asked to report their emotional and behavioural responses as reactions to descriptions of situations and not as responses to actual situations. This should not be perceived as a limitation of the study but rather an informed choice based on some of the theoretical implications of the model and the understanding developed. This is once again the same case as described before<sup>18</sup> against the use of more technologically advanced approaches like slides/photos/videos, because these impose a specific setting to consumers. The use of actual/real situations could force consumers to respond to the specific circumstances they face rather than express their overall understanding in terms of a learning history. That means that if a participant was asked to answer the questionnaire outside a grocery store and having already spent for example twenty minutes to ensure a parking place, then this participant would be more likely to report more negatively for the case of grocery shopping rather than when answering uninterrupted at any other time of the day- where a learning history and intentionality would be put to the fore. As Donovan et al., (1994, p. 292) explain the problem with in store emotional measurements is that such measurements might reflect feelings *brought to* the environment rather than *induced by* that. Thus the use of shopping descriptions is essential and desirable for the requirements of this study. In case future research intents to re-focus on the connections between the MR model and confusion, a re-examination of

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<sup>18</sup> Refer to chapter 7.

the variables in actual situations or following real shopping experiences would be useful in determining the way the model responds in such a different theoretical and research background.

### ***10.6.1. Limitations***

Notwithstanding the above noteworthy elements that establish the ‘goodness’ of this research, the approach can be said to be somewhat limited in the following respects:

1. **Use of the descriptions of two shopping situations** (in the future more situations could increase the results’ generalisability). The fact that only two shopping situations were used has been a problem at two levels: a) this research is based on two situations which might point to some limited scope. Some of the results might require further elaboration and testing in more situations. For example the role of dominance in behavioural determination as discussed above might differ when more situations are examined. More markets could further provide a better depiction of confusion as an extensional and intentional construct and could allow for a more meaningful comparison of situations. b) Both of the situations examined are part of today’s open market and although are expected and actually found to differ significantly, these are still rather close to each other in terms of the levels of PAD, confusion and experience. The expectations on the results variability cannot be the same as when eight diverse situations as proposed by the original BPM are examined. For example situations like being at work related conditions on the one hand and being at an exotic island on holidays at the other are the kind of situations that are more likely to both create stronger and more diverse emotional experiences (both positive or negative), which would facilitate the process of establishing differences and bigger diversity in the dataset. Bigger variability in the dataset could also result in higher and stronger correlations among the constructs, which might be somehow restricted in this case.

The case that consumer/shopping situations on average are not the kind of contexts that could create extreme emotional experiences has been discussed in the past and several researchers have proposed some measures, like the application of appropriate scales which have been developed specifically for consumer contexts- e.g. Richins, 1997; Huang, 2001 to solve this issue rather than measures of general psychology (this discussion should of course leave aside cases of consumers' intense emotional reactions like extreme anger or rage- Bougie et al., 2003; McColl-Kennedy, et al., 2009).

**2. Respondents:** Overall the sample characteristics were based on a quota sample in accordance with the UK population mainly in terms of age, gender and other socio-demographics. The main aim has been to reach a cross-section of diverse consumers with varied experiences in the market place which would establish more variability in the answers provided. However, several minorities with specific characteristics like for example less advantageous consumers or those who might not have an internet access might not be part of this sample. Although as discussed in the methodology chapter the overall internet reach especially in the UK is at a more than satisfactory level, the problem of reaching specific populations remains, but the influence in this research should be perceived the same as with any other form of collecting survey data. Finally, the conduct of the research in one country can be considered as limiting the generalisation of the findings across other populations, cultures and countries with different retail and market conditions.

**3. Measurement of actual behaviour:** This study has used consumer verbal responses to consumer situations. However more research would be desirable to compare reported responses with the actual consumer behaviour. One of the most well known research approaches that can facilitate report of actual behaviour is the use of

diaries (Bolger et al., 2003; Alaszewski, 2006). Although the behaviour in dairies is still ‘reported’ and not observed, it is still reported much closer to the actual experience. Participants of future studies could keep a diary of their emotional and behavioural responses during or following *repeated* shopping occasions. This pattern of the emotional values of these consumers would then be interesting to be correlated with their reported confusion levels. This approach could help the creation of a more accurate depiction of consumers’ emotional and behavioural responses, which would be based on repeated patterns of experiences. Such a study is very difficult to be implemented due to the level of resources and participation required which is difficult to be achieved (a main problematic area with diary studies has been described as the low response rate achieved- Alaszewski 2006).

### ***10.6.2. Directions for Future Research***

Many areas which arise from this study merit further research and these will be described in more detail in this section. On the grounds of this study’s limitations and following the overall evaluation of this research, measures of the actual consumer behaviour would be an interesting avenue for future research as described in the previous section of research limitations.

Further to that, in support of the replication stream of research in marketing, the present study should be replicated with additional samples, retail/shopping situations and cultures in order to determine if the findings are consistent in other settings. As countries and cultures tend to differ a lot in terms of the arrangement of their retail settings, the maturity of the retail system but also in terms of the value placed on consumerism, it would be interesting to learn more about the role of consumer confusion in such different consumer environments.

In terms of the implications of this research for the study of the BPM, the results indicate the relevance and necessity to expand the model in two directions. The first direction is the use of additional, alternative situations which extend beyond the original contingency categories and predetermined consumer situations used until recently. The second direction is the addition of other elements beyond the utilitarian and informational components. This can be translated to further attempts to incorporate more situational aversive consequences that are meaningful in other environments. Until recently aversive consequences have been incorporated in terms of the cost of buying and now in terms of consumer confusion but in alternative settings other aversive elements could be meaningful.

Regarding the framework of rule-governed behaviour, multiple gains are to be attained if 1) more research treats confusion as a case of track and 2) more constructs, like confusion, are treated at the level proposed by this study. This treatment based on rule-governed behaviour could extend their understanding, theoretical implications and allow their incorporation in more theoretical construals. Specifically for confusion, the application of the framework of rule-governed behaviour allowed an alternative understanding for the construct to be developed which facilitated its use in a behavioural model. The incorporation of confusion in the BPM pointed to the necessity to examine the construct further and established an alternative view of the relationship of confusion with the emotional and behavioural responses. The relationship proposed and examined by this study goes beyond the usual claim that emotional responses are expected to mediate the relationship between confusion and behavioural responses; the nature of this relationship is evidently worth of further investigation in its own right.

Further to that, a meaningful philosophical, academic debate on the applications of intentionality in the study of behaviourism is desirable. This study has indicated some

avenues for the application of this framework in the study of the BPM. However as the framework of intentionality is an evolving topic of interest, meaningful discussion can take effect, especially regarding the role of intentionality, the role of rule-governed behaviour and the use of the learning history and consumer situation as starting points for further theoretical development.

Finally, future research should focus more extensively on the relationship between confusion and arousal, which seems to carry many levels of theoretical significance. Based on the finding that measures of confusion do not seem to respond to the measure of arousal as proposed by the PAD model, it would be relevant to vary both the way confusion is determined (possibly towards a direction pointed by psychological research<sup>19</sup>) and that of arousal and extend the measurement to other relevant indicators of arousal like extraversion, neuroticism, sensation-seeking and the Type-A behaviour pattern (see Furnham, 1984).

Finally, regarding the issue of dominance this study has proposed the possibility that a further classification of retail situations (pointing to the differences between pleasant and unpleasant settings) might be required for the more meaningful study of dominance.

## 10.7. Conclusion and Reflections on the Study

This last section deals with the main personal motivation behind this study along with publication targets and reflections on the research experience.

The initial motivations behind this thesis have been multiple. A personal concern with the general topic of consumerism and the implications of our complicated industrial world on what has been widely called as consumer well-being (although even the most superficial examination of the relevant literature clearly indicates that no consensus has been reached

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<sup>19</sup> Refer to p. 116 (chapter 6).

on this topic either- see the differing approaches on hedonic and eudemonic wellbeing at Ryan & Deci, 2001) has been among the first issues that led to the implementation of this study. Beyond this issue, a further personal, theoretical interest in the formation and structure of human emotions has turned the interest towards consumer confusion. The idea of consumer confusion implicates both the elements of consumerism and emotional ascription and was perceived as one of the areas that allowed for further empirical inquiries. Finally, the underpinnings of the Behavioural Perspective Model and its extension towards a novel intentional understanding and way of doing research (Foxall, 2004) offered an unparallel opportunity for exploration.

In order to extend on the aforementioned issue, an examination on the nature of confusion has revealed several critical issues of interest. Based on an examination of the relevant psychological research confusion seems to belong to a group of entities that possess both informational and affective value. It has been examined in the past mainly in terms of its relative position based on the debate regarding the nature of entities as affective, cognitive or volitional. In the consumer behaviour literature several conceptualisations of consumer confusion have been proposed, starting from confusion attributed to the variety of products and information and their similarity. An issue that is very much discussed in the relevant literature but lacks conceptual and practical research attempts has been the implications of confusion for consumers' emotional and behavioural reactions. In addition, the literature has reached a point where alternative propositions and debates on the nature of the construct have not been proposed and the literature seemed to be reaching a possible stalemate where no new ideas had been introduced or examined.

The other issue of core concern has been the inclusion of cognitive and intentional aspects to the study of the Behavioural Perspective Model (as described by Foxall, 2004). This integration and extension took the form of rule-governed behaviour (Foxall, 2013). This

study has above all laid the foundations towards a bridging of differing, incommensurable by some, paradigms of studying human psychology and behaviour. By bringing together the behavioural and intentional understanding, this is not a way to advocate an '*epistemological anarchism*' (for example Feyerabend, 1993). Rules for the superior application of intentional behaviourism have been proposed in previous literature (e.g. Foxall, 2004; Foxall, 2013). Such rules will be better laid and understood in the future following the more extensive study of intentional behaviourism. As a result of the application of these principles to other novel situations and constructs a better understanding can be achieved. For all these reasons this study is both *unique* and a *starting point* for further research attempts. As always there are some limitations with this study; when these are faced as opportunities rather than as problematic areas per se, then the outcome is new interesting prospects for future research. This is why the limitations of this study were presented along with directions for future research.

On all of these grounds, this study should not be perceived as a final destination but rather as setting the example for future endeavours. As a result of this research journey, the following approximate publication targets have been set:

- the second theoretical chapter of this thesis is suitable for journals like '*Emotion*' or '*Cognition and Emotion*',
- the third chapter is '*a state of the art*' literature review on confusion in consumer behaviour for journals like '*Journal of Consumer Behaviour*',
- the theoretical contribution of this thesis on the idea of confusion as self-based rule/ anomaly fits a journal like '*Marketing Theory*',
- the empirical findings on confusion and socio-demographic characteristics in a journal like '*Marketing Intelligence and Planning*' and obviously,

- the empirical incorporation of confusion in the BPM supported by the data in journals like '*Journal of Business Research*' and as a chapter in edited books on consumer behaviour analysis.

As a personal and professional undertaking this study has been painful but worthwhile. The examination of the relevant literature on emotions and the BPM and identifying theoretical connections has been a part of this thesis, working with a research agency and learning from the process of research project management has been another valuable lesson. Above all else it is the journey that makes the goal meaningful and there is nothing analogous to a PhD level education to prove that.

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## 12. APPENDIX

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## Appendix 1

**Table 1.1: Selected studies related to consumer confusion (presented in chronological order based on the year of publication).**

Conceptual and empirical papers	Type of paper	Core Aim	Conceptualisation of consumer confusion	Quasi-Conceptualisation	Area/Focus	Key areas of study		
						Confusion triggers	Consumer characteristics	Confusion consequences
Jacoby, Speller, & Kohn, 1974a	Empirical	Examine the information overload implications for brand choice in a consumer context.		‘...feeling of confusion, of not having obtained the best buy, and feeling that another brand was better.’ (p. 66)	Overload confusion	+		
Miaoulis & D'Amato, 1978	Empirical	Examine the research issue of consumer confusion tailored to a specific type of trademark infringement problem (the Tic-Tac case).	‘We take the position here that confusion is in effect stimulus generalization.’(p. 49)		Brand confusion	+		
Loken et al., 1986	Empirical	To test whether similarity in physical appearance between two brands influences consumer perception of a common business origin.	‘(...) physical similarities between products may result in the misattribution of source of origin or identity by the consumer.’ (p. 196)		Brand confusion	+		

<b>Sproles &amp; Kendall, 1986</b>	Empirical	<p>Conceptualise eight basic consumer decision-making characteristics and develop a <i>Consumer Inventory Style</i> to measure them empirically. Confused by over-choice consumer is one of these styles.</p>	<p>‘Consumers perceive many brands and stores from which to choose and have difficulty making choices. Furthermore, they experience information overload.’ (p. 274)</p>	Consumer confusion +
<b>Poiesz &amp; Verhallen, 1989</b>		<p>Similarity in advertisements and commercial messages.</p>	<p>‘Brand confusion is a phenomenon that occurs at the individual level (...) and is predominantly non-conscious in nature.’ (p. 233)</p>	Brand confusion (in advertising)
<b>Foxman et al., 1990</b>	Empirical	<p>Examines individual characteristics as an indication of predisposition to confusion and why some consumers appear more likely to become confused than others.</p>	<p>‘(...) consumers who are misled clearly are confused’(p. 172)</p>	Brand confusion +

<b>Foxman et al., 1992</b>	Conceptual	<p>A definition and theoretical framework for consumer brand confusion are developed, broadening the concept of brand confusion.</p>	<p>'(...) consists of one or two errors in inferential processing that lead a consumer to unknowingly form inaccurate beliefs about the attributes or performance of a less known brand based on a more familiar brand's attributes or performance.' (p. 125)</p>	Brand confusion	+	+
				Brand (imitation) confusion	+	
<b>Kapferer, 1995</b>	Empirical	<p>Test for the presence of confusion caused by lookalikes by means of a tachistoscopic experiment.</p>	<p>'(...) close imitation of a national brand (...) on the basis of which consumers may make inferences and attributions of similarity of use, of content, if not of origin.' (p.551)</p>	Brand confusion	+	
<b>Rafiq &amp; Collins, 1996</b>	Empirical	<p>Exploratory study investigating the effects of look-alike own brand products on the possibility of consumer confusion in the grocery sector.</p>	<p>'Brand owners have claimed that look-alike own label products confuse consumers' (p. 329)</p>	Brand confusion		
<b>Balabanis &amp; Craven, 1997</b>	Empirical	<p>An exploratory investigation of consumer confusion caused by look-alike own brand products (p. 300)</p>	<p>'(...) suggest that shoppers under different (...) circumstances are likely to become confused by lookalikes'.</p>	Brand confusion		

<b>Kohli &amp; Thakor, 1997</b>	Conceptual	Provide a framework, helpful in the brand name creation process.	'(...) confusion, when consumers may pick confusingly similar names, instead of the target names.' (p. 213)	Brand-name confusion	+	+
<b>Mitchell &amp; Papavassiliou, 1997</b>	Empirical	Sources of confusion in the watch market and empirically describe how buyers cope with it.	No clear definition provided. Conceptualising confusion through a portrayal of its antecedents (p. 165)	'(...) confusion from over choice (...). These features can overload consumers who are often confused about how to use these features for their benefits'. If someone other than the owner were to use a trademark, there would be the possibility that such use (by the second or junior user) could cause consumers to be confused regarding who actually makes the product.' (p.97)	Consumer confusion	+
<b>Jacoby &amp; Morrin, 1998</b>	Conceptual	Review several trademark infringement cases (1994–1997) and make observations regarding trends in this domain and areas for further research.			+	
<b>Huffman &amp; Kahn, 1998</b>	Empirical	Provide an understanding of how retailers should expose customers to product information	'The huge number of potential options (...) may be confusing' and 'The confusion a consumer experiences with a	Confusion caused be extended assortments	+	+

<p>(attribute-based or alternative-based) particularly in a high variety situation.</p> <p>wide assortment of options, however is due to the perceived complexity, not necessarily to the actual complexity or variance.' (p. 492-493)</p>	<p><b>Mitchell &amp; Papavassiliou, 1999</b></p> <p>Conceptual</p> <p>Conceptual paper which initiated a holistic consideration of consumer confusion.</p> <p>'Confusion is more than subconscious mistakes; it is a state of mind which affects information processing and decision making. The consumer may therefore be aware or unaware of confusion.' (p. 327)</p>	<p>Consumer confusion</p> <p>+</p> <p>+</p> <p>+</p>
<p><b>Chryssochoidis, 2000</b></p> <p>Empirical</p> <p>Examines the influence of consumer confusion on late introduced differentiated products using data regarding organic food products.</p> <p>'(...) confusion is defined as a situation in which consumers form inaccurate beliefs about the attributes or performance of a less known product as they base themselves on a more familiar product's attributes or performance.' (p. 705)</p>	<p>Product confusion</p> <p>+</p> <p>+</p> <p>+</p>	
<p><b>Turnbull et al., 2000</b></p> <p>Empirical</p> <p>Identify the extent of consumer confusion and understand its impact on both the mobile phone industry and its</p> <p>'(...) consumer confusion is defined as consumer failure to develop a correct interpretation of various facets of a product/service, during the information processing procedure.'</p>	<p>Consumer confusion</p> <p>+</p> <p>+</p>	

<b>Mitchell &amp; Kearney, 2002</b>	Conceptual	<p>consumers. (p. 145)</p> <p>'Consumer confusion concerns a type of subjective experience (i.e. an unpleasant state of mental discomfiture) relating to an object, usually a brand, that affects the overall evaluation of that object. Thus, we argue that consumer confusion is an attitude and as such can be viewed as having behavioural, cognitive and affective components (...)' (p. 357)</p>	Brand confusion	+
<b>West et al., 2002</b>	Empirical	<p>Consumer confusion over the significance of meat (veal) attributes.</p>	<p>Confusion is used at the general level without specifically defining it e.g. 'confusion over the significance of extrinsic labelling of production method appeared to be greater than confusion over the significance of colour.' (p. 83)</p>	Consumer confusion
<b>Liefeld, 2003</b>	Empirical	<p>To investigate the validity of survey methods estimating the likelihood of confusion (in cases of</p>	<p>Brand similarity and confusion (trademark infringement cases)</p>	+

		trademark infringement)				
<b>Schweizer, 2004</b>	Empirical	To introduce and test a consumer confusion framework based on the principles of environmental psychology.	'Consumer confusion is an emotionally laden, dysfunctional state of mind, which makes it difficult for consumers to efficiently and effectively select and interpret stimuli.' (p. 34)	Consumer confusion	+	+
<b>Mitchell et al., 2005</b>	Conceptual	Form a conceptual model of consumer confusion based on relevant theory and previous studies.	Proposed a conceptual model of consumer confusion '(...) conceptualizing confusion as having three consequences i.e. cognitive, affective and behavioural, which we suggest are positively correlated, irrespective of the antecedents' confusion experienced.' (p. 143)	Consumer confusion	+	+
<b>Walsh &amp; Mitchell, 2005</b>	Empirical	Develop a parsimonious scale for measuring consumers' orientation for inferring that all products within a category are similar and identify consumers vulnerable to it.	'(...) in this case is the mistaken purchase, misuse, misunderstanding, or misattribution of various product attributes caused by thinking that products are similar when they are different.' (p. 140)	Product (similarity) confusion	+	+

<b>Schweizer et al., 2006</b>	Empirical	<p>Develop a relevant scale of consumer confusion based on the principles of environmental psychology. The aim has been to investigate all possible confusion triggers.</p> <p>‘(...) we define the phenomenon as a result of a temporary exceedance of an individual capacity threshold for absorbing and processing environment stimuli. Consumer confusion is an emotional state that makes it difficult for consumers to select and interpret stimuli.’ (p. 185)</p>	Consumer confusion	+	
<b>Walsh et al., 2007</b>	Empirical	<p>Conceptualise consumer confusion proneness, provide 1. a new scale to measure it and 2. empirical evidence on how it affects consumer behaviour.</p> <p>‘Consumer confusion proneness is a multidimensional phenomenon (similarity, ambiguity and overload confusion proneness) that has a significant impact on purchase postponement and loyalty behaviour.’ (p. 713)</p>	Consumer confusion	+	+
<b>Walsh &amp; Mitchell, 2010</b>	Empirical	<p>Access the effect of consumer confusion proneness (see Walsh et al., 2007) on word of mouth, trust and consumer satisfaction.</p> <p>‘Consumer confusion proneness is a multidimensional phenomenon (similarity, ambiguity and overload confusion proneness) that has a significant impact on purchase postponement and loyalty behaviour.’ (based on Walsh et al., 2007)</p>	Consumer confusion	+	+

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<b>Kasper et al., 2010</b>	Empirical	<p>The paper investigates whether consumers who face different degrees of confusion use different coping strategies depending upon their decision-making styles.</p>	<p>'Thus in our conceptualisation, consumer confusion is a self-reported overload, and as such a conscious phenomenon.' (p. 142)</p>	Overload confusion	+	+

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Source: this study. Adapted and extended from Mitchell et al., 2005.

## Appendix 2

**Table 2.1: Rule-Governed Behaviour- Units of Analysis**

Case I: Speaker and Listener as separate individuals		
<i>Units of speaker behaviour</i>	<i>Description</i>	<i>Example/ Notes</i>
<b>Tacts</b>	A verbal operant in which a response of given form is evoked or strengthened by a particular object or event or their properties.	e.g. 'That's a chair'. A chair remains a chair regardless of my needs or desires. A tact is not the same as naming or referring to. A tact requires direct experience, it is experiential.
<b>Mands</b>	A verbal operant in which the response is under the control of conditions of reinforceability in the speaker and of antecedents indicating an availability of a relevant consequence.	e.g. A person enters a room and wanting to sit down says: 'a chair'. A chair is then brought forth by a listener. A mand is then reinforced by characteristic listener-mediated consequences.
Note: Tacts often look like descriptions (that's water) and mands often look like requests (bring me water).		
<i>Units of listener behaviour</i>	<i>Description</i>	<i>Example/ Notes</i>
<b>Pliance</b>	Rule-governed behaviour primarily under the control of apparent speaker-mediated consequences for a correspondence between the rule and the relevant behaviour.	The rule itself is called a <b>Ply</b> . Drawn from the world compliance. e.g. A thief says: Your wallet or your life. The listener hands the thief the wallet. They imply an expected action from the listener and might contain words like would and should.
<b>Tracking</b>	Rule-governed behaviour under the control of the apparent correspondence between the rule and the way the world is arranged.	The rule itself is called a <b>Track</b> . Drawn from following a path. e.g. An advice: The way to get to Cardiff is through M4.
<b>Augmenting</b>	Rule-governed behaviour under the control of apparent changes in the capacity of	The rule itself is termed <b>Augmental</b> . It suggests a changed or heightened state of

	events to function as reinforcers or punishers.	affairs. e.g. A child that follows the rule 'Eat vegetables and you will be a strong boy' because of the future consequence of becoming a strong boy follows an augmental (Törneke et al., 2008)
<b>Case II: Self-rules</b>		
<b>Self-pliance</b>	It occurs when we act as if the rule is to be followed simply because it has been formulated.	e.g. No matter what happens, I am never going to speak to a woman again- even if I know she's good for me.
<b>Self-tracking</b>	When we act as if the rule is to be followed because it is a description of the state of affairs.	e.g. I think Ann dislikes me. I will ignore her and that way, I will not get hurt.
<b>Self-augmenting</b>	When the speaker attempts to induce emotional changes in themselves.	e.g. A woman who is ambivalent about having an abortion, might repeat to herself poems and songs to be able to reach an easier decision.

Source: Explanations, examples and notes are taken from Zettle & Hayes, 1982, p. 79-92. The information is here summarised and presented in a table format.

## Appendix 3

**Table 3.1. Comparison of quantitative and qualitative research approaches**

	Quantitative	Qualitative
<b>General framework</b>	<ul style="list-style-type: none"> <li>➤ Seek to examine hypotheses about phenomena.</li> <li>➤ Instruments use more rigid style of eliciting and categorising responses to questions.</li> <li>➤ Use structured methods such as questionnaires, surveys and structured observations.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Seek to explore phenomena.</li> <li>➤ Instruments use more flexible, iterative style of eliciting and categorising responses to questions.</li> <li>➤ Use semi-structured methods such as in-depth interviews, focus groups, and participant observation.</li> </ul>
<b>Analytical objectives</b>	<ul style="list-style-type: none"> <li>➤ To quantify variation</li> <li>➤ To predict relationships.</li> <li>➤ To describe characteristics of the population.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To describe variation.</li> <li>➤ To describe and explain relationships.</li> <li>➤ To describe individual experiences.</li> <li>➤ To describe group norms.</li> </ul>
<b>Question format</b>	<ul style="list-style-type: none"> <li>➤ Closed-ended</li> </ul>	<ul style="list-style-type: none"> <li>➤ Open-ended</li> </ul>
<b>Data format</b>	<ul style="list-style-type: none"> <li>➤ Numerical</li> </ul>	<ul style="list-style-type: none"> <li>➤ Textual</li> </ul>
<b>Flexibility in study design</b>	<ul style="list-style-type: none"> <li>➤ Study design is stable.</li> <li>➤ Participants' responses do not influence or determine how and which questions researchers ask next.</li> <li>➤ Study design is subject to statistical assumptions and conditions.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Some aspects of the study are flexible (e.g. the wording of questions depending on the situation).</li> <li>➤ Participants' responses influence how and which responses to be asked next.</li> <li>➤ Study design is iterative.</li> </ul>

Source: Mack et al. 2005, p. 3

## Appendix 4

**Table 4.1: Pilot Test 2- Sample demographic profile.**

**Sample (n=56)**

		<b>n</b>	<b>%</b>
Gender	Males	22	39.3
	Females	34	60.7
Age	18–24	1	1.8
	25–34	16	28.6
	35–44	9	16.1
	45–54	13	23.2
	55–64	16	28.6
	65+	1	1.8
Higher completed education	GCSE/ A-levels	4	7.1
	Vocational or Technical School	1	1.8
	Higher Education	16	28.6
	Postgraduate Degree	35	62.5
	Other	-	-
Ethnic Group	White	46	82.1
	Mixed	3	5.4
	Asian (Asian British)	5	8.9
	Black (Black British)	1	1.8
	Other	1	1.8
Working Status	Employed full-time (30+ hours per week)	42	75
	Employed part time (less than 30hours per week)	13	23.2
	Unemployed	-	-
	Student	1	1.8
	Retired	-	-
	Self-employed	-	-
	Housewife/husband	-	-
Household Size	1 person	13	23.2
	2 person	20	35.7
	More than 2 persons	23	41.0
Channel for buying groceries	In store	50	10.7
	Online	6	89.3
Channel for buying PC/laptops	In store	23	58.9
	Online	33	41.07

Source: this pilot study

## Appendix 5

**Table 5.1. Count and percentages of missing items**

	N	Missing	
		Count	Percent
P1	520	0	.0
P2	520	0	.0
D1	520	0	.0
P3	520	0	.0
A1	520	0	.0
P4	520	0	.0
P5	520	0	.0
P6	520	0	.0
A2	520	0	.0
D2	519	1	.2
A3	520	0	.0
A4	520	0	.0
D3	520	0	.0
A5	520	0	.0
D4	519	1	.2
D5	519	1	.2
A6	519	1	.2
D6	520	0	.0
AP1	520	0	.0
AV1	516	4	.8
AP2	517	3	.6
AV2	517	3	.6
AP3	518	2	.4
AV3	516	4	.8
S1	520	0	.0
S2	520	0	.0
S3	520	0	.0
O1	520	0	.0
S4	520	0	.0
O2	520	0	.0
O3	520	0	.0
O4	520	0	.0
AM1	520	0	.0
AM2	520	0	.0
AM3	520	0	.0
AM4	520	0	.0
O5	520	0	.0
MEx1	520	0	.0
Age	520	0	.0
Gender	518	2	.4
Education	514	6	1.2
Ethnic group	520	0	.0
Household	514	6	1.2
Working status	518	2	.4
Buying groceries	510	10	1.9
Buying pc/laptops	518	2	.4

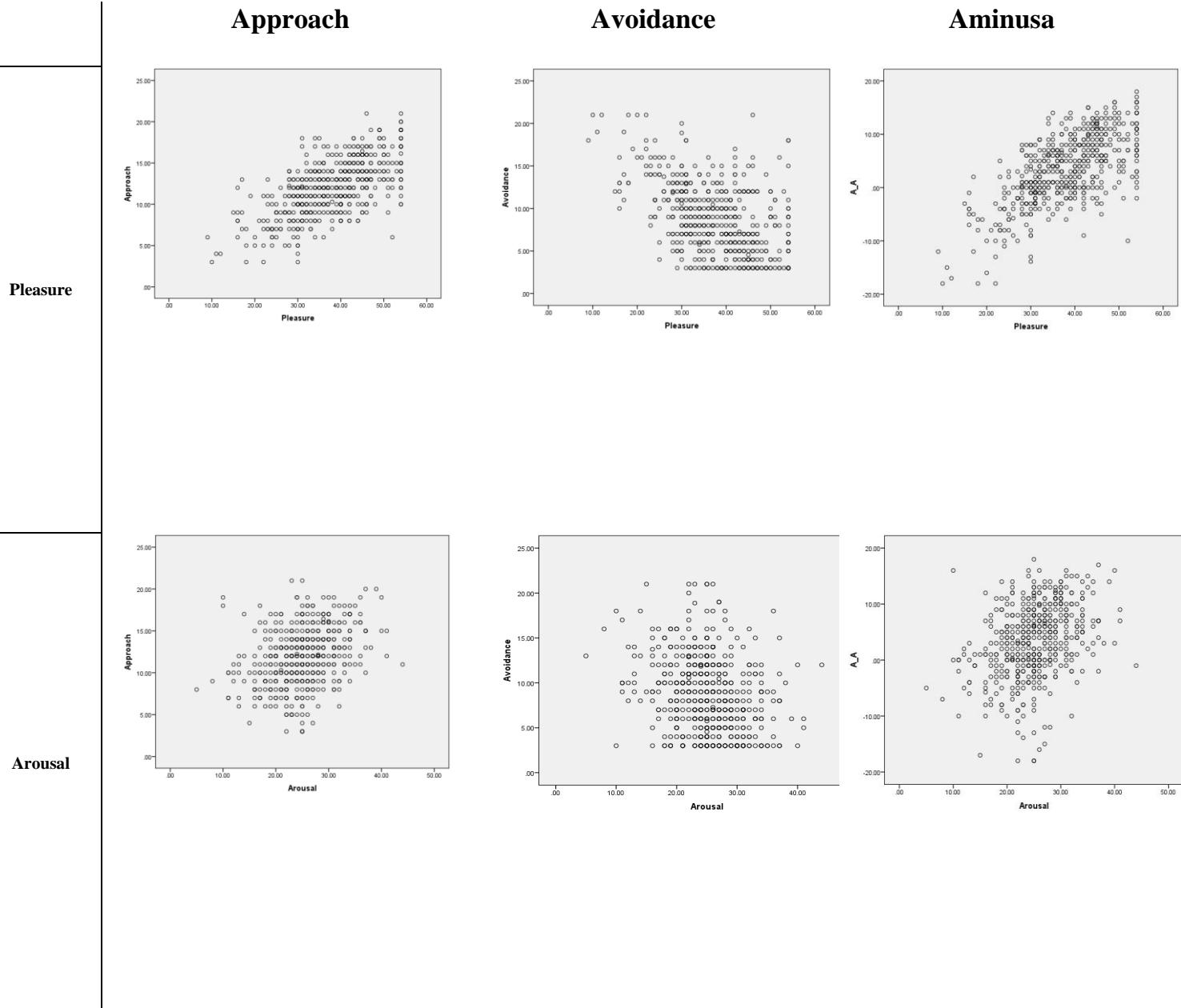
Source: this study

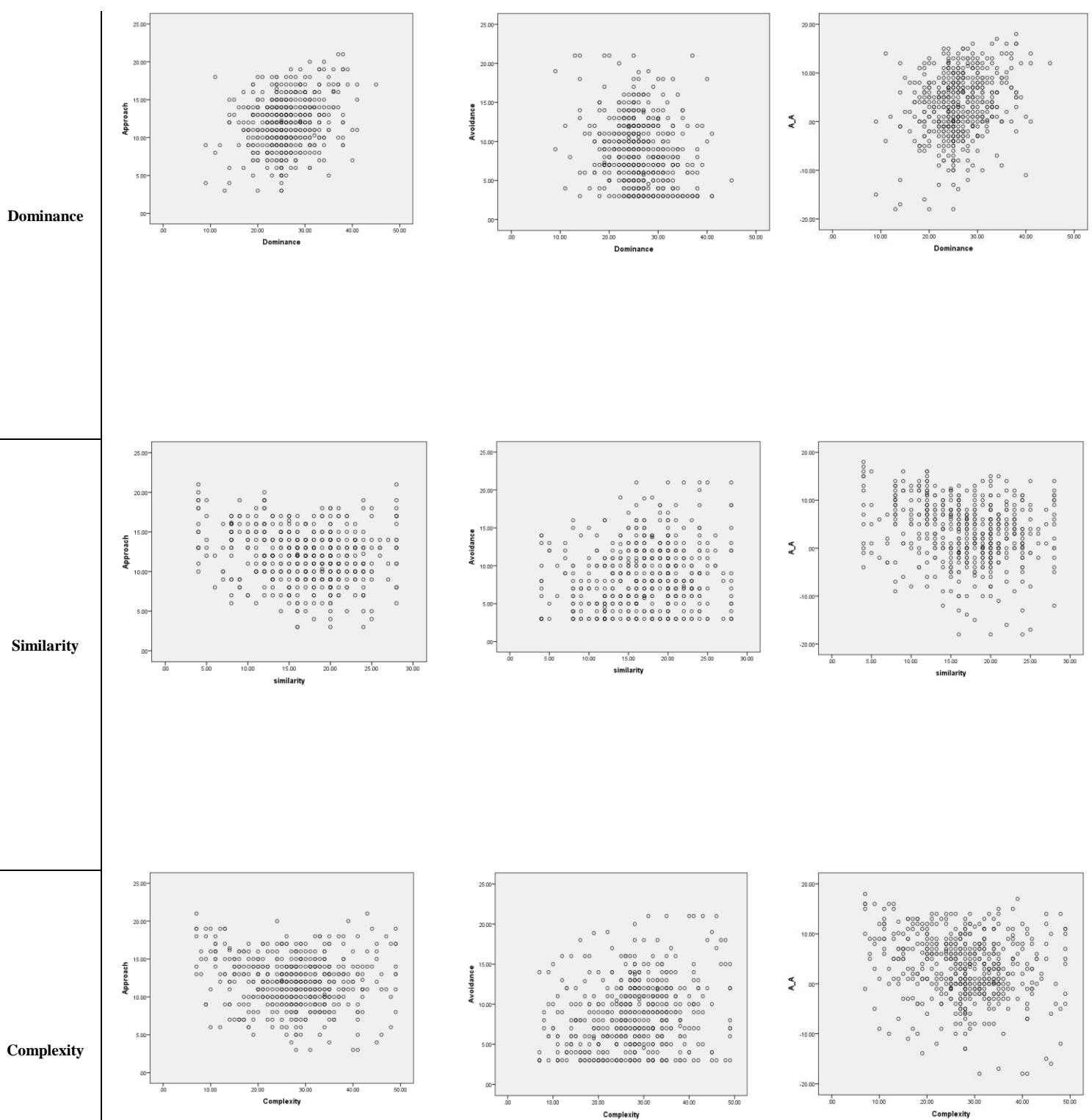
The number of missing data for the socio-demographics should be split in half, because the number of participants was 260. The number 520 represents replication of the participants for the second market. Thus only 1 case of gender, 3 of education, 3 of household size, 1 working status, 5 frequency of buying groceries and 1 of buying PC/Laptops is actually missing.

## Appendix 6

**Figure 6.1 Scatterplots of the relationships with the behavioural variables.**

The scatterplots indicate linear relationships.





Source: this study

## **Appendix 7. Research Questionnaire**

(The format of the questionnaire is not identical to the online format- colors/ fonts and font sizes are different).

Dear Sir/ Madam,

Thank you for considering taking this survey. This survey is part of a PhD research project at Cardiff Business School. The aim is to examine your feelings and responses towards two consumer shopping situations/markets. The completion of the survey should not take more than 15 minutes of your time.

There are two parts in this survey. In the first part you will be asked some general, socio-demographic information about yourself. In the second part, we will ask you to imagine you are in two shopping situations and then ask some general questions about them. The two situations are:

**Situation 1: Grocery shopping and Situation 2: PC/Laptop shopping.**

You do not need to be an expert buyer in any of the two situations in order to answer the survey. Some levels of previous exposure are however required.

Situations are called 1 and 2 for convenience and practical reasons. You might be asked to answer the questions of situation 2 first; this is not a problem. Please follow the instructions and flow of the survey, which will guide you through the questions.

### **Informed Consent (Cardiff Business School)**

This survey is part of a PhD research project at Cardiff Business School. The aim is to examine your feelings and responses towards two consumer shopping situations/markets. The completion of the survey should not take more than 15 minutes of your time.

The anonymity and confidentiality of this survey is fully guaranteed and all data will be stored securely. Your participation is completely voluntary and you can withdraw from the research at any stage during the completion of the questionnaire. You do not need to provide your name or address. You can, if you wish get a copy of findings of this research by emailing me at [AnninouI1@cardiff.ac.uk](mailto:AnninouI1@cardiff.ac.uk) (after May 2013).

The data collected will be used for academic purposes only. If the study is published, the information will be in aggregate form and it will not be identifiable as yours. Your data are completely anonymous and are not possible to be deleted at a later point in time. You are free to discuss any concerns with Dr. John Pallister (Cardiff Business School) or Ioanna Anninou ([AnninouI1@cardiff.ac.uk](mailto:AnninouI1@cardiff.ac.uk)).

***Your sincere responses are necessary to ensure the success of this research. Please try to answer all questions.***

By completing and submitting this survey I agree to take part in the study by Ioanna Anninou (Cardiff Business School).

## Section A: About You.

*The information about yourself will help us put your answers in context.*

Your age (years)

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

Your gender

- Male
- Female

Your higher (completed) education level

- GCSE/ A-Levels
- Vocational or Technical School
- Higher Education (College, BSc)
- Postgraduate Degree (MSc, MA, PhD)
- Other. Please specify: \_\_\_\_\_

Your ethnic group

- White
- Mixed
- Asian or Asian British
- Black or Black British
- Chinese or Chinese British
- Other. Please specify: \_\_\_\_\_

Your household size

- 1 person
- 2 persons
- More than 2 persons

Your working status

- Employed full-time (30+ hours per week)
- Employed part-time (less than 30 hours per week)
- Self-employed
- Housewife/husband
- Unemployed
- Student
- Retired

I usually buy groceries

- Online
- In-store

I usually buy PC/Laptops

- Online
- In-store

### **Section B: Your feelings and opinions of shopping situations.**

Please take your time to think about the way you feel in each of the two situations and really describe your feelings and opinions towards them; then rate your degree of agreement with the questions that follow.

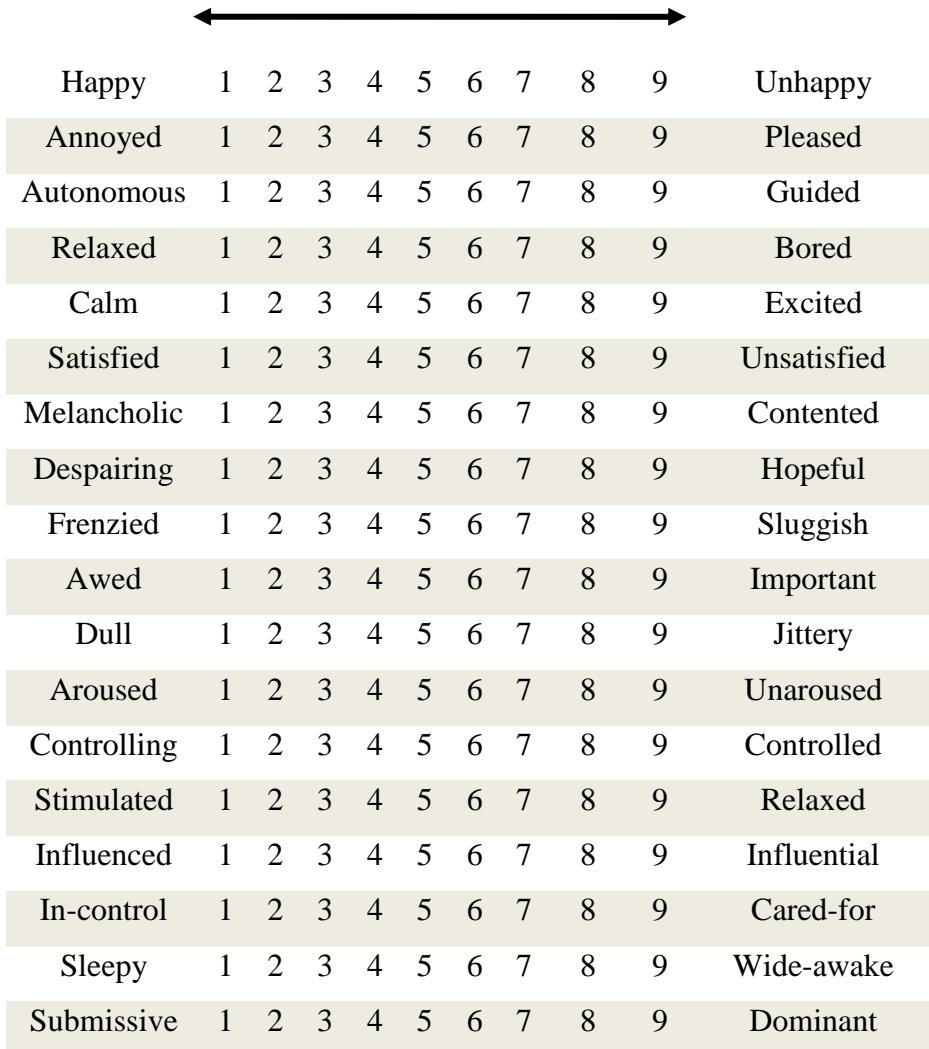
Remember that there are no correct or wrong answers. Please try to answer all questions.

### Situation 1: Grocery shopping.

For each pair of emotional words below, put a mark close to the word which you believe to better describe your feelings when grocery shopping. Some of the pairs might seem unusual, but you will probably feel more one way than the other.

In order to better describe your feelings you can imagine you are now in this situation.

***Imagine that you are doing your weekly shopping at a large supermarket and you go around the store with your trolley choosing any products you want from food to household detergents. While you are doing this, YOU FEEL...***



**Situation 1: Grocery shopping.**

Please choose your response to each of the following questions regarding grocery shopping.

1. How much time would you like to spend on each grocery shopping trip?

- None
- A few minutes
- Up to 30 minutes
- Up to 60 minutes
- More than one hour
- Many hours
- Many, many hours

2. How much would you try to get out of or avoid doing your shopping for groceries?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

3. Once in a grocery store, how much would you enjoy exploring around?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

4. Is grocery shopping a situation in which you might try to avoid other people, avoid having to talk to them?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

5. To what extend is grocery shopping a situation in which you would feel friendly and talkative to a stranger who happens to be near you?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

6. How much would you try to avoid any looking around or exploring in a grocery store?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

**Situation 1: Grocery shopping.**

Please choose the appropriate circle to indicate your agreement with the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
Some grocery products are so similar that it is often difficult to spot new products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some grocery brands look so similar that it is difficult to detect differences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most brands in a grocery store are very similar and are therefore hard to distinguish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The more I learn about grocery products, the harder it gets to choose the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some grocery brands look so similar that I don't know if they are made by the same manufacturer.	○	○	○	○	○	○	○
There are so many grocery brands to choose from that I sometimes feel confused.	○	○	○	○	○	○	○
There are so many stores to shop from that it is sometimes difficult to decide where to shop.	○	○	○	○	○	○	○
All the information I get on different grocery products confuses me.	○	○	○	○	○	○	○
Some grocery products have so many features that a comparison of different brands is barely possible.	○	○	○	○	○	○	○

When buying a grocery product I always feel well informed.	○	○	○	○	○	○	○
The information I get from advertising often is so vague that it is hard to know what a grocery product actually does.	○	○	○	○	○	○	○
When purchasing certain grocery products I feel uncertain about the product characteristics that are particularly important for me.	○	○	○	○	○	○	○
To me there are too many products to choose from in a grocery store.	○	○	○	○	○	○	○

**Situation 1: Grocery shopping.**

Please choose the appropriate circle to indicate your agreement with the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
Overall, I am experienced in shopping for groceries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Situation 1: Grocery shopping.**

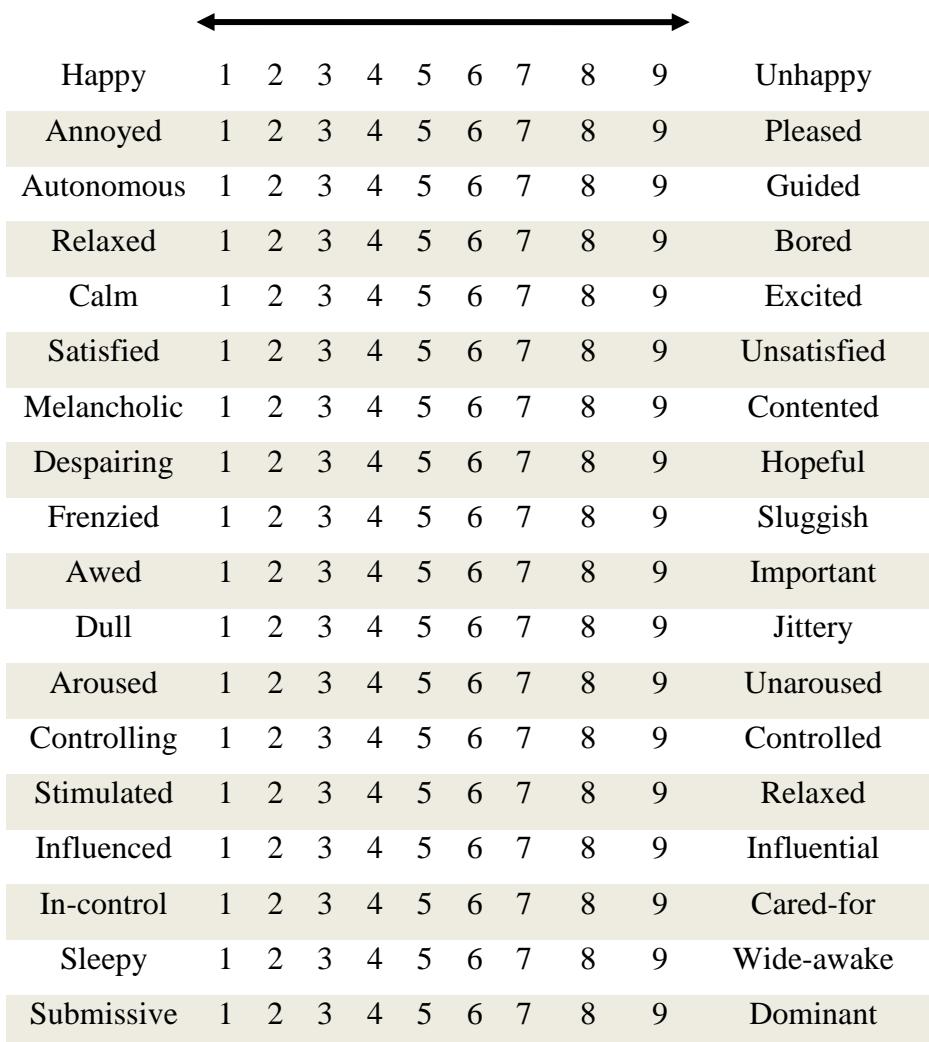
How often do you shop for groceries?

- Daily
- 2-3 times a week
- Once a week
- 2-3 times a month
- Once a month
- Less than once a month
- Never

## Situation 2: PC/Laptop shopping.

For each pair of emotional words below, put a mark close to the word which you believe to describe better your feelings when shopping for computing products, like a PC/Laptop. Some of the pairs might seem unusual, but you will probably feel more one way than the other.

*In order to better describe your feelings you can imagine you are now in this situation.  
Imagine that you are in a computing store/website searching for a new PC or laptop.  
While you are doing this, YOU FEEL...*



**Situation 2: PC/Laptop shopping.**

Please choose your response to each of the following questions regarding your PC/laptop shopping.

1. How much time would you like to spend on each PC/laptop shopping occasion?

- None
- A few minutes
- Up to 30 minutes
- Up to 60 minutes
- More than one hour
- Many hours
- Many, many hours

2. How much would you try to get out of or avoid doing your shopping for PC/laptops?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

3. Once in a computing store/website, how much would you enjoy exploring around?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

4. Is shopping for a PC/laptop a situation in which you might try to avoid other people, avoid having to talk to them?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

5. To what extent is shopping for a pc/laptop a situation in which you would feel friendly and talkative to a stranger who happens to be near you?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

6. How much would you try to avoid any looking around or exploring in a computing store/website?

- Not at all
- Very slightly
- Slight
- Moderate
- Much
- Very much
- Extremely so

**Situation 2: PC/Laptop shopping.**

Please choose the appropriate circle to indicate your agreement with the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
Most PC/laptops are so similar that it is often difficult to spot new products.	○	○	○	○	○	○	○
Some PC/laptop brands look so similar that it is difficult to detect differences.	○	○	○	○	○	○	○
Most PC/laptop brands are very similar and are therefore hard to distinguish.	○	○	○	○	○	○	○
The more I learn about PC/laptops, the harder it gets to choose the best.	○	○	○	○	○	○	○
Some PC/laptop	○	○	○	○	○	○	○

brands look so similar that I don't know if they are made by the same manufacturer.							
There are so many PC/laptop brands to choose from that I sometimes feel confused.	○	○	○	○	○	○	○
There are so many computing stores/websites to shop from that it is sometimes difficult to decide where to shop.	○	○	○	○	○	○	○
All the information I get on different PC/laptops confuses me.	○	○	○	○	○	○	○
PC/laptops have so many features that a comparison of different brands is barely possible.	○	○	○	○	○	○	○

When buying a PC/laptop I always feel well informed.	<input type="radio"/>						
The information I get from advertising often is so vague that it is hard to know what a PC/laptop can actually perform.	<input type="radio"/>						
When purchasing PC/laptops I feel uncertain about the product characteristics that are particularly important for me.	<input type="radio"/>						
To me there are too many PC/laptops to choose from in a computing store/ website.	<input type="radio"/>						

**Situation 2: PC/Laptop shopping.**

Please choose the appropriate circle to indicate your agreement with the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
Overall, I am experienced in shopping for PC/Laptops.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Situation 2: PC/Laptop shopping.**

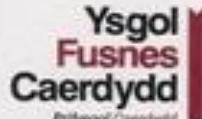
How often do you usually update/shop a PC/ Laptop or other computing equipment?

- Once a month
- Once every three months
- Once every six months
- Once a year
- Once every two years
- Less than once every two years
- Never

**We thank you for your time and cooperation in making this survey successful. The main objective of this survey will be to examine consumers' responses to retail situations with a special interest on levels of consumer confusion.**

**If you agree to participate in this research,  
please press the final next button to submit your survey.**

## Appendix 8. Ethical Approval Form

<p><b>ETHICS 2</b></p> <p><b>FULL ETHICAL APPROVAL FORM</b>  <b>(STAFF/PHD STUDENTS) or students referring</b>  <b>their form for a full ethical review</b></p> <p>(For guidance on how to complete this form, please see Learning Central – CARBS RESEARCH ETHICS)</p> <p>If your research will involve patients or patient data in the NHS then you should secure approval from the NHS National Research Ethics Service. Online applications are available on <a href="http://www.nres.ngsa.nhs.uk/applicants/">http://www.nres.ngsa.nhs.uk/applicants/</a></p> <p><b>NB: Safety Guidelines for researchers working alone on projects – please go to this University's web link to learn about safety policies - <a href="http://www.cf.ac.uk/osheu/index.html">http://www.cf.ac.uk/osheu/index.html</a></b></p> <p><b>Name of Lead Researcher :</b> Ioanna Anninou</p> <p><b>School:</b> Cardiff Business School</p> <p><b>Email:</b> AnninouI@cf.ac.uk</p> <p><b>APPLICATION APPROVED</b>  <b>RESEARCH ETHICS COMMITTEE</b>  <b>CARDIFF BUSINESS SCHOOL</b>  <b>CARDIFF UNIVERSITY</b></p> <p><b>Names of other Researchers:</b> (PhD supervisors) Prof. Gordon Foxall and Dr. John Pallister</p> <p><b>Email addresses of other Researchers :</b> Foxall@Cardiff.ac.uk; PallisterJG@cardiff.ac.uk</p> <p><b>Title of Project:</b>  <b>The influence of confusion on consumer emotional attitudes and behaviour.</b></p> <p><b>Start and Estimated End Date of Project:</b> May 2012- September 2013</p> <p><b>Aims and Objectives of the Research Project:</b>  <b>Consumer confusion has not been an established topic in the consumer behaviour literature; however, it dominates many aspects of consumers' shopping experiences (Mitchell et al., 2005). It also generates mainly negative consequences for retailers through several coping strategies that consumers tend to adopt in order to deal with confusion (Mitchell and Papavassiliou, 1997). More specifically, the retail environments can be really challenging for contemporary consumers, due to the proliferation of professional marketing/ retailing techniques (labelling issues, constant promotions etc) and the constant technological advancements. As the literature of consumer confusion is still at its infancy, this thesis will seek to evaluate the influence of consumer confusion on the ways consumers' emotionally and behaviourally respond to choice/ market situations.</b></p> <p><b>Please indicate any sources of funding for this project:</b>  <b>Studies funded by ESRC and Cardiff Business School (1+3)</b></p>	 
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### 1. *Describe the methodology to be applied in the project*

A quantitative/survey study will be conducted in order to access the ways confusion influences consumer's emotional attitudes and behaviours during certain choice situations. Initial/ pilot data will be collected in person through a network of friends and acquaintances. Additional data will be collected through contacting

school staff and students (an email will be sent which will have the online link to the questionnaire). A full statistical analysis is not possible or essential at this stage due to the small number of participants; rather, data will be checked for patterns, understanding and any potential mistakes. Data for the main research will be collected through an online methodology with the help of a research agency. Analysis will include such processes as multiple regression and possibly structural equation modelling. The research agency will work on the project exclusively under close guidance and supervision by the main researcher. Data will only be used for the academic purposes of this project. It has been the suggestion of the research agency to include an incentive in the form of a draw of £50-£70, in order to encourage participation to the project. No participants' names will be collected but it will be essential to collect their email address in order to contact participants as part of a prize draw. It will be, however, at the discretion of every participant to provide his/hers email address for the purposes of the draw.

-Initial (pre-pilot) questionnaire attached

**PLEASE ATTACH COPIES OF QUESTIONNAIRES OR INTERVIEW TOPIC GUIDES TO THIS APPLICATION**

**2. Describe the participant sample who will be contacted for this Research Project. You need to consider the number of participants, their age, gender, recruitment methods and exclusion/inclusion criteria**

Specific numbers have not been agreed yet but 250-300 usable questionnaires, is considered a sufficient sample in order to achieve reliable and valid statistical analysis. There will be no specific exclusion or inclusion criteria as the topic- exploring retail behaviour- is relevant to most consumers. Rather, in order to achieve the maximum possible variation, diverse consumers in terms of their socio-demographic information (age, gender, occupation) and levels of experience with different choice situations will be sought after. These participants will be recruited by the research agency through their online research panel.

**3. Describe the method by which you intend to gain consent from participants.**

The initial page of the online survey will act as a briefing document/ consent form (this page is attached here as the first page of the questionnaire). The aim will be to explain 1) the research process and 2) the ethical issues that participants need to be aware of. Participants will be informed that data will be part of a research conducted by Cardiff Business School. All data will be anonymous but as there is a prize draw participants who wish to take part in the draw will be required to enter their email address at the end of the survey. Participants who provide their email address will have the opportunity to be deleted from the survey at a later stage, those who don't provide it will not have the opportunity to withdraw from the study at a later stage. This will be clearly explained at the initial briefing letter/consent form. All email addresses will be used for the purposes of the prize draw only and this will be explained to participants. Finally, by reading the final declaration it will be clear that completing the survey will act as consent for participation.

**PLEASE ATTACH A COPY OF ALL INFORMATION WHICH WILL BE GIVEN TO PROSPECTIVE PARTICIPANTS (including invitation letter, briefing documents and, if appropriate, the consent form you will be using).**

**4. Please make a clear and concise statement of the ethical considerations raised by the project and how you intend to deal with them throughout the duration of the project (please use additional sheets where necessary)**

None of the participants are considered to be 'vulnerable' or belong to a vulnerable group. There is no indication that the research processes will result in any harm or discomfort. The research raises a number of ethical considerations like confidentiality of data, informed consent and respect of privacy.

The following bullet points provide details of the issues identified and the plans that have been put in place to address them. A consent form has been prepared (See Attachment) and this will clearly indicate that by completing this survey participants agree to take part in the research.

- Confidentiality, Privacy and Consent – all participants, by completing this survey, will indicate their consent to contribute to the research. They will not be given the opportunity to withdraw from the research at any time prior to the publication of the research findings due to the anonymity of the data; this will be specifically explained.
- The matter of how data will be collected and stored, with reference to the Data Protection legislation will be clarified for participants, with information being stored securely.
- The final thesis and findings will be published and therefore will be openly accessible; however, no individual respondents will be identified or will become identifiable. Participants will be free to contact the main researcher in order to get copies of the findings or the final research report.

**STUDENTS SHOULD BIND THE SIGNED AND APPROVED FORM INTO THEIR REPORT, DISSERTATION OR THESIS.**

*Please complete the following in relation to your research project:*

		Yes	No	n/a
(a)	Will you describe the main details of the research process to participants in advance, so that they are informed about what to expect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Will you tell participants that their participation is voluntary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Will you obtain written consent for participation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Will you tell participants that they may withdraw from the research at any time and for any reason?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	If you are using a questionnaire, will you give participants the option of omitting questions they do not want to answer?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g)	Will you offer to send participants findings from the research (e.g. copies of publications arising from the research)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h)	If working with children and young people please confirm that you have visited this website : Working with children and young people and Vulnerable Adults please go to weblink - <a href="http://www.cf.ac.uk/govrn/cocom/resources/2010%20November%20Safeguarding%20Children%20&amp;20VA's.doc">http://www.cf.ac.uk/govrn/cocom/resources/2010%20November%20Safeguarding%20Children%20&amp;20VA's.doc</a>	<input type="checkbox"/>		

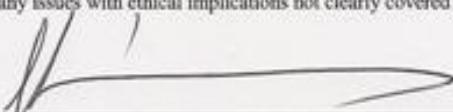
**PLEASE NOTE:**

If you have ticked **No** to any of 5(a) to 5(g), please give an explanation on a separate sheet.

(Note: N/A = not applicable)

There is an obligation on the principal researcher/student to bring to the attention of Cardiff Business School Ethics Committee any issues with ethical implications not clearly covered by the above checklist.

Signed:



Print Name:

Ioanna Anninou

Date:

01/02/2012

*APPLICATION APPROVED  
RESEARCH ETHICS COMMITTEE  
CARDIFF BUSINESS SCHOOL  
CARDIFF UNIVERSITY*

**SUPERVISOR'S DECLARATION (Student researchers only):** As the supervisor for this student project I confirm that I believe that all research ethical issues have been dealt with in accordance with University policy and the research ethics guidelines of the relevant professional organisation.

Print Name: T. ENTWISTLE

Date: Feb. 2019

*TWO copies of this form (and attachments) MUST BE OFFICIALLY STAMPED by  
Ms Lainey Clayton, Room F43, Cardiff Business School*

**STATEMENT OF ETHICAL APPROVAL**

This project has been considered using agreed School procedures and is now approved.

Official stamp of approval of the School  
Research Ethics Committee:

Date: February 2019

APPLICATION APPROVED  
RESEARCH ETHICS COMMITTEE  
CARDIFF BUSINESS SCHOOL  
CARDIFF UNIVERSITY

ETHICS 2