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University
of Glasgow

**Towards a Deeper Understanding of Human Emotions in
Marketing Communication: The 'Slogan Validator' and
Self-Reported Measurement
Contrasted**

By

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Submitted in Fulfilment of the Requirements for the Degree of Doctor
of Philosophy

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Abstract

Advertising has long been regarded as providing reasons for consumers to buy. However, in academic research, the significant role of emotion has generally been neglected. Neuroscience research has made considerable advances in the study of emotion and has resulted in a reconsideration of the rational view of decision-making behaviour. In addition, a review of the marketing literature reveals that there is a missing link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. This thesis provides this link and proposes a new theoretical research construct: the consumer's emotional corridor

Self-reported measurements have been widely used to measure consumers' emotional responses to advertising stimuli or consumption-related experiences and have been a consistently popular method for practitioners and researchers. There is, however, a problem known as "cognitive bias" which often arises from self-reported measurements. Several researchers have highlighted the demand for the measurement of emotion to go beyond self-reported measurements and have called for collaboration with other research fields to advance consumer behaviour research in the study of emotion. This research collaborates with researchers in the field of human-computer interaction and suggests an alternative method: the Slogan Validator.

This research adopts a multi-strategy approach in combining qualitative research (semi-structured interviews) and quantitative research (survey and experiment). The purpose of the first stage of the research is to assist in defining criteria of cognitive appraisals that consumers use for advertising slogans and on validating the research model. The second stage involves conducting a survey research, which is called study one in this thesis. The main purpose of study one is to test the proposed research model. The third stage of the research methodology involves the Slogan Validator and self-reported measurements (which is called study two in this research). The main purpose of study two is to compare the results of self-reported measurements and the Slogan Validator in measuring emotions.

For study one, this research notes that there exist some differences in the types of determinants and their levels of influence on the attitude towards the advertisement, the attitude towards the brand and the purchase intention across four slogan cases. Nonetheless,

the cognitive appraisal-outcome of desirability appears to be significant in all fourteen out of the sixteen models. In general, this factor plays the critical role in the advertising effectiveness. Moreover, the results of study one reveal that affective-related factors play the significant role in the advertising process in both the low and high involvement groups. For study two, the findings show that the results of the self-reported questionnaires and the Slogan Validator are almost completely different, except for the 'happy' emotion in the cases of McDonald's and Kentucky.

Implications, limitations and further research are discussed. The major contributions of this research are twofold. In terms of theoretical perspective, this research models consumers' emotional responses to advertising slogans integrated with the new theoretical research construct, the consumer's emotional corridor, and uncovers the determinants of advertising effectiveness from the consumers' emotional responses to the advertising slogan standpoint. In terms of methodological perspective, this research initiates the employment of a novel method, namely, the Slogan Validator, which is the voice recognition study, in advertising literature.

Declaration of Originality

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning. I declare that the thesis embodies the results of my own work. Following normal academic conventions, I have made due acknowledgement of the work of others.

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Chapter 1 Introduction

1.1 Introduction

The purpose of this chapter is to provide an introduction and overview of the current research. In order to achieve this objective, this chapter is constituted as follows: Section 1.2 presents a full description of the background of the research and the identified theoretical and methodological research problems based on an intensive literature review; Section 1.3 offers an outline of the overall research aims and objectives; Section 1.4 provides a brief description of the main research approach; Section 1.5 presents a concise discussion of the main contributions of the current research; and Section 1.6 provides the overall structure of the thesis. Finally, this chapter ends with a short summary.

1.2 Background of the Research and Research Problems

1.2.1 Theoretical Research Problems

Advertising has long been seen as offering reasons to buy. The mainstream of advertising research has assumed that consumers have an underlying economic rationality (Vakratsas and Ambler, 1999). In general, the advertising industry has favoured comparatively simple hierarchical models, also called “persuasive hierarchy” or “hierarchy of effects” models (Holbrook, 1986; Meyers-Levy and Malaviya 1999, Vakrateas and Ambler 1999). However, in academic research, the crucial role of emotion has often been downplayed (Ambler, Ioannides and Rose, 2000).

Pioneered by Zajonc’s (1980) work, the position of emotion in advertising and consumer behaviour literature has changed. Since then, attention has been paid to emotion and it has been regarded as an important mediator between cognitive and behavioural consumer responses to advertising by some researchers (e.g., Batra and Ray, 1986; Holbrook and Batra, 1987; Janisewski and Warlop, 1993; Moore, 2007; Shimp, 1981). Lately, the significant work on emotion by researchers from the field of neuroscience such as Damasio (1994) and LeDoux (1994) has made considerable progress in the study of emotion. Their

influential work on emotions has resulted in the common agreement that emotions are essential factors for rational decision-making and behaviour, and that they are not a valueless by-product (Poels and Dewitte, 2006). Human behaviour is affected by emotions to a greater extent than by reason. Emotion is an infinite resource, and it controls most of our decision-making and rationality (Pawle and Cooper, 2006). Emotions govern cognition and so are accepted as the key in the process of advertising.

In addition, slogans have been extensively employed as a component in advertising campaigns. Slogans may have positive influence on their brands and may function as carriers of brand equity (Dahlen and Rosengren, 2005; Rosengren and Dahlen, 2006). Generally, slogans are believed to be valuable in constructing brand equity because they support the establishment and preservation of a strong brand identity, which are continuously provided throughout advertising campaigns (Reece, Bewrgh, and Li, 1994). Overall, a review of the slogan-related research revealed that to a great extent this research has investigated effects connected to brand awareness, issues concerning how to make a slogan memorable, and relationships between consumer demographic characteristics and slogan learning and assessment. Nevertheless, examining the role emotion plays in advertising slogans is important. More particularly, how do consumers' emotional responses to advertising slogans affect advertising effectiveness? This needs to be addressed in the advertising literature with the intention of uncovering the role and nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness.

The study of emotions in marketing has borrowed theories from other disciplines, particularly psychology. Substantial efforts have been applied to examining the role of emotions in marketing, taking theories of emotions from psychology literature (e.g., Bagozzi, Gopinath, and Nyer, 1999; Havlena and Holbrook, 1986; Havlena, Holbrook, and Lehmann, 1989; Holbrook and Westwood, 1989; Mano and Oliver, 1993; Oliver, Rust, and Varki, 1997; Westbrook and Oliver, 1991) and developing measurement instruments for emotions in marketing (e.g., Aaker, Stayman, and Vezina, 1988; Batra and Holbrook, 1990; Edell and Burke, 1987; Richins, 1997).

Generally speaking, there are three main theories of emotions in the marketing domain: the categories approach, the dimensions approach and the cognitive appraisals approach. The categories approach gathers emotions around prototypes and judges their different effects

on consumer behaviour (Izard, 1977; Plutchik, 1980). This perspective does not explain the causes of emotions, but rather groups emotions according to their similarities, and is inadequate to explain when a particular emotion will be felt. Further, it fails to explain why emotion groups have different behavioural reactions (Watson and Spence, 2007). Ortony and Turner (1990, p. 315) made the criticism that “there is no coherent nontrivial notion of basic emotions as the elementary psychological primitives in terms of which other emotions can be explained”. Consequently, this raises issues which question the validity of measures derived from the concept of primary emotions. Finally, this viewpoint has been criticised on the basis that human beings may often experience more than one emotion at the same time. In fact, individuals often state that they experience mixed emotions (Chamberlain and Broderick, 2007).

The dimensions approach applies the pleasure-displeasure, arousal-nonarousal, and dominance-submissiveness (PAD) dimensions to distinguish between emotions and the influences they have on consumption-related behaviour (Mehrabian and Russell, 1974; Russell and Mehrabian, 1977). It is thought that the stimuli in the environment have an affect on individuals’ emotional states and responses are elicited (Newman, 2007). The PAD scale was not intended to capture the whole domain of emotional experience, but rather instead to measure emotional reactions to environmental stimuli, such as architectural spaces. Thus, its validity in evaluating emotional reactions to the interpersonal aspects of advertising, and consumption cannot be presumed. Furthermore, it is impossible clearly to assume the existence of specific emotion states such as happiness, boredom, joy, anger, sadness or pride from individuals’ PAD scores. Therefore, the PAD is best employed when a researcher is interested in measuring the dimensions underlying emotion states rather than in knowing the particular emotions being experienced by respondents (Richins, 1997). Moreover, this approach has been criticised because of its limited ability to distinguish precisely between emotions of a similar dimensional position (Watson and Spence, 2007). This research argues that it is also complicated for participants to understand the correct meaning of each dimension (pleasure, arousal and dominance) in order to state their emotional responses in the right position.

The cognitive appraisals approach uses the fundamental motivational and evaluative roots of emotions to explain their effects on consumer behaviour (Watson and Spence, 2007). A crucial characteristic ignored by the non-cognitive approaches is that emotions involve evaluations. The cognitive appraisals approach states that each emotion is related to a

specific pattern of appraisals, such as pleasantness, certainty and controllability, while cognitive evaluations are made on the surroundings (Arnold, 1960; Lazarus, 1991; Ortony, Clore, and Collins, 1988; Roseman, 1984; Scherer, 1984). This theory provides a more comprehensive way to explain slight differences in emotions. The cognitive appraisal approach has been regarded as a particularly suitable method for understanding consumers' emotional responses in the marketplace (Johnson and Stewart, 2005). Researchers have suggested that this approach is a promising avenue for studying emotions in consumer behaviour contexts (Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). Numerous studies (e.g., Dunning, O'Cass, and Pecotich, 2004; Lerner and Keltner, 2000; Lerner, Small, Loewenstein, 2004; Nyer, 1997; Raghunathan and Pham, 1999; Tiedens and Linton, 2001; Yi and Baumgartner, 2004) have proved the validity of the cognitive appraisal approach and have confirmed many of the specific hypotheses proposed by appraisal scholars. This has produced an accumulation of findings and resulted in the prevalent agreement of cognitive appraisals theory as a suitable explanation for the elicitation of many types of emotional experiences and reactions. Therefore, the cognitive appraisals theory is applied in this study.

Although considerable research in consumer behaviour has focused on the influence of pure emotions in persuasion (e.g., Aaker and Williams, 1998; Edell and Burke, 1987; Holbrook and Batra, 1987), less work has been done on the issue of understanding mixed emotions and their consequences (Williams and Aaker, 2002). Furthermore, in most studies of the judgment of emotional responses, researchers have used static forms. Besides their questionable ecological validity, such statements may lack fundamental indications for the differentiation of emotional responses. Most advertising with a considerable feeling component involves heavy repetition (Aaker, Stayman, and Hagerty, 1986). Essential lessons from neuroscience have shown that emotional and memory systems change from moment to moment and are dynamic in nature (DuPlessis, 2006; LeDoux, 1989, 1994; Marci, 2006). Continuous measurements of emotional feelings has become essential as theorists come to conceptualise emotions as fluid processes instead of static states (e.g., Fenwick and Rice, 1991; Larsen, McGraw, Mellers, and Cacioppo, 2004; Scherer, 2009; Stayman and Aaker, 1993), which can help to understand both the nature and effect of specific feelings (Aaker, Stayman, and Hagerty, 1986). It is apparent that mixed emotions in response to a particular event or advertisement can occur. Collecting continuous data on how emotions develop over a period of time, such as with the rating dial by Larsen and Fredrickson (1999), or the button techniques by Larsen, McGraw, Mellers, and Cacioppo

(2004) has been shown to be a promising area in emotion research. Recently, the continuous measure of consumers' responses to advertisements has been attracting many advertising researchers, resulting in a considerable amount of interest. For example, the “warmth monitor” (Aaker, Stayman, and Hagerty, 1986) is one of the most essential moment-to-moment rating instruments in advertising research.

However, caution is needed with regard to the suggestions of previous research concerning the overall assessments of continuous measures. For example, some researchers (e.g., Aaker, Stayman, and Hagerty, 1986; Polsfuss and Hess, 1991; and Thorson and Friestad, 1989) calculated that the average score across the advertisement as a sign of overall advertisement assessment was inappropriate. An identical or similar mean could be produced by a flat affect pattern and affect curves with positive or negative slopes, but respondents may not consider them in the same way (Hughes, 1992). Moreover, the peak-and-end rule (e.g., Fredrickson, 2000; Kahneman, Fredrickson, Schreiber, and Redelmeier, 1990; Larsen and Fredrickson, 1999) is not suitable. Since there are two main points of emotional states, which should be chosen as the more important, it is always arguable. Moreover, identifying positive and negative changes (e.g., Thorson, 1991), or indicating the end point (e.g., Aaker, Stayman, and Hagerty 1986) as a sign of overall evaluation is also difficult. These studies have been criticised because there is a lack of systematic explanation of what affect patterns consumers prefer in advertisements (Baumgartner, Sujan, and Padgettindicate, 1997).

Although emotions have been shown to have substantial influence on various consumer behaviours, the cognitive appraisals linked to mixed emotions have not been fully explored (Ruth, Brunel, and Otnes, 2002). It has been hypothesised in the literature and it is also common sense, that feeling more than one emotion in response to a particular event can arise (Ruth, Brunel, and Otnes, 2002; Scherer and Ceschi, 1997; Sullivan and Strongman, 2003). The appearance of mixed emotions may lessen the systematic connection between appraisals and consumption emotions. In single, unmixed emotions, the prototype of appraisals should be related only to that one target emotion. However, a circumstance of mixed emotions implies that the appraisal pattern for one emotion may be dominant, but not quite as clear as the situation of one, single unmixed emotion (Ortony, Clore, and Collins, 1988; Ruth, Brunel, and Otnes, 2002). Mostly, it is assumed that a dominant emotion occurs together with other less prominent emotions. One emotion may be dominant over the other, instead of conflicting emotions being experienced in equivalent

intensity (Williams and Aaker, 2002). Researchers from the field of psychology (e.g., Bower and Cohen, 1982; Clark, 1982; Davidson, Ekman, Saron, Senulis, and Friesen, 1990; Izard, 1972; Polivy, 1981; Schwartz, 1990; Schwartz and Weinberger, 1980) have argued that an incident may evoke emotions of mixed intensity – one dominant (or primary) and several non-dominant (or secondary) emotions, which are firmly embedded in memory, in connection with the stimulus representation. Based on this, there is a missing link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. It is appreciated that there is a need to examine these under-investigated themes and to provide this absent link.

1.2.2 Methodological Research Problems

Previous researchers (e.g., Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimperl, 2007) have highlighted the significant character of emotion in decision making and consumer behaviour. Given the significance of emotions in the advertising process, correct measurement of emotions is essential. The complexity of measuring emotions needs to be considered, not ignored (Ambler, 2000). Consumers' emotional responses to advertising have been measured in various ways throughout the years (Bagozzi, Gopinath, and Nyer, 1999). Nevertheless, measuring emotions is understandably complicated.

There are two major types of methods to measure emotions: self-reported measurements and psychophysiological measurements. Both methods have been applied in consumer behaviour and advertising research to record emotional reactions to consumption experiences or advertising stimuli. However, the two methods are basically different. Self-reported measurements concentrate on contemplative reflections about the emotions felt with respect to a consumption experience or an advertising stimulus. In contrast, psychophysiological measurements concentrate on continuous emotional reactions that are not distorted by higher cognitive processes (Poels and Dewitte, 2006).

Self-reported measurements have the advantages of being user-friendly and rapid measures of emotional responses. Besides, they do not need complex techniques or programs. Moreover, they are practical for administering emotional reactions to a comparatively large set of advertising stimuli. Thus, a self-reported measurement is easy and speedy to conduct

and is a cost-effective method that is very suitable for large-scale research. Self-reported measures have always been a very popular method for practitioners and researchers (Mehta and Purvis, 2006; Poels and Dewitte, 2006).

However, self-reported measurements have suffered from a significant constraint referred to as “cognitive bias” (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Poels and Dewitte, 2006; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Self-reported measurements offer the only entrée to the subjective experience level of emotions. They are usually criticised for inducing rationalisation in respondents and not evoking spontaneous responses (Hupp et al., 2008). Individuals are usually intuitive and emotional in their behaviour, and are seldom dependent on conscious control (Pawle and Cooper, 2006). Self-reported measurements derived from subjective feelings may not always be able to record emotions in a proper way, although these emotions may have a significant effect on our decisions (Chamberlain and Broderick, 2007; Dennett, 1991; Frijda, Markam, and Wiers, 1995; Hazlett and Hazlett, 1999). Furthermore, social desirability concerns can misrepresent results (King and Bruner, 2000), particularly for sensitive topics such as income, charity, sexual issues, racial issues, gender and age issues, about which participants may not always be willing to disclose their real feelings.

Past researchers (e.g., Baggett, Saab, and Carver, 1996; Beidel, Turner, and Dancu, 1985; Bernstein, Borkovec, and Coles, 1986; Calvo and Cano-Vindel, 1997; Calvo and Eysenck, 1998; Newton and Contrada, 1992) have found that there are discrepancies in subjective and objective measures. For example, Calvo and Eysenck (1998) compared subjective (self-report) and objective (heart rate, cardiovascular and biochemical measures) measures on the same scale and revealed evidence of discrepancies between these two measures.

Many researchers have emphasised the need for measures of emotions to go beyond self-reported measurements (Bagozzi, Gopinath, and Nyer 1999; Babin et al., 1998; Chamberlain and Broderick, 2007; Oatley, 1992) and Oatley (1992, p.21) mentioned that “autonomic nervous system and other physiological processes” at least accompany subjectively felt emotions. Lazarus (1991, pp.58-9) declared: “if the criterion of physiological activity was eliminated from the definition, the concept of emotion would be left without one of the most important response boundaries with which to distinguish it from nonemotion”. Recently, several techniques have been developed to capture individuals’ psychophysiological reactions. Heart rate, electrodermal analysis, facial

expression and brain imagining analysis are four well-known psychophysiological measures applied in emotion research in the advertising literature. It is clear that the objective measurement of psychophysiological reactions in consumer emotion research is a valuable insight which can be applied to examine correlations between the conscious reported emotional responses and the subconscious psychophysiological emotional responses experienced by individuals (Chamberlain and Broderick, 2007). By applying such research a deeper understanding of the construct of emotion can be generated.

Therefore, researchers have emphasised the need in the area of measuring emotions in marketing literature to go beyond self-reported measurements and have called for collaboration with other research fields to improve consumer behaviour research in the study of emotion (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992). Several marketing researchers have cooperated with researchers in the fields of psychology and neuroscience (Chamberlain and Broderick, 2007), but there has been no collaboration to date with researchers in the field of human-computer interaction; more specifically, voice recognition technique. Since the 1980s, there has been hardly any research related to voice pitch analysis in marketing studies (Wang and Minor, 2008). Voice pitch analysis has at least two sensible advantages over other psychophysiological techniques in marketing research: the experimental procedure requires only oral responses and audio recording equipment rather than burdensome equipment, and individuals' are less likely to be influenced by controlled and unnatural experimental settings because the recording apparatus is not noticeable and is not intrusive (Klebba, 1985).

This research recommends a different approach and highlights the value of analysing individuals' voice expression of emotions to advertising slogans. Signal-based evaluation instruments address some of the constraints of the self-reported measures. For example, it is possible to capture and analyse speech signals of advertising slogans and elicit emotions from the signal data. In other words, this technique can capture objective measures of in consumers' voices of emotional responses elicited by advertising slogans. This is a more natural method of measuring emotions than analysing the recalled data from self-reported measurements.

Chapter 6 (Section 6.5.2) will describe the development of the computer-based tool, the Slogan Validator, and how it functions to present emotions embedded within advertising

slogans. The aim is to provide marketing researchers with a simple to operate and easily understood computer-based tool to evaluate emotions embedded in advertising slogans.

1.3 The Overall Research Aims and Objectives

Building on the identified theoretical research problems indicate that advertising and marketing researchers have highlighted the significant role of emotion in decision- making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimerl, 2007), and the importance of emotions in the advertising process (Poels and Dewitte, 2006). Investigating the role emotion plays in advertising slogans is critical. However, this issue has received inadequate research attention in the literature. In addition, there is a missing connection between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. Furthermore, in relation to the identified methodological research problems, self-reported measurements have suffered from a significant constraint referred to as “cognitive bias” (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Poels and Dewitte, 2006; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Numerous researchers have stressed the requirement for measuring emotions to go beyond self-reported measurements and have called for collaboration with other research fields to advance consumer behaviour research in the study of emotion (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992).

The theoretical perspective: this research aims to achieve an in-depth understanding of consumers’ emotional responses to advertising slogans and their impact on the development of advertising effectiveness. In addition, it aims to provide the missing link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. Hence, this research conceptualises consumers’ emotional responses to advertising slogans as an “emotional corridor” which is fluid and dynamic. The “emotional corridor” has been defined in Chapter 3 (Section 3.6) as a corridor for emotions to pass through, which contains repetitive emotions and/or mixed emotional experiences, resulting in the blurring of individuals’ emotional perceptions. Emotional responses are prolonged through the emotional corridor; after the prolongation of the emotional experiences, the individuals’ emotional states will be reinforced and one emotion will become dominant and prevail.

The methodological perspective: as noted earlier, marketing researchers have not yet cooperated with human computer interaction researchers by applying the voice recognition technique to measuring emotions. Human computer interaction is the study of interaction between people (users) and computers. Interaction between users and computers takes place at the user interface, which includes both software and hardware. Vocal aspects of communicative messages can reveal non-verbal information such as the emotional state, the regional accent, age, gender, personal identity and the health of the speaker (Ohala, 1996). The Slogan Validator (Chapter 6, Section 6.5.2) is a human computer interface which was developed by researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan. This interface is a speech signal-based assessment instrument which can analysis elicited emotions from signal data and can recognise five primary emotions: happiness, anger, sadness, boredom, and neutral (no emotion) of Mandarin Speech. Hence, a more natural method than self-reported measurements is provided by the Slogan Validator. This research wishes to offer researchers and practitioners an easy to operate and comprehensive computer-based tool to assess advertising slogans. This research aims to utilise this novel method with the intention of comparing results from self-reported questionnaires and the Slogan Validator. More specifically, it aims to evaluate whether the signal-based emotion recognition (human-computer interface) technique can complement traditional research methodology (e.g. semi-structured interviews, focus groups, survey research methods dealing with self-reported measurements, phenomenological research based on psychophysiological measures) in order to increase the overall effectiveness of advertising copy strategy.

1.4 Research Approach

This research follows a mixed-method approach in addressing its research aims and objectives through a three-staged research methodology. More specifically, it uses a qualitative research method and a quantitative research method in order to increase the robustness of the research design and the reliability of the research findings.

The first stage involved conducting semi-structured interviews in order to develop the survey instrument and validate the proposed research model. The second stage involved conducting a research survey, namely, study one in this thesis. The survey instrument

employed in this research was developed by the researcher. All measures were adopted from previous research with required modification. Before the survey instrument reached the survey participants, it went through three processes. These three processes were the qualitative study (semi-structured interviews), step one pre-testing (feedback was sought from four experts), and step two pre-testing (testing the survey instrument on forty consumers). All these endeavours assisted in achieving a practical and accurate survey instrument.

Driven by the research aims and objectives, a detailed literature review was conducted. Derived from previous literature, research hypotheses were proposed. The proposed research hypotheses were tested through the investigation of first-hand data collected by four well-trained fieldworkers from the survey research. More specifically, 451 questionnaires were collected from the Feng Chia night market in Taichung, which is the largest night market in Taiwan. 393 questionnaires were considered usable.

The third stage involved conducting a research experiment (called study two in the thesis). The main objective of this experiment was to employ the Slogan Validator. More particularly, it aimed to compare the self-reported measurements and the Slogan Validator and to evaluate the difference between these two measures. Before commencing the formal experiment, several pilot tests were conducted. There were 37 female and 39 male subjects in the experiment.

The collected data was analysed with SPSS and R statistical analysis software (R Commander). Prior to beginning the testing of proposed research hypotheses, reliability and validity of all measures were carried out. In addition, appropriate actions were taken to clean the raw data when necessary, with the aim of securing an acceptable standard of reliability. The OLS regression results of four final models (Chapter 8, Section 8.2.6) shows that the adjusted R^2 and F value are relatively adequate; however, the researcher did not know if the models were correctly reflecting the relationship between the variables or if the models could be improved. Due to the fact that SPSS does not have as powerful a data transformation function as R, the R statistical analysis software was applied to implement this task. The major statistical techniques applied in this research were reliability analysis, factor analysis, Pearson correlation, paired sample t test, repeated measures, the OLS method of multiple regression, and Box-Cox and Box-Tidwell for data transformation.

1.5 Main Contributions of the Research

The present thesis makes both theoretical and methodological contributions in several ways. In terms of theoretical perspectives, this research contributes to the advertising literature by proposing a new theoretical research construct: the consumer's emotional corridor, which provides the absent connection between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. Moreover, this research is the first study which has been undertaken with the intention of understanding how consumers' emotional responses to advertising slogans influence advertising effectiveness by integration with the new theoretical research construct: the consumer's emotional corridor in the slogan-related literature. Furthermore, this research is the first slogan-related study to be conducted in an Asian country (Taiwan), testing the slogans in Mandarin Chinese – one of the most widely spoken languages in the world.

In terms of methodological perspectives, previous researchers (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992) signified the necessity of measuring emotions to go beyond self-reported measurements and called for collaboration with other research fields to advance consumer behaviour research in the study of emotion in the marketing literature. With the aim of replying to the above requirement, this research is the first study in advertising literature to cooperate with researchers in the field of human-computer interaction and use a novel method, namely, the Slogan Validator, and more specifically, employing the voice recognition technique (the Slogan Validator), in order to evaluate to what extent the signal-based emotion recognition technique (human-computer interface) can complement traditional emotion research methodology.

1.6 Structure of the Thesis

The present thesis comprises nine chapters that are structured as follows:

Chapter One briefly explains the background of the research and research problems. It introduces relevant literature in the fields of emotions in advertising, slogan-related studies, emotion theory and emotion research methodology, in order to present the overall research

aims and objectives of this study. It also provides a concise account of the methodological approach taken and the structure of the present thesis.

Chapter Two provides an extensive review of marketing and advertising literature on study of emotions in advertising, emotion theories in marketing, slogan-related research, and detailed discussion about the identified research gaps. It commences with a concise outline of the main streams that have appeared within the emotion and advertising literature, emphasising the significance of emotions as a research topic within advertising research. It continues to present definitions of emotion from the literature and provide an overview of theories of emotion in marketing. Afterwards, research exploration of slogan-related studies is proposed. This chapter ends by identifying research problems in emotions and advertising slogans.

Chapter Three offers the theoretical foundation to study one. This chapter presents a review and evaluation of relevant literature on consumers' perceptions of emotions that relates to the topical but under-investigated themes of the dynamic nature of consumers' emotional process, mixed emotions, cognitive appraisals linked to mixed emotions and the dominant emotion. It begins with a brief review of the literature on mixed emotions, the dynamic character of consumers' emotional process, cognitive appraisals, cognitive appraisals linked to mixed emotions and emotional dominance, with the intention of providing an integrated and comprehensive overview of the theoretical rationale for the new theoretical research construct: the consumer's emotional corridor (Chapter3, Section 3.6). The theoretical research problem is identified based on the review. Consequently, the theoretical research aim and a clear research scope are defined.

Chapter Four provides the theoretical foundation to study two. Several advertising and marketing researchers have highlighted the remarkable character of emotion in decision-making and consumer behaviour (e.g., Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimerl, 2007). Given the importance of emotions in the advertising process, correct measurement of emotions is vital. Consumers' emotional responses to advertising have been measured in various ways throughout the years (Bagozzi, Gopinath, and Nyer, 1999). This chapter proposes a summary and evaluation of the different emotion measurement methods employed in the marketing literature. It continues by presenting an extensive overview and assessment of the different measurement methods applied in emotion research. The methodological research problem

is identified, derived from the thorough literature review. Accordingly, the methodological research aims are defined.

Chapter Five analyses the main constructs that compose the conceptual model developed for this research through a review of related consumer behaviour literature. Based on the review of the literature, three key constructs which influence consumers' emotional responses, through the conceptualised "emotional corridor" are identified and expounded on. The identified constructs are cognitive appraisals, product involvement, and consumer background variables – gender and age. The conceptual research model is formed and hypotheses are developed at this stage. Another focus of this chapter is the development of the survey instrument. More specifically, this chapter presents the endeavours to develop a vigorous and user-friendly survey instrument. The survey instrument development process is described thoroughly.

Chapter Six addresses methodological considerations of the present research. Specifically, it commences with a discussion on general research philosophy considerations, involving the qualitative paradigm versus quantitative paradigm, theoretical paradigms in marketing, and the philosophical stance taken by this research is interpreted and a concise outline of the overall research process is provided. Subsequently, it explains the qualitative research process, justifying the selection of the semi-structured interviews approach. After presenting the process of the first phase of the quantitative research, the survey, with particular emphasis on sampling decisions, and the quantitative data analysis process followed, it illustrates the process of the second phase of quantitative research, the experiment, with particular emphasis on the development of the computer-based tool, the Slogan Validator, and how its function in presenting emotions is elicited by the advertising slogans.

Chapter Seven focuses on the qualitative research organisation and presents the results of the semi-structured interviews. This chapter serves to illustrate the rigorous requirements of the survey instrument. The objectives of the qualitative study are to assist in defining criteria of cognitive appraisals that consumers use for advertising slogans and in validating the research model. Semi-structured interviews are used to collect data. Content analysis technique is used to analyse the data thus collected. Detailed results are presented in this chapter.

Chapter Eight presents the findings of the quantitative research. More specifically, this research contains two studies: study one and study two. The key objective of study one is to test the proposed research model. OLS regression is used to test the research model, separate multiple regressions are run for each dependent variable for the four cases, and repeated measures are employed for testing respondents' emotional responses. Two statistical software programmes are applied to analyse the data. SPSS 15.0 is employed to carry out all the data analysis apart from the data transformation. R-Commander is applied to carry out the data transformation for the four final models. The key objective of study two is to compare the results of the self-reported questionnaire and Slogan Validator (see Section 6.5.2 for detail). Paired samples T test, and repeated measures are conducted for study two. This chapter commences with a discussion of the characteristics of the sample of study one. Subsequently, descriptive statistics of data are presented. It then goes on to evaluate the reliability and validity of measures used in study one. Afterwards, OLS regression results are illustrated and data transformation follows. The results of repeated measures of study one are presented. The last part of this chapter reveals the findings of study two.

Chapter Nine presents a concise summary of this research. To recap, the current chapter begins with an overview of the themes of emotions in advertising, slogan related research, the consumer's emotional corridor and research methodology in emotion research and presents key gaps in theoretical and methodological viewpoints. Subsequently, it provides a detailed discussion of the overall research findings of study one and study two. In addition, it highlights the theoretical and methodological contributions which have been made by this research, as well as implications for policy makers and marketers. Finally, it acknowledges several limitations of the present research and proposes relevant directions for further research.

1.7 Summary

This chapter has offered an overall description and concise explanation of the content and chronology of the current research. It has introduced the background of the research and noted the preliminary research problems. Furthermore, it has provided a rationale for the current research and proposed the overall aims and objectives. A brief research approach and the main contributions of the present research have been described. Through the

illustration of the structure of the thesis, an overview and chronological outline of the thesis has been presented. Therefore, by doing so, this introductory chapter has given an explanation of the rationale, aims and objectives of the present research, and how the objectives will be fulfilled in this thesis.

Chapter 2 Emotions in Advertising: the Specific Case of Advertising Slogans

2.1 Introduction

The aim of this chapter is to draw a full picture of the role and nature of emotions in advertising and advertising slogans and present a comprehensive review and assessment of relevant literature on emotions and advertising, theories of emotion, and advertising slogans.

The present chapter is structured as follows: Section 2.2 provides a brief outline of the major streams that have emerged within the literature of emotions and advertising, emphasising the importance of emotions as a topic within advertising research. Section 2.3 presents definitions of emotion from the literature; the definition adopted in this research and reasons for this choice are presented. Section 2.4 offers an extensive overview of theories of emotion in marketing, namely, the categories approach, the dimensions approach and the cognitive appraisals approach. They are assessed by employing two standards: theoretical themes and rationale and applicability. Section 2.5 analyses studies related to advertising slogans and the definitions of slogans, with particular emphasis on a discussion of previous research on slogans. Based on the detailed literature review, the research problem is identified in Section 2.6. Section 2.7 summarises the key points made in this chapter.

2.2 Emotions in Advertising

The majority of advertising research has assumed that consumers have an underlying economic rationality (Vakratsas and Ambler, 1999). Advertising has been regarded as giving information and reasons to buy and/or have a preference for a brand. Generally speaking, the advertising industry has favoured comparatively simple hierarchical models, also known as “persuasive hierarchy” or “hierarchy of effects” models (Meyers-Levy and Malaviya, 1999; Vakrateas and Ambler, 1999). Thus, advertising is mentally processed in a series of steps: rational evaluation comes first, followed by emotional processing, and

then action. This can be expressed as $C \rightarrow A \rightarrow B$ (cognition, affect, behaviour). The first formal advertising model was perhaps the AIDA model (attention, interest, decision, action), by which potential advertising effectiveness is verified by measuring the interest or attention in the advertisement (Heath and Hyder, 2005). The AIDA model was attributed by Lewis in 1898 (Strong, 1925), and was originally developed as a sales talk focusing on the range of stages a salesperson needs to guide the consumer through with the intention of concluding the sale. These types of “persuasive hierarchy” or “hierarchy of effects” models were prevalent in advertising literature for a long time (Poels and Dewitte, 2006; Vakrateas and Ambler 1999). Advertising has long been seen as offering reasons to buy. However, in academic research, the vital role of emotion has often been downplayed (Ambler, Ioannides, and Rose, 2000).

Nevertheless, the position of emotion in advertising and consumer behaviour literature has changed since the 1980s, largely as a result of the work of Zajonc (1980), who pointed out that that emotion should be viewed as being in a predominant, and that it can even work without cognition. Since then, emotion has drawn increasing attention and has been regarded as an important mediator between cognitive and behavioural consumer responses to advertising by a number of researchers. For example, some advertising scholars considered that consumers derive their preferences from feelings, such as liking evoked by the advertisement, rather than product information (e.g., Batra and Ray, 1986; Holbrook and Batra, 1987; Janisewski and Warlop, 1993; Moore, 2007; Shimp, 1981).

In addition, Ambler, Ioannides and Rose (2000) indicated that neuroscience has also focused on rational decision-making processes. Until recently, significant work on emotion by scholars from the field of neuroscience such as Damasio (1994) and LeDoux (1996) has made considerable progress in the study of emotion. Their work has now cast doubt on the rational view of decision-making behaviour. For instance, LeDoux (1996, p.32) claimed that “Neuroscientists have, in modern times, been especially concerned with the neural basis of cognitive process such as perception and memory. They have for the most part ignored the brain’s role in emotion”. Moreover, the frontal lobe is a critical area of the brain correlated with, for instance, sociability and creativity (Ambler, Ioannides, and Rose, 2000). Damasio (1994) found that one part of the frontal lobe was important in decision-making and identified that the majority of decisions are made on the basis of feelings, and that making decisions is impossible without emotions. According to Damasio’s (1994, p. 85), who worked with brain-damaged patients, “patients with damage to certain regions of

the brain (frontal lobes) who demonstrated poor perception were no longer able to plan their life; they were no longer able to distinguish important from trivial information". Such influential work on emotions has resulted in the general agreement that emotions are crucial elements for rational decision-making behaviour, and that they are not a worthless by-product (Poels and Dewitte, 2006). Based on these views, advertising and marketing scholars have highlighted the significant role of emotion in decision-making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimeri, 2007). Neuroscience is opening new doors to understanding how advertising works in advertising literature.

Human behaviour is affected by emotions to a greater extent than it is by reason. Consumers are usually intuitive and emotional in their behaviour, and often are not dependent on conscious control (Pawle and Cooper, 2006). Roberts (2002) also agreed that emotion and reason are entwined, but when disagreement arises between them, emotion always overcomes reason. Similarly, Franzen and Bouwman (2001) concluded that when thinking opposes emotion, emotion wins. Emotion is an infinite resource, and it controls most of our decision-making and rationality (Pawle and Cooper, 2006). Calne (2000) highlighted that the main variation between emotion and reason is that emotion results in action, whereas reason results in conclusions. Damasio (1999) also revealed that more than 85% of emotions, thought, and learning arise in the unconscious mind, and that our reasoning strategies are imperfect. Building on these insights, emotions govern cognition and necessitate their being regarded as the key factor in the advertising process. Consumers' emotional responses function as the doorkeeper for further cognitive and behavioural responses.

2.3 Definition of Emotions

There are various definitions of emotion and related constructs. Since there is little slight consistency, they can be clarified in the terminology in connection with emotions (Bagozzi, Gopinath, and Nyer, 1999). It is crucial to define emotion and differentiate it from other states with the aim of considering emotions in marketing and consumer behaviour contexts (Richins, 1997). In reality, it is found that the terms affect, mood and emotion have often been used inconsistently in previous studies. While affect is a term usually used interchangeably with emotion, in this research it is used in accordance with the definition

of Bagozzi, Gopinath, and Nyer (1999, p.184): “affect will be conceived herein as an umbrella for a set of more specific mental processes including emotions, moods, and (possibly) attitudes”. In addition, moods are regarded as having lower intensity but being of longer duration than emotions (lasting from a few hours to a few days). Moods are normally unintentional and diffused or global (Frijda, 1993); conversely, emotions are normally intentional, i.e. they have a reference point or object (Chamberlain and Broderick, 2007). These are essential statements because it is recognised that moods and emotions are not entirely unrelated but there is still a differentiation between them.

Furthermore, there is no agreement in the literature on a definition of emotion (Bagozzi, Gopinath, and Nyer, 1999; Cabanac, 2002; Richins, 1997). As Fehr and Russell (1984, p.464) pointed out, “Everyone knows what an emotion is, until asked to give a definition”. This reveals the difficulty marketing and science have in capturing the construct of emotion, and differentiating it from other closely related constructs. This difficulty leads to a considerable degree of uncertainty as to how emotions can be validly measured (Hupp et al., 2008). For example, Ortony, Clore, and Collins (1988) proposed that an emotion is a valence affective reaction to perceptions of situations. They eliminate from the area of emotion the following: (1) physical states, such as sleepiness and lethargy; (2) non-valence cognitions such as interest and surprise; (3) subjective assessments of individuals, such as feeling abandoned or self-confident. This definition was adopted by Richins (1997) to identify Consumption Emotion Set (CES). Furthermore, Cabanac (2002, p.69) suggested that “emotion is any mental experience with high intensity and high hedonic content (pleasure/displeasure)”. Bagozzi, Gopinath, and Nyer (1999, p.184) asserted that, “*by emotion, we mean a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological process; is often expressed physically (e.g., in gestures, posture, facial features); and may result in specific actions to affirm or cope with the emotion depending on its nature and meaning for the person having it*”. Lazarus (1991) and Oatley (1992) expressed a similar perspective. The definition of an emotion used in this research is taken from Bagozzi, Gopinath, and Nyer (1999), according to whom, appraisals can be deliberate, purposeful, and cause awareness, while in another situation they may be unreflective, automatic, and do not give rise to any unawareness. This depends on the person and on eliciting the conditions for emotional arousal. This definition is consistent both with the views of researchers and practitioners and has been broadly adopted by previous researchers (e.g. Chamberlain and Broderick, 2007; Lazarus, 1991; Oatley, 1992; Watson and Spence,

2007). In addition, as the cognitive appraisals theory will be chosen for the current research (see Chapter 3, Section 3.3.2 for details), this definition of emotion fits well with the nature of this research for conceptualising the research model.

2.4 The Theory of Emotions in Marketing

Since it relies heavily on reference disciplines, the study of emotions in marketing has borrowed theories from other disciplines, particularly psychology. Considerable efforts have been applied to examine the role of emotions in marketing, taking theories of emotions from psychology literature (e.g., Bagozzi, Gopinath, and Nyer, 1999; Havlena and Holbrook, 1986; Havlena, Holbrook, and Lehmann, 1989; Holbrook and Westwood, 1989; Mano and Oliver, 1993; Oliver, Rust, and Varki, 1997; Westbrook and Oliver, 1991) and developing measurement instruments of emotions in marketing (e.g., Aaker, Stayman, and Vezina, 1988; Batra and Holbrook, 1990; Edell and Burke, 1987; Richins, 1997). There are three main theories of emotions in the marketing context, namely, the categories approach, the dimensions approach and the cognitive appraisals approach. The categories technique gathers emotions around prototypes and judges their different effects on consumer behaviour (Izard, 1977; Plutchik, 1980). The dimensions technique applies the pleasure-displeasure, arousal-non-arousal, and dominance-submissiveness dimensions to distinguish between emotions and the influences they have on consumption-related behaviour (Mehrabian and Russell, 1974; Russell and Mehrabian, 1976). The cognitive appraisals technique uses emotions' fundamental motivational and evaluative roots to explain their effects on consumer behaviour (Watson and Spence, 2007). There are five generally applied measurement instruments in advertising and consumption emotion: feelings towards ads (Edell and Burk, 1987); standardised emotional profile (SEP) (Holbrook and Batra, 1987); ad feeling cluster (Aaker, Stayman, and Vezia, 1988); consumption emotions set (CES) (Richins, 1997); and pleasure-arousal-dominance (PAD) dimensions of emotions (Mehrabian and Russell, 1974). There is a thorough discussion of these five measurement instruments in Chapter 5 (Section 5.3.3.1.3). The following assesses the above three theories of emotion by employing two standards. Theoretical themes disclose the logical, empirical, or intuitive propositions that are presented for argument (Murray and Evers, 1989), while rationale and applicability show that the theory has resisted the test of time and has been broadly recognized by society (Huang, 2001; Peter, 1992).

2.4.1 Categories Approach

2.4.1.1 Themes

The categories approach cluster emotions in the region of exemplars and considers their different consequences on consumption-related reactions. This psychological viewpoint is that emotions are discrete entities. This means that emotions are assumed to be unique experiential states that arise from discrete reasons and are present from birth (Izard, 1977).

Izard (1977) and Plutchik (1980) are two important scholars who took a biological viewpoint to study the role of emotion and who have had a significant influence on the consumer behaviour literature. They gave significance on the role of emotions in developing a creature's chances for survival (Richins, 1997). Izard (1977) observed emotions by concentrating on the role of facial muscle responses connected with emotions in enhancing survival. Izard's (1977, p.43) theory was based on several principal assumptions. Firstly, that they are ten primary inborn and distinctive emotions (6 negative, 3 positive, and 1 neutral) form the human motivational system. These emotions are distress (sadness), disgust, anger, shame/shyness, fear, guilt, enjoyment, surprise, contempt and interest. Secondly, primary emotions work for the survival of individuals. Thirdly, he claimed that these emotions are discrete and subjective, in neurochemistry and behaviour. In addition, although discrete, they interact with each other.

Similarly, Plutchik (1980) utilised an evolutionary standpoint to identify eight basic emotions, stating that "these eight emotions have adaptive significance in the struggle for survival and are identifiable in some form at all phylogenetic levels in the animal kingdom" (p.138). Plutchik's emotion theory has evolved over many years (e.g., 1962; 1970; 1980). This theory presents a structural model representing the interrelations between emotions. Plutchik's (1980) main hypotheses are as follows. Firstly, there are 8 main emotions (4 negative, 2 positive, and 2 neutral). These emotions are fear, anger, sadness, disgust, joy, surprise, acceptance and expectancy. All other emotions are mixtures of the main emotions. Secondly, main emotions can be viewed in a different way in terms of pairs of polar opposites. Thirdly, emotions play an adaptive role in increasing the chances of survival when faced with emergencies.

2.4.1.2 Marketing Rationale and Applicability

Izard's (1977) Differential Emotions Scale (DES) measures ten primary emotions, and the DES II has been frequently applied in consumption emotion studies (Richins, 1997). The DES includes 30 adjective components; each of Izard's 10 primary emotions has 3 items to measure. However, a number of researchers have argued that there is a need for a broader sampling of emotions due to the dominance of negative emotions in Izard's scale (Laverie, Kleine, and Kleine 1993; Mano and Oliver 1993; Oliver 1987, Richins, 1997). Previous studies (Oliver, 1987, 1993; Westbrook, 1987; Westbrook and Oliver, 1991) extensively applied Izard's (1977) theory to investigate post-purchase emotions. Furthermore, they found a much simpler two-to-three dimensional illustration (i.e., mainly positive versus negative emotions), which was adequate for the understanding post-purchase satisfaction

Plutchik and Kellerman (1974) built up the Emotion Profile Index to measure emotions in humans. Plutchik's theory presents a refined account for a range of subtypes of advertising emotions (Zeitlin and Westwood, 1986; Havlena, Holbrook, and Lehmann, 1989). Holbrook and Westwood (1989) proposed a shorter measure of Plutchik's basic emotions. This scale includes three adjectives in each emotion, and participants need to state their felt intensity for each of the adjectives. Nevertheless, since its proposed circular structure of emotions is not easy to combine with the satisfaction-dissatisfaction dimensional post-purchase reactions, its measurement of consumption emotions is considered questionable (Havlena and Holbrook, 1986).

All in all, this perspective does not explain the causes of emotions, but rather groups together emotions which resemble one another, and hence it is inadequate to explain when a particular emotion will be felt. Further, it fails to explain why emotion groups have different behavioural reactions (Watson and Spence, 2007), although Izard and Plutchik argued that other more complicated emotions are the consequence of mixtures of their primary emotions. Ortony and Turner (1990, p. 315) criticised this on the grounds that "there is no coherent non-trivial notion of basic emotions as the elementary psychological primitives in terms of which other emotions can be explained". Consequently, this result in issues that call into question the validity of measures derived from the concept of primary emotions. Finally, this viewpoint has been criticised on the basis that human beings may often experience more than one emotion at the same time. In fact, individuals frequently

state that they experience mixed emotions (Chamberlain and Broderick, 2007). Thus, this categories approach does not suit the assumption and nature of this research, which conceptualises emotion as a dynamic process and works on the basis that consumers' emotional responses are usually experienced as mixed emotions.

2.4.2 Dimensions Approach

2.4.2.1 Themes

The acronym PAD represents the three dimensions of pleasure-displeasure, arousal-non-arousal, and dominance-submissiveness (Mehrabian and Russell, 1974; Russell and Mehrabian, 1977). It is thought that people's emotional states are affected by the stimuli in the setting and that responses are thus elicited (Newman, 2007). This perspective classifies emotion as an overall feeling construct where distinct emotional states can be described by their position in the three primary dimensions, and has generated much study in recent years (Athiyaman 1997; Chamberlain and Broderick, 2007; Mano 1990; Shapiro, MacInnis, and Park, 2002). It includes 18 semantic differential items, six each for each dimension. Its main propositions can be explained as follows. Firstly, emotional states comprise moods, feelings, and any other feeling-related notions. Secondly, the PAD dimensions distinguish all emotional states. Thirdly, the PAD dimensions are bipolar, meaning that pleasure and displeasure cannot exist together simultaneously.

2.4.2.2 Marketing Rationale and Applicability

This theory has been seen as valuable for investigating consumption emotions in retail surroundings (e.g., Mano and Oliver, 1993; Sherman, Mathur, and Smith, 1997), and for collecting the emotional elements of consumption experience (Havlena and Holbrook, 1986). Havlena and Holbrook (1986) stated "... the dimension approach is probably more useful than Plutchik's scheme for positioning consumption experiences in an emotion space and for developing experience-specific emotional profiles" (p.402). However, although the study by Holbrook and Batra (1987) indicated positive support for the PAD model, Havlena, Holbrook, and Lehmann (1989) presented a different viewpoint. Thus, it

is still not clear whether it is appropriate for understanding advertising emotions (Huang, 2001).

The PAD scale has been used widely by marketing researchers to appraise emotional responses to certain types of marketing stimuli. Both in terms of content and context, the purpose of this scale is unlike that of measures based on emotion theory. With regard to context, the PAD scale was intended not to capture the whole domain of emotional experience, but instead to measure emotional reactions to environmental stimuli, such as architectural spaces. Thus, its validity in evaluating emotional reactions to the interpersonal aspects of advertising and consumption cannot be presumed. The differences in content between the PAD scale and other measures are even greater. The PAD scale evaluates the perceived pleasure, arousal and dominance elicited by environmental stimuli rather than measuring emotions per se. Furthermore, it is clearly impossible to assume the existence of specific emotional states such as happiness, joy, anger, sadness or pride from individuals' PAD scores. Therefore, the PAD scale is best employed when a researcher is interested in measuring the dimensions underlying emotional states rather than in knowing the particular emotions being experienced by participants (Richins, 1997). Furthermore, this approach has been criticised because of its limited ability to distinguish precisely between emotions of a similar dimensional position (Watson and Spence, 2007). It is also complex, making it difficult for participants to understand the meaning of each dimension (pleasure, arousal and dominance) sufficiently well to be able report their emotional responses in the right position. Therefore, due to its inadequacy, the dimension approach has not been adopted for this research.

2.4.3 Cognitive Appraisals Approach

2.4.3.1 Themes

The cognitive appraisals approach states that each emotion is related to a specific pattern of appraisals, such as pleasantness, certainty and controllability, with cognitive evaluations are made on the surroundings (Arnold, 1960; Lazarus, 1991; Ortony, Clore, and Collins, 1988; Roseman, 1984; Scherer, 1984). This theory offers a more comprehensive way to explain slight nuances of emotions. The intention of this theory is to predict what emotions should be elicited in a given context and how evoked emotions influence an individual's

behaviour. Appraisals vary from the dimensions in that they are explanations of features of incidents that merge to elicit particular emotions, whereas the dimensions are inherent aspects of emotions themselves (Watson and Spence, 2007). It is commonly agreed that different people can have different emotional reactions (or no emotional reactions at all) to a similar situation (Bagozzi, Gopinath, and Nyer, 1999). The interpretive character of the cognitive approach supports the belief that an individual is an active agent in the production of meaning (Elliott, 1997). A significant characteristic ignored by the non-cognitive approaches is that emotions involve evaluations. The particular nature of the individual's emotions is a function of their appraisal of the circumstances as having some importance to themselves. Consequently, appraisal theories can be described as a functional approach to emotion. This approach can be used to explain a wide range of emotions, including those with similar dimension levels. The notion of appraisals was initiated by Arnold (1960). She described appraisal as the procedure through which the importance of a condition for an individual is determined. The cognitive appraisal approach was popularised by Richard Lazarus and colleagues, and explains coping responses to stressful situations (e.g., Folkman and Moskowitz, 2004; Lazarus, 1966, 1991; Lazarus and Folkman, 1984).

2.4.3.2 Marketing Rationale and Applicability

This approach has been applied to study consumption emotions and their affects on post-purchase behaviours (Nyer, 1997); the employment of heuristics (Tiedens and Linton, 2001); judging risk (Lerner and Keltner, 2000; Raghunathan and Pham, 1999); product evaluation (Lerner, Small, Loewenstein, 2004); coping with bad decisions (Yi and Baumgartner, 2004); and assessment of service failure recoveries (Dunning, O’Cass, and Pecotich, 2004). The cognitive appraisals approach has been regarded as a particularly applicable method for understanding consumers’ emotional responses in the marketplace (Johnson and Stewart, 2005). Researchers have suggested that this approach is a promising avenue for studying emotions in consumer behaviour contexts (Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). Based on the above, it is noticeable that the cognitive appraisals approach can offer a more widely applicable and more sophisticated method to explain emotions. Therefore, this approach is chosen for the current research. A more detailed discussion of the cognitive appraisals approach will be presented in Chapter 3 (Section 3.3).

2.5 Advertising Slogans

This section discusses advertising slogans and related studies. Slogans have been extensively employed as a constituent in advertising campaigns. In the USA, researchers estimated that consumers will have viewed about 350,000 advertisements by the age of 18 (Brierley, 1995). Advertisers normally use repetition and aim for continuity and maximum exposure; thus, advertisements are one of the most broadly shared experiences in most people's lives (Wright and Snow, 1980; Mitchell, Macklin, and Paxman, 2007). Slogans may have positive effects on brands and may function as carriers of brand equity (Dahlen and Rosengren, 2005; Rosengren and Dahlen, 2006). Slogans are normally considered to be valuable in constructing brand equity since they assist in the establishment and preservation of a strong brand identity and appear continuously throughout advertising campaigns (Reece, Bewrgh, and Li, 1994). In general, investors react positively to the announcement of advertising slogan changes, resulting in higher market values for enterprises. Mathur and Mathur (1995) indicated that announcements of advertising slogan changes affected an enterprise's annual profits increase by an average amount of US\$ 6-8 million.

2.5.1 The Definition of a Slogan

A slogan "is a short phrase used to help establish an image, identity, or position for an organization to increase memorability" (O'Guinn, Allen, and Semenik, 2003, p. 428). An advertising slogan is an expression that is written for its memory and recall potential, is often repeated to increase its recall (Wells, Burnett, and Moriarty, 1989) and supports the consumer in remembering the sponsor's particular brand when they meet with a set of alternatives (evoked set) (Katz and Rose, 1969). It may be surprising or unexpected and may employ parallel construction, alliteration, rhyme, or rhythm (Wells, Burnett, and Moriarty, 1989). It can turn a potentially negative image into a positive one, and may serve the function of generating and retaining clear images, relating the product to intangibles, and concentrating on aspects beyond product performance (Forbes, 1987). In the branding literature, a slogan is usually defined by the core of its common purpose: "Slogans are

short phrases that communicate descriptive or persuasive information about a brand” (Supphellen and Nygaardsvik, 2002, p386).

2.5.2 Previous Research on Slogans

With the intention of achieving a clear overview of previous studies on slogans, Table 2.1 displays the majority of articles published in the last two decades in consumer- based studies related to slogans. Generally speaking, it is believed that the review is rich enough to offer a broad vision of what has been examined in the research of slogans, and what the applied sampling methods, the applied research methods and the research findings are.

Many of the slogan-related studies have examined effects correlated to brand awareness. Recall and recognition are two main elements of memorability commonly employed to evaluate brand awareness. According to Table 2.1, one stream of research on advertising research focused on consumers’ ability to recall slogans, or were concerned with how to make a slogan memorable. For example, Dotson and Hyatt (2000) stated that by the age of ten, children have as much awareness of advertising slogans as their parents. Yalch (1991) found that when a slogan incorporated a jingle, music, or song it was easier for individuals to remember. Similarly, Reece, Bergh, and Li (1994) revealed that the figure of linguistic devices (amount and type of wordplay) used in a slogan resulted in better identification rates, which was considered as brand recall, and that television usage was significantly related to recall. In addition, age was significantly related to recall ability with younger adults, who have better recall ability than older adults. Moreover, men have better recall ability than women. Furthermore, the correlation between slogan complexity and recall has been examined. For instance, Bradley and Meeds (2002) pointed out that simple-syntax versions were beneficial in recognition. Advertising slogans with intermediate syntactic complication had a significantly positive influence on free morphemic recall and attitudes towards the advertisement. Another stream of slogan research examined the effects of “priming”. According to Fiske and Taylor (1984), priming exists when regular and current ideas come to mind with greater ease than ideas that are not currently or regularly activated. In advertising research, priming has been utilised to enhance the effectiveness of information processing and recall (Biehal and Chakravarti, 1986; Homer and Kahle, 1986; Keller, 1991; MacInnis, Moorman and Jaworski, 1991; Smith, 1992; Smith and Park, 1992). In Boush’s (1993) study, slogans were applied to prime various attributes of a fake

brand of soup. His findings revealed that the brand extensions were assessed more satisfactorily when they were perceived to match with the primed attributes. Pryor and Brodie (1998) later replicated Bouch's (1993) study and attained consistent results. This contributed supplementary evidence of the power of slogans in determining brand perceptions.

Dahlen and Rosengren's (2005) results showed that brand equity is a crucial factor affecting slogan learning and evaluation. Irrespective of the individuals' ability to match them correctly with a brand, slogans with a strong brand are better favoured and more familiar than slogans with a weak brand. Their findings indicated that the connection between the slogan and the brand has a greater influence when individuals confuse competing slogans with each other. In a competing environment, slogans may increase confusion between brands and bring disadvantage to the strong brand and advantage to the weak brand when inaccurately matched with brands. Thus, the main function of a slogan with a strong brand is to remind consumers of their favour for the brand. Conversely, a slogan with a weak brand should gather the advantages of slogan generalisation and less strong slogan-brand connection. Furthermore, Dahlen and Rosengren (2005) found that the mismatching of brands and slogans resulted from the different memory processes employed by individuals. They suggested using variations of slogans such as creating annoying and irritating slogans. This can be advantageous for slogans in a cluttered environment.

Moreover, the practical importance of slogans was well demonstrated by investigating changes in the market values of companies after announcements of slogan changes. Research conducted by Mathur and Mathur (1995) noted an increase in market values soon after changes to advertising slogans were announced and suggested that the thoughtful use of advertising slogans was valuable for corporations. This finding indirectly alluded to the value added to slogans and investors. Ennis and Zanna (1993) found that slogans could influence product beliefs, illustrating direct support for the value of slogans. Molian (1993) applied a large-scale survey to advertising decision-makers of companies. The findings concluded that, in terms of corporate identity, firms should see the slogan first and regard it as the primary issue. Dowling and Kabanoff (1996) employed the computer-aided text analysis technique to assess meanings of 240 advertising slogans. Five groups of slogans were found from 95 randomly selected issues on selected publications. They are positive and virtuous, economic collectives, equivocal, self-referent communication and

exaggeration. Supphellen and Nygaardsvik (2002) recommended a three-stage model for testing country slogans. The first phase includes a qualitative evaluation of associations elicited by slogans, the second phase evaluates slogan recognition and recall, and the third phase investigates the slogan in a commercial situation (e.g., integrated into advertisements) with the aim of gaining realistic measures of advertisement and brand awareness, brand attitudes and brand images. However, they only revealed results of the first phase testing of a slogan, leaving the applicability of the other two stages of the model unresolved.

Recently, Dimofte and Yalch (2007) investigated consumer responses to polysemous brand slogans. Their findings indicated that individuals were different in their responses to advertising using polysemous slogans, as differences existed in individuals' ability to access automatically the secondary meanings contained in slogans. Hence, it is essential to understand the differences among individuals in their automatic access-to-secondary-meaning ability in advertising responses. Miller, Clinton and Camey (2007) found that motivation, needs and involvement are significant factors affecting participants' preferences for certain military recruitment slogans. Kohli, Leuthesser, and Suri (2007) surveyed articles from different academic domains having associations with slogans, as well as investigating industry publications for related case studies, and suggested guidelines for creating effective slogans. Their suggestions for designing an effective slogan are: positioning the brand in an apparent way, joining the slogan to the brand, repeating the slogan, using jingles, employing the slogan at the outset, and being innovative with long-term aims.

Based on the above, slogans are considered to be useful in building brand equity (Rosengren and Dahlen, 2006). From a study of the relationship between announcements of slogan changes and financial performance, Mathur and Mathur (1995) revealed that changes in brand slogans influenced a firm's profits substantially, as mentioned previously. This finding indirectly indicates the value connected to slogans by marketers and investors. Studies in which slogans have been found to affect brand evaluations (Boush, 1993; Pryor and Brodie, 1998) and product beliefs (Ennis and Zanna, 1993) are in support of the value of slogans (Rosengren and Dahlen, 2006). Researchers have discovered several positive outcomes of brand slogans such as brand recall, improving product differentiation, and enhancing product beliefs and brand evaluations. Research has found that slogans with wordplay, ambiguity, high imagery, using jingles, and with moderate syntactic complexity were more memorable and popular. Many studies have been devoted to slogan evaluation

and learning, examining the effects of consumer demographics, media exposure, product usage, and slogan wording and modality. However, all these works were conducted in Western countries, and positioned from Western viewpoints. The majority of slogan survey research used convenience samples, with the exception of Reece, Bergh, and Li's (1994) study, which employed equal-interval sampling. All the studies used either qualitative or quantitative research methods. Interestingly, the position of emotion in advertising and consumer behaviour literature has changed since the 1980s and has attracted great interest in advertising and consumer based literature. However, as far as this researcher can ascertain, there is no research that models consumers' emotional responses to slogans and their effects on advertising slogans, leaving the issues untouched and unanswered.

Table 2.1: Research Exploring Advertising Slogan

Researcher	Title	Sample size	Sampling method	Method Country	Findings
Yalch (1991)	Memory in a Jingle Jungle: Music as a Mnemonic Device in Communicating Advertising Slogans	103	Convenience sample	Survey USA	When the slogans were integrated into an advertisement in the form of a jingle or song, music improved memory for advertising slogans.
Boush (1993)	How Advertising Slogans Can Prime Evaluations of Brand Extensions	174 (58 in each of three experimental conditions)	Convenience sample	Experimental USA	Brand extensions were assessed more satisfactorily when they were perceived to be matched with the primed attributes Brand slogans affected the acceptability of potential brand extensions. In addition, brand slogans modified the perceptions of the likeness of possible brand extensions to existing family-branded products and used their evaluation as appropriate extensions.
Ennis and Zanna (1993)	Attitudes, Advertising, and Automobiles	60 (study one) 40 (study two)	Convenience sample	Experimental Canada	Slogans have been found to affect product beliefs.
Molian (1993)	'I Am a Doughnut': Lessons for the Sloganeer	210	980 advertising decision-makers selected from the UK's top 3,000 advertisers, 100 were randomly selected from the MEAL categories	Survey UK	The findings advised that firms should see the slogan first and foremost in terms of their corporate identity.
Reece, Bergh, and Li (1994)	What Makes a Slogan Memorable and Who Remembers it	178	Equal-interval sampling	Telephone survey USA	The figure of linguistic devices (amount and type of wordplay) employed in a slogan had a significant positive effect on correct identification rates, which was considered as brand recall. The figure of themes comprised in a slogan did not have a significant influence on correct identification. Advertising budget and years in use did not have a significant effect on slogan identification. In addition, television usage was significantly correlated to recall ability; however, print media usage was not significantly correlated to recall ability. Finally, age was correlated significantly to recall, as younger participants had better recall ability than older participants. Men had better recall ability than women.

(continued)

Table 2.1 (continued)

Mathur and Mathur (1995)	The Effects of Advertising Slogan Changes on the Market Values of Firms	87 publicly traded firms	The firms that announced advertising slogan changes were compiled from articles in the Wall Street Journal.	Event study methodology. The firms were recognized from a variety of issues of the Wall Street Journal throughout the period 1/1/1987-31/12/1992 USA.	There existed significantly positive market-value effects on the announcements of alterations to advertising slogans. Thus, this study advised that careful employment of advertising slogan changes is advantageous for firms.
Dowling and Kabanoff (1996)	Computer-Aided Content Analysis: What Do 240 Advertising Slogans Have in Common?	240 advertising slogans	From 95 randomly selected issues on selected publications	Content analysis Australia	This article employed the computer-aided text analysis technique to assess meanings of 240 advertising slogans. Five groups of slogan were found.
Pryor and Brodie (1998)	How Advertising Slogans Can Prime Evaluations of Brand Extensions: Further Empirical Results	180 (60 in each of three treatments)	Convenience sample	Survey New Zealand	It was seen to be advantageous to match the brand extensions with the primed attributes. This resulted in the brand extensions being assessed more satisfactorily.
Dotson and Hyatt (2000)	A Comparison of Parents' and Children's Knowledge of Brands and Advertising Slogans in the United States: Implications for Consumer Socialization	109 complete sets (parent and child)	Convenience sample	Survey USA	The research revealed that by the age of 10, children have as much knowledge of advertising slogans as their parents. Future academic attention should be targeted on this area of marketing to children.
Supphellen and Nygaardsvik (2002)	Testing Country Brand Slogans: Conceptual Development and Empirical Illustration of A Simple Normative Model	103	Convenience sample	Survey Norway	Brand image and brand awareness were two key sources of country brand equity. Their proposed model can be a good tool in assessing potential country slogans to build brand image and brand awareness.
Bradley and Meeds (2002)	Surface-Structure Transformations and Advertising Slogans: The Case for Moderate Syntactic Complexity	96	Convenience sample	Experimental USA	Syntactic complexity did not influence the comprehension of advertising slogans. However, simple-syntax versions indicated advantage in recognition. Advertising slogans with medium syntactic complication had a significant positive influence on free morphemic recall and attitudes towards the advertisement.

(continued)

Table 2.1 (continued)

Dahlen and Rosengren (2005)	Brands Affect Slogans Affect Brands? Competitive Interference, Brand Equity and the Brand-Slogan Link	191 (H1, H2, H3) 98 (H4)	Convenience sample	Survey Sweden	This study indicated that slogans could function as carriers of brand equity. Slogan learning was biased by the brand's equity; therefore, slogans for strong brands were normally better favoured than slogans for weak brands.
Rosengren and Dahlen (2006)	Brand-Slogan Matching in a Cluttered Environment	289	Convenience sample	Survey Sweden	Mismatching of slogans and brands can be clarified by the different memory processes utilised by individuals. The cued retrieval process normally resulted in the correct brand-slogan match being identified. Conversely, the constructive memory process was responsive to memory misrepresentations.
Miller, Clinton, and Camey (2007)	The Relationship of Motivators, Needs, and Involvement Factors to Preferences for Military Recruitment Slogans	192	Convenience sample	Survey USA	Motivation needs and involvement were significant factors in participants' preferences for certain military recruitment slogans.
Kohli, Leuthesser, and Suri (2007)	Got Slogans? Guidelines for Creating Effective Slogans			Content analysis (surveyed articles from various academic domains correlated to slogans, as well as investigated industry publications for related case studies)	This study offered guidelines for creating effective slogans: slogans should be able to include the future's business -slogans should position the brand in a clear way, connecting the slogan to the brand, repeating the slogan, and jingle, using the slogan at the initial stage to prime the significance of certain attributes of a brand and in a creative way.
Dimofte and Yalch (2007)	Consumer Response to Polysemous Brand Slogans	129 (study one) 161 (study two)		Experimental USA	There existed differences in individuals' ability to automatically access the secondary meanings contained in slogans. Individuals were different in their responses to advertising using polysemous slogans; individuals' with high automatic access had stronger implicit connections between the advertised brand and the negative feature involved in the secondary meaning than individuals with low automatic access.

2.6 Identified Theoretical Research Problem in Emotions and Advertising Slogans

Overall, to a great extent the slogan-related research examined effects connected to brand awareness, issues concerning how to make a slogan memorable, and relationships between consumer demographic characteristics and slogan learning and assessment. Nevertheless, the situation of emotion in advertising and consumer behaviour literature has changed since the 1980s. As mentioned previously, this was initiated by Zajonc's (1980) study, who stated that emotion can function without cognition and should be viewed as being in a dominant position. Subsequently, emotion has drawn considerable attention and has been regarded as an important mediator between cognitive and behavioural consumer responses to advertising (Poels and Dewitte, 2006).

Moreover, important work on emotion by scholars from neuroscience such as Damasio (1994) and LeDoux (1996) has led to the common concurrence that emotions are critical constituents for rational decision-making behaviour (Poels and Dewitte, 2006). Based on the above views, advertising and marketing researchers have emphasised the highly significant character of emotion in decision-making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimerl, 2007). Hence, it is obvious that emotions govern cognition and require to be treated as the main aspect in the advertising process. Investigating the role emotion plays in advertising slogans is essential. Specifically, how do consumer's emotional responses to advertising slogans affect advertising effectiveness? This needs to be addressed in the advertising literature in order to uncover the role and nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness. Moreover, no work modelling consumers' emotional responses to advertising slogans and their effects on advertising effectiveness in the literature exists. In addition, all the slogan-related studies were conducted in Western countries, either in America, Canada or Europe (Table 2.1); with no researcher taking an Eastern viewpoint. This research is the first slogan research work conducted in an Asian country (Taiwan); and, more specifically, testing the slogans in Mandarin Chinese, which is one of the most widely spoken languages in the world (see Chapter 6). It is the first study to model how consumers' emotional responses to advertising slogans affect advertising effectiveness. Thus, this research aims to fill the research gap with the intention of making a significant theoretical contribution.

2.7 Summary

The present chapter has synthesised emotion and advertising related literature to identify the critical feature of emotions in the advertising process. The majority of advertising research has assumed that consumers have an underlying economic rationality. Advertising has been regarded as giving reasons and information to buy and/or prefer the brand. Generally speaking, the advertising industry has favoured comparatively simple hierarchical models, also called “persuasive hierarchy” or “hierarchy of effects” models (Meyers-Levy and Malaviya 1999, Vakrateas and Ambler 1999). This type of model has guided the advertising literature for many years (Poels and Dewitte, 2006; Vakrateas and Ambler, 1999). Advertising has long been seen as providing reasons to buy. However, in academic research, the critical role of emotion has commonly been neglected (Ambler, Ioannides and Rose, 2000).

Neuroscience scholars such as Damasio (1994) and LeDoux (1996) have made considerable advances in the study of emotion. Their work indicated disagreement with the rational view of decision-making behaviour. In addition, their influential work on emotions has resulted in the general agreement that emotions are crucial elements for decision-making behaviour, rather than a useless by-product (Poels and Dewitte, 2006). For instance, LeDoux (1996, p.32) claimed, “Neuroscientists have, in modern times, been especially concerned with neural basis of cognitive processes such as perception and memory. They have for the most part ignored the brain’s role in emotion”. Moreover, Damasio (1994) identified that most decisions are made on the basis of feelings, making decisions impossible without emotions. According to Damasio’s (1994) research, which worked with brain-damaged patients, “*patients with damage to certain regions of the brain (frontal lobes) who demonstrated poor perception were no longer able to plan their lives; they were no longer able to distinguish important from trivial information*” (p.85). Founded on these views, advertising and marketing scholars have highlighted the significant role of emotion in decision-making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimerl, 2007).

There is some inconsistency in the terminology used in relation to emotion (Bagozzi, Gopinath, and Nyer, 1999). The definition of an emotion used in this research is taken from Bagozzi, Gopinath, and Nyer (1999, p.184), who stated that, “*by emotion, we mean a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological process; is often expressed physically (e.g., in gestures, posture, facial features); and may result in specific actions to affirm or cope with the emotion depending on its nature and meaning for the person having it*”. The definition is consistent both with the views of researchers and practitioners and has been widely adopted by previous researchers (e.g., Chamberlain and Broderick, 2007; Lazarus, 1991; Oatley, 1992; Watson and Spence, 2007). Furthermore, as the cognitive appraisals theory will be chosen for the current research (Chapter 3, Section 3.3.2), this definition of emotion is well-suited to the nature of this research for conceptualising the research model.

There are three main theories of emotions: the categories approach, the dimensions approach and the cognitive appraisals approach, which have all borrowed from the psychological domain. Compared to the other two approaches, the cognitive appraisal approach can give a more detailed way to explain emotions, and it is also more sophisticated and appropriate than the other approaches in explaining emotion. Hence, this approach is chosen for the current research. There will be more comprehensive discussion of this in Chapter 3 (Section 3.3.2).

The majority of the previous studies on slogans in the last two decades have focused on investigating influences connected to brand awareness, issues regarding how to make a slogan memorable, and relationships between consumer demographic characteristics and slogan learning and assessment. Nevertheless, to the researcher’s knowledge, there does not exist any work modelling consumer’s emotional responses to advertising slogans and their effects on the advertising effectiveness. All the slogan-related studies were conducted in Western countries, with no work taking an Eastern viewpoint. This research, modelling consumers’ emotional responses to advertising slogans and their influences on the advertising effectiveness, is the first slogan research work conducted in the Asian country of Taiwan.

Following the identified research gap in the study of emotions in advertising, and advertising slogans, the next chapter will explore the literature in relation to the

consumer's perceptions of emotions, the consumer's emotional process and emotional responses to advertising.

Chapter 3 The Consumer's Emotional Corridor

3.1 Introduction

The purpose of this chapter is to provide a review and evaluation of relevant literature on consumers' perceptions of emotions that pertain to the topical but under-investigated themes of the dynamic nature of consumers' emotional process, mixed emotions, cognitive appraisals linked to mixed emotions and dominant emotions. Despite their critical nature and their potential benefits to advertising and consumer behaviour, these issues have received inadequate research attention in the literatures (Ruth, Brunel, and Otnes, 2002; Scherer and Ceschi, 1997; Sullivan and Strongman, 2003; Williams and Aaker, 2002).

The present chapter will firstly provide a brief review of the literatures on mixed emotions, the dynamic character of consumers' emotional process, cognitive appraisals, cognitive appraisals linked to mixed emotions and emotional dominance, in order to provide an integrative and comprehensive overview of the theoretical rationale for the consumer emotional corridor concept (see Section 3.6). Secondly, as derived from the review, the theoretical research problem is identified. Subsequently, the theoretical research aim and scope are defined. Finally, this chapter ends with a summary.

3.2 Mixed Emotions and the Dynamic Nature of the Emotional Process

3.2.1 Mixed Emotions

Although there has been substantial research in consumer behaviour concentrating on the influence of pure emotions in persuasion (e.g., Aaker and Williams, 1998; Edell and Burke, 1987; Holbrook and Batra, 1987), there has been less work seeking to understand mixed emotions and their consequences (Williams and Aaker, 2002). An increasing interest in the emotional nature of the persuasion processes and the role of conflicting psychological states makes this gap in the consumer behaviour literature even more significant (see, e.g. Bagozzi, Wong, and Yi, 1999; Mick and Fournier, 1998), particularly as the literature supports the proposition it is possible to feel more than one emotion in response to a

particular event (Ruth, Brunel, and Otnes, 2002; Scherer and Ceschi, 1997; Sullivan and Strongman, 2003).

The coexistence of two opposite emotions is currently one of the most debatable questions in emotion research. Some scholars have conceptualised the affect system within a psychological space formed by two discrete dimensions: positivity and negativity (e.g., Cacioppo and Bernston, 1994; Cacioppo, Gardner, and Bernston, 1997, 1999; Diener and Emmons, 1984; Larsen, McGraw, and Cacioppo, 2001). From this standpoint, since the two dimensions are discrete, two opposite emotions such as excited or happy (positive) and depressed or sad (negative) can be felt either in sequence or concurrently. Other researchers regard emotions that are located in a psychological space as being defined by two bipolar and orthogonal dimensions, namely, valence and activation (e.g., Green, Goldman, and Salovey, 1993; Russell and Carroll, 1999; Russell and Barrett, 1999). From this viewpoint, as the valence dimension is bivariate, two emotions opposite in their valence are mutually exclusive and can be felt in sequence instead of simultaneously. Larsen, McGraw, and Cacioppo (2001) demonstrated that although affective experience may normally be bipolar, the underlying processes, and occasionally the resulting experience of emotion, are better considered as bivariate. A considerable number of studies have suggested the existence of mixed emotional experience (e.g., Carrera and Ocejja, 2007; Diener and Iran-Nejad, 1986; Larsen and Fredrickson, 1999; Larsen, McGraw, and Cacioppo, 2001; Larsen, McGraw, Mellers, and Cacioppo, 2004; Schimmack, 2001, 2005). Advertisements exposing mixed emotions in sequence are common, and research on mixed emotions is of growing interest (e.g., Carrera and Ocejja, 2007; Labroo and Ramanathan, 2007; Larsen, McGraw, and Cacioppo, 2001; Priester and Petty 1996; Williams and Aaker, 2002). However, research thus far has not investigated the effect of mixed emotional responses on ensuing thoughts and behaviour. In addition, very few studies in marketing have considered the consequence of emotional ambivalence on subsequent thoughts and behaviour (Williams and Aaker, 2002). Understanding consumers' responses to mixed emotions, and more specifically, mixed positive and negative emotions, remains a gap in consumer research and marketing (Ruth, Brunel, and Otnes, 2002).

3.2.2 Proclivity to Accept Duality

The acceptance of duality means the ability to accept conflicting emotions (Basseches, 1980). Under what situations might the experience of duality cause negative outcomes? Proclivity to accept duality has been shown to differ with psychological characteristics, e.g. motivation (Kahle, Raymond, Gregory, and Kim, 2000); features of a decision problem, e.g. complicated extended decisions (Kahle, Raymond, Gregory, and Kim, 2000); demographic characteristics, e.g. education level (Basseches, 1980), cultural differences (Rothbaum and Tsang, 1998), individuals of varying maturity levels (Basseches, 1980), cultural differences and age differences (Williams and Aaker, 2002). For example, older people expressed their emotional experiences more clearly, were better able to deal with mixed emotions (Labouvie-Vief, Devoe, and Bulka, 1989) and were less disturbed by the ambiguity and uncertainty of emotionally burdened problems (Blanchard-Fields, 1997) than younger people. Williams and Aaker (2002) showed that realism underlies the effectiveness of mixed emotional appeals. Consumers with a higher tendency to accept duality had more positive attitudes towards the appeal, while consumers with a lower tendency to accept duality had more negative attitudes towards mixed emotional appeals.

3.2.3 Continuous Measures of Emotions

It is clear that mixed emotions in response to a particular event or advertisement can occur. Collecting continuous data about how emotions develop over a period of time, such as by Larsen and Fredrickson's (1999) rating dial or Larsen, McGraw, Mellers and Cacioppo's (2004) button techniques, has been shown to be a promising area in emotion research, but real-time rating of several specific emotions continues to be difficult for participants, although attractive to researchers. Carrera and Ocejja (2007) asked participants to complete the Analogical Emotional Scale (AES) just after exposure to emotional stimulus and this was found to be a less intrusive way of allowing them to describe their emotional flow.

More recently, the continuous measure of consumers' responses to advertisements has been attracting a wealth of research interest. To date, this research has chiefly focused on the monitoring of consumers' affective responses. For instance, in the moment-to-moment ratings, participants were asked to mark an advertising stimulus by indicating in real time the perceived degree of a specific emotion or an emotional dimension compared to a

(neutral) reference point (Poels and Dewitte, 2006). The “warmth monitor” (Aaker, Stayman, and Hagerty, 1986) is one of the most essential moment-to-moment rating instruments in advertising research. In this, participants were required to move a pencil down a paper when viewing an advertisement and moving the pencil from left to right to specify how warm their feelings were at each given moment in the warmth monitor. Another comparable instrument called the “feelings monitor” was employed by Baumgartner, Sujan, and Padgett (1997), in which participants were required to move a cursor from left to right signifying whether the advertising stimulus elicited positive or negative feelings at any given moment in this computer-based measurement instrument. In addition, Rossiter and Thornton (2004) conducted the moment-to-moment ratings to measure continuous fear-to-relief reactions to an anti-speeding advertisement. This school of thought concentrated on a number of key issues, such as examining the relation between moment-to-moment affective responses and overall advertisement judgments (e.g., Aaker, Stayman, and Hagerty, 1986; Baumgartner, Sujan, and Padgett, 1997; Hughes 1992; Polsfuss and Hess, 1991); testing the validity and reliability of methods utilized to measure moment-to-moment responses to advertisements (e.g., Aaker, Stayman, and Hagerty, 1986; Vanden Abeele and MacLachlan, 1994); examining the impact of advertisement sequencing (e.g., Aaker, Stayman, and Hagerty, 1986; Vanden Abeele and MacLachlan, 1994); and exploring the connection of real-time response measures to cognitive outcomes such as recall (e.g., Thorson and Friestad, 1989; Young and Robinson, 1989).

Most advertising with a considerable feeling component involves heavy repetition (Aaker, Stayman, and Hagerty, 1986). Important lessons from neuroscience have revealed that emotional and memory systems are dynamic and change from moment to moment (DuPlessis, 2006; LeDoux, 1995, 1997, 2002; Marci, 2008). Continuous measurements of emotional feelings become essential as theorists come to conceptualize emotions as fluid processes instead of stable states (e.g., Fenwick and Rice, 1991; Larsen, McGraw, Mellers, and Cacioppo, 2004; Scherer, 2009; Stayman and Aaker, 1993) and can help to understand both the nature and effect of specific feelings (Aaker, Stayman, and Hagerty, 1986). Scherer (2009) demonstrated that the features of emotions are dynamic and processed in a recursive manner. Furthermore, there is strong evidence to show that human biology is robustly connected with the brain, memory and emotional responses (Ledoux, 1996). Modern neuroimaging has consistently demonstrated activities in the prefrontal cortex and emotional centres of the brain through physiological responses (e.g., Critchley, Corfield, Chandler, Mathias, and Dolan, 2000; Patterson, Ungerleider, and Bandettine, 2002). In

most studies of the judgment of emotional responses, researchers have used static forms. Regardless of their questionable ecological validity, such statements may lack fundamental indications for the differentiation of emotional responses.

3.2.4 The Integration of Moment-to-Moment Responses into Overall Evaluations

Advertising commercials can be structured to extract various affective responses that continuously shift while the advertising commercial unfolds (Baumgartner, Sujan, and Padgett, 1997). The researcher is faced with the question as to whether the existing system relationships between these different affect patterns influence the individuals' overall advertisement judgments. Past researchers have offered some recommendations as to how viewers incorporate their moment-to-moment emotional responses into an overall assessment of the advertisement. For example, Aaker, Stayman, and Hagerty (1986), Polsfuss and Hess (1991) and Thorson and Friestad (1989) employed the mean response across the advertisement as a sign of overall ad assessment. Respondents calculated an average value of their responses across the advertisement and applied this as an alternative measure for their appraisal of the advertisement. This technique was the implied assumption of these studies. In addition, other advertisement moments and advertisement features acknowledged in the literature contained balances of positive and negative changes, range of responses (e.g., Thorson, 1991) and the end state (e.g., Aaker, Stayman, and Hagerty, 1986).

Baumgartner, Sujan, and Padgett (1997) integrated moment-to-moment emotional responses into overall advertisement evaluations and found that consumers' overall assessments of extended affective episodes elicited by advertisements were dominated by the peak emotional experience and the last moment of the series. Furthermore, these are related with the pace at which momentary affective reactions improve over time. Although longer advertisements have a benefit if they build towards a peak emotional experience, advertisement duration is correlated only weakly to overall advertisement assessment. Similar to Baumgartner, Sujan, and Padgett's (1997) findings, some researchers proposed the peak-and-end rule (e.g., Fredrickson, 2000; Kahneman, Fredrickson, Schreiber, and Redelmeier, 1993; Larsen and Fredrickson, 1999). The peak-and-end rule pointed out that people's overall assessments of past affective episodes can be forecasted by the affect

experienced throughout two key moments: the moment of peak affect intensity and the ending. The duration of the episodes has no influence at all. In addition, Fredrickson (2000) mentioned that peaks and ends gain importance since they carry self-relevant information; specific emotions bring also self-relevant information. In other words, those that bring the most self-relevant information can be found to dominate the retrospective evaluation of individuals.

The current research proposes that the previous research findings of overall assessments of moment-to-moment responses should be viewed with caution and may not be applicable to measuring consumers' emotional responses to advertising slogans. Firstly, calculating the mean score across the advertisement as a sign of overall advertisement assessment is not appropriate. The identical mean could be generated by a flat affect pattern and affect curves with positive or negative slopes, but respondents may not assess them in the same way (Hughes, 1992). Secondly, identifying positive and negative changes, or indicating the end point as a sign of overall evaluation also proves problematic. These studies have been criticised because there is a lack of systematic relation of what affect patterns consumers prefer in advertisements (Baumgartner, Sujan, and Padgett, 1997). Thirdly, the peak-and-end rule is not adequate for the nature of this study. Since this study focuses on modelling consumers' emotional responses to advertising slogans, there are two main points of emotional states - which one should be chosen as the most important one and modelled as a significant variable? It is also not suitable to use the average value of these two points; as mentioned previously, the same average value may not have the same meaning to consumers. In addition, an advertising slogan is normally a short phrase, and it is rare that an individual can have a peak affect and an end affect within a short sentence, although he/or she may have mixed emotions regarding the advertising slogan.

3.3 Cognitive Appraisals

3.3.1 Major Features of the Cognitive Appraisal Theory

A significant feature neglected by the non-cognitive approaches is that emotions involve evaluations. It is believed that different people can have different emotional responses (or no emotional response at all) to a similar event or occurrence. Bagozzi, Gopinath, and Nyer (1999) stated that appraisals can be deliberate, purposeful, and cause awareness; in

addition, in another situation they may be unreflective, automatic, and not give rise to awareness. This depends on the person and the eliciting conditions for emotional arousal. The vital nature of appraisals in the configuration of emotions has been to define appraisal theories in psychology (e.g., Arnold, 1960; Frijda, 1986; Lazarus 1991; Ortony, Clore, and Collins 1988; Roseman, 1991; Smith and Ellsworth 1985). The specific character of the individual's emotion is a function of their appraisal of the situation as having some significance to themselves. Consequently, appraisal theories can be regarded as a functional approach to emotion. The concept of appraisal was initiated by Arnold (1960). She described appraisal as the process through which the importance of a situation for an individual is determined. Arnold defined emotions as "felt action tendencies" that characterise experience and are differentiated from mere feelings of pleasantness or unpleasantness.

Frijda (1986) defined emotions as changes in behaviour readiness - changes in readiness for behaviour, changes in cognitive readiness, changes in action tendencies or changes in readiness for precise concern-satisfying activities. It is suggested that the existence of primary and secondary appraisals in the process of emotion elicitation exist where incidents are continuously monitored regarding their concern relevance and coping possibilities (Frijda, 1993). The emotional motivations will cause emotional goals that convert desire or uneasiness into the expected final states (Frijda, 2004).

Goal desires affect emotional responses. Frijda (1986, p. 98) stated that emotions are often defined by an intentional construction and that these intentional configurations are "engendered as part of the plan to fulfill a given action tendency." The possibility exists that behaviour "can be motivated by the anticipation of emotion that could or will occur" Frijda (1986, p. 97). Based on the above issues, Bagozzi, Baumgartner and Pieters (1998) proposed an "emotional goal system" model, in which the process starts with a goal situation, which includes a person's subjective evaluation of all the features of the circumstances that are related to the pursuit of a given goal. This perception is based on a person's appraisal of aspects of the situation. This cognitive appraisal approach presumes underlying evaluations of a situation merging to induce specific emotions, and it is possible to account for most emotions (Bagozzi, Gopinath, and Nyer, 1999).

Cognitive appraisal theory was popularised by Richard Lazarus and colleagues to clarify coping responses to stressful situations (e.g., Folkman and Moskowitz, 2004; Lazarus,

1966, 1991; Lazarus and Folkman, 1984). The appraisals vary from dimensions in that they are explanations of characteristics of events that merge to cause particular emotions, while dimensions are inherent features of emotions themselves (Watson and Spence, 2007). Lazarus (1991) proposed that appraisals are both essential and adequate for emotion, initiated consciously or unconsciously.

Significant lessons from neuroscience have revealed that emotional centres are closely interrelated with the cognitive centres of the brain and receive information prior to and affected by cognitive processing and behaviour (DuPlessis, 2006; Marci, 2006). Bagozzi, Gopinath, and Nyer (1999) and Johnson and Stewart (2005) declared that cognitive appraisal theory shows potential for pursuing the study of emotions in marketing contexts. Cognitive appraisal theory concentrates on three core questions Firstly, what are the fundamental features inherent in events that are evaluated or appraised? Secondly, what, if any, emotions are experienced as a consequence of this appraisal process? Finally, what are the behavioural reactions to the experienced emotions? (Watson and Spence, 2007):

In addition, Scherer (2001) proposed the idea that emotion discrimination can be affected by a sequence of “stimulus evaluation checks”. Scherer, Ortony, Clore, and Collins (1988) also addressed the issue of emotional discrimination; however, rather than describing every possible emotion, they proposed emotion types, where emotions function at a clustered level, with each cluster sharing similar occasions. The interpretive nature of cognitive appraisal theory supports the concept that the consumer is “an active agent in the construction of meaning” (Elliott, 1997, p. 285). Consequently, both in use and extent, the cognitive appraisal approach is more sophisticated than the other approaches to studying emotions (Watson and Spence, 2007).

3.3.2 Evaluations of Cognitive Appraisal Theory

3.3.2.1 Advantages of Cognitive Appraisal Theory

Appraisal theories of emotion are among the most important theoretical developments in explaining emotions. These theories state that each emotion is related to a specific pattern of appraisals, such as pleasantness and controllability, on which cognitive evaluations are made (Arnold, 1960; Lazarus, 1991; Ortony, Clore, and Collins, 1988; Roseman, 1984).

There are many advantages of cognitive appraisal theory. First, appraisal theories have substantial empirical support. For instance, emotion appraisal profiles are generally well validated, both by experimental studies (e.g., Neumann, 2000; Smith and Lazarus, 1993) and correlation studies (e.g., Scherer, 1997a, 1997b; Smith and Ellsworth, 1985, 1987). In addition, these profiles are generalisable across numerous cultures (e.g., Mauro, Sato, and Tucker, 1992; Roseman, Dhawan, Rettek, Naidu, and Thapa, 1995; Scherer, 1997a, 1997b). Second, the interpretive nature of cognitive appraisal theory supports the concept that the consumer plays an active part in constructing the meaning (Elliott, 1997). Thus, according to Watson and Spence, (2007), the cognitive appraisal approach is more refined in both function and scope than other approaches. Third, the appraisal view is similar to PAD (see Chapter 2, Section 2.4.1.2 for details) in that dimensions are used to provide insight into similarities and differences between emotions in some aspects. Both approaches find that pleasantness (or valence) is a primary means of differentiating emotions. However, appraisals are centred on perceptual evaluations of the circumstances with respect to well-being, while dimensions such as arousal are not. Appraisal theory also amplifies many more dimensions than PAD approaches, thus potentially enabling a richer understanding of each individual emotion (Reisenzein and Hofmann, 1993). Fourth, the value of appraisal theory to marketing has been further manifested by the experimental studies that have recognised a cause-and-effect relationship between appraisals and consumption emotions (Ruth, Brunel, and Otnes, 2002). Fifth, another value of appraisal theories is that it is possible to account for most emotions (Bagozzi, Gopinath, and Nyer, 1999). Sixth, unlike other theories of emotion that regard it in bipolar terms, for example, pleasure-displeasure and high arousal-low arousal (e.g., Russell, 1980) or high negative affect-low negative affect and high positive affect-low positive affect (e.g., Watson and Tellegen, 1985), appraisal theory permits the inclusion of many distinct emotions and specifies conditions for their phenomenon. Finally, an explanation of appraisal theories that is especially applicable for marketing is the treatment of goals. Bagozzi, Gopinath and Nyer (1999) pointed out that the self-regulation of goals could be the main role of emotions.

3.3.2.2 Disadvantages of Cognitive Appraisal Theory

Despite their benefits, appraisal theories are not without their drawbacks. Much of the criticism of appraisal theories concerns the methods utilised (Lazarus, 1995; Scherer,

1999). One approach is to ask participants to recall a personal incident including either a particular emotion (e.g., Mauro, Sato, and Tucker, 1992; Smith and Ellsworth, 1985), or appraisal (e.g., Ellsworth and Smith, 1988a, 1988b), or linking mixed emotions and appraisals (e.g., Ruth, Brunel, and Otnes, 2002). Yet, in this way, the likelihood of biased recall cannot be ignored (Frijda, 1993). It was also found that the intensity of mixed emotions is usually underestimated at the time of recall (Aaker, Drolet, and Griffin, 2008). Another approach is to use vignettes alongside some appraisal dimensions and to ask participants to specify their emotional reactions to the vignettes. This is a common technique (e.g., Roseman, 1984; Smith, Haynes, Lazarus, and Pope, 1993). However, it has been argued that participants may depend on their stereotypical beliefs of emotions in formulating their responses (Parkinson, 1997).

Furthermore, the laboratory-based nature of these studies gave rise to other problems (Lazarus, 1995). First, eliciting certain emotions such as anger or sadness may cause ethical concerns. Second, it is usually difficult to evoke emotions reliably; even if the proper emotion is produced, its intensity may be low as compared to its occurrence in nature. These concerns have encouraged researchers to study emotions and appraisals in natural situations. For instance, Smith and Ellsworth (1987) conducted a study that asked students to give their emotional and appraisal responses before and after an exam. Scherer and Ceschi (1997) investigated airline passengers whose luggage was lost and interviewed them about their feelings and concerns. Tong et al (2007) requested police officers to rate their current emotions and appraisals “on-line” while they went about their work-routine. In the above studies, key appraisal-emotion predictions were supported. Moreover, in these emerging studies, there is no fixed description or definition. For instance, Watson and Spence (2007) proposed four key appraisals, Roseman (1991) supported five appraisals, Smith and Ellsworth (1985) recommended six, and Scherer (1988) recognized as many as nine. Since these appraisals are now being applied in the marketing literature, these are significant issues. Moreover, consumption circumstances can be emotionally charged. Classifying the causes of emotions can improve the understanding of consumer behaviour; the cognitive appraisal theory will serve this purpose (Watson and Spence, 2007). However, an agreement has not yet been reached regarding terminology, number of related concepts and associated construct measurements, and theoretical linkages between constructs.

3.3.3 Significance of Cognitive Appraisals

There are three main streams of theoretical debate regarding the conceptualisation of emotions. One psychological perspective is that emotions are discrete entities. This approach is called the categories approach. The categories approach clusters emotions around prototypes and regards their different effects on consumption-related behaviour. However, this method fails to explain why emotion groups have different behavioural effects and this perspective has been criticized, as individuals may experience more than one emotion simultaneously. Another perspective identifies emotion as a global feeling construct where different emotional states can be described by their position on three primary dimensions: pleasure-displeasure, arousal-nonarousal, and dominance-submissiveness (Mehrabian and Russell, 1974; Russell and Mehrabian, 1976). This school of thought states that each dimension may affect consumer behaviour differently and has been widely accepted by many researchers (Chamberlain and Broderick, 2007). Nevertheless, the dimension approach does not have the ability to explain differences between behaviours driven by emotions of similar pleasure, arousal and dominance levels, such as cosiness and romance.

As a result of the above limitations of the categories and dimension approaches, researchers (e.g., Bagozzi, Gopinath, and Nyer, 1999; Roseman, 1991; Johnson and Stewart, 2005) have suggested a cognitive approach to gain a more detailed insight into the impact of specific emotions. The cognitive appraisals approach uses the fundamental motivational and evaluative origins of emotions to explain their influences on consumption-related behaviours. According to these scholars, emotions are the consequence of cognitive appraisal of surroundings. This approach clarifies many more dimensions than the “valence-arousal” approach to differentiate feelings, and is likely to provide a more comprehensive understanding of individual feelings (Faseur and Geuens, 2006). This approach could explain how an extensive range of emotions, including those with similar valence and arousal levels, are elicited and how they result in different behavioural responses (Watson and Spence, 2007).

Cognitive appraisal theorists consider that emotions are elicited from a subjective evaluation of the situation and that it is not the actual situation that induces emotions, but the psychological assessment (Lazarus, 1991, 2001; Ortony, Clore, and Collins, 1988; Roseman, 1991; Scherer, 2001). Cognitive appraisal theory is known as a cause-and-effect

relationship between appraisals and consumption emotions (Ruth, Brunel, and Otnes, 2002). Cognitive appraisals can be used to explain the effect of emotions on consumer behaviour. Researchers have verified that different emotions with similar valences and levels of arousal can cause very different consumption-related behaviour, such as the use of heuristics (Tiedens and Linton, 2001); the probability of giving negative word-of-mouth (Nyer, 1997); judging risk (Lerner and Keltner, 2000; Raghunathan and Pham, 1999); product evaluation (Lerner, Small, and Loewenstein, 2004); coping with bad decisions (Yi and Baumgartner, 2004); and assessment of service failure recoveries (Dunning, O’Cass, and Pecotich, 2004).

Furthermore, numerous relevant studies are found in the decision-making literature. For example, in Lerner and Keltner’s (2000) study, anger and fear were shown to lead to more optimistic and pessimistic judgments, respectively. Lerner, Small and Loewenstein (2004) demonstrated that sadness reverses people’s selling and choice prices for a product relative to a neutral situation. Raghunathan and Pham (1999) found that sad people chose higher risk-reward selections than did anxious people. Rucker and Petty (2004) stated that anger and sadness resulted in active and passive holiday preferences correspondingly. There is a growing consensus that appraisals are one of the central underlying mechanisms in the component approach to emotion (Frijda, 2007a, 2007b; Scherer, 2005, 2007, 2009). Based on the above, it is apparent that the cognitive appraisal approach can give a more comprehensive way to explain slight distinctions in emotions, and it is more sophisticated than the other approaches in explaining emotion.

3.4 Linking Thoughts to Cognitive Appraisals and Mixed Emotions

While emotions have been shown to have considerable influence on various consumer behaviours, the cognitive appraisals linked to mixed emotions have not been fully explored (Ruth, Brunel, and Otnes, 2002). “Human systems do not exist in isolation. Rather, they have multiple interactions among themselves as well as with the external and internal environment” (Glass and Mackey, 1988, p. 10). “Emotions are not “islands unto themselves”. They are sensitive and interact with other emotions as well as environmental, biological, and social systems” (Mayne and Ramsey, 2001, p.26). Human emotions exist as part of an emotion system, and they are probably influenced by the emotions that precede them, and influence those that follow. In addition, Richins (1997, p.144) pointed out that

we need to recognise “in depth, the character of individual consumption-related emotions and identify their antecedent states”. There is increasing agreement that the elicitation and differentiation of emotions can best be understood as the consequence of the subjective appraisal of the importance of events for individuals (Scherer, 1999). However, limited research in marketing concentrates on the situational conditions, or antecedents, associated with consumption emotions (Bagozzi, Gopinath, and Nyer 1999; Nyer 1997; Ruth, Brunel, and Otnes 2002), and even mixed emotions (Ruth, Brunel, and Otnes 2002).

It has been posited in the literature, and it is also rational, that feeling more than one emotion in response to a certain event can occur (Ruth, Brunel, and Otnes, 2002; Scherer and Ceschi, 1997; Sullivan and Strongman, 2003). One or more of the underlying appraisals of a situation could be vague, resulting in ambiguous or mixed emotions (Watson and Spence, 2007). Most research has asked respondents to recall a past event and indicate one felt emotion, but only a few studies have investigated the existence of mixed emotions (Smith and Ellsworth, 1987; Ruth, Brunel, and Otnes, 2002).

As mentioned by Richins (1997), the range of emotions experienced by consumers is very wide. Outside the laboratory, experiencing a single emotion is fairly rare compared with experiencing two or more emotions (Folkman and Lazarus, 1985; Polivy, 1981; Schwartz and Weinberger, 1980). Undeniably, many particular consumption experiences encompass mixed emotions or ambivalence. For example, imagine a consumer who was surprised and glad to find a particular product that he/or she had been looking for a long time and was very happy to buy this product; but felt guilty as he/or she spent too much money on the product. Otnes, Lowrey, and Shrum (1997) defined consumer ambivalence as the experience of multiple positive and/or negative emotions in one consumption experience. These mixed emotions may co-occur or occur in sequence (Ortony, Clore, and Collins, 1988). Past research has revealed that mixed emotions are associated with consumption experiences such as gift exchange (Otnes, Ruth, and Milbourne, 1994), white water rafting (Arnould and Price, 1993), gift receipt (Ruth, Brunel, and Otnes, 2002), and consumer responses to advertising (Edell and Burke, 1987; Larsen, McGraw, and Cacioppo, 2001; Priester and Petty, 1996). Advertisements exposing mixed emotions sequentially are common; most advertising with a considerable feeling component involves heavy repetition (Aaker, Stayman, and Hagerty, 1986). However, there should be a rational connection between consumption emotions and the situational conditions wherein they are experienced; as a consequence, our understanding of such emotions and their effects in

marketing could be significantly advanced. This knowledge can give substantial insight to marketing managers seeking to influence specific consumption emotions strategically (Ruth, Brunel, and Otnes 2002).

Numerous studies (e.g., Dunning, O’Cass, and Pecotich, 2004; Lerner and Keltner, 2000; Lerner, Small, and Loewenstein, 2004; Nyer, 1997; Raghunathan and Pham, 1999; Tiedens and Linton, 2001; Yi and Baumgartner, 2004) have proved the validity of the cognitive appraisal approach and have confirmed many of the specific hypotheses proposed by appraisal scholars. This has produced an accumulation of findings and resulted in prevalent agreement of cognitive appraisal theory as a suitable explanation for the elicitation of many types of emotional experiences and reactions. However, the process of appraisal has remained comparatively unexplored. Many emotion scholars seem to imply that emotions are static states (e.g., Morris, Woo, Gason, and Kim, 2002; Williams and Aaker, 2002; Yoo, Park, and MacInnis, 1998). Nonetheless, special attention needs to be paid to emotion episodes that are characterised by continuous changes in the underlying appraisals and reaction processes (Frijda, 1986; Smith and Ellsworth, 1987).

Only a few appraisal theorists have committed attention to the micro-genetic developments underlying the perception and assessment of situations, actions, or events. For instance, Scherer (1984, 1986, 1988, and 1999) demonstrated the component process model as one of the applicable approaches. This model assumes that the stimulus evaluation checks (SECs) (i.e. the appraisal of the event on a set number of theoretically hypothesised appraisal dimensions) take place in a fixed sequence. This approach presumes that appraisal process is continuously operative; the sequential stimulus evaluation checks are expected to arise in very fast sequence. As a result of the continuous operation, sudden changes can take place throughout emotion processes, which are usually derived from the re-evaluation of the individual’s coping potential or of the incident (Lazarus, 1968). It does not seem irrational to suppose that earlier checks are more likely to be processed automatically, at lower levels of the central nervous system, and successively, before the commencement of higher-level processing (Scherer, 1993; van Reekum and Scherer, 1997). This has been proved by research in neurophysiology. For instance, LeDoux (1989, 1993) studied the brain mechanisms in rats concerned with appraising the affective significance of conditioned fear-arousing stimuli. This investigation demonstrated that simple stimulus elements are speedily evaluated in a sequential mode (via sensory pathways to the amygdala) according to their fundamental importance for the individual’s well-being;

subsequently, more complicated but slower appraisal of the stimulus' importance are evaluated by cortical association regions. One of the chief disadvantages of the sequence assumption is that the procedure would be too slow (e.g., Lazarus, 1991, p. 151). However, the neurophysiological study mentioned previously (LeDoux, 1989, 1993) confirmed that sequential processing would not be too slow to account for the particularly fast commencement of emotional reactions. Scherer (1984, 1987) stated that these sequential processes might arise within milliseconds. Numerous neuroscientific studies (e.g., Baldwin and Kutas, 1997; Coles, Smid, Scheffers, and Otten, 1995; Eimer, 1995, 1997; Pauli et al., 1997; Pynte, Besson, Robichon, and Poli, 1996) have verified that complicated stimulus coding involving meaning analysis occurs between 200 and 800msec, with elementary stimulus processing taking not more than 100msec. Therefore, it is rational to presume that sequential processes of cognitive appraisals encompassing several stages can arise in less than one second. In addition, recent work by Scherer (2005, 2009) confirmed that emotions are conceptualised as an emergent, dynamic process derived from an individual's subjective appraisal of an important event; the characteristics of emotions are dynamic and are processed in a recursive manner. He also stated that to model and study the dynamic nature of the appraisal process can result in more sufficient clarifications of the emotion process (in the sense of continuously variable states of mixed emotions) and can bring appraisal theory nearer to other research areas regarding the study of cognitive processes and emotion-cognition interaction.

3.5 Emotional Dominance

It has been posited in the literature and it also logical, that it is possible to feel more than one emotion in response to a particular occurrence (Ruth, Brunel, and Otnes, 2002; Scherer and Ceschi, 1997; Sullivan and Strongman, 2003). The frequency of mixed emotions may diminish the systematic connection between appraisals and consumption emotions. In single, unmixed emotions, the prototype of appraisals should be related only to that one target emotion, while a circumstance of mixed emotions implies that the appraisal pattern for one emotion may be dominant but not quite as clear as the situation of one, single unmixed emotion (Ortony, Clore, and Collins, 1988; Ruth, Brunel, and Otnes, 2002). For instance, according to Ortony, Clore, and Collins (1988), the emotions of joy and satisfaction could be elicited by the same incident; appraisals are likely to reflect the emotion with more intensity, but less clarity than when only one emotion is elicited. One

or more of the underlying appraisals of a situation could be vague, making felt emotions unclear or mixed. It is mostly assumed that a dominant emotion occurs together with other less prominent emotions. One emotion may be dominant over another, instead of conflicting emotions being experienced in equivalent intensity (Williams and Aaker, 2002). Researchers from the field of psychology (e.g., Bower and Cohen, 1982; Clark, 1982; Davidson, Ekman, Saron, Senulis, and Friesen, 1990; Izard, 1972; Polivy, 1981; Schwartz, 1990; Schwartz and Weinberger, 1980) have argued that an incident may evoke emotions of mixed intensity – one dominant and several non-dominant emotions, which are firmly embedded in memory, in connection with the stimulus representation. In other words, the dominant as well as the non-dominant emotions are triggered by a stimulus, are fixed in memory and become associated with the representation of the stimulus itself. As noted previously, in this situation, the peak-and-end rule advises that the emotion with the strongest intensity and/or last felt emotion will be best remembered (Fredrickson, 2000; Kahneman, Fredrickson, Schreiber, and Redelmeier, 1990; Larsen and Fredrickson, 1999; Redelmeier and Kahneman, 1989). Furthermore, Griffin, Drolet, and Aaker (2002) found that an individual's memory of mixed emotions is inclined to become memory of pure emotion and become more polarised over time. However, there were instances when a given set of antecedent conditions caused both a positive and negative emotion. This raises the question whether in such a situation one emotion dominates or are their effects neutralised (Watson and Spence, 2007). This still leaves a gap in consumer research literature.

3.6 Identified Theoretical Research Problem - The Consumer's Emotional Corridor

The review of the literature on emotion research indicates that the study of mixed emotions, continuous emotions and continuous measures of emotions have become more attractive to researchers because of their significance. It is common sense to assume that it is possible to experience more than one emotion as a reaction to a single event. Outside the laboratory, experiencing a single emotion is comparatively rare compared with experiencing two or more emotions (Folkman and Lazarus, 1985; Polivy, 1981; Schwartz and Weinberger, 1980). It is also evident that mixed emotions in response to a particular advertisement can appear. Most advertising contains elements of considerable feeling and heavy repetition (Aaker, Stayman, and Hagerty, 1986). Thus, the continuous measure of consumers'

responses to advertisements has been attracting the attention of many advertising researchers recently.

Furthermore, an important feature ignored by non-cognitive approaches, is that emotions involve evaluations. Evidence from neuroscience shows that emotional centres closely interact with the cognitive centres of the brain and receive information previous to and affected by cognitive processing and behaviour (DuPlessis, 2006; Marci, 2008). Bagozzi, Gopinath, and Nyer (1999) and Johnson and Stewart (2005) have suggested that the cognitive appraisal approach demonstrates great potential for pursuing the study of emotions in marketing perspectives. Moreover, there is increasing agreement that appraisals are one of the essential underlying instruments to a component approach to emotion (Frijda, 2007a, 2007b; Scherer, 2005, 2007, 2009). Thus, founded on the above, it is clear that the cognitive appraisal approach can give a more comprehensive way to explain the minor differences between emotions, and it is more sophisticated than the other approaches seeking to explain emotions. Although emotions have been shown to have substantial effects on consumer behaviour, the cognitive appraisals linked to mixed emotions have not been fully explored. Whilst a situation of mixed emotions indicates that the appraisal pattern for one emotion may be dominant but not quite as clear as the situation of one, single unmixed emotion (Ortony, Clore, and Collins, 1988; Ruth, Brunel, and Otnes, 2002). One emotion may be dominant over the other, instead of conflicting emotions experienced in equivalent intensity. Researchers from psychology (e.g., Bower and Cohen, 1982; Clark, 1982; Davidson, Ekman, Saron, Senulis, and Friesen, 1990; Izard, 1972; Polivy, 1981; Schwartz, 1990; Schwartz and Weinberger, 1980) argued that emotions are elicited by an incident and that these patterns of one dominant and several non-dominant emotions are embedded in memory, in connection with the stimulus representation.

Based on the above, there is an absence of linkage between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. In addressing this gap, the present thesis focuses particularly on examining the dynamic characteristics of the emotional process and the connection between repetitive emotions, mixed emotions and the prevailing emotion. Neuroscience has revealed that emotional and memory systems are dynamic and subject to change (DuPlessis, 2006; LeDoux, 1989, 1994; Marci, 2006). Continuous measurements of emotional feelings become necessary to conceptualise emotions as fluid processes instead of fixed states. This research argues that consumers'

emotional responses to advertising slogans may include repetitive and/or mixed emotions, and their perceptions of emotions may be fuzzy and unclear. However, after lengthening these emotional experiences and reinforcing their emotional states, one dominant emotion will preponderate over the other emotions. Hence, this research conceptualises consumers' emotional responses to advertising slogans as an "emotional corridor" which is fluid and dynamic. The "emotional corridor" is here defined as a corridor for emotions to pass through, which contains repetitive emotions and/or mixed emotional experiences and individuals' emotional perceptions are blurred. If the emotional responses are prolonged, the individuals' emotional states will be reinforced and one emotion will become dominant and prevail.

3.7 Theoretical Research Aims

This thesis aims to integrate the research problems identified in the broad scope of literature, studies on emotions and advertising, theories of emotions, advertising slogans, consumers' perceptions of mixed emotions, dynamic nature of emotion process, cognitive appraisals and emotional dominance. The theoretical research aim of this research is to examine consumers' perceptions of emotions to advertising slogans, as well as to uncover the underlying determinants of the development of advertising effectiveness. More specifically, it investigates the influences of consumers' perceptions of emotions to advertising slogans, together with certain other explanatory variables on the development of advertising effectiveness. Accordingly, this research aims to fill the identified theoretical research gaps: to the researcher's knowledge there is no existing research work modelling consumer's emotional responses to advertising slogans and their effects on the advertising effectiveness, no slogan-related study has been conducted in Asian countries (Chapter 2, Section 2.6), and the missing linkage between repetitive emotions, mixed emotions, continuous measures of emotions and a dominant emotion.

3.8 Research Scope

Four advertising slogans have been chosen as the focus of this study, with consumers as the subjects. The research focuses on modelling consumers' emotional responses to advertising slogans, consumers' perceptions of cognitive appraisals, perceived product

involvement and demographic variables in relation to attitudes towards the advertisement (Aad), attitudes towards the brand (Ab), and purchase intention (PI), namely, advertising effectiveness (see Chapter 5, Section 5.2 for details) (Holbrook and Batra, 1987; MacKenzie, Lutz, and Belch, 1986). This research does not deny that other factors could significantly influence the “emotional corridor”. For instance, personality (e.g., Gountas and Gountas, 2007; Hjelle and Ziegler, 1992; Larsen and Ketelaar, 1991; Janssens, de Peismacker, and Weverberg, 2007) and culture (e.g., Bagozzi, Gopinath, and Nyer, 1999; Rothbuam and Tsang, 1998; Shore, 1996; Williams, and Aaker, 2002) have been found to be significantly influential in consumers’ emotional responses. Nonetheless, it was decided that other than the above noted factors, no other factors were to be considered in order to reach a thorough understanding of the critical roles played by the aforementioned factors.

3.9 Summary

This chapter focused on presenting the theoretical foundation of this research. In particular, it provided a review of relevant literature in the fields of consumers’ emotional responses and its consequences in order to shed light on the under-investigated theme of the dynamic nature of consumers’ emotional processes, mixed emotions, cognitive appraisals linked to mixed emotions and dominant emotions.

The dynamic nature of consumers’ emotional responses has been discussed in a number of previous studies. It is believed that the nature of emotional process is fluid and processed in a recursive manner. Numerous studies from neuroscience have verified these patterns (e.g., Critchley, Corfield, Chandler, Mathias, and Dolan, 2000; DuPlessis, 2006; LeDoux’s, 1989, 1994; Marci, 2006; Patterson, Ungerleider, and Biinde-ttini, 2002). Feeling more than one emotion towards a particular incident is common. Moreover, neuroscientific researchers have demonstrated the strong interaction between emotional centres and the cognitive centres of the brain, information being received prior to and affected by cognitive processing and behaviour (DuPlessis, 2006; Marci, 2006). Hence, this chapter also thoroughly analysed the different theoretical perspectives relating to cognitive appraisals. The review discovered that the study of cognitive appraisals linked to mixed emotions has not received the attention that it merits. The existing literature was shown to be arbitrary, with research findings not showing any pattern. Finally, a review of relevant literature in the field of dominant emotion was provided in order to develop a theoretical rational

connection between repetitive emotions, mixed emotions and dominant emotions and to support the theoretical foundation for conceptualising consumers' emotional corridors. At this stage, a clear theoretical research aim was established by integrating the identified research gaps.

Chapters 2 and 3 have provided a comprehensive literature review of the study of emotions and advertising, and advertising slogans, as well as relevant literature on the conceptual theoretical framework of the consumers' emotional corridors. Founded on this intensive literature review, the theoretical research problems were identified, the theoretical research aim was formulated, and a clear theoretical boundary was established. The following chapter will focus on reviewing literature related to research methodology in emotion research in order to identify methodological research gaps in emotion research.

Chapter 4

Research Methodology in Emotion Research

4.1 Introduction

Numerous advertising and marketing researchers have emphasized the noteworthy character of emotion in decision making and consumer behaviour (e.g., Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimmerl, 2007). Given the significance of emotions in the advertising process, accurate measurement of emotions is critical. Consumers' emotional responses to advertising have been measured in various ways throughout the years (Bagozzi, Gopinath, and Nyer, 1999). Nevertheless, measuring emotions is understandably complicated. The objective of this chapter is to present a comprehensive review and assessment of relevant literature on the different measurement methods used in emotion research in marketing literature.

In the following sections, this research summarises and assesses the different emotion measurement methods employed in the marketing literature. Section 4.2 gives an extensive overview and evaluation of the different measurement methods employed in emotion research. In Section 4.3, founded on the thorough literature review, the methodological research problem is identified. The methodological research aims are then defined in Section 4.4 and Section 4.5 summarises the main issues made in this chapter.

4.2 Overview of the Various Measurement Methods Employed in Emotion Research

There are two main kinds of methods to measure emotions: self-reported measurements and psychophysiological measurements. Both methods have been applied in consumer behaviour and advertising research to record emotional reactions to consumption experiences or advertising stimuli. However, the two methods are basically different. Self-reported measurements concentrate on contemplative reflections about the emotions felt with respect to a consumption experience or an advertising stimulus, while psychophysiological measurements focus on continuous emotional reactions that are not

distorted by higher cognitive processes (Poels and Dewitte, 2006). Biologically-orientated emotion researchers usually employ neuroscientific methods to measure physiological indicators such as skin conductance, heart rate, or regional brain responses (Kroeber-Riel, Weinberg, and Groppe-Klein, 2008). Observational methods for catching emotional facial expressions such as Facial Action Coding System (FACS) (Ekman and Friesen, 1975) and Facial electromyography (EMG) are also popular (Hupp et al., 2008).

4.2.1 Self-Reported Measurements

Self-reported measurements have been widely used to measure consumers' emotional responses to advertising stimuli or consumption-related experiences. Self-reported measurements record the respondent's subjective feeling. According to Stout and Leckenby (1986), a "subjective feeling" can be defined as the consciously-felt experience of emotions as described by the person. Generally, there are three kinds of self-reported methods which measure subjective feelings: visual self-report, verbal self-report and moment-to-moment rating. Self-report scales of subjective experiences are the most commonly used procedure in emotion research. There are five widely used measurement instruments in advertising or consumption emotion: feelings towards ads (Edell and Burk, 1987); standardised emotional profile (SEP) (Holbrook and Batra, 1987); ad feeling cluster (Aaker, Stayman, and Vezia, 1988); consumption emotions set (CES) (Richins, 1997); and pleasure-arousal-dominance (PAD) dimensions of emotions (Mehrabian and Russell, 1974). A detailed discussion of these five measurement instruments is presented in Chapter 5 (Section 5.3.3.1.3). The following gives a comprehensive overview of the various self-reported measurement emotion methods.

4.2.1.1 Visual Self-Reported Measurements

Visual self-reported instruments determine subjective feelings but do not depend on verbalisation. Responses of visual self-reported measurements are based on cartoon-like figures specifying different emotional states or emotions. In the advertising literature, SAM (Morris, 1995) and PrEmo (Desmet, 2002) are the two most frequently employed visual self-reported instruments. Visual self-reported instruments are speedy and user-

friendly instruments for measuring individuals' emotional responses (Morris, Woo, Geason, and Kim, 2002). This makes visual self-reported measures less boring and quicker than verbal self-reported measures. In addition, visual instruments are appropriate for conducting research with children and cross-cultural research (Morris, 1995). The lower-order emotions which refer to emotions that arise automatically (LeDoux, 1996; Zajonc, 1980) cannot be validated by this approach. The validity of this method is questionable (Poels and Dewitte, 2006). Therefore, cognitive bias is the main restriction of this approach,

4.2.1.2 Verbal Self-Reported Measurements

In verbal self-reported measurements, participants are asked to indicate their emotions on a series of emotion items by using semantic differential or Likert scales or to state their emotions orally with open-ended questions. In the advertising literature, this method was originally applied in the 1980s by researchers who intended to develop an inventory of emotional responses to advertisements (Poels and Dewitte, 2006). Commonly in psychological emotion research, there are three main approaches to study emotion: the categories approach, the dimensions approach and the cognitive appraisals approach. These approaches have been analysed in Chapter 2 (see Section 2.4). The verbal self-report has several benefits. It is an easy, fast and inexpensive method to investigate large-scale emotional responses to a number of advertising stimuli. However, there are some significant restrictions regarding the reliability and validity of this method (Chamberlain and Broderick, 2007; Dennett, 1991; Hazlett and Hazlett, 1999).

4.2.1.3 Moment-to-Moment Rating Techniques

In the moment-to-moment rating approach, individuals are asked to evaluate an advertising stimulus by indicating the strength of the perceived level of an emotional dimension or a particular emotion compared with a (neutral) reference point in real time. The most essential moment-to-moment rating instrument in advertising research is the "warmth monitor" (Aaker, Stayman, and Hagerty, 1986). These moment-to-moment rating techniques can supply an instantaneous and continuous measurement of emotional responses. Furthermore, they are economical and easy to understand and to apply.

Measuring any specific emotion or indicating general valence or arousal can be achieved by these moment-to-moment rating instruments. Nevertheless, the validity problem is the major drawback of this method (Vanden Abeele and Maclachlan, 1994). In addition, this research argues that the previous research findings of overall assessments of moment-to-moment responses using mean score or end point should be viewed with concern. A discussion of this issue has been presented in Chapter 3 (Section 3.2.4).

4.2.1.4 Overall Appraisal of Self-Reported Measurements

Self-reported measures have consistently been a very popular method for practitioners and scholars (Mehta and Purvis, 2006; Poels and Dewitte, 2006). This can be explained as follows. Firstly, self-reported measurements have the benefit of being user-friendly and rapid measures of emotional responses. Secondly, they do not need complicated techniques or programmes. Thirdly, this technique is practical for measuring emotional reactions to a comparatively large set of advertising stimuli. Thus, a self-reported measurement is easy and quick to conduct and is an inexpensive method that is very appropriate for large-scale research.

However, self-reported measurements still suffer from a vital restriction referred to as "cognitive bias." A great quantity of research has indicated that individuals are not fully conscious of numerous things they do in everyday life but rather process information automatically and behave spontaneously in many circumstances (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Chartrand, 2005; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Consumers are generally intuitive and emotional in their behaviour, and are not usually dependent on conscious control (Pawle and Cooper, 2006). Winkielman, Berridge and Wilbarger (2005) offer evidence for the existence of emotions which can affect behaviour without being consciously experienced by participants. Consequently, self-reported measurements derived from subjective feelings may not always be capable of recording emotions in an appropriate manner, although these emotions may have a significant effect on our decisions (Chamberlain and Broderick, 2007; Dennett, 1991; Frijda, Markam, and Wiers, 1995; Hazlett and Hazlett, 1999). In addition, social desirability concerns can misrepresent results (King and Bruner, 2000), as, particularly for sensitive topics such as income, charity, erotica, racial issues, gender and age issues, participants may not always be willing to disclose their real feelings.

4.2.2 Psychophysiological Measurements

Since the validity of self-reporting for measuring emotions is often influenced by cognitive or social desirability limitations, the measurement of autonomic reactions can conquer this problem, as they measure emotional responses outside the participants' control. According to researchers (e.g., Bagozzi, 1991; Winkielman, Berntson, and Cacioppo, 2001), emotions combine with reactions and may go beyond an individual's control. These autonomic responses contain physiological reactions (e.g., heart rate, sweating) and facial expression (frowning, smiling, etc.) which chiefly result from changes in the autonomic nervous system. Many researchers have emphasised the need for measures of emotion to go beyond self-reported measurements (Bagozzi, Gopinath, and Nyer 1999; Babin et al., 1998; Chamberlain and Broderick, 2007; Oatley, 1992), with Oatley (1992, p. 21) starting that "autonomic nervous system and other physiological processes" at least accompany subjectively felt emotions. Lazarus (1991, pp.58-9) asserted: "if the criterion of physiological activity was eliminated from the definition, the concept of emotion would be left without one of the most important response boundaries with which to distinguish it from non-emotion". Recently, several techniques have been developed to capture individual's psychophysiological reactions. The following discussion identifies four well-known psychophysiological measures used in emotion research in advertising literature.

4.2.2.1 Electrodermal Analysis

Electrodermal activity (EDA) is a commonly employed measure of activity of the autonomic nervous system (Dawson, Schell, and Filion, 2000). Electrodermal activity can be measured by the reaction in the individual's skin to a passing current (Watson and Gatchel, 1979). Psychophysiologicals maintain that physiological arousal occurring in the sweat glands can reflect psychological activity. This affects the sympathetic nervous system, causing changes in electrodermal activities and there may be a result indicating pleasure, interest, or arousal (Klebb, 1985). In other words, machines to measure electrodermal activity (EDA) are utilised to examine changes in skin conductance. Skin conductance provides a sign of the electrical conductance of the skin related to the standard

of sweat in the eccrine sweat glands. These sweat glands are involved in emotion-evoked sweating. They exist most densely on the hands and the soles of the feet, although they are present throughout the whole body (Dawson, Schell, and Filion, 2000). Many psychophysicists value EDA as a valid measure of physiological arousal; since the increase in activation of the autonomic nervous system is a sign of arousal, skin conductance can be employed as a measure of arousal (Edelberg, 1972; Kroeber-Riel, 1979; Ravaja, 2004). Increases in EDA are simply elicited by threatening stimuli. Therefore, this technique has special potential from a marketing perspective; for instance, in the study of fear appeal stimuli and their influences. In the marketing context, EDA has been intensively applied to measure arousal (e.g., Aaker, Stayman, and Hagerty, 1986; Groeppel-Klein and Baun, 2001; Bolls, Lang, and Potter, 2001; Vanden Abeele and MacLachlan, 1994); attention (e.g., Vanden Abeele and MacLachlan, 1994; Bolls, Muehling, and Yoon, 2003); anxiety (e.g., Stem and Bozman, 1988); and emotional warmth (e.g., Aaker, Stayman, and Hagerty, 1986; Vanden Abeele and MacLachlan, 1994). These studies presume that physiological arousal of the sweat glands is a signal of physiological activity. For instance, Caffyn (1964) assessed EDA to television, posters and newspapers advertisements. He added the amplitudes of each electrodermal response and a measure of response magnitude was generated. It was regarded as a reliability check of the individual's stated emotional responses. This reveals that EDA data can be employed together with traditional self-report measures of emotion to offer a more comprehensive understanding of physiological arousal experiences. In addition, correlations may be identified between the subjective data generated by self-report measurement and the objective data produced by EDA responses (Chamberlain and Broderick, 2007). Generally speaking, electrodermal activity has been regarded as a reliable and valid measure of arousal (e.g., Caffyn, 1964; Kroeber-Riel, 1979; Klebba, 1985) and it can allow researchers to recognise the magnitude of a response with accuracy (Klebba, 1985).

Nonetheless, such responses are sensitive to the type of stimuli presented (Critchley, 2002; Hopkins and Fletcher, 1994). Previous research has provided several warnings about employing the electrodermal technique. For instance, since the results are likely to be biased when the placement locations and surroundings are not well chosen, cleaned, and controlled, electrode placement is very important to the accuracy of results (Stewart and Furse, 1982). Moreover, measuring EDA and analysing EDA requires a great deal of practice. Because it must be set up and analysed very thoroughly to gain valid results, it is best to be carried out by experts (LaBarbera and Tucciarone, 1995). Furthermore, it cannot

verify the direction or the valence of the emotional responses, but only measures arousal that can be either positive or negative in valence (Hopkins and Fletcher, 1994). Vanden Abeele and MacLachlan (1994) found that EDA was not valid in measuring attention. Electrodermal response is not a valid indicator of emotional warmth reactions to stimuli (Vanden, Abeele and MacLachlan, 1994). A great deal of personal variation is revealed when measuring physiological reactions such as skin conductance (Ben-Shakhar, 1985). Other factors such as medication, women's menstrual cycle and fatigue can affect EDA measures (Hopkins and Fletcher, 1994). Additionally, Cacioppo and Petty (1983) suggested that EDA needs to be measured at different times to tackle reliability issues.

4.2.2.2 Heart Rate

Heart rate response is generally measured by electrocardiogram (EKG), which observes the electrical discharges connected with the heart's muscle contraction (Wiles and Cornwell, 1990). The rate of the heartbeat can indicate a range of phenomena: attention, arousal, and cognitive or physical effort (Lang, 1990). Previous researchers (e.g., Bolls, Lang, and Potter, 2001) applied heart rate responses to measure pleasant or unpleasant reactions to external stimuli. Lang (1990) revealed that heart rate can be a valid real-time and continuous measure for both attention and arousal. Similarly, Watson and Gatchel (1979) argued that heart rate response can be a valid and sensitive measure of one of the cognitive processes, attention, since heart rate is a main constituent of the psychophysiological attention mechanism, rather than being only a measurement technique of the directions of affect. Recent studies (e.g., Lang, Borse, Wise, and David, 2002; Bolls, Muehling, and Yoon, 2003) also supported Watson and Gatchel's (1979) findings. Heart rate response displayed high reliability over time (Lang, Borse, Wise, and David, 2002). Its capability of predicting recall and memory has been found in past studies (e.g., Bolls, Muehling, and Yoon, 2003; Lang, Borse, Wise, and David, 2002). Additionally, heart rate is not influenced by surrounding disturbances, and thus this technique is suitable for use in non-laboratory experimental settings (Watson and Gatchel, 1979). This technique mainly involves simply placing a device that registers heart rate on one finger, and necessitates little intervention with participants. Overall, conducting this method to measure psychophysiological reactions evoked by advertising is an easy and inexpensive method (Lang, 1994; Poels and Dewitte, 2006).

However, since heart rate can be a measure of different phenomena, interpreting heart rate results need to be dealt with caution. In addition, Watson and Gatchel (1979, p. 22) stated that “it is difficult to formulate with any certainty generalizations about this physiological response during a number of psychological processes”. Therefore, this reveals a possible risk to simultaneous validity. Since heart rate changes may be induced by several psychological processes, researchers should be cautious when clarifying a particular psychological process by interpreting heart rate changes. Applying heart rate as the sole measurement method of emotional response is not suitable. It can best be used as a supplementary psychophysiological technique (Hopkins and Fletcher, 1994).

4.2.2.3 Facial Expression

Facial muscle activity is a voluntary physiological indicator generated by the somatic nervous system and is unlike other involuntary psychophysiological measures. Facial expression is determined by electrical signals resulting from the contraction of facial muscle fibres when the voltage from electrodes placed on individual’s face is active (Wiles and Cornwell, 1990). Facial expressions are undoubtedly the most visible and distinctive of the emotion behaviours (Hazlett and Hazlett, 1999). The experience of some basic emotions such as happiness, sadness, or anger is visibly reflected in the individual's facial expressions. Since Darwin (1872), facial expressions have been considered to reflect a person’s present emotional state and as a method of communicating emotional information. Ekman and Friesen (1978) proposed the Facial Action Coding System (FACS), which codes visible facial muscle movements to measure changes in facial expressions that reflect emotional experience. Researchers (e.g., Bolls, Lang, and Potter, 2001; Derbaix, 1995; Hazlett and Hazlett, 1999; Ravaja, 2004) argued that FACS lacks the subtlety to measure the changes in muscular activity evoked by advertising.

Facial electromyography (EMG) is a more precise and sensitive measure of facial expressions. Facial Electromyography (EMG) measures minute changes in the electrical activity of muscles, which displays minute muscle movements. Even when there are no changes in facial expression with the FACS system, the facial EMG has been revealed to be able to measure facial muscle activity to weakly evocative emotional stimuli (Cacioppo, Petty, Losch, and Kim, 1986). EMG can still register the response even when participants are instructed to restrain their emotional expression (Cacioppo, Bush, and Tassinari, 1992).

Hazlett and Hazlett (1999) compared results of EMG and self-report on participants' emotional responses to TV commercials. They found that EMG was a more sensitive indicator of participants' emotional responses to TV advertisements and those EMG responses were closely related to emotion-congruent events throughout the advertisement. In addition, compared to self-report measures, EMG measures were more connected to brand recall measures. The facial electromyography (EMG) has been the most commonly employed measurement tool for facial muscle activity in marketing research (Wang and Minor, 2008). Wiles and Cornwell (1990) suggested that facial expressions can be applied to recognise the directions of affective responses (i.e., pleasure vs. displeasure) to external stimuli.

Nevertheless, facial EMG also has some restrictions. Firstly, electrodes placed on participants' faces can make them aware that their facial expressions are being measured. This awareness could make participants more aware of their facial expressions, which may decrease validity. Secondly, facial EMG needs to be done in unnatural lab settings; this could lead to the problem of ecological validity. Thirdly, facial EMG is also sensitive to noise; for instance, noise could induce unexpected movements of the participant that may reduce reliability (Bolls, Lang, and Potter, 2001). Finally, facial EMG measurement is an individual appraisal method and its use for group data collection is impossible (Hazlett and Hazlett, 1999; Poels and Dewitte, 2006). Therefore, it is a time-consuming method.

4.2.2.4 Brain Imaging Analysis/Neuroscience

Brain imaging analysis has been comprehensively employed in neuromarketing research. This depends on neuroscience technologies to examine participants' brain activities in response to advertising and marketing stimuli. There are four main techniques of brain imaging: electroencephalography (EEG), magnetoencephalography (MEG), positron emission tomography (PET), and functional magnetic resonance imaging (fMRI) (Plassmann, Ambler, Braeutigam, and Kenning, 2007). Electroencephalography (EEG) can record the electrical activity of the brain and is a quiet technology directly sensitive to neuronal activity. Magnetoencephalography (MEG) and electroencephalography (EEG) are conceptually comparable techniques, but MEG provides greater signal quality together with very high time-resolution and is a much more expensive technology. Positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) are

techniques for monitoring the metabolic processes elicited by changes in neural activity; they measure several physiological functions such as changes in metabolism and metabolic by-products, blood oxygenation, blood flow and blood volume. Since PET needs to employ radioactive agents, the applications for non-clinical research are rather restricted. However, fMRI is an approach that has been widely employed in neuropsychology studies examining neural correlates in healthy participants of different experimental situations (Plassmann, Ambler, Braeutigam, and Kenning, 2007). Overall, magnetoencephalography (MEG), Positron Emission Tomography (PET), and Functional Magnetic Resonance Imaging (fMRI), these comparatively new approaches in marketing research monitor radioactive patterns or magnetic activity in the medial prefrontal cortex of the brain. They can document a participant's brain activities in response to non-static stimuli, as these techniques are able to present high spatial and temporal resolution (Berthoz, Blair, Le Clec'h, and Martinot, 2002; Rossiter and Silberstein, 2001). Hence, these three approaches can complement less accurate brain activity measurement techniques, such as EEG (Rossiter, Silberstein, Harris, Nield, 2001; Wang and Minor, 2008).

A number of advertising researchers have recognised the importance of the newest developments in neuroscience (Du Plessis, 2005; Hall, 2002; Vakratsas and Ambler, 1999). Since the 1990s, brain imaging analysis techniques, have been intensively applied by practitioners and marketing researchers in field examinations on advertising effectiveness, brand loyalty, product preferences etc. (Carmichael, 2004; Helliker, 2006). For example, Ambler and Burne (1999) concluded that their findings were consistent with neuroscience literature which states that emotional responses are linked to long-term memory. Ioannides et al. (2000) were the first to conduct the magnetoencephalography (MEG) technique to examine differences in brain activation throughout exposure to cognitive and affective advertising stimuli. They found important variations in brain activation between cognitive and affective advertising segments which were recognised in all three participants. Although this experiment, in which there were only three participants, yielded interesting results, this study is obviously still awaiting further development (Poels and Dewitte, 2006). Since the experimental procedure is less affected by external disturbances and participant bias, these techniques are considered more efficient than other psychophysiological techniques. In addition, they are regarded as more precise in practice than the employment of surveys and focus groups in explaining consumers' feelings and experiences (Kelly, 2002). However, to date, the employment of brain imaging techniques in advertising is still limited (Poels and Dewitte, 2006). These techniques are very promising and shed light on

an avenue leading to an understanding how advertising works (Plassman, Kenning, and Ahlert, 2005; Poels and Dewitte, 2006).

However, electroencephalography (EEG), magnetoencephalography (MEG), positron emission tomography (PET), and functional magnetic resonance imaging (fMRI) are all comparatively complicated techniques. Compared to traditional techniques applied in advertising research, they need specific expertise and a longer time period for data collection. Furthermore, applying these techniques is very expensive. For instance, it costs up to US\$800 per hour to hire MEG, PET and fMRI equipment and the necessary technical employees (Plassmann, Ambler, Braeutigam, and Kenning, 2007). In addition, with reasons such as invasion of privacy and the potential for mind control, brain imaging analysis techniques have been increasingly challenged from an ethical perspective (Thompson, 2003; Wahlberg, 2004). Necessary steps must be taken to guarantee that participants are well-protected and potential ethical issues are resolved when these techniques are applied in future marketing research (Wang and Minor, 2008).

4.2.2.5 Overall Appraisal of Psychophysiological Measurements

It is apparent that the objective measurement of psychophysiological reactions in consumer emotion research is a valuable insight, which can be applied to examine correlations between the conscious reported emotional responses and the subconscious psychophysiological emotional responses experienced by individuals (Chamberlain and Broderick, 2007). By employing such research, a deeper comprehension of the construct of emotion can be produced. Brain imagining analysis in particular has been gaining attention in consumer and advertising-related research since the 1990s, and has shown itself to be a promising way of understanding how advertising functions.

Even though psychophysiological measurements have a number of advantages over self-reported measurements, researchers should be aware that experimental studies in marketing and advertising using psychophysiological approaches may encompass several applicability, validity, and reliability problems. For instance, external interferences or respondents' characteristics or personal situations (e.g., medication, women's menstrual cycle and fatigue) may bias the psychophysiological results. Moreover, in some conditions, dangers to validity and reliability cannot be well controlled. Thus, for validation objectives,

researchers can associate a self-reported measure with psychophysiological measures to investigate consumers' emotional responses. Self-reported measurements combined with psychophysiological measures can assist in managing the bias resulting from respondents' characteristics or surrounding disturbances (Wang and Minor, 2008; Wiles and Cornwell, 1990). In addition, physiological measures have a disadvantage compared to self-reported measures in that they require trained experts and a longer time for data collection. The brain imaging analysis technique is also a very costly approach.

4.3 Identified Methodological Research Problem

The review of literature on the different measurement methods used in emotion research reveals that the main drawback of self-reported measurements is their critical restriction referred to as "cognitive bias". The participants' beliefs about what they feel are reflected by the self-reported measurements in contrast to the contents of conscious feeling (Chamberlain and Broderick 2007; Dennett 1991; Frijda, Markan, Sato, and Wiers 1995; Hazlett and Hazlett 1999; Ortony, Clore, and Collins 1988). Furthermore, social desirability concerns, especially for sensitive topics such as sexual, racial, gender, income and age issues, can misrepresent results. This is because participants may often not be willing to impart how they really feel (King and Bruner 2000).

Because the validity of self-report for measuring emotions is frequently affected by cognitive or social desirability constraints, psychophysiological measurements can overcome this problem, as they measure emotional responses outside the respondents' control. Several researchers have highlighted the demand for measuring emotion to go further than self-reported measurements (e.g., Bagozzi, Gopinath, and Nyer 1999; Chamberlain and Broderick 2007; Hupp et al., 2008; Poels and Dewitte, 2006; Wang and Minor, 2008). Given the significance of emotions in the advertising process, accurate measurement of emotions is crucial. However, the advertising literature is not clear as to what measurement instrument can offer the most valid emotion measurement. Measuring emotions is understandably difficult. Over many years, emotional reactions to advertising have been measured in several ways (Bagozzi, Gopinath, and Nyer 1999). Psychophysiological measurements have several benefits over self-reported measurements; however, researchers should be aware that experimental studies in marketing and

advertising using psychophysiological measures still suffer several applicability, validity, and reliability problems.

Although numerous researchers have acknowledged the importance of emotions in the advertising process, Vakratsas and Ambler (1999) stated that there is more work needed to standardise measurement methodologies of emotion in advertising. This research argues that there is a significant need to investigate the validation of current measures of emotions applied in a marketing and advertising context. It is necessary to complement other psychophysiological measures with self-reported measures to access both the conscious and subconscious experiences of consumers. A number of researchers have emphasised the need for measures of emotion to go beyond self-reported measurements and have called for collaboration with other research fields to advance consumer behavior research in the study of emotion (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992). Some marketing researchers have cooperated with researchers in the fields of psychology and neuroscience (Chamberlain and Broderick, 2007), but have not yet collaborated with researchers in the field of human-computer interaction; more specifically, voice recognition technique.

The use of oral language is a more basic and common cognitive ability than reading and writing. It is believed that spoken language predates written language by at least 25,000 years and perhaps much more than that (Pinker, 1994). Thus, if a connection exists between language processing and emotion, this would be most obvious with spoken language (Wurm, Vakoch, Strasser, Clain-Jageman, and Ross, 2001). Klebba (1985) noted that voice pitch analysis has at least two discernible benefits over other psychophysiological techniques in marketing research. Firstly, the experimental procedure needs only oral responses and audio recording equipment rather than the use of cumbersome equipment. Secondly, individuals are less likely to be influenced by controlled and unnatural experimental settings since the recording apparatus is not noticeable or intrusive. Surprisingly enough, there have been very few marketing studies using voice pitch analysis since the 1980s (Wang and Minor, 2008). This research suggests a different approach and emphasises the usefulness of analysing individuals' vocal expression of emotions to advertising slogans.

There have been comparatively few attempts to develop computer-based tools specifically to support the assessment of advertising slogans. This is chiefly because few computer

scientists participate in marketing and, more specifically, advertising slogan research. Furthermore, research in this field tends to depend on the semantics of advertising slogans, as this is arguably the easiest way to appraise emotions embedded in advertising slogans. As has been identified in Chapter 2 (Section 2.5), in advertising literature, slogan-related research has mostly investigated the effects connected to brand awareness, issues concerning how to make a slogan memorable, and relationships between consumer demographic characteristics and slogan learning and evaluation.

As mentioned previously, the use of self-report measures are the most common method of measuring emotions in marketing and advertising literature, as this is cost-effective and time-saving. Signal-based evaluation tools address some of the restrictions of the self-report measures. For instance, it is possible to capture and analyse speech signals of advertising slogans and elicit emotions from the signal data; in other words, to capture objective measures of consumers' voice of emotional responses elicited by advertising slogans. This is a more natural way of measuring emotions than analysing the recalled data from self-reported measurements. Chapter 6 (Section 6.5.2) will describe the development of the computer-based tool, Slogan Validator, and how it functions to present emotions embedded within advertising slogans. The hope is to offer marketing researchers a computer-based tool which is simple to operate and easily understood to assess emotions embedded in advertising slogans.

4.4 Methodological Research Aims

The objective measurement of psychophysiological reactions in consumer emotion research can be used to investigate correlations between the conscious reported emotional responses and the subconscious psychophysiological emotional responses experienced by individuals (Chamberlain and Broderick, 2007). A deeper understanding of the construct of emotion can be arrived at through such research. Psychophysiological measurements have several benefits over self-reported measurements; however, experimental studies in marketing and advertising using psychophysiological measures such as heart rate, electrodermal analysis, facial expression and brain imagining analysis still suffer several applicability, validity, and reliability problems. For example, heart rate changes may occur through various physiological processes, therefore researchers should be careful when clarifying a particular psychological process by interpreting heart rate changes and hence

applying heart rate as the only measurement method of emotional response is inappropriate. For electrodermal analysis, measuring electrodermal activity (EDA) and analysing EDA need much practice. It is best carried out by experts (LaBarbera and Tucciarone, 1995) in well chosen, suitable, and controlled laboratory settings in order to offer accuracy of results (Stewart and Furse, 1982). It only measures arousal that can be either positive or negative in valence, as it cannot confirm the direction or the valence of the emotional responses (Hopkins and Fletcher, 1994). There is much variation from person to person when measuring physiological reactions such as skin conductance (Ben-Shakhar, 1985). Other factors such as medication, women's menstrual cycle and fatigue can affect EDA measures (Hopkins and Fletcher, 1994). For facial expression, electrodes placed on the participants' faces can make them conscious that their facial expressions are being measured. This consciousness could make participants more aware of their facial expressions and may decrease validity. Furthermore, facial EMG is sensitive to noise, which may induce unexpected movements on the part of the participant resulting in reduced reliability (Bolls, Lang, and Potter, 2001). Finally, facial EMG measurement is a time-consuming method as it needs to be done individually (Hazlett and Hazlett, 1999; Poels and Dewitte, 2006). In relation to brain imaging analysis, employing this technique needs specific expertise and a longer time period for data collection and is also very expensive. The method is more intrusive for participants and has been increasingly challenged from an ethical viewpoint (Thompson, 2003; Wahlberg, 2004).

To integrate the research problems identified in the emotion research methodology literature, the methodological research aim of this research is to compare results of self-reported measurements and human computer interface (using the case of the Slogan Validator) and to examine the differences between these two approaches. Accordingly, this research seeks to fill the identified research gaps: several marketing researchers (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992) have affirmed the requirement for measuring emotions to supersede self-reported measurements and called for collaboration with other research fields to move consumer behaviour research forward in the study of emotion within marketing. To the researcher's knowledge, this is the first study to cooperate with researchers in the field of human-computer interaction and to analyse consumers' voice of emotion in marketing research; and the first one to employ a novel method, namely, the Slogan Validator. Applying the Slogan Validator is a comparatively easier and less costly method than other psychophysiological techniques in marketing research. As mentioned earlier, this

technique needs only oral responses and audio recording equipment. It is also a less intrusive method than the others. In addition, the Slogan Validator can measure five basic emotions: happiness, sadness, anger, boredom and neutrality (see Chapter 6, Section 6.5.2 for details). This has advantages over other psychophysiological measures such as heart rate and electrodermal analysis, as these can only measure arousal, which can be either positive or negative but which cannot confirm the direction or the valence of the emotional responses. However, paradoxically, this advantage can also be the main drawback of the method, because many more emotions are elicited by advertising and advertising slogans than the five basic ones. Nevertheless, bearing in mind its aforementioned advantages over other psychophysiological techniques, it is still considered worthy of exploration. More specifically, this research intends to assess whether the signal-based emotion recognition (human-computer interface) technique can complement the traditional research methodology (e.g., semi-structured interviews, focus groups, survey research method dealing with self-reported measurements, phenomenological research based on physiological measures), with the aim of increasing the overall effectiveness of advertising copy strategy.

4.5 Summary

This chapter has sought to provide a review of the emotion research methodology literature in marketing research. There are two different approaches to measure emotions: self-report measures and psychophysiological measures. These two approaches have been employed to register consumers' emotional responses to advertising stimuli or consumption experiences. However, the two methods are fundamentally different. Self-report measures focus on thoughtful reflections about the emotions felt with respect to a consumption experience or an advertising stimulus. Conversely, psychophysiological measures depend on continuous emotional responses that are not distorted by cognitive processes (Poels and Dewitte, 2006). Visual self-report, verbal self-report and moment-to-moment rating are three commonly used self-report approaches. Because self-report measures are easy and quick to apply, they do not require complex techniques and are user-friendly. They are suitable for employing in large-scale research as they are cost-effective and time-saving. They have been regarded by researchers and practitioners as very popular approaches to measure consumers' emotional responses.

Nevertheless, “cognitive bias” is the main constraint for self-report measures, as the validity of self-report measures is usually affected by cognitive or social desirability concerns. Numerous emotion researchers (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992) have asserted the necessity for using methods other than self-reported emotion measurements, and called for cooperation with researchers from other disciplines to further uncover contexts of emotions. Electrodermal analysis, heart rate, facial expression and brain imaging analysis are four popular psychophysiological measures utilised in the advertising literature. However, psychophysiological approaches still contain certain validity, reliability and applicability problems; in addition, they normally require particular expertise and longer data collection time. Brain imaging analysis is a very costly approach. This study pioneers collaboration with human-computer interaction researchers to analyse consumers’ voices as a measure of emotion in response to advertising slogans. Moreover, this study initiates the employment of a novel method, namely, the Slogan Validator in advertising literature. The purpose of all these efforts is to evaluate to what extent the signal-based emotion recognition approach can complement traditional research methodology and to make methodological contributions in emotion research in the advertising literature.

Chapter 5 Research Model and the Survey Instrument

5.1 Introduction

This chapter analyses key constructs that constitute the conceptual model developed for this research through a review of related consumer behaviour literature. A review of the consumer behaviour literature assists in identifying three main constructs, which have been discussed, which influence consumers' emotional responses, through the conceptualised "emotional corridor". These are cognitive appraisals, product involvement, and consumer background variables, namely, gender and age. This research does not deny that other factors could significantly influence the "emotional corridor". For instance, personality (e.g. Gountas and Gountas, 2007; Hjelle and Ziegler, 1992; Larsen and Ketelaar, 1991; Wim, Patrick, and Marcel, 2007) and culture (e.g. Bagozzi, Gopinath, and Nyer, 1999; Rothbuam and Tsang, 1998; Shore, 1996; Williams, and Aaker, 2002) are found to be significantly influential in consumers' emotional responses. However, with the intention of reaching detailed understanding of significant roles played by the aforementioned factors, it was decided that other than these noted, no factors were to be considered. The main objective of this chapter is to offer a theoretical background to the variables influencing advertising effectiveness; more specifically, attitudes towards the advertisement, attitudes towards the brand, and purchase intention, thereby providing the framework for developing the research conceptual model and hypotheses. In addition, this chapter illustrates in detail the development of the survey instrument for the research.

This chapter is structured as follows: Section 5.2 analyses the main construct which influences consumers' emotional responses, namely, the "emotional corridor", and its influences on advertising effectiveness. Section 5.3 describes the development of the survey instrument in detail, and Section 5.4 concludes the chapter.

5.2 Analysed Constructs and Research Conceptual Model

5.2.1 Significance of Cognitive Appraisals Study and Hypothesis Development

Researchers have suggested that this approach is a promising avenue for studying emotions in consumer behaviour contexts (e.g., Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). It is clear that the cognitive appraisal approach can provide a more comprehensive way in explaining the distinctions of emotions, and it is more sophisticated than the other approaches. These have been discussed in the previous chapter (Chapter 3, Section 3.3). As result of these advantages, this research uses the cognitive appraisal approach to examine how appraisal dimensions affect emotional responses through “emotional corridors” in order to reach a thorough understanding of the role and nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness. In addition, study one of this research (Chapter 6, Section 6.4) used a real consumption environment rather than a simulated situation, examining emotions and appraisals in a naturalistic setting. This method should minimise the disadvantages of previous methods (see Chapter3, Section 3.3.2.2) thus testing the predictions of cognitive appraisals more rigorously.

Researchers (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) have found that a significant relationship exists between positive emotion and advertising effectiveness. Thus, the positive emotions and their associated appraisals will have a significant effect on advertising effectiveness. Tong et al. (2007) summarised predictions for emotion-appraisal pairs based on previous researchers’ findings (e.g., Ellsworth and Smith, 1988a, 1988b; Roseman et al., 1995; Scherer, 1997a). Their findings suggest that “pleasantness”, “appeal”, “desirability”, “certainty”, “value relevance” and “self agency” appraisals have an expected significant relationship with positive emotion (e.g., happiness). Moreover, Ruth, Brunel, and Otnes (2002) noted that “pleasantness”, “certainty”, “value relevance” and “other agency” appraisals were significantly related to positive emotions such as love, happiness, pride, gratitude; the “self-agency” appraisal significantly related to positive emotions such as happiness and pride. Hence, it is clear that “pleasantness”, “appeal”, “desirability”, “value relevance”, “certainty”, “other agency” and “self-agency” are

important cognitive appraisals for advertising slogans in general. Therefore, the following hypotheses relate to cognitive appraisals:

H cognitive appraisals 1: Positive emotions and their associated appraisals will have a positive effect on attitudes towards the advertisement.

H cognitive appraisals 2: Positive emotions and their associated appraisals will have a positive effect on attitudes towards the brand.

H cognitive appraisals 3: Positive emotions and their associated appraisals will have a positive effect on purchase intention.

5.2.2 Product Involvement

The relationship between emotional responses, attitude toward the advertisement, brand attitudes, and purchase intention may vary with involvement. Involvement has often been regarded as one of the key moderators in determining purchase decisions (Celsi and Olson, 1988). Furthermore, since it significantly influences consumers' cognitive and behavioural responses to marketing stimuli; product involvement has received significant attention from consumer researchers (Dholakia, 2001).

5.2.2.1 Definitions of Involvement

The concept of involvement has been a major centre of interest in consumer research literature for the past 30 years. However, there is no generally accepted definition of product involvement. In line with a motivational perspective, Dholakia (2001, p1341) defined product involvement as "an internal state variable that indicates the amount of arousal, interest or drive evoked by a product class", which is in agreement with definitions from other consumer psychologists (e.g., Bloch, 1981; Mittal and Lee, 1989). Rothschild (1984, p. 217) proposed that "Involvement is a state of motivation, arousal or interest. This state exists in a process. It is driven by current external variables (the situation, the product, and communication) and past internal variables (enduring; ego and central values). Its consequences are types of searching, processing and decision making". Some researchers are in agreement that involvement can be defined as an internal, individual state of arousal

with intensity and direction properties (Mitchell 1979; 1981). Other scholars describe involvement as personal relevance (Celsi and Olson, 1988; Greenwald and Leavitt 1984; Petty and Cacioppo 1986; Richins and Bloch, 1986; Zaichkowsky 1985; 1986). For this research, the definition of involvement is taken from Zaichkowsky (1985, p.342): "A person's perceived relevance of the object based on inherent needs, values, and interests". Zaichkowsky's (1985) definition has been widely adopted by recent scholars (e.g., Kleiser and Wagner, 1999; Kokkinaki, 1999; McGrath and Mahood, 2004). Moreover, this can secure the legitimacy of using Revised Personal Involvement Inventory (RPII) to measure involvement in this study.

5.2.2.2 Enduring Involvement versus Situational Involvement

Houston and Rothschild (1978) discriminate between enduring and situational involvement. This differentiation has been commonly accepted in the literature (e.g., Andrews, Durvasula, and Akhter, 1990; Day, Stafford, and Camacho, 1995). In general, involvement is defined in terms of perceived personal relevance and is categorized as either enduring or situational (Celsi and Olson, 1988; Dholakia, 2001; Richins and Bloch, 1986; Suh and Yi, 2006). Enduring involvement is a continuing concern for a product class regardless of any particular purchase situation (Laurent and Kapferer, 1985; Richins and Bloch, 1986), and fundamentally occurs due to continuing interest with the product category and its relationship with the individual's values, beliefs and character. It captures the probability of the product or activity that produces personal relevance (Higie and Feick, 1989). The key features of enduring involvement comprise having a profound interest in the product or activity, finding it particularly enjoyable to act upon this interest, and identifying oneself completely with the product or activity (Kapferer and Laurent, 1985). Inherent sources of personal relevance are fairly constant and enduring configurations of personally relevant knowledge based on previous experiences stored in the long-term memory (Celsi and Olson, 1988). Such enduring involvement develops from the product's ability to satisfy consumers' enduring and self-identity-related needs, rather than from particular purchase or usage objectives (Dholakia, 2001). Hence, the importance is laid on the product or activity itself and the intrinsic satisfaction its consumption supplies, as opposed to the situation in which the product or activity is encountered (Huang, 2006).

On the other hand, situational involvement is essentially dissimilar in cause, and refers to the increased level of interest appearing from a specific situation, usually a purchase circumstance. According to Bloch and Richins (1983, p. 72), situational involvement is “a temporary perception of product importance based on the consumer’s desire to obtain particular extrinsic goals that may derive from the purchase and/or usage of the product”. Stimuli, cues, and contingencies in a consumer’s immediate surroundings may work as situational sources of involvement. In other words, situational involvement could cause the thorough evaluation of objective stimuli such as performance or cost characteristics of the product, and/or the social and psychological environment encompassing its purchase and consumption (Dholakia, 2001). For instance, sales promotions, such as coupons, discounts, and price reductions, generate contingencies in consumers’ decision surroundings that might activate personally relevant objectives and values. In consumer research, external stimuli are frequently used to influence the level of involvement experimentally (Suh and Yi, 2006). Hoffman and Novak (1996) found that situational involvement is goal-directed; the consumer is involved with a specific task-completion goal such as pre-purchase consideration. Once the goal has been fulfilled, the consumer’s personal bearing on the situation decreases (Huang, 2006; Richins and Bloch, 1986).

5.2.2.3 Cognitive Involvement versus Affective Involvement

In addition, some scholars make a distinction between cognitive involvement and affective involvement (e.g., McGuire, 1974; Park and Young, 1986) or rational and emotional involvement (e.g., Laurent and Kapferer 1985; Vaughn 1980). Cognitive involvement highlights a person’s informational processing activities and the attainment of idealisation states (Zaichkowsky, 1994). Affective involvement emphasises an individual’s feelings and accomplishments of particular emotional states and is employed to illustrate all emotions, moods and feelings evoked by an object (McGuire, 1974). Park and Young (1986, p12) state that cognitive involvement is the degree of personal relevance of information contents or issues founded on the brand’s functional performance (utilitarian motive), whereas affective involvement is the level of personal relevance of information derived from emotional or aesthetic appeals to one’s motive to express an actual or ideal self-image to the outside world (value-expressive motive). The value-expressive motive

and/or utilitarian motive is induced by relying on the interaction of the stimulus and the individual. It is likely that they could arise simultaneously (Zaichkowsky, 1994).

5.2.2.4 Involvement Hypotheses

Involvement, specifically product involvement, has been proved to be a major determinant of consumer behaviour and advertising response (e.g., Laurent and Kapferer, 1985; Celsi and Olson, 1988; Zaichkowsky, 1985, 1994). When product involvement is high, consumers process advertisements more actively (Krugman, 1965; Warrington and Shim, 2000), devote more time and cognitive effort to advertisements (Celsi and Olson, 1988) and focus more on product-related information in the advertisements (Petty, Cacioppo, and Schumann, 1983; Celsi and Olson, 1988).

Petty and Cacioppo (1981) proposed the Elaboration Likelihood Model (ELM), which recommended two routes to attitude change: central (high involvement information processing) and peripheral (low involvement information processing). In the central route, issues of product and/or brand related information are dominant and highlight the importance of the message to the individual. In the peripheral route, the principal issues are related to the ad or commercial and the individual concentrates on heuristic cues rather than the content of arguments. In addition, the peripheral route depends on less elaborate, less conscious and more emotional types of information processing. If these cues produce an attitude change, this change is likely to be of shorter duration and unpredictable in nature (Batra and Ray, 1985; Hansen, 2005; Johnson and Eagly, 1989; MacInnis and Jaworski, 1989; Mehta, 1994; Petty, Cacioppo, and Schumann, 1983). According to the ELM, consumers' processing information varies with their level of involvement. More specifically, when the level of involvement is high, the central routes apply, which means that consumers are more motivated to allocate cognitive effort to evaluate the true value of a product. Conversely, the less involved consumers are, the less motivated they have to process information, resulting in non-elaborate processing (Heath, 2001).

The central route is in the cognitive hierarchical treatment of information processing, while the peripheral route depends on more affective types of information processing. Hence, cognitive involvement, or rational involvement, is correlated to the conditions of rationale used for information processing through interaction with an object, while affective

involvement, or emotional involvement, is correlated to the situations of emotions or feelings generated by interactions with a certain object (Kim, Haley, and Koo, 2009). Based on the above, it is logical to assume that if the product involvement level is high, consumers are less likely to have a preference for emotional appeals. Consumers devote more cognitive involvement to the category of higher involvement products; conversely, consumers devote more affective involvement to the category of lower involvement products. Therefore, the following hypotheses relate to product involvement:

H product involvement 1: The level of product involvement has a negative relationship with the preference of emotional appeals.

H product involvement 2: The level of product involvement has a positive relationship with the preference of cognitive involvement.

H product involvement 3: The level of product involvement has a negative relationship with the preference of affective involvement.

5.2.3 The Demographic Variable

Variations in the demographic profile of consumers can influence emotional responses. In order to clarify if effects on the attitudes towards the advertisement, attitudes towards the brand and purchase intention also arise from other differences across subjects, this study identified two widely used and significant demographic elements as covariates for this research: gender and age. There are two major reasons for selecting these two demographic variables for this study. Firstly, these two demographic variables were chosen as their measurements can be treated as categorical variables (dummy coding techniques can be applied), completing one of the requirements for multiple regression analysis, the key analytical statistics used in this study. Secondly, it is believed to have a significant impact on emotional responses to advertising (Comblain, D'Argembeau, and Van der Linden, 2005; Denburg, Buchanan, Tranel, and Adolphs, 2003; Fisher and Dubé, 2005; Dubé and Morgan, 1996; Meyers-Levy and Maheswaran 1991; Gruhn, Smith, and Baltes 2005; Guimond et al., 2007).

5.2.3.1 Gender

Previous studies have revealed that gender differences occur in the information processing styles and emotion involved at the time of judgment in consumption, and in the processing strategy relating memory in the advertising perspectives (Fisher and Dubé, 2005; Dubé and Morgan, 1996; Meyers-Levy and Maheswaran 1991). Gender differences in emotions, personality, and values are significant (Guimond et al., 2007). Numerous studies have found that women are more emotionally sensitive than men (Becht and Vingerhoets, 2002; Bradley, Codispoti, Sabatinelli, and Lang, 2001; Chentsova-Dutton and Tsai, 2007; Dimberg and Lundquist, 1990; Hall, Carter, and Morgan, 2000; LaFrance and Hecht, 2000; Vingerhoets and Scheiers, 2000, Yulia and Jeanne, 2007). Moreover, women report experiencing emotions more often and more intensely in remembrance than do men (Fischer and Manstead, 2000; Grossman and Wood, 1993; Hess et al., 2000; Chentsova-Dutton and Tsai, 2007). Burriss, Powell, and White (2007) found that female respondents were more valence-sensitive than male respondents; however, normally males used more extreme ratings of arousal than females. In addition, females are usually more willing than males to communicate their internal emotional states both verbally and non-verbally (Kring and Gordon 1998), and they are more expressive of both positive and negative emotions, such as calmness, happiness, fear and depression (Guimond et al., 1989).

Conversely, males are unwilling to reveal intimate feelings and especially to express emotions that imply weakness, vulnerability, or dependency (Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz, 1972). In particular, males are reluctant to declare emotions that are low on agency, such as anxiety, fear, warmth, and tenderness, since low-agency emotions are incompatible with the masculine stereotype (Wiggins 1982). Publicly, males are motivated to ensure that their emotional displays are congruent with social expectations (Leary, 1995). Based on the above, it is rational to assume that gender difference will significantly affect the consumer's emotional responses. Therefore, the following proposition will be examined in relation to gender:

H gender: Gender difference will have a significant effect on the consumer's emotional responses to advertising slogans.

5.2.3.2 Age

According to Bradley and Lang (2000), emotion is undoubtedly multifaceted and different aspects of emotion may be differentially affected by age. Williams and Drolet (2005) found that age differences influence response to emotional advertisements. Older adults had more preference for and recall of emotional appeals; conversely, younger adults had more preference for and recall of rational appeals. More particularly, aging is combined with an increasing motivation in favour of emotional appeals rather than factual information (Isaacowitz, Turk-Charles, and Carstensen, 2000). In addition, there is considerable evidence to suggest that aging is associated with a reduction in the negativity effect (e.g., Comblain, D'Argembeau, and Van der Linden, 2005; Denburg, Buchanan, Tranel, and Adolphs, 2003; Gruhn, Smith, and Baltes 2005; Knight, Maines, and Robinson, 2002; Levine and Bluck, 1997; Rosler et al., 2005). Older people tend to overestimate positive affect more than younger people; in contrast, younger people tend to overestimate negative affect more than older people. Older people may direct their attention outside profound or complex processing of negative affect, which may increase the information-processing resource given to positive affect (Ready, Weinberger, and Jones, 2007). More specifically, Carstensen (1992) suggested that older people tend to concentrate on emotional information partially due to their perceptions of limited time. They are aware of the comparatively short time remaining for them. They tend especially to avoid negative emotions (Gross, 1998). In addition, a proclivity to accept duality has been shown to differ in individuals of different maturity levels (Basseches, 1980; Williams and Aaker, 2002). Consumers with a higher maturity level tend to have a higher tendency to accept duality. Hence, when they perceive mixed emotional appeals they are likely to have more positive attitudes toward the appeal. Derived from the above, it can rationally be assumed that age difference will significantly affect the consumer's emotional responses to advertising slogans. Therefore, the following proposition is to be examined in relation to age:

H age: Age difference will have a significant effect on the consumer's emotional responses to advertising slogans.

5.2.4 Emotional Responses

Most advertising with a considerable feeling component involves heavy repetition (Aaker, Stayman, and Hagerty, 1986). Important lessons from neuroscience have revealed that emotional and memory systems are dynamic and change from moment to moment (DuPlessis, 2006; LeDoux, 1989, 1994; Marci, 2006). Continuous measurements of emotional feelings become essential as theorists come to conceptualise emotions as fluid processes instead of stable states (Fenwick and Rice, 1991; Larsen, McGraw, Mellers, and Cacioppo, 2004; Scherer, 2009; Stayman and Aaker, 1993); this can help our understanding of both the nature and effect of specific feelings (Aaker, Stayman, and Hagerty, 1986). In most studies of the assessment of emotional responses, researchers have used static forms. Apart from their questionable ecological validity, such statements may lack essential cues for the differentiation of emotional responses. An essential feature of the emotion process is that they are dynamically integrated over time (Scherer, 2009). Scherer (2005, 2009) confirmed that emotions are conceptualised as an emergent, dynamic process derived from an individual's subjective appraisal of important event; thus, the characteristics of emotions are dynamic and are processed in a recursive manner. The dynamic nature of the emotion process has been discussed in Chapter 3, Section 3.2. Therefore, the following hypothesis is developed in relation to emotional responses:

H emotional responses: The greater the repetition of exposure, the higher the variability of consumers' emotional responses.

5.2.5 Attitude towards the Advertisement (Aad)/Attitude towards the Brand (Ab)/ Purchase Intention (PI)

Attitudes towards the advertisement (Aad) is a person's favourable or unfavourable assessment of an advertisement (Faseur and Geuens, 2006; Spears and Singh, 2004). Lutz (1985, p130) defined attitudes towards advertisements as a "predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure occasion". Brand attitude is defined as the consumer's overall appraisal of a brand (Keller, 2003; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Wilkie, 1990). Mitchell and Olson (1981, p. 318) defined attitude towards the brand as an "individual's internal evaluation of the brand." Over the last two decades, study findings have acknowledged that the consumer's emotional responses towards the brand and/or the

advertisement can be a great motivator of consumption behaviour (Allen, Machleit, and Kleine, 1992; Erevelles, 1998; Haley and Baldinger, 1991) and can significantly influence post-exposure attitudes (Park and Thorson, 1990). Past research has shown that emotions affect attitudes towards the advertisement (e.g., Batra and Ray, 1986; Derbaix, 1995; Edell and Burke, 1987; Holbrook and Batra, 1987; Morris, Woo, Geason, and Kim, 2002), and attitudes toward the brand (e.g., Aaker, Stayman, Hagerty, 1986; Batra and Ray, 1986; Edell and Burke, 1987; Morris, Woo, Geason, and Kim, 2002). Previous work has suggested that an individual's emotional responses have a direct effect on attitudes towards the advertisement (Aad) (e.g., Batra and Ray, 1986; Derbaix, 1995; Edell and Burke, 1987; Holbrook and Batra, 1987; Morris, Woo, Geason, and Kim, 2002). Researchers found that individual's emotional responses have a direct impact (e.g., Morris, Woo, Geason, and Kim, 2002) or an indirect impact on attitudes towards the brand (Ab) (e.g., Batra and Ray, 1986; Edell and Burke, 1987; Holbrook and Batra, 1987). Therefore, the following propositions will be examined in relation to attitude towards the advertisement (Aad) and attitude towards the brand (Ab):

H *Aad*: Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the advertisement (Aad).

H *Ab*: Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the brand (Ab).

Purchase intentions are personal action tendencies regarding the brand (Bagozzi, Tybout, Craig, and Sternthal, 1979; Ostrom 1969). Research has indicated that a significant positive relationship exists between emotional responses and purchase intention (PI) (e.g., Aaker, Stayman, Hagerty, 1986). Scholars found a direct impact (e.g., Morris, Woo, Geason, and Kim, 2002) or an indirect impact (e.g., Batra and Ray, 1986; MacKenzie, Lutz, Belch, 1986) of emotional responses on purchase intention (PI). Therefore, the following proposition will be examined in relation to purchase intention (PI):

H *PI*: Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of purchase intention (PI).

Various studies have shown that attitudes towards advertisements worked as an intervening variable between advertising content and attitudes towards the brand (Ab) (e.g., Batra and Ray, 1986; Gardner, 1985; Holbrook, 1978; Holbrook and Batra, 1987; MacKenzie, Lutz,

Belch, 1986; Mitchell and Olson, 1981; Moor and Hutchinson, 1983; Park and Young, 1986; Shimp, 1981; Shimp and Yokum, 1982; Spears and Singh, 2004). Therefore, the following proposition will be examined in relation to attitudes towards the advertisement (Aad) and attitudes towards the brand (Ab):

H Aad & Ab: Attitudes towards the advertisement (Aad) have a positive effect on attitudes towards the brand (Ab).

Numerous studies have indicated that a significant positive relationship exists between brand attitudes and purchase intention (PI) (e.g., Batra and Ray, 1986; Brown and Stayman, 1992; MacKenzie, Lutz, and Belch, 1986; MacKenzie and Spreng, 1992; Spears and Singh, 2004). Therefore, the following proposition will be examined in relation to attitudes towards the brand (Ab) and purchase intention (PI):

H A b & PI: Attitudes towards the brand (Ab) have a positive effect on purchase intention (PI).

5.2.6 The Research Conceptual Model

Based on the theoretical foundations set out as above, Figure 5.1 presents the research conceptual model. There are three core constructs which influence consumers' emotional responses to advertising slogans, i.e. "the consumer's emotional corridor". They are discussed as cognitive appraisals, product involvement, and consumer background variable – gender and age. More specifically, the likelihood of favourable attitudes towards the advertisement, favourable attitudes towards the brand, and purchase intention are predictable based on consumers' perceptions of cognitive appraisals, product involvement, consumers' emotional responses to advertising slogans and consumer background variables – gender and age - when other conditions remain unchanged.

The cognitive appraisal approach applies the primary motivational and evaluative derivations of emotions to explain their influences on consumption-related behaviours. This approach offers more dimensions to distinguish feelings, and can offer a more thorough understanding of individual feelings (Faseur and Geuens, 2006). The cognitive appraisal approach can provide a more comprehensive way to explain slight distinctions of

emotions, and is more detailed than the other approaches. However, the cognitive appraisals approach has been criticised mainly for the methods employed (Lazarus, 1995; Scherer, 1999). For example, some researchers (e.g., Ellsworth and Smith, 1988a, 1988b; Ruth, Brunel, and Otnes, 2002) asked participants to recall a personal incident, which might bias recall. Some researchers (e.g., Roseman, 1984; Smith, Haynes, Lazarus, and Pope, 1993) used vignettes alongside some appraisal dimensions and asked participants to identify their emotional reactions to the vignettes, which might result in participants depending on their conventional beliefs of emotions to make up their responses. Laboratory-based studies also brought other problems (Lazarus, 1995), such as ethical concerns and difficulty in evoking emotions in a reliable way. Study one (Chapter 6, Section 6.4) of this research was carried out in a real purchase environment instead of a simulated situation; in other words, this research investigated emotions and appraisals in naturalistic circumstances. This could serve to minimise the drawbacks of previous methods and test the predictions of cognitive appraisals more accurately.

Product involvement has been shown to be a key determinant of consumer behaviour and advertising response (e.g., Laurent and Kapferer, 1985; Celsi and Olson, 1988; Zaichkowsky, 1985, 1994). Petty and Cacioppo (1981) proposed the Elaboration Likelihood Model (ELM), which recommended two routes to attitude change: central and peripheral. More specifically, when the level of involvement is high the central routes apply; when the level of involvement is low the peripheral routes apply. The central route is in the cognitive hierarchical treatment of information processing; while the peripheral route relies on more affective types of information processing. Consequently, cognitive involvement is correlated to the conditions of rationale used for informational processing through interaction with an object, whereas affective involvement is correlated to the situations of emotions or feelings generated by interactions with a certain object (Kim, Haley, and Koo, 2009).

Two demographic variables – gender and age - were discussed in Section 5.2.3. The reason for choosing these two variables was their influential power on consumers' emotional responses in previous studies. Furthermore, these two demographic variables can be regarded as categorical variables, which can fulfill the basic requirement for conducting multiple regression analysis, the key analytical approach employed in this study.

Attitudes towards the advertisement (Aad), attitudes towards the brand (Ab), and purchase intention (PI) are regarded as gauging advertising effectiveness (Holbrook and Batra, 1987; MacKenzie, Lutz, and Belch, 1986; Poels and Dewitte, 2006). Therefore, these three constructs are considered as dependent variables in the research conceptual model. In addition, past studies revealed that attitudes towards the advertisement worked as an intervening variable between advertising content and attitudes towards the brand (Ab) (e.g. Batra and Ray, 1986; Gardner, 1985; Holbrook and Batra, 1987; MacKenzie, Lutz, Belch, 1986; Moor and Hutchinson, 1983; Park and Young, 1986; Shimp, 1981; Shimp and Yokum, 1982; Spears and Singh, 2004). Thus, attitudes towards the advertisement (Aad) have a significant effect on attitudes towards the brand (Ab). Past research also indicated that a significant positive relationship exists between brand attitudes and purchase intention (PI) (e.g., Batra and Ray, 1986; Brown and Stayman, 1992; MacKenzie, Lutz, and Belch, 1986; MacKenzie and Spreng, 1992; Spears and Singh, 2004). Therefore, these three constructs are of a recursive nature.

Overall, Chapter 2 synthesised emotions and advertising related literature and has acknowledged the critical feature of emotions in the advertising process (Chapter 2, Section 2.2). Chapter 3 proposed the consumer's emotional corridor construct (Chapter 3, Section 3.6). In addition, in this chapter, after a review of the consumer behaviour literature, this research has identified three main constructs which can influence consumer's emotional responses, namely, "the consumer's emotional corridor". They are discussed as cognitive appraisals, product involvement, and consumer background variable – gender and age. More particularly, the cognitive appraisals approach provides a more detailed and refined way than other approaches to explain emotions. Product involvement has been verified as being a key determinant of consumer behaviour and advertising response. Gender and age are two demographic variables that have been proved to have significance on consumer's emotional responses. This research demonstrates that there are some other factors which may have effects on consumers' emotional responses to advertising slogans. Nevertheless, from this research it was decided to concentrate on the aforementioned variables, owing to their significant influence on consumers' emotional responses to advertising slogans. Research hypotheses were proposed after each section of discussion on each individual construct. All the hypotheses are well supported by previous literature. The hypotheses are gathered together and presented in Table 5.1 which presents the hypotheses developed through a synthesis of prior literature.

Advertising Effectiveness

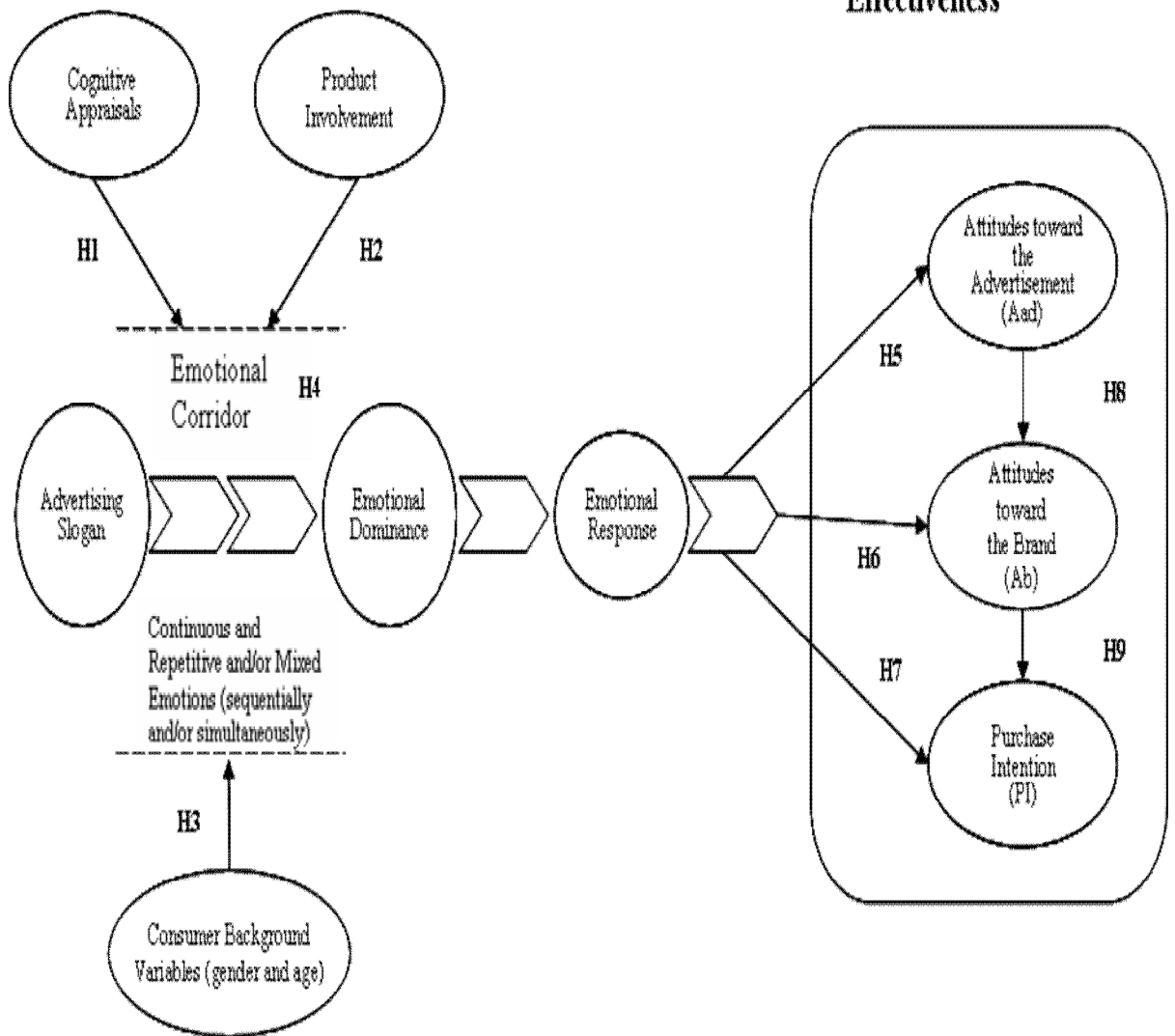


Figure 5.1: The Research Conceptual Model

Table 5.1: Research Hypotheses

Hypothesis	Description
H1 <i>cognitive appraisals1</i>	Positive emotions and their associated appraisals will have a positive effect on attitudes towards the advertisement.
H1 <i>cognitive appraisals2</i>	Positive emotions and their associated appraisals will have a positive effect on attitudes towards the brand
H1 <i>cognitive appraisals3</i>	Positive emotions and their associated appraisals will have a positive effect on purchase intention.
H2 <i>product involvement1</i>	The level of product involvement has a negative relationship with the preference of emotional appeal.
H2 <i>product involvement2</i>	The level of product involvement has a positive relationship with the preference of cognitive involvement.
H2 <i>product involvement3</i>	The level of product involvement has a negative relationship with the preference of affective involvement.
H3 <i>gender</i>	Gender difference will have a significant effect on the consumers' emotional responses to advertising slogans.
H3 <i>age</i>	Age difference will have a significant effect on the consumer's emotional responses to advertising slogans.
H4 <i>emotional responses</i>	The greater the repetition of exposure, the higher the variability of consumers' emotional responses.
H5 <i>Aad</i>	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the advertisement (Aad).
H6 <i>Ab</i>	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the brand (Ab).
H7 <i>PI</i>	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of purchase intention (PI).
H8 <i>Aad&Ab</i>	Attitudes towards the advertisement (Aad) have a positive effect on attitudes towards the brand (Ab).
H9 <i>Ab&PI</i>	Attitudes towards the brand (Ab) have a positive effect on purchase intention (PI).

5.3 Development of the Survey Instrument

Past research has highlighted that questionnaire design can influence the ratio and quality of the responses (Czaja and Blair, 1996; Manheim and Rich, 1986; Newman, 1997; Sheatsley, 1983; Sudman and Bradburn, 1987). The main concerns of research design are to ensure that the questionnaire design can address the requirements of the research and will collect accurate data that is needed to respond to the research questions and fulfil research aims (Burgess, 2001; Saunders et al., 2003). Burgess (2001) stated that clear and brief questionnaires can assist in acquiring better responses; however, many researchers have made the mistake of asking too many questions. A badly-designed questionnaire can result in response error; on the contrary, a well-designed questionnaire can guarantee comparability of the data, enhance speed and accuracy of recording, and assist data processing (Kinnear and Taylor, 1996; Malhotra, 1996).

Numerous researchers (e.g., Aaker, Kumar, and Day, 2007; Churchill, 1999; Malhotra, 1996) have proposed procedures of questionnaire design, recognising the essential role of the questionnaire in survey research. This research followed the procedure suggested by previous researchers (Aaker, Kumar, and Day, 2007; Churchill, 1999; Malhotra, 1996). The process is guided, but not restricted.

5.3.1 Process 1: What Information will be Sought

The research aims and the research conceptual model informed what information was to be sought in this research. Taking the above mentioned researchers' advice, all the information requirements were determined by the research aims and the conceptual model. This can ensure that data collected from the questionnaire can achieve the research objectives. Table 5.2 illustrates the research aims and required information in detail.

Table 5.2 Research Aims and Required Information

Research aims	Required information
What are the roles and the nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness?	Consumers' perception of emotional responses to advertising slogans.
Are consumers' emotional responses to advertising slogans dynamic? Can emotional responses through prolongation reinforce consumers' emotional states and result in one dominant emotion?	Consumers' perception of mixed emotions, continuous emotions and the dominant emotion.
Do cognitive appraisals, product involvement, and consumer characteristics (gender and age) influence consumers' perception of emotional responses?	Review of literature on cognitive appraisals, product involvement, gender and age issues in consumer behaviour and emotional responses.
Whether or not the signal-based emotion recognition technique (human-computer interface) can complement the traditional research methodology (e.g. semi-structured interviews, focus groups, survey research method dealing with self-reported measurements, phenomenological research based on physiological measures).	Review of literature on research methodology in emotion research.

5.3.2 Process 2: Determine Type of Method and Method of Administration

Generally speaking, there are two main kinds of question alternatives, open-response (unstructured) questions and closed-ended (structured) questions (Aaker, Kumar, and Day, 2007). There are advantages and disadvantages to the above two formats of question (Aaker, Kumar, and Day, 2007; Oppenheim, 2000). Open-response (unstructured) questions are usually employed in exploratory research. However, the drawbacks of such questions, for instance, the variability in the clarity of answers and the time consumed, outweigh their benefits in large-scale surveys (Aaker, Kumar, and Day, 2007; Malhotra, 1996; Churchill, 1999). The advantages of closed-ended (structured) questions are as follows. They are easier to answer; are low cost; are easy to process; require less effort by interviewers; and require no extensive writing (Oppenheim, 2000). The comparability of answers from interviewee to interviewee is perhaps the most significant benefit in a large

survey (Aaker, Kumar, and Day, 2007). Based on the above, the advantages of closed-ended (structured) questions make this method more appropriate for large-scale surveys. Therefore, it is used in this phase of the study.

Surveys can be administered by mail, by telephone or in person (Aaker, Kumar, and Day, 2007). The data collection method is determined by the type of questions (unstructured versus structured) and the type of data requested (Churchill, 1999). For example, in telephone interviews, interviewees interact verbally with interviewers, but they do not see the questionnaire. It is most suitable to ask simple and short questions. In personal interviews, interviewees interact with interviewers face-to-face. Complicated, varied, and lengthy questions can be asked. In mail surveys, questions must be simple and detailed instructions must be provided (Malhotra, 1996).

Owing to the lengthy and complex questions in the questionnaire, and after comparing the benefits and drawbacks of telephone interviews, personal interviews, and mail survey, the personal interview was chosen as the most suitable method for this phase of the research. Four interviewers were trained and paid by the researcher to conduct data collection. The details of fieldwork administration are presented in Chapter 6 (Chapter 6, Section 6.4.2.1).

5.3.3 Process 3: Determining the Content of Individual Questions

The content of individual questions is largely influenced by the information required and the method employed to administer them (Churchill, 1999). Contributing to the information required or serving a particular purpose is the key role of the questions in the questionnaire (Malhotra, 1996). The content of the individual questions was adapted from established measures that were developed by previous researchers. The content of the questionnaire includes measures of all constructs comprised in the research conceptual model. These comprise cognitive appraisals, demographic variable-gender and age, emotions, product involvement, attitudes towards the advertisement, attitudes towards the brand, and purchase intentions.

5.3.3.1 Justification for Measures

5.3.3.1.1 Justification for Measures of Cognitive Appraisals

Previous researchers have used a variety of scales to measure cognitive appraisals. For instance, Watson and Spence (2007) identified four key appraisals, while Nyer (1997) also proposed four appraisals, although not the same ones. Roseman (1991) suggested five appraisals; Scherer (1988) recognised as many as nine, and Smith and Ellsworth (1985) recommended six appraisals. The six appraisals which are proposed by Ortony, Clore, and Collins (1988) were adopted for this research owing to their tested reliability and validity. In addition, the researcher examined the cognitive appraisal literature, and the six appraisals proposed by Ortony, Clore, and Collins (1988), which are appeal (pleasantness), desirability, blameworthiness (value relevance), likelihood (certainty), unexpectedness (novelty), and agency, were found to be more relevant to the emotions elicited by advertising.

For instance, according to Ortony, Clore, and Collins (1988), the “appeal” appraisal refers to the individual’s assessments correlative to attitudes or predisposition to like or dislike certain objects or activities, and the “pleasantness” appraisal regards the intrinsic pleasantness of a situation (Smith and Ellsworth, 1985) or concerns the event being pleasant or unpleasant (Frijda, 1987); thus Watson and Spence (2007) placed grouped “appeal” in the group of “pleasantness”. Undoubtedly, the first critical issue for advertisers is to make commercials more appealing and likeable so that consumers do not want to skip them, and therefore to reach their target consumers (Cauberghe and De Pelsmacker, 2008). Fitzgerald (2007) found that visually appealing advertising will attract readers. The “blameworthiness” appraisal means the degree to which the individual does things that appear to us to support valued criteria (Ortony, Clore, and Collins, 1988). It is generally believed that value is the crucial concern for most consumers. The “likelihood” appraisal indicates the possibility of prospective events occurring, and the degree of belief that an expected event will happen (Ortony, Clore, and Collins, 1988). This is similar to Frijda’s (1987) and Johnson and Stewart’ (2005) “certainty” appraisal (Watson and Spence, 2007), which implies certainty or uncertainty concerning an event’s result. Certainly, consumers normally appreciate that the product in the advertisement will reach their expectations. Furthermore, the “unexpectedness” appraisal refers to violations of person-based or incident-based prospects. This is in the same vein as Scherer’s (1988) “novelty” appraisal (Watson and Spence, 2007). Novelty is regularly theorised as a moderator for advertising

effectiveness (Goodwin and Etgar, 1980). Psychology and consumer behaviour literature have consistently documented that novelty stimuli are more likely to be recalled, to gain attention, and to be processed more comprehensively (Lynch and Srull, 1982). Likewise, Swee, Yih, and Siew (2007) stated that the vital role of an advertising message is to communicate information, and the implementation of advertisement creativity is to improve the communication process. Novelty has been the conventional crucial point of past definitions of ad creativity. For example, unexpected and divergent thinking were used by Batra, Myers, and Aaker (1996) and fresh and unique methods were employed by Belch and Belch (2004). Hence, based on the above, the appraisals proposed by Ortony, Clore, and Collins (1988) are used due to their suitability for this research.

5.3.3.1.2 Justification for Measures of Involvement

Owing to the complexity of the involvement construct, many ways have been proposed to measure this concept according to different research focuses. For instance, Laurent and Kapferer (1985) suggested the Consumer Involvement Profile, which measures the antecedents of involvement. On the other hand, Zaichkowsky (1986) and Bloch and Richins (1983) regarded involvement as having three main antecedent factors: the characteristics of the person, the characteristics of the stimulus, and the characteristics of the situation.

In line with this conceptualisation, Zaichkowsky (1985) developed a context-free 20-item Personal Involvement Inventory (PII) to assess personal involvement in a product category, which measures the state of involvement. Due to its wider range of applicability, reported reliability and validity, the 20-item scale uses a 7-point semantic differential scale with bipolar adjectives as anchors and has been widely used by later researchers (e.g., Baker, Hunt, and Scribner, 2002; Torres and Briggs, 2007; Kokkinaki, 1999). The Personal Involvement Inventory (PII) is a context-free measure of appropriate involvement with advertisements, products, and purchase situations (Zaichkowsky, 1985). Nevertheless, it has been criticised by later researchers in that the 20 items are excessive and are very lengthy; thus, the full scale is not required (McQuarrie and Munson, 1992; Munson and McQuarrie, 1988; Murry, Lastovicka, and Singh, 1992).

Zaichkowsky (1994) verified Zaichkowsky's (1985) PII scales and suggested the Revised Personal Involvement Inventory (RPII). Compare with PII, the RPII is only half as long (10 items), remains reliable, uses generally simple and short words, and can capture cognitive and emotional types of involvement (Zaichkowsky, 1994). The RPII scale includes ten seven-point items, each labelled with bipolar adjectives, such as important/unimportant, boring/interesting, and relevant/irrelevant. The reason for choosing this scale is because the twenty-item PII was reliably decreased to a ten-item scale; the internal scale reliability of the ten-item scale of Revised Personal Involvement Inventory (RPII) is still very satisfactory (over 0.9) (Zaichkowsky, 1994).

5.3.3.1.3 Justification for Measures of Emotion

Self-reported scales of subjective experiences are the most frequently used method for capturing emotional states or processes. There are five commonly used measurement instruments of consumer emotions.

5.3.3.1.3.1 Edell and Burke's Ad Feeling Dimensions/Feelings towards Ads

Edell and Burke (1987) developed a 52-item "Feelings towards Ads" scale for measuring emotions towards advertisements and investigated the items in their scale. Edell and Burke (1987) and Burke and Edell (1989) identified this three-dimensional model as measuring how an advertisement makes consumers feel, instead of descriptions of advertisements. Their 52-item measure is valuable in measuring the underlying dimensions of the emotion states elicited by advertising (Richins, 1997). The key features of this measure are as follows. First, the three dimensions of warm feelings, negative feelings, and upbeat feelings, best capture consumers' emotional responses to advertisements. Second, negative and positive feelings are independent and can occur simultaneously. Third, feelings are consequences of exposure to advertising, not precedent states such as moods.

5.3.3.1.3.2 Holbrook and Batra's Affective Responses to Advertising/Standardised Emotional Profile (SEP)

Holbrook and Batra (1987) developed a 94-item standardised emotional profile (SEP) scale, which was later decreased to 34 items (Batra and Holbrook, 1990). Holbrook and Batra (1987) employed factor analysis, and a three-factor solution for emotions was found: pleasure, arousal and domination, which closely match those discovered by Edell and Burke (1987) (Chamberlain and Broderick, 2007). This account gives affective response categories that can be utilised to profile the ads themselves (Batra and Holbrook, 1990). It represents the formalisation of the affective responses to advertising (Batra and Ray, 1986). Its key features are as follows. Firstly, Batra and Holbrook (1990) described a scale with 34 emotion descriptors that assess 12 affective responses evoked by advertising messages. These measures showed satisfactory levels of reliability and evidence of validity when used to assess responses to advertising (Richins, 1997). Second, emotional responses are categorised into the dimensions of pleasure, arousal, and domination. Third, it includes moods, emotions, and drives as affective responses to advertising.

5.3.3.1.3.3 Aaker et al.'s Ad Feeling Clusters

Aaker, Stayman, and Vezina (1988) developed a full-range ad feeling model in order to generate empirically a list that represents the full field of feelings likely to be generated by ads. This has the following features. Firstly, by representing the range of specific feeling response to advertising, it recognises 31 feeling clusters (16 positive and 15 negative). Secondly, in employing a cluster approach, it permits the maximisation of differences between emotional clusters. Third, it concentrates on the less intense feelings rather than the stronger emotions.

5.3.3.1.3.4 Richins' Consumption Emotions Set (CES)

The Consumption Emotions Set (CES) was based on the conceptual work of Clore and Ortony, and their colleagues (Clore, Ortony, and Foss, 1987; Ortony, Clore, and Collins, 1988). In this set, emotion is regarded as a “valenced affective reaction to perceptions of

situations” (Richins, 1997, p. 127). In addition, he excluded from the area of emotions descriptors referring to physical states such as sleepy and droopy, subjective assessments such as feeling abandoned or self-confident, and non-valenced cognitions such as surprise and interest (Chamberlain and Broderick, 2007). He claimed that emotions of consumption were more complicated than the two- and three-factor solutions observed in studies of reactions to advertising or consumer satisfaction (Richins, 1997). This research was intended to produce a comprehensive set of consumption emotion measures to manage diversified consumption contexts. The Consumption Emotions Set (CES) has the following features. Firstly, it measures 17 consumption emotions (7 positive, 8 negative, and 2 other). This allows a better discrimination for positive emotions. Secondly, it maximises the differences between emotions through the use of a multidimensional scaling approach. Thirdly, it measures emotions experienced directly from product consumption, excluding representative emotions from advertising.

5.3.3.1.3.5 Pleasure-Arousal-Dominance (PAD) Dimensions of Emotions

Mehrabian and Russell (1974) developed the “pleasure-arousal-dominance” (PAD) scale. This has been used widely by marketing researchers to appraise emotional responses. The PAD scale was designed to measure emotional responses to environmental stimuli such as architectural spaces, but not to capture the entire domain of emotional experience. Thus, its validity in assessing emotional responses to the interpersonal aspects cannot be presumed.

5.3.3.1.3.6 Overall Appraisal of Measurement Instruments of Consumer Emotions

Although the emotion measures described above have proved practical in the contexts for which they were developed, there are several restrictions in their application to the study of consumer emotions. Firstly, many of the measures include some expressions not familiar to many consumers. For instance, words such as “melancholy”, “contemptuous”, “sheepish”, “revulsion”, and “brooding” are not part of the everyday vocabulary of most people. Secondly, none of scales refer to certain of some of the emotions that are particularly vital in people's lives. For example, none of the measures grounded in emotions theory assess feelings of love (Richins, 1997). Thirdly, the PAD scale employs semantic differential

items, Pleasure-Arousal-Dominance, and it is always difficult for respondents to understand clearly how to indicate correctly their perceptions of emotions. Fourthly, it has been criticised in that self-reports reflect individuals' beliefs about what they feel as opposed to the contents of "conscious feeling" (Dennett, 1991; Frijda Markam, and Wier, 1995; Ortony, Clore, and Collins, 1988). Self-report measures are easy and cheap; however, they still involve cognitive interventions (Poels and Dewitte, 2006), and still suffer from a vital restriction referred to as "cognitive bias" (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Chartrand, 2005; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Therefore, this research uses a novel method, namely, the Slogan Validator (Chapter 6. Section 6.5.2) to evaluate whether the signal-based emotion recognition (human-computer interface) technique can complement the self-report measures in order to increase the overall effectiveness of advertising copy strategy. The Slogan Validator can recognize five principal emotions: happiness, anger, sadness, boredom, and neutral (unemotional). Four advertising slogans (McDonald's, KFC, Lexus and Volvo) were chosen for study. They were selected because they satisfied certain criteria. First, these brands and slogans (McDonald's, KFC, Lexus and Volvo) are familiar to consumers in Taiwan. Second, this research tested the Elaboration Likelihood Model (ELM) (see Section 5.2.2.4) through four advertising slogans. Thus, two advertising slogans regarded as being from the low product involvement group (McDonald's and Kentucky) and two from within the high product involvement group (Lexus and Volvo) were chosen in order to meet the criteria (Lastovicka and Gardner, 1978; Zaichkowsky, 1985). More specifically, two were advertising slogans for fast-food chains (McDonald's and Kentucky), two were advertising slogans for luxury automobiles (Lexus and Volvo).

Since the fast-food chains provide warm and joyful environments for consumers, many people like to go to fast-food restaurants such as McDonald's and KFC to have meals with their family or friends in Taiwan. According to Bagozzi, Baumgartner, and Pieters (1998), happiness, gladness, and satisfaction are instances of joy. Joy is an emotional state that results in and increases satisfaction. Consumption emotion includes a set of emotions such as joy, anger and worry (Kuenzel and Yassim, 2007). Madrigal (1995) found that enjoyment had a strong relationship with satisfaction. Thus, it is crucial for fast-food chains to generate a joyful emotion in their advertising slogans in order to attract consumers to patronise them. On the other hand, Lexus and Volvo are famous, expensive luxury car brands in Taiwan; having a luxury car can give car owners the emotion of pride. Pride concerns feelings of superiority (Laros and Steenkamp, 2005). Feelings of pride

strengthen one's ego, and sense of achievement. The regulation of pride is basically linked to the regulation and maintenance of self-esteem and achievement. Pride is in fact the emotion that produces self-esteem (Brown and Marshall, 2001). More specifically, the pride emotion can enhance an individual's self-esteem and cause him/or her to be valued by others (Tracy and Robins, 2004). Therefore, it is generally believed that having a luxury car gives the car owner high self-esteem. It is a benefit for advertising slogans of luxury cars to elicit the pride emotion in consumers.

This research includes two studies: study one and study two. The study one involves survey conducted with consumers in the Feng Chia night market in Taichung Taiwan. The researcher and research partners decided to add the above two emotions of joy and pride, which were suitable for the four chosen slogans. Furthermore, as a neutral (unemotional) emotion is more difficult to understand and causes confusion, it was excluded in study one. All the above decisions were made with the aim of reducing the constraint of the Slogan Validator on study one. Hence, in study one, six emotions were chosen, i.e. joy, happiness, pride, anger, sadness and boredom. In the meantime, the research group in the Department of Computer Science and Engineering of Tatung University was trying to improve the technology of the Slogan Validator in order to recognise the two emotions mentioned above: joy and pride. However, as these two emotions are more delicate emotions, they require much more advanced and complex technology. The research group of Tatung University still could not improve the technology to recognise more than the five basic emotions. In addition, in study two a laboratory experiment was conducted. The main purpose of study two was to compare results between the self-report questionnaire and the Slogan Validator. The questionnaire of study two was more constrained by the Slogan Validator thus, the testing emotions needed to be consistent with the five basic emotions recognised by the Slogan Validator; namely, happiness, anger, sadness, boredom, and neutral (unemotional).

According to Krugman's (1975, 1984) "three-hit-theory", if an individual has perceived an advertisement three times, he/she will first try to understand the nature of the stimulus, and to learn what the product is; the second exposure will result in elaborated processing, and by the third exposure, he/she will know whether or not the product satisfies his/her requirements. In addition, "projective techniques involve the use of stimuli that allow participants to project their subjective or deep-seated beliefs onto other people or objects." (Morrison, Haley, Bartel Sheehan, and Taylor 2002, p.63). Such a technique can assist in

prompting participants to speak about something indirectly by “projecting” their thoughts on something else. Projective techniques can be subdivided into five categories: 1. Association: after being shown or told a word, participants are asked to give the first word that comes to mind instantaneously. 2. Construction: participants are required to answer questions about the beliefs, feelings, or behaviour of other people. 3. Sentence completion: presenting various incomplete sentences and asking participants to complete them, or finishing stories or arguments. 4. Selection: participants are asked to grade products’ benefits. 5. Expression: participants are asked to play the role of someone else, drawing and story-telling (Hofstede, Hoof, Walenberg, and Jong, 2007).

Therefore, with the aim of examining the consumer emotional corridor, the methods of “three-hit-theory” and “projective techniques” were chosen; and the sentence completion for projective technique was utilised. More specifically, respondents were firstly requested to say each slogan out loud three times. Each time after saying the slogan out loud, they were asked to report their perceptions of emotions; this process was repeated three times. Thereafter, respondents were asked to report their dominant emotion for this slogan. In other words, the slogan was embedded in the 3 phrases so that the respondents had to repeat it and prolong their emotions; this was intended to elicit their dominant emotion for the advertising slogan.

5.3.3.1.4 Justification of Measures of Attitudes towards the Advertisement (Aad), Attitudes towards the Brand (Ab) and Purchase Intention (PI)

Previous researchers have used a different set of items measuring these constructs. For instance, in appraising affective responses to advertising, Batra and Ray (1986) measured attitudes towards the advertisement (Aad) with a single-item, eight-point scale (no liking/liked the ad a lot), attitudes towards the brand (Ab) with a four-item scale (useful/useless, important/unimportant, pleasant/unpleasant, and nice/awful), and purchase intention (PI) with a single-item, seven-point scale (definitely would buy/definitely would not buy). MacKenzie, Lutz, and Belch (1986) utilised a two-item, seven-point scale (favourable/unfavourable and interesting/boring) to measure attitudes towards the advertisement (Aad), a three-item, seven-point scale (favourable/unfavourable, good/bad, and wise/foolish) to evaluate attitudes towards the brand (Ab), and a three-item, seven-

point scale (likely/unlikely, probable/improbable, and possible/impossible) to appraise purchase intention (PI).

A four-item global evaluation attitude towards the advertisement (Aad) measure which includes like/dislike, favourable/unfavourable, positive/negative, bad/good; and a four-item scale (dislike more /like more, more positive/more negative, worse/better, and more favourable/more unfavourable) was used to assess attitudes towards the brand (Ab). They were used for this research to capture general ad attitudes due to their tested reliability and validity (e.g., Holbrook and Batra, 1987; Stafford, 1996, 1998; Yi, 1990). Moreover, Spears and Singh (2004) highlighted that regardless of the reported support in relation to the reliability of the measures, none of the previous research had examined the psychometrical validity of the measure of purchase intention (PI) and there was no standard scale available. In response to the call for better measures (e.g. Bagozzi, 1992; Churchill, 1979; Jacoby, 1978), based on measures stated in prior studies, Spears and Sigh (2004) developed a measure of purchase intention (PI) and further replicated and validated it in another empirical study. Their five-item scale of purchase intention (PI) - never/definitely, definitely do not intend to buy/definitely intend to buy, very low purchase interest/high purchase interest, definitely not buy it/definitely buy it, probably not buy it/probably buy it - was proposed. The Spears and Singh (2004) scale is applied in this study owing to its tested reliability and validity.

5.3.4 Process 4: Determine Form of Response to Each Question

The number of categories can vary from a two-point scale to a 100-point scale. Generally, the range of opinions on most issues can best be captured with five or seven categories. In order to discriminate among individuals efficiently, five categories are possibly the minimum required. The Likert scale is one of the most popular five-point scale methods. A seven-point scale is more precise, but may cause confusion for respondents (Aaker, Kumar, and Day, 2007). More complicated scoring techniques do not reveal more benefits (Oppenheim, 2000). Hence, this research employs a five-point Likert scale to measure constructs involved in this research, with the exception of demographic variables. More specifically, each scale item has five response categories, ranging from “strongly disagree” to “strongly agree”; the numbers used are 1,2,3,4, and 5.

5.3.5 Process 5: Determining the Wording of Each Question

Question wording is the translation of the desired question content and structure into words that can be easily and clearly understood by interviewees. One of the main difficulties in writing good survey questions is making the wording accurate. Even small wording differences can confuse the interviewees or cause incorrect understanding of the question. It is believed that deciding on the wording of questions is the most important and complicated task in developing a questionnaire (Churchill, 1999; Malhotra, 1996). Poor wording can result in no response and response error. No response can enhance the difficulty of data analysis; response error can lead to biased results (Malhotra, 1996).

Therefore, the researcher followed previous researchers' suggestions (e.g., Aaker, Kumar, and Day, 2007; Churchill, 1999; Malhotra, 1996) to re-check the wording of each question, i.e. use simple words; avoid complex questions; avoid double negatives; avoid jargon and technical terms; avoid acronyms; beware of leading questions; beware of loaded words; and beware of the dangers of alternative usage.

5.3.6 Process 6: Sequencing and Layout Decisions

The physical appearance of the questionnaires will have an effect on whether the questionnaire is easy to administer and arouses interviewees' interest (Aaker, Kumar, and Day, 2007); and it also has an influence on the accuracy of the responses obtained (Sanchez, 1992). The quality of paper, the clarity of reproduction and the appearance of crowding are essential variables for self-administered questionnaires (Aaker, Kumar, and Day, 2007). Thus, the quantity and quality of collecting data can be affected by the physical appearance of the questionnaire. The quantity of data is a function of the response rate. The physical appearance of a questionnaire with a confusing layout can lead to difficulties for both interviewers and interviewees in completing this task accurately. This can have a significant effect upon the quality of data.

In this research, the questionnaire package comprises a cover letter and the questionnaire. Since researchers of the Feng Chia University and the Tatung University cooperated on this research and it was conducted in the Feng Chia night market (which is situated near Feng Chia University), the logos of Glasgow University, Feng Chia University and Tatung

University appear on the cover letter. This can result in enhancing the trustworthiness of the study (Churchill, 1999). All questionnaires were printed on good quality A4 paper; the questions were numbered and the layout of the questions was in an appropriate sequence, with particular attention paid to producing a well laid-out questionnaire. The questionnaire was re-checked carefully. The aim of this was to increase the accuracy of the data acquired and improve interviewees' cooperation.

5.3.7 Process 7: Pre-testing and Correcting Problems

It is generally accepted that a questionnaire should not be used in the field survey without sufficient pre-testing (Churchill, 1999; Malhotra, 1996). Pre-testing can assist in determining the strengths and weaknesses of the questionnaire concerning question format, wording and order. Following advice from previous researchers (e.g., Diamantopoulos, 1994; Presser and Blair 1994), two steps of pre-testing were conducted for the questionnaire. This research is a collaboration between researchers from the fields of consumer behaviour and computer science, and it was to be conducted in Taiwan, where the official language is Mandarin Chinese. Therefore, feedback was first sought from four key academics in the fields of marketing, consumer behaviour, and computer science; three of them were Mandarin Chinese native speakers and familiar with both Mandarin Chinese and the English language; one expert was familiar with English. The questionnaire was first written in English and was examined by the experts. Thereafter, the researcher translated it into Mandarin Chinese, and this was checked by three experts familiar with both Mandarin Chinese and English. It is easier for more knowledgeable respondents to recognise mistakes in logic or erroneous assumptions within their knowledge domain (Engel, Blackwell, and Miniard, 1995; Reynolds and Diamantopoulos, 1998). Some researchers (e.g., Diamantopoulos, 1994; Presser and Blair 1994) found that the knowledge of the subjects seemed to be especially supportive in identifying problems of the questionnaire.

Furthermore, forty consumers were included in the second stage of pre-testing. Generally, the majority of field pre-tests are conducted within the target population exercising the procedures designed for the survey. The pre-test sample should have a similar pattern to the target population (Churchill, 1999; Czaja, 1998; Malhotra, 1996; Oppenheim, 2000). Thus, forty consumers were drawn from the target population. Most researchers agree that

experienced interviewers should be used (Converse and Presser, 1986; Czaja and Blair, 1996; Fowler, 1993). Some researchers (e.g., Churchill, 1999) recommended using typical interviewers. This research combines the above two suggestions. Firstly, the researcher conducted ten questionnaires; meanwhile, four fieldworkers were observing all the process. Thereafter, the researcher discussed issues that aroused from the whole process of survey with the fieldworkers and then the fieldworkers began to conduct the pre-test. This could therefore minimise any drawbacks arising from only using one approach. The fieldworkers were familiar with survey procedures and were aware of possible problems they might encounter. The pre-test resulted in some alternations in the sequence of questions and a few questions being rephrased, consequently ensuring clarity and relevance.

The final questionnaire was developed through the interactive process of redrafting, pre-testing and redrafting. The final questionnaire for this study (see Appendix 1) was six pages long and with an additional cover page; its size still lies within the proposed standard for manageable questionnaire size (Dillman, 2000). The questionnaire contained seven separate elements: cognitive appraisals; perceived emotions; product involvement; attitudes towards the advertisement; attitudes towards the brand; purchase intentions; and demographic profile. More particularly, this research tests the research conceptual model through four advertising slogans (McDonald's, Kentucky, Lexus and Volvo, see Section 5.3.3.1.3.6 for details); two advertising slogans are regarded as being from the low product involvement group, while two fall within the high product involvement group. There are two versions of the questionnaire, one of which concerns the low product involvement group, and the other, the high product involvement group; each version tests two advertising slogans. This aimed at collecting data more efficiently without causing too much fatigue. The questionnaire was carefully designed so that it was not too long, and to ensure completion and maximise appeal. In order to lessen the complication of the questions and reduce the amount of time and effort required to complete the questionnaire extensive consideration was given to its design. Lastly, as this study was carried out in collaboration with researchers of the Feng Chia University and the Tatung University, the logos of Glasgow University, Feng Chia University and the Tatung University appear on the cover letter. This has resulted in increasing its credibility (Churchill, 1999).

5.4 Summary

This chapter has synthesised literature related to consumer behaviour in order to develop a comprehensive framework for identifying the main constructs that constitute the research conceptual model. This framework essentially identifies three key constructs which influence consumers' emotional responses, namely, the "emotional corridor": cognitive appraisals, product involvement, and consumer background variable – gender and age. Furthermore, the present chapter also provides comprehensive illustrations of the development of the survey instrument. The following chapter explains analytically the research design and methodology that have been followed in order to address the research objectives of the present research.

Chapter 6 Research Design and Methodology

6.1 Introduction

The present chapter clarifies the research methodology used in the present research to examine the role and nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness, and to evaluate whether the signal-based emotion recognition (human-computer interface) technique can complement traditional research methodology in order to increase the overall effectiveness of advertising copy strategy. The overall aim informing the methodology of this research is to accomplish consistency between the philosophical approach underpinning the research and its main research objectives (Easterby-Smith, Thorpe, and Jackson, 1997), as these have been defined in the previous chapter (Chapter 5, Section 5.3.1).

This chapter is constituted as follows: Section 6.2 presents a discussion on general research philosophy considerations, involving the justification of the research approach for the current study, theoretical paradigms in marketing and a concise outline of the overall research process is offered. Section 6.3 explains the qualitative research process, justifying the particular selection of the semi-structured interview approach. Section 6.4 presents the process of the first phase of the quantitative research, the survey, with particular emphasis on sampling decisions, and the particular quantitative data analysis process followed. Section 6.5 demonstrates the process of the second phase of quantitative research, the experiment, with particular emphasis on the development of the computer-based tool, the Slogan Validator, and how it functions in presenting emotions elicited by the advertising slogans, as well as the experimental procedure which is followed by the particular quantitative data analysis process. Section 6.6 offers a brief summary of the above methodological considerations.

6.2 Research Philosophy

There are numerous reasons why an understanding of philosophical issues is important. Easterby-Smith, Thorpe, and Jackson (2008) proposed three reasons why the exploration

of philosophy may be crucial with particular reference to research methodology: Firstly, it can assist the researcher in refining and identifying the research methods to be used in the research, that is, to clarify the overall research strategy. Secondly, it can assist the researcher in being innovative and creative in either selection or adaptation of research methods. Thirdly, at an early stage, knowledge of philosophy can assist the researcher in recognising which designs will work and which will not, in evaluating different methodologies and avoiding unsuitable use and unnecessary work by identifying the limitations of approaches.

Research methods can be described, considered and classified at various levels, the most fundamental of which is the philosophical level. The differences between quantitative research, which is normally associated with the philosophical traditions of positivism, and qualitative research, most usually associated with post-positivist philosophy, are the most generally used methodological distinctions (Polit, Beck, and Hungler, 2001). Denzin and Lincoln (1994) stated that the selection of methodology may depend on the perspective of the study and the nature of the questions being asked. The researcher's experience, understanding of philosophy and personal beliefs could also influence which methodology is selected. The philosophical level of a research method correlates to its assumptions founded on the most common characteristics of the world, encompassing such aspects as the mind, matter, reality, reason, truth, nature of knowledge, and proofs for knowledge (Hughes, 1994).

6.2.1 Justification of the Research Approach for the Current Study

There are two main research methods which can be categorised as qualitative research and quantitative research (Bryman, 2004). Post-positivist approaches intend to describe and explore in-depth phenomena from a qualitative viewpoint. By contrast, positivism implements a clear quantitative method to investigate phenomena (Crossan, 2003). Qualitative research investigates issues in more depth and detail than quantitative research and is especially appropriate when the research goal is to explore a topic or a thought. Quantitative research is more useful when there is a demand to determine certain facts, or relationships between facts. Therefore, qualitative research chiefly concentrates on questions asking "how" or "why", quantitative research seeks answers to the question "what" (Yin, 2003).

As far as data collection and analysis are concerned, qualitative research normally concentrates on interrogating behavioural phenomena and detecting and explaining patterns by techniques, such as behavioural observation and longitudinal studies that do not necessarily rely upon variable measurability; quantitative research tries to find the existence of a regular relationship between two variables or between events (Robson, 2002). While qualitative methods can give more elaborate results, they have been criticised for lacking generalisability. Quantitative techniques are claimed to be mostly useful when conducting research on a large scale. This is because results obtained through well conducted statistical testing are safer and easier to generalise (Bryman, 2004). Nevertheless, they have been criticised for ignoring historical and spatial contingencies. Quantitative research is generally based on a model simplifying reality; whereas qualitative research by nature reflects that reality.

A critical concern emerging from the distinction between the two philosophical approaches noted above, is the suitability of qualitative and quantitative research methodologies in a given context. According to Webb (1989), although qualitative research methods (or post-positivist philosophies) and quantitative research methods (or positivist philosophies) are frequently regarded as polarised and opposing views, they are often employed in conjunction. Therefore, Clarke (1998) stated that the qualitative and quantitative research methods are not as mutually incompatible or dissimilar as usually suggested. Hence, both qualitative and quantitative approaches can result in valuable contributions to research knowledge; it is only the nature of their contributions that is diverse. Consequently, these two paradigms are not competing research methods, they should be considered as complementary to each other. They need to be selected relying on which approach can offer a more apparent, comprehensive, clearer and more descriptive understanding in relation to posed research questions.

Furthermore, the identification of an appropriate theoretical paradigm as the fundamental basis for conducting scientific investigation is an essential consideration in terms of the research philosophy. Guba and Lincoln (1994, p.105) defined a theoretical paradigm as the “basic belief system or world view that guides the investigation”. Epistemology, ontology, and methodology are three core considerations for research philosophy, which are three important constituents of a philosophical paradigm. Epistemology investigates the features of the relationship between the reality and the researcher or the nature and base of

knowledge. Ontology concerns the character of reality. It is the key assumptions that are made regarding the basic components of reality. Method is the process executed by the researcher to explore that reality (Guba and Lincoln, 1994; Parkhe, 1993). In investigating theoretical paradigms, this study analyses two opposing paradigms: constructivism and positivism with the intention of placing the philosophical approach of the current study.

Constructivism is an approach for examining the beliefs of individuals instead of examining a tangible external reality (Hunt, 1991). It is an ontological position that states that social phenomena and their meanings are continually being accomplished by social individuals. This indicates that social phenomena are generated through social interaction and they are in a continuous situation of revision (Bryman, 2004). This paradigm asserts that reality is multiple and subjective (Carson, Gilmore, Perry, and Gronhaug, 2001; Neuman, 2003). Epistemologically, importance is located on individual understanding of particular perspectives where the notion of objectivity is rejected¹ (Morgan and Smircich, 1980). Hence, the theory-building inductive method of constructivism necessitates the researcher to interact with participants and build up subjective knowledge in the interaction (Anderson, 1986; Guba and Lincoln, 1994).

By contrast, a positivist paradigm declares that an objective reality is out there to be uncovered. Epistemologically, this can be carried out with apparent levels of certainty and through applying objective scientific approaches, where the researcher is independent from that being researched (Carson, Gilmore, Perry, and Gronhaug, 2001; Neuman, 2003). The intention of theory is to produce hypotheses that can be tested (Bryman, 2004). Therefore, theory-testing founded on deduction is the main form of the research inquiry of positivism (Layder, 1993). The employment of this hypotheses-testing and deductive method permits for statistical testing and generalisation (Guba and Lincoln, 1994).

Positivism has been subject to sustained criticisms; notably within the social sciences from critical realism and post-modernism. In essence, such criticisms revolve around the deterministic and reductionist approach associated with positivism. More specifically, it

¹By contrast, post-modernism concerns with the modes of representation of research findings (Bryman, 2004)

does not offer the means to investigate human beings and their behaviours in an in-depth way. The exploration and investigation of human behaviours are beyond the extent of positivism (Crossan, 2003). Therefore, phenomena such as experiences and meanings are beyond positivism (Dzurec, 1989; Clark, 1998). Additionally, it results in useful but restricted data that only provide a superficial outlook of the phenomenon it examines (Bond, 1993, Payle, 1995).

According to Malhotra (1996), a research design can be regarded as an outline or a skeleton for conducting a marketing research project. It is the plan or framework for a study, employed as a guide for collecting and analysing data. A research design can guarantee that the study will apply efficient processes and be related to problems (Churchill, 1999). Thus, a successful research outcome can be achieved by well-designed research. Following what has been discussed above, whilst research might concentrate on one core research method, a number of techniques can be applied, frequently combining qualitative and quantitative approaches (Onwuegbuzie and Leech, 2004). Such mixed methodological approaches are inclined to regard qualitative and quantitative research methods as a continuum rather than a dichotomy (Newman et al., 2003).

This study follows a multi-paradigm approach in addressing its research objectives. The philosophical stance of this research is to incorporate elements of both theory-building and theory-testing research. In that respect, the present research avoids the two opposing paradigms of qualitative and quantitative and follows a more unbiased methodology that combines qualitative and quantitative research (Newman, et al, 2003). Undeniably, given the nature of this research's questions combining "how" and "what" types of questions, a multi-strategy approach is needed. The multi-method approach can offer a better understanding of a phenomenon than if just one method is employed. Additionally, it can improve research findings (Bryman, 2004). Therefore, this research pursues a multi-strategy approach in addressing its research purposes.

More specifically, qualitative research is needed to identify criteria of cognitive appraisals that consumers used for advertising slogans and to validate the research model in more detail, given that previous research is scarce both in the cognitive appraisals that consumers used for advertising slogans and the "emotional corridor" construct. Accordingly, a more qualitative, theory-building approach must be followed as a first stage

of this research methodology. Such an approach can give important insights into the broader theme of the research model.

Quantitative research is also needed in order to address the objectives of the present study. In particular, causal relationships between cognitive appraisals, product involvement, and consumer background variables - gender and age - on consumers' emotional corridors, as well as the effect of consumers' emotional responses on advertising effectiveness, can only be established through statistical testing. In addition, the generalisability required by this research can only be achieved through large-scale quantitative research. In that respect, including a deductive, theory-testing approach is regarded as vital for addressing the objectives of this research. Thus, these two paradigms are not opposing research methods; they are regarded as complementary to each other in this study. More specifically, the research approach for the current study is sympathetic to the dominance of quantitative modelling and supplements with qualitative analysis.

6.2.2 Theoretical Paradigms in Marketing

It is argued that marketing research has been relying chiefly on one theoretical tradition. The domination of this philosophy has resulted in marketing science growing more rapidly in the area of hypothesis testing than in the development of new and rich explanatory theories. Deshpande (1983) argued that if marketers commonly employ a logical empiricist philosophy of how science is done, then the position of research methods used will be those viewed as reductionist, objective, obtrusive and controlled. However, these methods have limitations that make them only appropriate for some kinds of problems. In additionally, marketing scientists are perhaps unknowingly restricting themselves to a set of only partly appropriate techniques for a restricted subset of marketing problems by excluding alternative methodologies.

Since Deshpande (1983) argued that the marketing literature has been mainly dominated by quantitative paradigms, AlShebil (2007) employed the content analysis method to see whether the quantitative paradigm still dominated the marketing literature twenty years after Deshpande's (1983) "Paradigms Lost" article. He reviewed all the articles from the years 2002 to 2004 from the top three marketing journals (Hult, Neese, and Bashaw, 1997), namely: the Journal of Marketing (JM), the Journal of Marketing Research (JMR), and the

Journal of Consumer Research (JCR). He found that just under half (47.2%) of all the articles published used quantitative methodology. There were 32.7% articles comprising both quantitative and qualitative research methods. Only 7.1% articles employed solely qualitative methods. In terms of types of methodologies employed, the highest percentage of methodology employed was found to be that of experiments. More specifically, quantitative research articles focused on experiments, while qualitative research articles were dominated by interviews. They confirmed that the dominance of the quantitative method over the much neglected qualitative method in the marketing literature still exists. Nevertheless, articles utilising both quantitative and qualitative methods were increasing in number. This could indicate that researches employing both methodologies are currently gaining importance in the marketing literature.

6.2.3 The Research Process of the Present Research

As has been explained above, this research pursues a multi-strategy approach. Thus, the first stage of the research method involved conducting semi-structured interviews for purposes of assisting in defining criteria of cognitive appraisals that consumers used for advertising slogans and validating the research model.

In particular, this research comprises two studies: study one and study two. The core purpose of study one is to test the proposed research model. The core purpose of study two is to compare the results of the self-reported questionnaire and Slogan Validator. The second stage of the research method involved employing survey research, which is called study one in this research. Section 6.4 discusses particular issues relating to the implementation of the survey in-depth. Quantitative data analysis entailed hypotheses testing through multiple regression models (examining the four cases independently) using SPSS software.

The last stage of the research methodology involved carrying out the human-computer interface, namely, the Slogan Validator, and comparing the results between the self-reported questionnaires and the Slogan Validator (which is called study two in this research) and drawing generalised conclusions to address the research objectives of this research.

6.3 Qualitative Research: Semi-structured Interview

Semi-structured interviews are conducted with a somewhat open structure which allow for focused, conversational, two-way communication between interviewers and interviewees. Within the interview, the researcher has a set of themes which he/she wants to discuss with interviewees, but they are not constrained by these themes, and can explore issues emerging during the course of the interview. It is generally advantageous for interviewers to have an interview guide ready; it can assist researchers to focus an interview on the topics at hand without compelling them to a particular format. This freedom can facilitate interviewers to modify their questions to interviewees and the interview context/situation (Lindlof and Taylor, 2002). Normally, semi-structured interviews begin with more general questions. The researcher has a list of questions on particular topics to be followed, but the interviewees have plenty of flexibility in how to reply. Usually, interviewers will ask all interviewees the same questions, using similar wording from interviewee to interviewee (Bryman, 2004). In terms of qualitative research, the semi-structured interviews method was chosen as appropriate for addressing the research purposes of this study. It can be explained as follows. First, this technique is used to collect qualitative data by setting up the circumstances (the interview) that give interviewees plenty of time and range to talk about their views on a specific subject. The focus of the interview is chosen by the researcher and there may be particular scope for the researcher to explore further. The main purpose of these semi-structured interviews is to assist in defining criteria of cognitive appraisals that consumers use for advertising slogans and to validate the research model. Hence, this technique can allow the researcher to ask questions which focus on the above objectives more specifically and can obtain more relevant information.

Moreover, the purpose of the interview is to understand the interviewee's viewpoint. It utilises open-ended questions, some of which are proposed by the researcher ("Please tell me about...") and some of which may occur naturally during the interview ("You said a while ago...could you tell me more and explain more?"). Thus this can result in richer interactive responses from interviewees, giving the freedom to explore general views or opinions in more detail. The interaction between interviewer and interviewees can lead to an interactive process of refinement, whereby new thoughts recognised by previous interviewees can be adopted and presented to following interviewees (Beadsworth and Keil, 1992). This technique can bring greater flexibility (Bryman, 2004) for the researcher in order to produce abundant data at the preliminary stage of this research. Therefore, all the

noted advantages of semi-structured interview technique fit in well with the predefined purposes of this phase of research.

6.4 Quantitative Research: Survey (Study One)

The second stage of this study's research methodology involved conducting a survey of consumers in the Feng Chia night market in Taichung Taiwan. The process of developing the survey instrument has been described in Chapter 5 (Chapter 5, Section 5.3).

6.4.1 Sampling Decisions

Prior to conducting the survey, particular sampling issues had to be taken into account. This study follows the sampling design procedures proposed by Aaker, Kumar, and Day (2007), Churchill (1999) and Malhotra (1996). The process is guided, but not restricted.

6.4.1.1 Process 1: Define the Target Population

An essential first step in conducting the survey research is to define the target population. Sampling is proposed to obtain information about a population. Hence, a badly defined population can result in vague outcomes; an improperly defined population can lead to wrong results (Aaker, Kumar, and Day, 2007). An inaccurately defined target population will lead to research that is ineffective at best and misleading at worst. The target population is "the collection of elements or objects that possess the information sought by the researcher and about which inferences are to be made" (Malhotra, 1996, p360). More specifically, the population is all the members of the group that the researcher is interested in, the group about which the researcher wishes to draw conclusions (Burgess, 2001).

For the present study, the target population includes consumers aged 18 years old and above who reside in Taichung. The selection of age group is restricted by the Approval of the Ethical Research Committee, which requires that the interviewees be aged 18 years old and above.

6.4.1.2 Process 2: Determine the Sampling Frame

The sampling frame is a list of population elements utilised to acquire a sample (Aaker, Kumar, and Day, 2007). It is a representation of the components of the target population (Malhotra, 1996). In other words, it is the real set of units from which a sample has been drawn, and the sampling frame must be representative of the target population. For this study, the available sampling frame can be found from the census data of the Taichung City Government (2007).

The use of personal survey in this study is justified in Chapter 5 (Section 5.3.2) Telephone survey and mail survey are not discussed here since the personal survey is more appropriate to this study. However, the use of any sampling frames noted above demands a great deal of effort for the researcher. For example, it may either involve inviting individuals to a particular place organized by the researcher; or it may require paying a personal visit to individuals' households. All these approaches necessitate considerable cost and time. They would have been inappropriate for the very tight research budget and the time available for the researcher. Therefore, the aforementioned sample frames are not appropriate for this study. Hence, it was decided that the samples in this study would be obtained from randomly selected consumers from the Feng Chia night market. The rationale for choosing the Feng Chia night market will be explained in the following section.

6.4.1.3 Process 3: Selecting a Sampling Procedure

According to Collis and Hussey (2003, p.100), a sample is "made up of some of the members of the population". Owing to various restraints relating to time, money and other resources, it is not easy to examine all the members of the population (Burgess, 2001). Broadly speaking, sampling techniques may be classified as probability and non-probability sampling (David and Sutton, 2004; Hussey and Hussey, 1997; Malhotra, 1996; Moutinho, Good, and Davies, 1998):

6.4.1.3.1 Non-Probability Sampling versus Probability Sampling

When it is difficult to identify all probable cases in the population and where it is impossible to construct a sampling frame, then non-probability samples will be employed (Saunders, Lewis, and Thronhill, 2003). It depends on the personal judgment of the researcher rather than on the probability of selecting sample elements (Malhotra, 1996) and the chance of being included in the sample is not known. However, this sampling approach does not allow the study's findings to be generalised from the sample to the population. Generally, this sampling comprises convenience sampling, judgment sampling, snowball sampling and quota sampling techniques.

For probability sampling, sampling units are chosen by chance; all individuals in the population have a probability of being in the sample (Aaker, Kumar, and Day, 2007), and the researcher knows the exact possibility of choosing each individual of the population. In general, this sampling includes simple random sample, systematic sample, stratified random sample and cluster sampling techniques (Malhotra, 1996).

A sampling frame is required and information on sampling units is essential before employing the sampling process in most probability sampling procedures (Aaker, Kumar, and Day, 2007). It is more difficult and costly to conduct a probability sample. However, probability samples are the type of samples where the results can be generalised from the sample to the population. Moreover, probability samples permit the researcher to calculate the precision of the estimates acquired from the sample and to identify the sampling error (Aaker, Kumar, and Day, 2007).

For the current study, owing to the absence of usable sampling frames, the Feng Chia night market was chosen as the location for data collection. One may argue that this is not probability sampling. The researcher does understand the limitations which may result. However, Malhotra (1996) pointed out that non-probability sampling can be applied if the study's interest depends on the proportion of the sample that can express various attitudes or provide diverse responses. With the aim of reaching a certain standard of benefits that probability sampling technique can offer, this study introduces probability elements. The probability sampling technique employed in this study is a systematic sampling technique; it is expected that the disadvantages caused by the use of the night market can be compensated for by employing the probability sampling technique.

In East Asia, a marketing style called the “night market” has been very successful. (Wu and Luan, 2007). In Taiwan, people enjoy patronising street vendors and a variety of dining outlets in night markets. According to Chang and Hsieh (2006), the wide selection of food choices is the major reason for visiting night markets (72%). The average frequency of eating out at night markets is about once a month (36%). Night markets are an important part of the nightlife for many people, and they play an essential role in Taiwanese daily life (Barnett, 2000). According to a report of the Ministry of Transportation and Communications Tourism Bureau (2007), night markets take first place in domestic tourist sites. They can contribute 10 billion New Taiwan dollars a year; and the Feng Chia night market is the biggest night market in Taiwan. On weekday evenings, there are generally about thirty to forty thousand shoppers, whilst at the weekends or on holidays the number can increase to one hundred thousand shoppers. All in all, there are around 15,000 shops, restaurants and stalls in the market (website <http://www.go2taiwan.net>). Thus, this study conducted its survey research in the Feng Chia night market with the aim of approaching various consumers in order for them to express various attitudes or present various responses (Malhotra, 1996).

6.4.1.4 Process 4: Determining the Sample Size

Determining sample size is a vital issue since samples that are too large may waste resources, time, and money, while samples that are too small may cause erroneous results. Sample size refers to the number of constituents to be comprised in the research (Malhotra, 1996). The decision about sample size involves several concerns including cost, time, non-response rate, the number of variables, the nature of the research, heterogeneity of the population, type of analyses and so on (Bryman, 2004; Malhotra, 1996).

Generally, in quantitative research, the larger the sample size, the smaller the sampling error, and the more precise the results of the survey (Lewis, 1984). A large sample size can assist in generating better results from factor analysis. Increasing the sample size can result in decreasing the sampling error (Hurst, 1994). Researchers (e.g., Hinkin, Tracey, and Enz, 1997; Tinsley and Tinsley, 1987) have stated that a positive relationship exists between the number of items and the sample size, representing a ratio of at least 1:4 or 1:5. In this study, sample size was determined based on combinations of commonly used criteria, such as

estimate of variance, precision confidence levels, and acceptable margin of error (Glenn, 2003). For populations that are large, Cochran (1977) developed an equation to yield a representative sample for proportions. Sample sizes were derived using the following equation:

$$n = \frac{z^2(pq)}{e^2}$$

Where

n = the sample size

z = standard error associated with the selected level of confidence

p = estimate of variance

q = 1-p

e = acceptable margin of error

For the present study, a $\pm 5\%$ precision level, a 50% variance and a 95% confidence level, a sample of a least 384 questionnaires was required.

6.4.1.5 Process 5: Execution of the Sampling Process

Execution of the sampling process necessitates a comprehensive description of how the sampling design decisions regarding the population, sampling frame, sampling technique, sample size, and sampling unit are to be employed (Malhotra, 1996). In this section, the target population was defined; furthermore, the use of a non-probability sample with the introduction of a component of a systematic sampling method was justified. Sample size was determined based on combinations of commonly used criteria, such as estimate of variance, precision confidence levels, and acceptable margin of error. As mentioned before, the sampling unit for this study was the individual residents of Taichung Taiwan, aged 18 and above; and the required sample size for this study was 384.

6.4.2 The Survey Data Collection

As illustrated in Chapter 5 (Chapter 5, Section 5.3.2), the personal interview was chosen as the most appropriate method for this study. Owing to time constraints of this research, four interviewers were trained by the researcher to conduct data collection in order to speed up

time for data collection. A probability sampling method was used in this study; every 10th consumer was approached. This survey was carried out over a period of three weeks between late August and mid-September 2008.

Individuals who agreed to participate in the survey were invited into the janitors' room of Feng Chia University Main Gate. There were two computers and a long table with comfortable chairs and air conditioning. This was intended to increase credibility and to provide a comfortable environment for respondents. Firstly, all individuals were required to watch advertisements containing the slogans being tested and then they were reminded that all the questions in the questionnaires concerned their perceptions of the slogans rather than the advertisements. Moreover, while they were filling out the questionnaires, they were reminded by the fieldworkers to do the reverse items carefully. After completing the questionnaire, every respondent was given an incentive of toiletries of a value of around £1.

6.4.2.1 Fieldwork Administration

This study was conducted in the City of Taichung. Four fieldworkers were employed to collect data in order to accelerate the progress. Researchers (e.g., Barker, 1987) have suggested that the typical interviewer is a married woman aged 35-54. However, this study is a piece of academic work under the auspices of Glasgow University and Feng Chia University. Moreover, Feng Chia night market is situated along with Feng Chia University. Hence, interviewers in this study were Master's students aged between 20-30 years old; three women and one man. All the interviewers wore name badges of Feng Chia University. This was intended to convince respondents of the non-commercial basis and the seriousness of this research. Furthermore, in accordance with Collins and Butcher's (1983) suggestions, all fieldworkers were Taichung residents, native Mandarin Chinese speakers, outgoing, healthy, well-educated, communicative and with a pleasant appearance. Rather than paying according to the number of questionnaires completed, the fieldworkers were paid an hourly rate, with the aim of avoiding the falsification of part of or even the whole questionnaire.

Previous studies stated that interviewers may often struggle to comply with researcher's expectations, or may fail to do so to some extent (e.g., Burns and Bush, 2000). Therefore, appropriate training was provided to all fieldworkers with the purpose of preventing any

bias stemming from fieldworkers' manners, attitudes, and different levels of comprehension of the present research and so forth. Training included an introduction to the research and questionnaire administration requirements, how to make the initial contact, how to deal with refusals, reading out the questions for participants (if needed) and reminding the reverse items for each participant. Then after, all fieldworkers participated in role-play in order to become familiar with the whole process of data collection. Moreover, as stated earlier, all fieldworkers engaged in pre-testing (see Chapter 5, Section 5.3.7); the fieldworkers were familiar with procedures of survey and were aware of any problems they might meet with before conducting the formal survey.

In addition, the researcher chose one fieldworker as the leader whom the researcher had known for a long time and knew to be a reliable person and suitable for the supervision work, and they were told that the researcher could come to the field at any time. Every day after the data collection, the fieldworker who supervised the fieldwork was required to report any unexpected situation that had arisen during the data collection and gave the collected questionnaires to the researcher. In reality, the researcher went to the field almost every day. It was expected that all these efforts would assist in minimising cheating and improving the quality of data (Burns and Bush, 2000). According to the leader's fieldwork report and the researcher's observation, there was no evidence of cheating. The data were collected within a three week period. This notable result was because of good pre-fieldwork preparation, the good quality of supervision work, and the full support from Feng Chia University. More specifically, fieldworkers were provided with a pleasant environment for the interviews (i.e. the air conditioned janitors' room of Feng Chia University), and their work was financially rewarded. In addition, all fieldworkers were told to feel free to ask the team leader for drinks or food if required. This expenditure was paid by the researcher.

6.4.2.2 Use of Incentive

It is generally agreed that the use of incentives is effective in improving survey response rates (McConaghy and Beerten, 2003; Willimack, Schuman, Pennell, and Lepkowski, 1995). Past studies, such as Church (1993) for mail surveys and Singer, van Hoowyk, and Maher (2000) for telephone surveys, recommended the use of incentives to increase participation. Groves, Singer and Corning (2000) proposed a theory of survey participation

that identified incentives as one of the factors that can encourage participants' cooperation. Furthermore, participants may feel guilty in accepting an incentive without answering truthfully (Burns and Bush, 2000). Thus, the use of incentives can lessen falsehoods. In addition, previous research found that incentives could improve data quality in terms of greater accuracy, better response completion, reducing item non-response, and improving respondents' cooperation (Brennan, 1992; James and Bolstein, 1990; Shettle and Mooney, 1999).

An additional concern is whether to provide a monetary or a non-monetary incentive. Both have been found to increase survey response. It has been generally proved that a monetary incentive is more effective (e.g., Church, 1993; Yammarino, Skinner, and Childers, 1991; Willimack, Schuman, Pennell, and Lepkowski, 1995). A large monetary incentive is more effective in increasing the response rate (Goetz, Tyler, and Cook, 1984). However, the use of incentives is still debatable, especially the use of a monetary incentive. There is evidence proposing that using incentives may attract lower socioeconomic status, lower income, less educated, and minority groups to participate in surveys rather than those who are more advantaged (Kulka, Eyerman, and McNeeley, 2005; Singer, Groves, and Corning, 1999). However, it can be argued that since the groups are more motivated by incentives, they tend to be those who are often under-represented in surveys and using incentives can decrease response bias. This has been proved by Stratford, Simmonds, and Nicolaas (2003), who demonstrated that the sample composition of the National Travel Survey 2002 improved when incentives were used compared with the population statistics of the 2001 Census. It was decided that an incentive of toiletries worth £1 would be given to participants after the survey. First of all, as this research was funded by the researcher herself, the value of the incentives was limited. Moreover, this could minimise the drawbacks for which the use of incentives have been criticised, i.e. attracting certain demographic groups and reducing the response bias. It could also be regarded as a token of the appreciation of the researcher for the participants.

6.4.3 Survey Response

6.4.3.1 Survey Response

In total, 451 questionnaires were collected from the Feng Chia night market in Taichung, which is the biggest night market in Taiwan. According to the fieldworkers' report, the average response rate of this study was about 20 percent. These figures varied according to the different days of the week, and different time periods. Based on the fieldworkers' and the researcher's observations, the response rate could be as low as 5 to 10 percent in the late shopping period (between 8:30 pm and 9 pm). The fieldworkers reported that they stopped very few people during the weekday late shopping period. This was because most consumers tended to go home; they basically did not have enough time to participate in a survey which might take them 20 to 30 minutes to finish. On the contrary, the response rate could be as high as 30 percent in the high shopping period, for instance, on Friday and Saturday nights, as many people did not need to work on the following day and so more people had a much longer time to spend at the night market. Therefore, they were more willing to participate in the research.

However, compared to previous studies, the refusal rate of this study (70-80%) is relatively high. For example, Gates and Solomon (1982) indicated that 44 percent of those contacted refused to participate, Boyd, Westfall, and Stasch (2003) stated that in personal interviews refusals tended to be about 10 percent on average. Bush and Hair (1985) reported that 26.5% individuals contacted refused to participate in the study. This difference might be explained as a negative effect of the long length of the survey and the conservative personality of Taiwanese consumers. As all the fieldworkers reported that many people were told that they needed to watch advertisements first then to fill out a survey of six pages and thus they tended to refuse. All the fieldworkers believed that if the questionnaire had been only two or three pages long, the refusal rate would have been lower. This consequence is similar to Bean and Roszkowski (1995) and Smith, Olah, Hansen, and Cumbo (2003), who proved that the questionnaire length can affect survey response rates significantly: longer questionnaires had significantly lower response rates. Nevertheless, according to Gates and Solomon (1982), their response rate is only around 12%, which is lower than the present research. This difference could be explained as a positive consequence of using an incentive (King and Vaughan, 2004); of the credibility of this study (Churchill, 1999), (all interviewers wore name badges of Feng Chia University, the title of the project, and the logos of Glasgow University, Feng Chia University and Tutang

University appeared on the cover letter), and the provision of a comfortable place to carry out the survey.

6.4.3.2 Usable Questionnaire Rate

After careful questionnaire editing, data cleaning and checking, 191 questionnaires were considered to be usable for the fast-food chains version, and 202 questionnaires were considered to be usable for the car company version. The relatively high usable questionnaire rate (about 87%) resulted from the checking of the completed questionnaires before the giving of incentives. Based on the fieldworkers' and researcher's observations, most participants were willing to correct their questionnaires if the fieldworkers found any mistakes; only a few participants (less than 10) did not want to make any change. The explanation for this could be that Taiwanese consumers are amiable in general. In addition, the response rate of this study is only about 20 percent; the respondents who agreed to participate in this research were pleased to help us (as they told the fieldworkers and the researcher), and so they did not mind if we checked their questionnaires.

6.4.3.3 Data Cleaning and Reverse Item Recoding

Frequency distribution was used to identify out-of-range values after all the data was transferred into SPSS. In addition, in order to guarantee that agreement was indicative of the same direction, the reverse items were recoded using the SPSS. The corrections were made following the procedures: 1 was replaced by 5; 2 was replaced by 4; 3 stayed unchanged; 4 was replaced by 2; and 5 was replaced by 1.

6.4.4 Quantitative Data Analysis Procedures

Social statistics refers to the use of statistical measurement systems to study human behavior in social surroundings. The analysis of quantitative data is recognised as social statistics, and it is generally accompanied by various statistical and analytical terminologies (David and Sutton, 2004).

In order to test the proposed hypotheses, and thus produce generalisable research findings, a statistical analysis of the survey data was required. For evaluating the relationship between a single response variable and multiple explanatory variables, multiple regression analysis is a generally accepted and widely understood technique. Regression analysis can offer a reliable insight on the significant relationships existing among essential constructs and it is normally uncomplicated and rapid to implement. SPSS 15.0 was used to analyse the data. The specific procedures are explicitly analysed in the following paragraphs.

Initially, survey data was input into the SPSS 15.0 software and analysed. In this study the researcher employed the following statistical techniques: Reliability Analysis, Factor Analysis, Pearson Correlation, Repeated Measures, Paired Samples T Test, and Multiple Regression: OLS Method. Furthermore, R statistical analysis software, R-Commander, was employed the data transformation task.

6.4.4.1 Reliability Analysis

Reliability refers to the degree to which a measuring instrument generates constant results after the measurements are repeated a number of times (Frankfort-Nachmias and Nachmias, 2000). Currently, one of the most frequently used reliability measures is Cronbach's Alpha, which was first named as alpha by Lee Cronbach in 1951, and it is generally used as a measure of the internal consistency reliability of a psychometric instrument. Cronbach's coefficient is a rational indicator of the internal consistency of instruments that do not have right-wrong (binary) marking methods, and can be employed for both essay questions and questionnaires using scales such as rating or Likert scales (Oppenheim, 1992). Therefore, as the questionnaire of this study used Likert scales, it is suitable for the internal consistency of multiple-item scales in this study.

The rule of thumb is that the Cronbach's coefficient should be 0.8 or above (Bryman and Cramer, 1999). Researchers (e.g., Hinkin, 1995; Nunnally and Bernstein, 1994) have recommended that the Cronbach's coefficient should be at least 0.7; this research used this standard as the benchmark.

6.4.4.2 Factor Analysis

Factor analysis can be used to discover the latent structure (dimensions) of a group of variables. It can reduce the number of variables and group variables with related characteristics. This study used Kaiser-Meyer-Olkin (KMO) statistics to evaluate the appropriateness for running factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy offers an index (values between 0 and 1) of the percentage of variance amongst the variables that might be common variance. When the values are near 1, there exist patterns of correlation in the data, and this indicates that a factor analysis could be a suitable technique to employ (Hair et al., 2006).

The technique for extracting factors that would be used in this study is Principle Components Analysis (PCA) with oblique rotation. Oblique rotation permits some correlation between factors. Oblique rotation has become a popular technique for the following reasons. Firstly, it is unlikely that influences in nature are not correlated. Secondly, even if the influences are not correlated in the population, they need not be so in the sample. Hence, it has usually been found that the oblique rotation can yield important meaningful factors (Hutcheson and Moutinho, 2008).

6.4.4.3 Pearson Correlation

Pearson correlation is a statistical technique to measure the extent to which two variables are associated by a single summarising measure and is a measure of the strength of the association between the two variables. Its value ranges from +1 to -1. A positive value for the correlation implies a positive association and correlation of +1 showing that there is a perfect positive linear relationship among variables. A negative value for the correlation indicates a negative or inverse relationship, a correlation of -1 reveals that there is a perfect negative linear relationship among variables. An association of 0 shows that no relationship exists among variables (Frankfort-Nachmias and Nachmias 2000). Pearson correlation would be employed in this study in order to identify relationships between factors.

6.4.4.4 Paired Samples T Test

Paired sample t test is a statistical method that is used to compare two population means in the case of two samples that are correlated and is utilised to determine whether there is a significant difference between the average values of the same measurement made between two different situations. Both measurements are made on each component in a sample, and the test is based on the paired differences between these two assessments. The common null hypothesis is that the difference in the mean values is zero (Malhotra, 1996).

The null hypothesis for the paired sample t-test is

$$H_0: d = \mu_1 - \mu_2 = 0$$

where d is the mean value of the difference.

Since the main objective of study two is to compare results from self-report questionnaire and Slogan Validator. Employing this technique is appropriate for comparing the results of these two groups of data.

6.4.4.5 Repeated Measures

Repeated measures is a repetitive procedure to model dependent, or criterion variables, measured using analysis of variance. Repeated measures analysis of variance can be applied when the same limitation has been measured under different conditions with the same respondents. A difference is made between a single factor study (without grouping variables) or a two-factor study with repeated measures on one factor (when a grouping variable is specified). The repeated measures design is also known as a within-subject design. Repeated-measures can be thought of as an addition of the paired-samples t-test to include assessment among more than two repeated measures (Malhotra, 1996).

In this study, respondents were asked to say the advertising slogans out loud three times; each time, they had to write down their perceptions of their emotions just after saying the slogan aloud. Thus, this technique is suitable for employment in this study; with respondents' emotional responses for three times as the within-subject factor and respondents' gender as the between-subject factor.

6.4.4.6 Multiple Regressions: OLS Method

Multiple regression analysis is a generally accepted and commonly understood technique for assessing the relationship among single response and multiple explanatory variables. Regression analysis is normally easy and speedy to implement, while giving a reliable insight into the significant relationships existing amongst main constructs. Multiple regression can establish that a number of explanatory variables explain an amount of the variance in a response variable at a significant level (through a significance test of R^2), and can establish the relative predictive significance of the explanatory variables (by comparing beta values). OLS (Ordinary Least-Squares) regression is a technique that can be used to model a continuous response variable; it is a powerful technique for modelling especially when it is employed in conjunction with dummy variable coding and data transformation (Hutcheson and Sofroniou, 1999). The OLS regression explanatory function is explored in this research. The main purpose of stepwise regression is to select a few independent variables that account for most of the variation in the dependent variable from many independent variables (Malhotra, 1996). The stepwise regression method is regarded as proper for exploratory model building (Wright, 1997), which suits the exploratory character of study one well. Therefore, the regression process used in study one is stepwise regression.

6.4.4.7 R-Commander

R provides a language and environment which is useful for statistical graphics and computing. R is an integrated suite of software facilities for graphical display, data manipulation and calculation. R offers a broad range of statistical (classic statistical tests, time-series analysis, linear and nonlinear modelling, classification, clustering etc.) and graphical techniques, and is highly extensible. The current R is the result of a mutual effort with contributions from all over the world. R was originally written by Robert Gentleman and Ross Ihaka of the Statistics Department of the Auckland University, New Zealand, which is partly why it is called R. There has been a centre group with write access to the R source since mid-1997. R works on multiple computing platforms and is free and available on the Web (Dalgaard, 2002). R is powerful, widely used statistical software. Some users employ R as a statistical system, whilst other users prefer to consider R as an environment within which many classic and recent statistical techniques may be implemented (Venables and Smith, 2005).

There are approximately twenty-five standard and recommended packages provided by R, and many more are available through Comprehensive R Archive Network (CRAN) on their website. R-Commander (Rcmdr) is one of the packages. R-Commander's graphic user interface (GUI) is designed by John Fox. This interface covers the content of a foundation-statistics course. In the present study, R-Commander data transformation will be employed. More specifically, the Box-Cox (Box and Cox, 1964) and Box Tidwell (Box and Tidwell, 1962) are utilised to identify transformations needed regarding the response variables and the explanatory variables.

6.5 Quantitative Research: Experiments (Study Two)

Experimental research can be generally divided into two major types: laboratory experiments and field experiments. Laboratory experiments are experimental research that is conducted in an artificial or laboratory setting; therefore a laboratory experiment is likely to be artificial. Field experiments are employed in the field and are conducted in a realistic situation wherein one or more independent variables are manipulated by the experimenter under carefully controlled circumstances. Field experiments take place in a natural setting; hence the responses tend to be natural as the respondents are not normally aware that an experiment is being conducted (Aaker, Kumar, and Day, 2007).

In scientific research, an experiment is a methodology of investigating causal relationships among variables, or to test a hypothesis. It is based on empirical methods to obtain data about the world and is utilised in both natural science and social sciences. Experimental research is normally used in sciences such as psychology, sociology, physics, chemistry, biology and medicine etc. The scientific meaning of causality is very suitable to marketing research (Malhotra, 1996). An experiment can be used to assist in resolving practical problems and in supporting or disputing theoretical assumptions.

Self-reported measurements still suffer from a vital restriction referred to as "cognitive bias" (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Chartrand, 2005; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Other methods are needed with self-reported measurements to access both the conscious and subconscious experiences of consumers (Chamberlain and Broderick, 2007; Hazlett and Hazlett, 1999;

Poels and Dewitte, 2006). As noted, the use of oral language is a more primary and general cognitive ability than reading and writing. It is believed that spoken language predates written language by no less than 25,000 years, and probably much more than that (Pinker, 1994). If a link exists between language processing and emotion it will be most obvious through spoken language (Wurm et al., 2001). An alternative approach suggested in this study is the analysis of participants' voice expressions of advertising slogans. Therefore, the main objective of study two (experimental research) is to compare results from the self-reported questionnaires and the human-computer interface - Slogan Validator.

6.5.1 Human Computer Interaction and Affective Computing

Human computer interaction is the study of interaction between people (users) and computers. Generally, it is considered as the intersection of computer science, behavioural sciences, design and other domains of study. Interaction between users and computers takes place at the user interface, which includes both software and hardware. The aggregate of means by which people - the users - interact with the system - a particular machine, device, computer programme or other complex tool is the human-computer interface. Affective computing expands human computer interaction by containing emotional communication alongside suitable means of handling affective information (Picard, 1997).

According to Picard (1997, p.2), the principal expert in this field, affective computing “relates to, arises from, or deliberately influences emotions”. Affective computing, aims at the automatic recognition and synthesis of emotions in speech, facial expressions, or any other biological communication channel. Affective computing has been gaining importance in the past few years. It is a human-factor effort to examine the values of emotions while individuals are working with human-computer interfaces. Measures to quantify affect (or its influences) vary from ECG (electrocardiogram), EMG (electromyography), to measurements of autonomic nervous system responses (e.g., heart rate, blood pressure, skin conductivity), to less objective self-reported measurements (Lemmens et al., 2007).

6.5.2 The Slogan Validator

Vocal aspects of communicative messages can transmit several types of non-verbal information; for instance, the regional accent, age, gender, personal identity, health condition, and emotional state of the speaker (Ohala, 1996). There have been relatively few attempts to develop computer-based tools specifically to support evaluation of advertising slogans. This is mainly because few computer scientists participate in marketing, and more specifically, advertising slogan research. As mentioned, questionnaire analysis is the most common method of assessing slogans, although it is not necessarily the most effective. Signal-based evaluation tools address some of the limitations of the questionnaire approach. For example, it is possible to capture and analyse speech signals of slogans and elicit emotions from the signal data. This is a more natural means than analysing recalled attitude data from questionnaire responses.

The Slogan Validator is a user interface (also known as human-computer interface) developed by researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan. It can recognise five primary emotions, happiness, anger, sadness, boredom, and neutral (unemotional) of Mandarin Speech. They have been published articles in numerous international journals, and their work has been highly recognised in their field (please see Appendix 2). The following describes the development of the computer-based tool, Slogan Validator, and how it functions to present emotions elicited by advertising slogans. The hope is to provide marketers with an easy to operate and comprehensive computer-based tool to evaluate advertising slogans.

6.5.2.1 Emotional Speech Corpus

For the initial stage, an emotional corpus (Appendix 3) needs to be built up in order to form a base for eliciting emotions from speech signals. In this study, five primary emotions, happiness, anger, sadness, boredom, and neutral (no emotion), are investigated (Murray and Arnott 1993). Eighteen males and sixteen females were invited to portray these emotional states. Twenty different prompting sentences with one to six words were designed. These sentences are purposely neutral and meaningful so the participants can easily express them with these emotions. This exercise yielded a corpus containing 3,400 utterances. This preliminary corpus was then evaluated by human judges in order to filter

out ambiguous emotional utterances for further recognition analysis. Table 6.1 shows the human judge's performance confusion matrix (Appendix 3). The rows and the columns represent the simulated and the evaluated categories respectively. For instance, the first row shows that 89.6% of utterances portrayed as angry were evaluated as truly angry, 4.3% as happy, 0.9% as sad, 0.8% as bored, 3.5% as neutral, and 0.9% as none of the above (Chien et al., 2007).

From the preliminary corpus only those utterances that can be recognised as portraying the given emotion by the human judges were adopted. Afterward, the recorded utterances are divided into different subsets in response to the recognition accuracy as listed in Table 6.1. These subsets were annotated as D80, D90 and D100. These stand for recognition accuracy of at least 80%, 90%, and 100% respectively, as listed in Table 6.2. The D80 subset is relatively close to the human recognition rate (Bänziger and Scherer, 2005). Table 6.2 also shows the distribution of utterances among the given emotion categories for the corpus.

Table 6.1 Human Judge's Performance Confusion Matrix.

	Angry	Happy	Sad	Bored	Neutral	Others
Angry	89.6	4.3	0.9	0.8	3.5	0.9
Happy	6.7	73.2	3.3	2.4	13.6	0.9
Sad	2.9	1.0	82.8	9.3	3.3	0.7
Bored	1.3	0.4	8.6	75.2	13.7	0.9
Neutral	1.7	0.9	1.6	12.3	83.5	0.1

Source: adapted from Chien et al., 2007

Table 6.2 The Size of Each Subset.

Data set	D80	D90	D100
Number of utterces	570	473	283

Source: adapted from Chien et al., 2007

6.5.2.2 Recognition Architecture

The core of the Slogan Validator is the underlying recognition architecture. Fig. 6.1 shows the emotion recognition architecture based on the K-NN (K-Nearest Neighbor) method (Appendix 3). During the pre-processing stage, firstly, the endpoints of the input speech signal are located. The speech signal is high-pass filtered (Appendix 3) in order to

emphasise the importance of high frequency components. Secondly, the speech signal is partitioned into pieces of frames (Appendix 3), which consist of 256 samples each. Each frame overlaps the adjacent frames by 128 samples. Thirdly, the Hamming window (Appendix 3) is applied to each frame to minimise the signal discontinuities both at the beginning and the end of each frame. Each windowed frame (Appendix 3) is then converted into several types of parametric representations for further recognition purposes (Chien et al., 2007).

The next stage is the speech feature extraction. It is arguably the most challenging issue when building an emotion recognition system for speech signals (Banse and Scherer 1996; Petrushin 2002; Schuller, Rigoll, and Lang 2003). The regression selection method was conducted to identify possible candidates from more than 200 speech features, in an attempt to discover a suitable combination of extracted features. Feature extraction methods MFCC and LPCC were chosen. As for the feature vector quantisation stage, 20 MFCCs and 12 LPCCs of each speech frames were processed to elicit the parameters of each utterance as the feature vector. A vector quantisation method was utilized (Pao, Chen, Yeh, and Cheng 2005) to apply the mean of feature parameters corresponding to each frame in one utterance. The weighted D-KNN (Distance K-NN) (Pao, Chen, Yeh, and Liao 2005), which is a classification algorithm method, is applied to evaluate emotions from speech data (Figure 6.1).

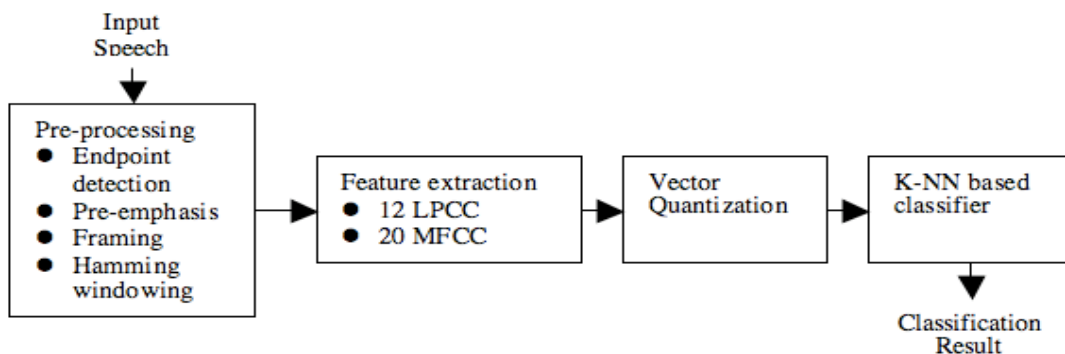


Figure. 6.1 Block Diagram of K-NN Based Emotion Recognition System

Source: adapted from Chien et al., 2007

6.5.2.3 Visualisation of Emotions

To visualise the evaluated results, the radar chart approach was employed. A radar chart is useful when several factors need to be examined at once and presented simultaneously. In the Slogan Validator, each of the axes of the radar chart represents emotions in the designated key performance dimensions. This flexibility helps present more emotions which are derived from the detailed study of the design of slogans and are easily interpreted in one big picture. It is important to note that a radar chart may become difficult to understand and interpret if there are too many axes within it.

Figure 6.2 demonstrates the user interface of the Slogan Validator. The source of the speech signals can be selected from the source frame. It can be either the recorded utterances in the corpus or the real-time recorded utterances from the users. The evaluation results are then plotted on the radar chart. The message frame shows the progression of the evaluation or error messages. The resulting frame displays the recognition result.

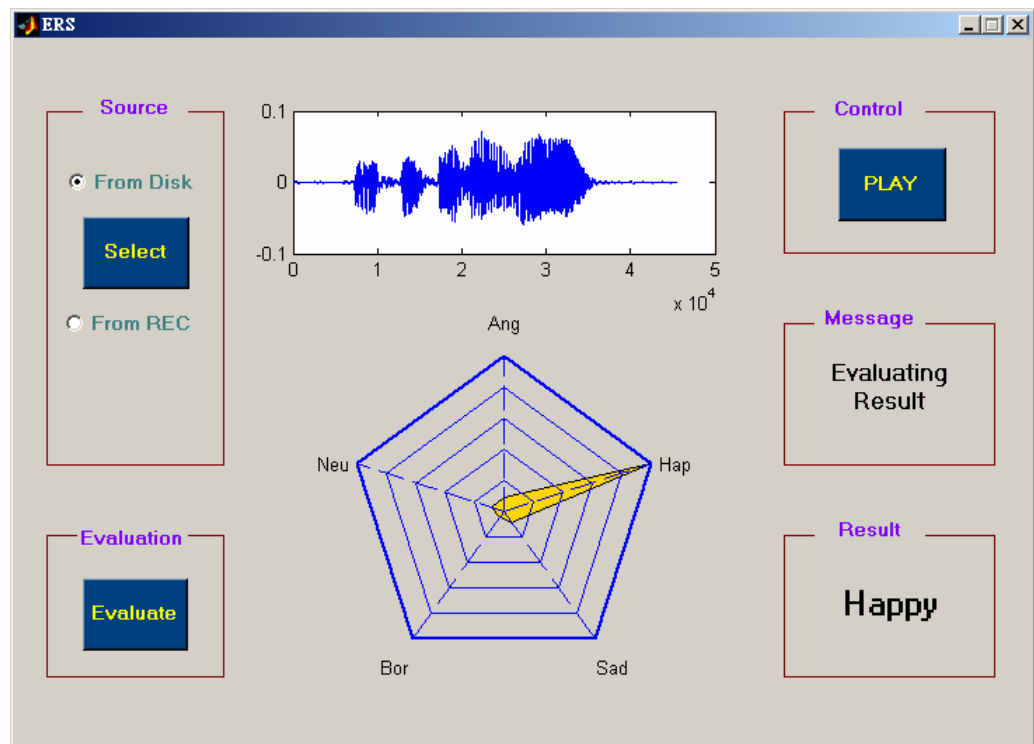


Figure 6. 2 Graphical User Interface (GUI) of the Slogan Validator

6.5.3 Experimental Procedures

The main objective of the study two was to compare results between the self-reported questionnaire and the Slogan Validator, and to discuss the difference between these two methods. Therefore, it was crucial for the researcher to learn how to record the participants' voices correctly and efficiently. Firstly, the researcher was trained by researchers in the Department of Computer Science and Engineering of Tatung University. Thereafter, the researcher discussed thoroughly with researchers of Tatung University any critical issues that they needed to be concerned with concerning the process of recording. For example, preventing noise is the most crucial issue during the time of recording, as too much noise will lead to failure of recognition from the Slogan Validator. Moreover, it is better for participants to say the slogans out naturally; especially as a loud voice may not being recognised successfully by the Slogan Validator. Then, the researcher designed an instruction for this experiment. Feedback was sought from four key academics in the fields of marketing, consumer behaviour, and computer science. After all these efforts were made, the researcher trained two Master's students at Tatung University (one male, one female) in the processing of data collection and followed the instructions step by step.

6.5.3.1 Pilot Testing

In August 2008, the first pilot test took place in the audio rooms of the Library of Feng Chia University. The main equipment needed for recording was a microphone (SONY ECM-P-C50), a computer with recording software GoldWave v 5.06 and a quiet room. The first pilot test was conducted in three separate rooms simultaneously. The researcher herself and two fieldworkers who were Master's students at Tatung University worked as interviewers; procedures were all followed according to the instructions that the researcher had designed previously. In addition, every interviewer needed to sign the questionnaires which he/or she used and save the recorded voice in his/or her own files. This was aimed at making all the data traceable. After the completion of every two cases, three interviewers carefully discussed any unexpected situation which may have arisen. Twenty-five subjects participated in the pilot-testing; twenty results were finally recognised by the Slogan Validator. More specifically, as one interviewer did not notice that there was some

problem with his computer while recording, three subjects' results were not saved successfully by the computer; one interviewer was too concerned about answering the participant in question that she forgot to save the voice data; and in another case the results were not saved properly. The pre-test leads to some alternations in the sequence of experiments, consequently ensuring clarity and relevance.

This highly successful rate (about 80%) of pilot-testing encouraged the researcher to conduct as many experiments as she could, because the larger the sample, the smaller the sampling error (Glenn, 2003). As only a microphone (SONY ECM-P-C50), a computer with recording software GoldWave v5.06 and a quiet room were needed, the researcher did another pilot test by herself in order to find a way to speed up the process. The researcher went to a college and invited 30 students to participate. This time, the students only needed to fill out the emotion section of the questionnaire instead of filling out the whole questionnaire and they were required to record two slogans instead of four slogans. All the efforts were aimed at speeding up the process and minimizing the fatigue of the participants. While the researcher was employing the research, only one student was invited to the empty classroom, and the other students just waited outside quietly. However, during the experiment, although the students who were waiting outside were required to be silent, the researcher could not prevent noise from students from other classes passing by. Thus, the majority of results were not recognised successfully by the Slogan Validator. Since it was quite difficult to invite individuals to the lab, the researcher went to friends' houses to collect data. However, noise was still a great drawback in the quality of recording voice data. All these tests took the researcher three weeks. Therefore, the researcher decided to do all the experiments in the audio room in the Feng Chia University in order to achieve both efficiency and quality of data.

6.5.3.2 The Collection of Data

Since it was very important to prevent any noise during the process of recording, the researcher needed to check that all rooms near the audio rooms were empty during the experiment. This was because if the rooms were occupied for lectures, lecturers' and students' voices from classrooms would result in the recording voice being unrecognisable to the Slogan Validator. Therefore, it was difficult to arrange a time with the other two fieldworkers. This was because when they were available the audio rooms or the adjacent

rooms were occupied, or time was not suitable for the participants. Thus, the researcher decided to do the experiment by herself, as she could be more flexible regarding the time and as this research is her own work, she considered it better to control the entire process of the experiment.

The laboratory experimental design for this study is summarised in Table 6.3. To begin with, a quiet and comfortable place is essential for the experiment in order to relax the participants and to make them feel comfortable. Then, the interviewer asks general questions about advertising slogans (e.g., What are your opinions about advertising slogans in general? What are the reasons for your answers? When you hear an advertising slogan, do you feel any emotion?) The aim of this step was to relax the participants, thereby reducing any anxiety and also making the interviewees familiar with the research topic. Thereafter, firstly, the interviewer explains critical issues of this research: the objective of recording, the confidentiality of this research (giving consent forms to the participant), explains the whole process of recording, and how to fill out the questionnaire. Second, the participant is invited to the audio recording room to watch advertisements of the slogans in order to recall his/or her impressions of the slogans. He/or she is reminded by the interviewer that all the experiment will test his/her perceptions of the slogans rather than the advertisements. Third, the interviewer explains the use of the microphone. The distance between the participant and microphone should be about a fist in length. Fourth, the interviewer leaves the audio recording room and asks the participant to follow the following instructions - A. The participant needs to say four slogans out: McDonald's, Kentucky, Lexus, and Volvo. B. Every slogan needs to be spoken out three times, with an interval of three seconds between each. C. After finishing the recording, the participant must inform the interviewer. Fifth, the interviewer enters the recording room and - A. Stops the recording software. B. Saves the participant's recording of slogans in a particular file. Sixth, the interviewer asks the participant to leave the recording room and sit outside the recording room. They are then asked to follow the following instructions - A. Fill out the traditional questionnaire. B. Inform the interviewer when he/she finishes. Finally, the researcher expresses her appreciation to the participant, and gives an incentive valued at £2 to the participant. The whole process takes the participant about thirty minutes.

Table 6.3 Experimental Design

A quiet and comfortable place is required. Then, the interviewer asks general questions about advertising slogans (e.g., What is your opinion of advertising slogans in general? What are the reasons for these opinions? When you hear an advertising slogan, do you feel any emotion?)

1. The interviewer explains issues regarding this study
 - A. The objective of recording,
 - B. The confidentiality of this research (giving consent forms to the participant),
 - C. The whole process of recording,
 - D. How to fill out the questionnaire.
2. The participant is invited to the audio recording room. Firstly, the participant is asked to watch advertisements of the slogans in order to recall his/or her impressions regarding the slogans. He/or she is reminded by the interviewer that the experiment will test his/or her perceptions of the slogans rather than the advertisements.
3. Explaining the use of the microphone. The distance between the participant and microphone shall be about a fist in length.
4. Now, the interviewer leaves the audio recording room and asks the participant to follow the following instructions:
 - A. The participant needs to say four slogans out: McDonald's, Kentucky, Lexus, and Volvo.
 - B. Every slogan needs to be spoken out three times, with an interval of about 3 seconds between each.
 - C. After finishing the recording, the participant needs to inform the interviewer.
5. The interviewer enters the recording room and
 - A. Stops the recording software.
 - B. Saves the participant's recording of slogans in a particular file.
6. The interviewer asks the participant to leave the recording room and sit outside and follow the instructions:
 - A. Fill out the traditional questionnaire.
 - B. Inform the interviewer when he/she finishes.

The interviewer expresses appreciation to the participant and gives an incentive to the value of £2.

This process will last about 30 minutes for each participant.

There were 37 female subjects and 39 males; they were a combination of postgraduate students and workers (e.g., salespeople and librarians). This included the 20 results collected from the first pilot test. This data were considered acceptable as no major changes had to be made after the piloting. The data were collected from October to December 2008 in Feng Chia University over a period of three months. All the recorded files were sent to Tatung University for analysis. After analysis from the Slogan Validator, the results were sent to the researcher, and the researcher transformed the results into an SPSS dataset.

6.5.4 The Analysis of Data

Paired sample t test is a statistical method that is used to compare two population means in the case of two samples that are correlated and is utilized to determine whether there is a significant difference between the average values of the same measurement made between two different situations (Malhotra, 1996). Because the key purpose of study two is to compare results from the self-report questionnaire and Slogan Validator. Therefore, employing this technique is proper for comparing results of these two groups of data. In addition, as all the participants were asked to complete the questionnaires and their voices were recoded. As in this study, respondents were asked to speak out the advertising slogan three times. Repeated measures is a repetitive procedure to model dependent, or criterion variables, measured using analysis of variance (Malhotra, 1996). Thus, it is suitable to use this technique in this study; with respondents' emotional responses for three times as the within-subject factor and respondents' gender as the between-subject factor for both results of self-report questionnaire and Slogan Validator.

6.6 Summary

This chapter described the research methodology employed in the present research. The methodological approach is summarized in Table 6.4. This research followed a multi-strategy approach in addressing its research objectives. The semi-structured interview can help in defining criteria of cognitive appraisals that consumers use for advertising slogans and to validate the research model. Content analysis methodology was chosen for data analysis. The semi-structured interview was followed by a survey, permitting for the statistical testing of the derived hypotheses and also improving the generalisability of the research findings. Reliability analysis, factor analysis, Pearson correlation, repeated measures, and stepwise regression are statistical analysis techniques used for the survey research. Repeated measures and paired samples t test are statistical analysis techniques employed for the experiment. The results of the qualitative research are presented in the Chapter 7, while the findings of the statistical analysis and hypothesis testing are illustrated in Chapter 8.

Table 6.4: Summary of Methodological Approach Employed in This Research

Paradigm	Multi-strategy approach
Research design	Mixed research methods: <ol style="list-style-type: none"> 1. Qualitative: semi-structured interviews 2. Quantitative: survey research 3. Quantitative: experiment
Data analysis	<ol style="list-style-type: none"> 1. Qualitative data: content analysis 2. Quantitative data–survey: reliability analysis, factor analysis, Pearson correlation, repeated measures, and stepwise regression. 3. Quantitative data-experiment: repeated measures and paired samples t test.

Chapter 7 Qualitative Study and Results

7.1 Introduction

The present chapter presents the findings of the semi-structured interviews that were conducted during the first phase of this study's data collection. As noted in the previous chapter, the main purpose of these semi-structured interviews was to assist in defining the criteria of cognitive appraisals that consumers used for advertising slogans and to validate the research model.

7.2 Overview of Procedure

The snowballing technique was used to attain participants for the semi-structured interviewees. Prior to the interviews, the principles of ethical research and the consent forms were sent to participants who were notified that the interview would be audio recorded, and were reminded that the information collected would be treated in confidence. Thereafter, the researcher introduced herself to the participants and gave a brief introduction and outlined the aims of this research. The researcher then asked general questions about advertising slogans (e.g., What are your opinions about advertising slogans in general? What are the reasons for these opinions? When you hear an advertising slogan, do you feel any emotion?) The aim of this step was to relax the participants, thereby reducing any anxiety and also making the interviewees familiar with the research topic.

The questions in the second part were intended to test consumers' awareness and understanding of pre-generated items associated with the cognitive appraisals of advertising slogans. This part was directed by the pre-generated items (Chapter 5, Section 5.3.3.1.1). The interviewees were given the items first, and then they were asked to indicate whether these would affect their perceptions of emotions from advertising slogans in general.

The purpose of the last part of the semi-structured interviews was to validate the consumer emotional corridor conceptual model (Chapter 5, Section 5.2.6). The main body of this part

consisted of two stages. The first stage was to test the variability of consumers' emotional responses to advertising slogans and the existence of the dominant emotion. The participants were asked to recall an advertising slogan and their experience about their perceptions of emotion. Afterwards they were encouraged to say the McDonald's slogan out loud three times: "*McDonald's is all for you*". This was to test participants' actual emotional states just after saying the slogan out loud. The second stage aimed to test the effects of participants' emotional responses to the advertising slogan and also the resulting advertising effectiveness. For instance, the respondents were asked "Will the emotions you perceived from the advertising slogan affect your attitudes toward the advertisement? Why?" "Will the emotions you perceived from the advertising slogan affect your attitudes toward the brand? Why?" "Will the emotions you perceived from the advertising slogan affect your purchase intentions? Why?" (see Appendix 4) Finally, the researcher expressed her appreciation to participants and all the participants were asked to fill out the personal information form at the end.

7.3 Demographic Profiles of Interviewees

In all, fifteen consumers were generated by the researcher's contacts, of whom twelve attended the semi-structured interviews. The semi-structured interviews were held in July in Taichung, Taiwan. Five females (42%) and seven males (58%) took part in the semi-structured interviews (Table 7.1). Table 7.1 presents the age groups of interviewees. The age of the majority of respondents is concentrated in the 18 to 29 year-old group (33%). This is followed by those in the 30 to 39 year-old group (25%), then those in the group aged 40 to 49 (25%), and those in the group aged 50 and over (17%). Compared with the 2007 Taichung Census data, the samples of this study reflect an appropriate representation of the population in Taichung city.

Table 7.1 Demographic Profiles of Interviewees

Characteristics of interviewees			2007 Taichung Census data	
Gender	N	Percent	N	Percent
Female (18-59)	5	42%	372,170	52.38%
Male (18-59)	7	58%	338,350	47.62%
Total	12	100%	710,520	100.00%
Age Group	N	Percent	N	Percent
18-29	4	33%	213,813	30.09%
30-39	3	25%	182,752	25.72%
40-49	3	25%	185,005	26.04%
50-59	2	17%	128,950	18.15%
Total	12	100%	710,520	100.00%

7.4 Transcribing Semi-Structured Interview Data

All the semi-structured interviews were audio recorded with the aim of securing the collected data and to guarantee that all the data was traceable. In addition, this also generates consistent qualitative information (Boyatzis, 1998). Some researchers have stated that it is not always necessary to do a full transcription (e.g. Krueger, 1994). Nevertheless, in this research, a full transcription of each interview was provided. A native Mandarin speaker was paid to transcribe all twelve interviews. Thereafter, the researcher checked the transcriptions thoroughly along with the original audio recordings.

7.5 Data Analysis Methods

The core purpose of this phase of the study was to be of assistance in defining the criteria of cognitive appraisals that consumers use for advertising slogans and to validate the research model. Thus, there was a requirement to quantify the data. Content analysis method was chosen for data analysis, since it offers a “scientific, objective, systematic, quantitative and generalizable description of communications content” (Kassarjian, 1977, p10). Moreover, content analysis is particularly supportive in informing public policy research and understanding consumer behaviour and is extensively used in analysing media productions (Avery and Ferraro 2000; Avery, Mathios, Shanahan, and Bisogni, 1997; Bang and Reece 2003; Kelly, Slater, Karan, and Hann, 2000; Russell and Russell, 2009).

Since the information gathered in the warming-up stage did not serve the research questions directly, it was not included in the analysis and coding procedure. The semi-

structured interviews data was analysed and coded manually. The purpose of coding is to collect all extracts of data that are relevant to a particular topic and/ or theme (Coffey and Atkinson, 1996). This requires reviewing transcripts and providing labels to constituent elements that would be of theoretical significance and of particular importance (Bryman, 2004).

According to Weber (1990, p. 12): “To make valid inferences from the text, it is important that the classification procedure be reliable in the sense of being consistent: Different people should code the same text in the same way”. Therefore, a native Mandarin speaker who was familiar with the research was trained by the researcher to be an alternative coder. The researcher and the trained coder coded the data individually. Perreault and Leigh (1989) stated that although there is no general agreement for assessing the reliability of coded data, the simple percentage of agreement was the most frequently used measure of inter-judge reliability (Neuendorf, 2002). Hence, the percentage of agreement was employed to determine the inter-coder reliability in this research. Kassarian (1977) suggested that a reliability coefficient above 0.85 is acceptable, but one below 0.80 needs to be treated with concern. Gottschalk (1995) recommended 0.80 as an acceptable margin for reliability. The overall reliability of this study is 0.89, which is greater than these suggested yardsticks. Thus, it is deemed to reach a high standard of reliability.

7.6 Data Analysis Results of the Qualitative Study

7.6.1 Results of Cognitive Appraisals

Table 7.2 illustrates the results of the twelve interviewees relating to cognitive appraisals. On the whole, from the analysis of the interviews regarding the cognitive appraisals, all the participants regarded “pleasantness”, “appeal” and “value relevance” as important cognitive appraisals when they evaluated a slogan. Nine out of the twelve participants considered that “desirability” was a key element. Similarly, nine participants believed that “certainty” was a main factor. Ten interviewees thought that “novelty” was a crucial issue. For the agency appraisal, only seven out of twelve participants stated that the “other agency” appraisal was important, and seven participants indicated that the “self-agency” appraisal was likewise essential.

Table 7.2 Results of Cognitive Appraisal Data

Interviewees	Cognitive Appraisals													
	Pleasantness		Appeal		Desirability		Value relevance		Certainty		Novelty		Agency	
	pleasant	enjoyable	attractive	appealing	desirable	expectable	worthy	valuable	reliable	trustworthy	fresh	novel	Other agency	Self Agency
No. 1	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	NS	NS
No. 2	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
No. 3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
No. 4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
No. 5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
No. 6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
No. 7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NS	NS
No. 8	Y	Y	Y	Y	NS	NS	Y	Y	Y	Y	Y	Y	Y	Y
No. 9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
No.10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
No.11	Y	Y	Y	Y	N	N	Y	Y	N	N	N	N	N	N
No.12	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	NS	Y

Y=Yes; N=No; NS=Not sure

As researchers (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) stated a positive relationship exists between positive emotion and advertising effectiveness. Tong et al. (2007) summarised predictions for emotion-appraisal pairs based on previous researchers findings (e.g., Ellsworth and Smith, 1988a, 1988b; Roseman et al., 1995; Scherer, 1997). Their findings suggested that, “pleasantness”, “appeal”, “desirability”, “certainty”, “value relevance” and “self-agency” appraisals have expected positive relationship with positive emotion (e.g. happiness). Moreover, Ruth, Brunel, and Otnes (2002) mentioned that “pleasantness”, “certainty”, “value relevance” and “other agency” appraisals positively related to positive emotions such as love, happiness, pride, gratitude; the “self-agency” appraisal positively related to positive emotions such as happiness and pride. Hence, it is clear that the “pleasantness”, “appeal”, “desirability”, “value relevance”, “certainty”, “other agency” and “self-agency” are essential cognitive appraisals to advertising slogans in general.

In addition, according to Goodwin and Etgar (1980), novelty is frequently theorised as a moderator for advertising effectiveness. The psychology and consumer behaviour literatures have consistently documented that novelty stimuli is more likely to be recalled, gain attention, and be processed more extensively (Lynch and Srull, 1982). Similarly, Swee, Yih, and Siew (2007) pointed out that the essential role of an advertising message is to communicate information, and the implementation of ad creativity to improve the communication process. Novelty has been the conventional critical theme of past definitions of advertisement creativity. For instance, unexpected and divergent thinking were used by Batra, Myers, and Aaker (1996); fresh and unique methods were employed by Belch and Belch (2004). Thus, not surprisingly, the “novelty” appraisal is regarded as an important cue for most interviewees (ten out of twelve participants). Therefore, all the pre-generated items associated with the cognitive appraisals to advertising slogans will be kept for further investigation in the next phase of the study-survey research.

On the other hand, however, some participants stated that other cognitive appraisals of the advertising slogans may affect their emotions as well. This was demonstrated by the following:

Respondent 4: “The background of the advertisement would affect my emotions as well, the actor or actress could have an influence, and the content of the advertisement might influence my emotions from advertising slogans.”

Respondent 6: “It depends very much on my mood. For instance, when I am in a pleasant mood, then I’ll feel happier when I hear the slogan, but if I’m in a bad mood, I’ll feel sad or annoyed.”

Respondent 8: “My experience about the product could affect my emotion from advertising slogans. For example, if I have good experiences of this product, I’ll have positive emotions about it. If I have bad experiences of the product, I’ll have negative emotions about it.”

Thus, background and content of the advertisement, actors or actresses in the advertisement, consumers’ moods and their experiences of products could also influence their emotions to advertising slogans. However, the focus of this study is not on redefining the dimension of cognitive appraisals to advertising slogans in general. Hence, the legitimacy of discovered dimensions will not be further justified. Nevertheless, this study acknowledges that this finding may shed light on a new research area for later researchers.

7.6.2 Emotional Corridor

This stage of the research examines the broader themes of the consumer’s emotional corridors. As has been argued in Chapter 3, most advertising with a considerable feeling component involves heavy repetition (Aaker et al., 1986). Important lessons from neuroscience have revealed that emotional and memory systems are dynamic and change from moment to moment (DuPlessis, 2006; LeDoux’s, 1989, 1993; Marci, 2006). In most studies of the judgment of emotional responses, researchers have used static forms. Apart from their questionable ecological validity, such statements may lack essential cues for the differentiation of emotional responses. Continuous measurements of emotional feelings become essential as theorists come to conceptualise emotions as fluid processes instead of stable states (Fenwick and Rice, 1991; Larsen, McGraw, Mellers, and Cacioppo, 2004;

Mayne and Ramsey, 2001; Stayman and Aaker, 1993) and can help to understand both the nature and effect of specific feelings (Aaker, Stayman, and Hagerty, 1986).

Furthermore, according to Richins (1997), the range of emotions experienced by consumers is very broad. Undeniably, many specific consumption experiences encompass mixed emotions or ambivalence. These mixed emotions may co-occur or occur in sequence (Ortony, Clore, and Collins 1988). Past research has revealed that mixed emotions are associated with consumption experiences such as white water rafting (Arnould and Price, 1993), gift receipt (Ruth, Brunel, and Otnes, 2002), gift exchange (Otnes, Ruth, and Milbourne 1994), and consumer response to advertising (Edell and Burke, 1987; Larsen, McGraw, and Cacioppo, 2001; Priester and Petty, 1996). The prevalence of mixed emotions may lessen the systematic relationship between appraisals and consumption emotions, whereas a situation of mixed emotions implies that the appraisal pattern for one emotion may be dominant but not quite as clear as the situation of one, single unmixed emotion (Ortony, Clore, and Collins, 1988; Reizenzein and Hofmann, 1993; Ruth, Brunel, and Otnes, 2002).

Generally, it is assumed that a dominant emotion occurs together with other less prominent feelings (Watson and Spence, 2007). In these circumstances of mixed emotions, the peak-and-end rule suggests that the best remembered emotion will be the strongest emotion and/or the last emotion felt during the critical incident (Baumgartner, Sujan, and Padgett, 1997; Redelmeier and Kahneman, 1989). Furthermore, Griffin, Drolet, and Aaker (2002) suggested that the individual's memory of mixed emotions is likely to turn into a memory of pure emotions.

Thus, the following research questions were addressed: 1. Are consumers' emotional responses to the advertising slogan dynamic? 2. Can the emotional responses through prolongation re-enforce consumers' emotional states and result in one dominant emotion? Hence, with the intention of examining the consumer emotional corridor, the methods of "three-hit-theory" and "projective techniques" were chosen; and the sentence completion for projective technique was applied (Chapter 5, Section 5.3.3.1.3.6). Firstly, participants were required to recall their experience of hearing an advertising slogan; and their experiences of perceived emotions the first time, the second time and the third time (or after a couple of times); and their experiences about the dominant emotion from that slogan. Thereafter, the McDonald's slogan: "*McDonald's is all for you*" was chosen to test

participants' emotional responses to the slogan because this slogan is well-known to most people in Taiwan. Thus, participants were requested to say the slogan out three times. Then they were asked to express their experiences of perceived emotions and their experiences of the dominant emotion of this slogan. At this stage, the slogan was embedded in the 3 phrases so that the respondents had to repeat it and prolong their emotions; this was intended to elicit the dominant emotion to the advertising slogan.

7.6.2.1 Previous Emotional Experiences with Slogans

Overall, eleven out of twelve participants mentioned that when they heard an advertising slogan three times (or after a couple of times), their perceptions of emotions could be different at each time. In other words, most of the interviewees stated that their emotional states in response to advertising slogans were dynamic (Table 7.3). These were evidenced by:

Respondent 1: "Intensity of emotion would decline."

Respondent 2: "The emotion would be insipid, and then I would even have no feeling or emotion after a while."

Respondent 3: "Yes, when I hear a slogan the first time, I will feel excited at first. However, after a couple of times, I won't feel excited any more, I will just feel bored."

Respondent 4: "I would have different emotions... I would feel it was novel at first, but after a couple of times, I would feel quite bored....."

Respondent 5: "Well, I think I would have different emotions."

Respondent 6: "It would let me enjoy the novelty the first time, then the impression would be in my mind... but the intensity of the emotion the first time would be the strongest."

Respondent 7: "I think the intensity of emotion would accumulate The emotion would become stronger and stronger..."

Respondent 8: “ Well, I think every time would be slightly different, sometimes I would feel happy, sometimes I would feel quite irritated, ...”

Respondent 11: “Yes, the emotions would be different. When I was in a good mood, I’d feel happy and joyful; when was in a bad mood, I’d be annoyed by the slogan.....”

Respondent 12: “Yes, the emotional responses would be accumulated and stronger. ...I am thinking about a slogan of Lexus; it gave me proud and joyful emotions. “

In addition, ten out of the twelve interviewees affirmed that after hearing an advertising slogan a couple of times, even though their emotional states were dynamic, a dominant emotion would be revealed at the end. This was demonstrated by the following:

Respondent 1: “Finally, a dominant emotion would remain”

Respondent 3: “But if the slogan gives me pleasure, then the pleasant emotion will last. Yes, this would be the dominant emotion...but the intensity would weaken.... I remember a slogan: ‘Carrefour, crazy!’. This slogan really drove me crazy. When I heard the Carrefour slogan, I really felt ‘crazy’.... My dominant emotion with this slogan was irritation.”

Respondent 6: “Yes, there would be a dominant emotion, but the intensity of the emotion the first time would be the strongest.”

Respondent 7: “Yes, a dominant emotion would prevail.”

Respondent 9: “The impression would be deeply rooted in my heart.... Yes, that’s what I said, that I’d be used to it, so if I felt happy about the slogan, then I’d always feel happy about it; this is the dominant emotion of the slogan.”

Respondent 12: “After hearing it a couple of times.... Yeah, a dominant emotion would come out...my dominant emotion with the Lexus slogan was pride.”

Table 7.3 A Summary of Previous Experiences about Slogans

Interviewees	Please recall an advertising slogan that you are familiar with. Would it result in different emotions when you heard the advertising slogan the first time, the second time and the third time (or after a few times)? Why? Would it lead to a dominant emotion at the end?
No. 1	<i>“Intensity of emotion would decline. Finally, a dominant emotion would remain.”</i>
No. 2	<i>“Yes. The emotion would be insipid, and then I would even have no feeling or emotion after a while”</i>
No. 3	<i>“Yes, when I hear a slogan the first time, I will feel excited at first. However, after a couple of times, I won’t feel excited any more, I will just feel bored.” But if the slogan gives me pleasure, then the pleasant emotion will last. Yes, this would be the dominant emotion, but the intensity of excitement would weaken.... I remember a slogan: ‘Carrefour, crazy! This slogan really drove me crazy. When I heard the Carrefour slogan, I really felt ‘crazy’ My dominant emotion with this slogan was irritation.”</i>
No. 4	<i>“Yes, I would have different emotions... I would feel it was novel at first, but after a couple of times, I would feel quite bored ...Yes, it would lead to a dominant emotion.”</i>
No. 5	<i>“Well, I think I would have different emotions. Yes, the dominant emotion would come out.”</i>
No. 6	<i>“I think so. It would let me enjoy the novelty at the first time, then the impression would be in my mind...Yes, there would be a dominant emotion, but the intensity of the emotion the first time would be the strongest.”</i>
No. 7	<i>“I think the intensity of emotion would accumulate the emotion would become stronger and stronger...Yes, a dominant emotion would prevail.”</i>
No. 8	<i>“Well, I think every time would be slightly different, sometimes I would feel happy, sometimes I would feel quite irritated, ...Yes, there would be a dominant emotion.”</i>
No. 9	<i>“Yes, I would appreciate the freshness at the first time, after a few times, I would get used to it...the impression would be deeply rooted in my heart.... Yes, that’s what I said, that I’d be used to it, so if I felt happy about the slogan, then I’d always feel happy about it; this is the dominant emotion of the slogan.”</i>
No. 10	<i>“No, I don’t think so. The emotion would be the same, and the dominant emotion would be the same as well.”</i>
No. 11	<i>“Yes, the emotions would be different. When I was in a good mood, I’d feel happy and joyful; when was in a bad mood, I’d be annoyed by the slogan..... No, I don’t think that there would be a dominant emotion.”</i>
No. 12	<i>“Yes, the emotional responses would be accumulative and stronger. ...I am thinking about a slogan of Lexus, it gave me proud and joyful emotions. After hearing it a couple of times.... Yeah, a dominant emotion would come out...my dominant emotion with the Lexus slogan was pride”</i>

7.6.2.2 Actual Emotional Experiences after Saying a Slogan Out

Overall, nine out of the twelve participants declared that when they were saying the advertising slogan: “*McDonald’s is all for you*” out three times, their perceptions of emotions were different. Some interviewees mentioned that the intensity of emotional responses increased; some interviewees thought that the intensity of emotional responses decreased. Again, this proved that most of the interviewees’ emotional responses to the advertising slogan were dynamic (Table 7.4). This was demonstrated by the following:

Respondent 1: “I felt that the intensity of emotion was increasing.”

Respondent 3: “I felt quite joyful at the beginning; after that, the intensity decreased.”

Respondent 4: “Yes, I felt happier and more joyful, the intensity increased.”

Respondent 5: “Yes, these would lead to different emotions. I felt quite irritated and bored...”

Respondent 7: “I felt happier, the intensity increased...”

Respondent 8: “I was hypnotised by the slogan. The intensity of emotion rose..”

Respondent 9: “I spoke with more and more fluency. I didn’t have any feeling the first time; I had a little feeling the second time; and I felt happier the third time.

Respondent 11: “The more I spoke, the more I felt fun and happiness. The intensity was stronger.”

Respondent 12: “Yes, the variability of emotion did exist. I perceived stronger emotions at the end.”

Ten out of the twelve interviewees pointed out that after saying the advertising slogan out three times, even though their emotional states were not static, a dominant emotion emerged at the end. This was shown by the following:

Respondent 1: "A dominant emotion of happiness emerged at the end."

Respondent 3: "Yes, I felt that a dominant emotion emerged. As I felt an emotion of desire, that I would like to go to McDonald's, the dominant emotion of joy will always remain with me for McDonald's."

Respondent 4: "Yes, I have a dominant emotion. The dominate emotion was joy."

Respondent 5: "Yes, the dominant emotion was irritation."

Respondent 6: "Ya, the dominant emotion was boredom."

Respondent 7: "Because I like to go to McDonald's, the dominant emotion was happiness."

Respondent 8: "Yes, I would have a dominant emotion, as I was hypnotised."

Respondent 9: "When I was saying it the third time, I had a dominant emotion - happiness."

Respondent 11: "Yes, I had a dominant emotion;, the dominant emotion was happiness."

Respondent 12: "The McDonald's slogan gave me a warm emotion. Yes, this is the dominant emotion for McDonald's ..."

Table 7.4 A Summary of Actual Experiences after Saying a Slogan Out

Interviewees	Now, please say the slogan: “ <i>McDonald’s is all for you</i> ” out loud three times. Does it result in different emotions when you say the advertising slogan the first time, the second time and the third time? Why? Does it lead to a dominant emotion at the end?
No. 1	<i>“Yes, I felt that the intensity of emotion was increasing; a dominant emotion of happiness emerged at the end.”</i>
No. 2	<i>“No, there was no big difference between them. I felt quite bored. Because I don’t like the slogan, I didn’t feel any emotion, so there was no dominant emotion either.”</i>
No. 3	<i>“Yes, I felt quite joyful at the beginning, after that, the intensity decreased. Yes, I felt a dominant emotion emerged. As I felt an emotion of desire, that I would like to go to McDonald’s, the dominant emotion of joy will always remain with me for McDonald’s.”</i>
No. 4	<i>‘Yes, I felt happier and more joyful, the intensity increased. Yes, I have a dominant emotion. The dominant emotion was joy.’</i>
No. 5	<i>“Yes, these would lead to different emotions. I felt quite irritated and bored, I wanted to finish it soon..... Yes, the dominant emotion was irritation.”</i>
No. 6	<i>“No, I didn’t seem to have different emotions. I felt quite bored... I didn’t have a dominant emotion because this slogan didn’t attract me. Ya, the dominant emotion was boredom”</i>
No. 7	<i>“I felt happier, the intensity increased... Because I like to go to McDonald’s, the dominant emotion was happiness.”</i>
No. 8	<i>“I was hypnotized by the slogan. The intensity of emotion rose. Yes, I would have a dominant emotion as I was hypnotised.”</i>
No. 9	<i>‘I spoke with more and more fluency. I didn’t have any feeling the first time; I had a little feeling the second time; and I felt happier the third time. When I was saying it out loud for the third time, I had a dominant emotion - happiness, and I felt happier the last time after saying it three times..’</i>
No. 10	<i>‘No, I didn’t have different emotions. I only felt emotion at the interview. If I could eat food in McDonald’s I would feel joyful. This slogan reminds me that I can eat food in McDonald’s.’</i>
No. 11	<i>‘The more I spoke, the more I felt fun and happiness. The intensity was stronger. Yes, I had a dominant emotion; the dominant emotion was happiness. If my children want to eat something in McDonald’s, I’ll go with them, but I won’t go by myself.’</i>
No. 12	<i>“Yes, the variability of emotion did exist. I perceived stronger emotions at the end. The McDonald’s slogan gave me a warm emotion. Yes, this is the dominant emotion for McDonald’s”</i>

7.6.2.3 Main Findings Related to Consumer Emotional Corridors

Interestingly, when respondents recalled their past emotional experiences with slogans, the majority of them experienced different emotions. However, after hearing the same slogan a couple of times, they would have a dominant emotion from this slogan. Furthermore, when participants were asked to say the McDonald's slogan out loud, most participants stated that their emotional responses were different each time, and most of them experienced happy and joyful emotions. Several participants emphasised that the intensity of emotion was different; some of them experienced an increase in intensity, and some individuals experienced a decrease in intensity. Although they experienced different emotions with the McDonald's slogan at different times, they did have a dominant emotion after saying the slogan out loud three times.

The above statements are in line with research (e.g., DuPlessis, 2006; LeDoux's, 1989, 1993; Marci, 2006) that confirmed that differing emotional states were demonstrated from moment to moment. In addition, the majority of the respondents believed that even though their emotional states were dynamic, a dominant emotion would prevail after prolonged exposure to the slogan. This also supports the researcher's hypothesis (see Chapter 3) that the prolongation of emotions could reinforce people's emotional states, and one emotion would dominate.

7.6.3 Advertising Effectiveness

This stage aimed to test the effects the participants' emotional responses to advertising slogans on advertising effectiveness. More specifically, participants were asked questions by the researcher; for instance: Will the emotions you perceived from the advertising slogan affect your attitudes toward the advertisement? Why? Will the emotions you perceived from the advertising slogan affect your attitudes toward the brand? Why? Will the emotions you perceived from the advertising slogan affect your purchase intention? Why?

Overall, nine out of the twelve participants declared that their emotional responses to the advertising slogan may affect their attitudes toward the advertisement. Eight of them stated

that their emotional responses to the advertising slogan could influence their attitudes toward the brand. Nevertheless, only five respondents thought that their emotional response to the advertising slogan could have any influence on their purchase intentions; two respondents thought that the emotional responses could have an effect sometimes, and two respondents stated that they were not sure about this (Table 7.5).

The analysis of the interviews revealed that the majority of respondents considered that their emotional responses to the advertising slogans could affect their attitudes toward the advertisement and attitudes toward the brand. This are in line with past research which has shown that emotions affect attitudes toward the advertisement (e.g., Batra and Ray, 1986; Derbaix, 1995; Holbrook and Batra, 1987; Morris, Woo, Geason, and Kim, 2002), and attitudes toward the brand (Batra and Ray, 1986; Holbrook and Batra, 1987; Morris, Woo, Geason, and Kim, 2002; Ruiz and Sicilia, 2004). However, less than half of the respondents declared that emotional responses to the advertising slogans could have an effect on their attitudes toward purchase intentions. An explanation for this may be that, as the questions about advertising effectiveness did not indicate a specific brand or product, one participant was thinking about coffee, another was considering cars, and the remainder were talking about fast-food chains and other subjects. Furthermore, previous research has found that emotional responses seem to have a greater impact when peripheral information processing is dominant (e.g., Hansen, 2005; Heath, 2001; Petty and Cacioppo, 1986). This may be the reason why only about half of the interviewees agreed that the emotional responses to advertising slogans could have an influence on their attitudes toward purchase intentions. This was shown by the following:

Respondent 2: "I remember an advertisement about coffee...I like the ad very much. Every time when I saw the ad and heard the music and the slogan from the ad, I felt like I could even smell the flavour of coffee...It made me feel that I wanted a cup of that coffee. Of course, I would want to buy this product."

Respondent 3: "Yes, I do. For example, I do like the McDonald's slogan: "McDonald's is all for you". It gives me a joyful emotion, and I would like to go to McDonald's to see if they can give me the feeling that McDonald's is all for me. And I do like the food in McDonald's....I go to McDonald's sometimes."

Respondent 12: “Yeah, emotional responses to the advertising slogans may affect my attitudes toward the advertisement and attitudes toward the brand. But... I think that if I want to buy a car, I won’t be affected too much by the emotion of the advertising slogans, although I do like the Lexus slogan. As you know, a car is not a cheap product.”

Findings regarding purchase intentions are partly in line with past researchers (e.g., Aaker, Stayman, and Hagerty, 1986; Morris, Woo, Geason, and Kim, 2002). They claimed that a positive relationship exists between emotional reactions and purchase intentions. Overall, from the above statements, the emotions generated by exposure to advertising slogans do indeed influence the relative advertising effectiveness. Hence, findings of this stage also prove the validation of the research model (Chapter 5, Section 5.2.6).

Table 7.5: Emotional Responses of Advertising Slogan on Advertising Effectiveness

Interviewees	Attitudes towards the advertisement	Attitudes towards the brand	Purchase intention
No. 1	Y	Y	Y
No. 2	Y	Y	Y
No. 3	Y	Y	Y
No. 4	Y	Y	Y
No. 5	Y	Y	NS
No. 6	Y	N	ST
No. 7	Y	Y	Y
No. 8	Y	Y	NS
No. 9	Y	Y	N
No.10	NS	N	N
No.11	N	N	N
No.12	Y	Y	ST
Y=Yes ST=sometimes N=No NS=Not sure			

7.6.4 Overall Assessments of Qualitative Research Stage

In sum, all the questions for this study were divided into three parts. The first part was intended to relax the participants. It did not serve the research questions directly and it was not included in the analysis and coding process. Data collected from the second part and third part (stage1 and stage 2) were analysed separately.

The questions in the second part aimed to test consumers' awareness and understanding of pre-generated items associated with the cognitive appraisals of advertising slogans (Section 7.6.1). Results of the second part revealed that the majority of interviewees regarded "pleasantness", "appeal", "desirability", "value relevance", "certainty" and "novelty" as important cognitive appraisals of advertising slogans. According to Tong et al. (2007), they summarise predictions for emotion-appraisal pairs based on previous researchers' findings (e.g., Ellsworth and Smith, 1988a, 1988b; Roseman et al., 1995; Scherer, 1997a, 1997b). Their findings suggested that, "pleasantness", "appeal", "desirability", "certainty", "value relevance" and "self-agency" appraisals have linked positive relationships with positive emotions (e.g. happiness). Moreover, Ruth, Brunel, and Otnes (2002) also confirmed that "pleasantness", "certainty", "value relevance" and "other agency" appraisals positively related to positive emotions. Furthermore, "novelty" is frequently theorised as being a moderator for advertising effectiveness (Goodwin and Etgar, 1980). Only about half of the participants regarded "other agency" and "self-agency" as important cognitive appraisals of advertising slogans for them. Nevertheless, previous research (e.g., Ellsworth and Smith, 1988a, 1988b; Roseman et al., 1995; Ruth, Brunel, and Otnes, 2002; Scherer, 1997a, 1997b) revealed that the above two appraisals are positively related to positive emotions (e.g., love, happiness, pride). In addition, researchers (e.g., De Pelsmacker et al., 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) found that a positive relationship exists between positive emotion and advertising effectiveness. Thus, these two appraisals will remain in this study. All the pre-generated items associated with the cognitive appraisals to advertising slogans will be kept for further investigation in the survey research.

The purpose of the questions in the third part was to validate the conceptual model of the consumer emotional corridor and included two stages. The first stage was intended to test the variability of consumers' emotional responses to advertising slogans and the existence of the dominant emotion (Section 7.6.2). Results of the analysis confirmed that the dynamic nature of consumers' emotional responses and the prolongation of emotions can reinforce consumers' emotional states and that a dominant one will prevail. The second stage was intended to test the effects of participants' emotional responses to advertising slogans on advertising effectiveness (Section 7.6.3). The results of the analysis showed that consumers' emotional responses to advertising slogans can have positive effects on advertising effectiveness

7.7 Summary

The present chapter presented the findings of the 12 semi-structured interviews in order to assist in defining criteria of cognitive appraisals that consumers use for advertising slogans and to validate the research model. The snowballing technique was used to enlist participants for semi-structured interviewees. The full process was audio recorded, and a native Mandarin speaker was paid to transcribe all data. Then the researcher verified the transcriptions carefully along with the original audio records.

The questions in the semi-structured interviews were divided into three parts. The questions in the first part of questions did not serve the research questions directly and were not included in the analysis and coding process. The results of the second and third parts of the interviews were analysed separately. Overall, drawing on the insights from the analysis of the semi-structured interviews, this chapter reconfirmed the preliminary conceptual framework that was developed in Chapter 5.

Chapter 8 Research Findings & Discussion

8.1 Introduction

The present chapter presents the results of the data analysis. This research contains two studies: study one and study two. The main purpose of study one is to test the proposed research model. OLS regression is used to test the research model; separate multiple regressions are run for each dependent variable for four cases and repeated measures are employed for testing respondents' emotional responses. Two statistical software programmes are applied to analyse the data. SPSS 15.0 is employed to carry out all the data analysis except data transformation. R-Commander is applied to carry out the data transformation for the four final models. Compared to SPSS, R-Commander has been shown to be stronger in terms of data transformation. The key objective of study two is to compare the results of the self-reported questionnaire and Slogan Validator (see Section 6.5.2 for detail). Paired sample T test and repeated measures are conducted for study two.

This chapter begins with a discussion of the characteristics of the sample of study one. Thereafter, descriptive statistics on data is presented. The next section focuses on evaluating the reliability and validity of measures used in study one. Then OLS regression results are illustrated, followed by data transformation. Lastly, for study one, the results of repeated measures are presented. The final stage of this chapter presents the findings of study two and the chapter ends with a concise summary.

8.2 Study One

8.2.1 Features of the Samples

It is essential to investigate the demographic characteristics of the samples acquired from the survey before going any further in analysing the data. This can establish how representative the samples are of the target population. The examination considers the distribution of the samples according to age and gender. The demographic characteristics (age and gender) of the sample are compared to the 2007 Taichung Census data.

8.2.1.1 Age Group Analysis

Since only nine respondents were aged over 50 and these included incomplete questionnaires, all nine of these questionnaires were discarded. This result, although not as expected, is not entirely surprising. First of all, as the questionnaire of this survey contained 6 pages, people aged over 50 were perhaps more reluctant to participate in this research. In addition, many of them had difficulties in filling out the questionnaire without glasses. Thus the refusal rate was increased. Finally, multiple choices seemed to be an obstacle for older people. Table 8.1 presents the age groups of respondents. For the fast-food chain version, the age of the majority of respondents is concentrated in the 18 to 29 year-old group (74.9%). This is followed by those in the 30 to 39 year-old group (19.9%), and then those in the group aged 40 to 49 (5.2%). Similarly, for the car company version, the age of the majority of respondents is grouped in the 18 to 29 year-old group (70.8%). This is followed by those in the 30 to 39 year-old group (19.3%), and then those in the group aged 40 to 49 (9.9%).

Compared with the population statistics provided by the 2007 Taichung Census data, the age group of the population is not well represented by the samples used in this study. However, the results of this study regarding age group of night market consumers was similar to those of Chang and Hsieh's (2006) study, which found that age range lay mostly between 16 and 25 year old group (71.2%), and stated that as summer time is the break time for people in this age group, they are more likely to patronise night markets than others during this period. Similarly, this study was done during August and September, mostly within the summer vocation. In addition, the Feng Chia night market is situated near Feng Chia University, which would also account for their being more participants in the dominant age group. Finally, the majority of people aged under 29 are students, so they were familiar with survey research and were therefore more willing to join in this research. Hence, it is considered acceptable.

Table 8.1 Age Group of the Respondents in Study One

Age group	Fast-food chains		Cars		2007 Taichung Census age group	
	N	Percentage	N	Percentage	N	Percentage
18-29	143	74.9	143	70.8	213,813	36.8
30-39	38	19.9	39	19.3	182,752	31.4
40-49	10	5.2	20	9.9	185,005	31.8
Total	191	100.0	202	100.0	581,570	100.0

8.2.1.2 Gender Analysis

According to the 2007 Taichung Census data, for people aged 18-50, the percentage of females is 52.5 percent, with males at 47.5 percent; this shows that the ratio of females and males in the population is approximately equal. The results of this study indicate that, for the fast-food chain version, 52.4 percent of respondents were females and 47.6 percent of respondents were males, while for the car company version, 57.4 percent of respondents were females and 42.6 percent of respondents were males (Table 8.2). Therefore, females accounted for more than half of all respondents in study one. Moreover, these figures are very similar to the Census data Taichung. Thus, it is considered adequate.

Table 8.2 Gender of the Respondents in Study One

Gender	Fast-food chains		Cars		2007 Taichung Census data (18-49 year old)	
	N	Percentage	N	Percentage	N	Percentage
Female	100	52.4	116	57.4	305,284	52.5
Male	91	47.6	86	42.6	276,286	47.5
Total	191	100.0	202	100.0	581,570	100.0

8.2.2 Descriptive Statistics

With the aim of providing a preliminary examination of the data, descriptive analyses were carried out. These descriptive analyses contained measures of dispersion (range, standard deviation) and central tendency (mean). All the outcomes are reported in five separate tables (see Appendix 5). It can be clearly seen from all the tables that all values range from 1 (strongly disagree) to 5 (strongly agree), with the exception of the item investigating participants' cognitive appraisals of McDonald's: "The advertising slogan gives me an

enjoyable feeling”, and the item regarding participants’ attitudes towards the brand McDonald’s: “After saying the advertising slogan out loud, I feel worse about the brand.”(This is the reverse statement, and all the reverse statements were reverse recoded). The values lie between 2 to 5. These are not unexpected outcomes and can be explained by the fact that McDonald’s is very popular in the Taiwanese market. Furthermore, all measures show acceptable variance.

8.2.3 Factor Extraction and Loading

The use of factor analysis has two aims. Firstly, to examine whether the measures used to measure the constructs across two versions of the four tested advertising slogans (McDonald’s, KFC, Lexus and Volvo, see Section 5.3.3.1.3.6 for details) fall into the same factors. Secondly, to reduce the information obtained from the survey into a small set of newly merged dimensions which make the data more manageable in order to offer a more parsimonious description of the data. Furthermore, categorising the data into specific factors allows a simpler interpretation and also enables these factors to be included in regression models (Hutcheson and Moutinho, 2008). Following Kaiser’s (1960) suggestion, only factors with eigenvalues greater than 1.0 are reported. Items with a factor loading of no less than 0.40, and which are not divided loaded on another factor above 0.40 are perceived as elements of one factor. Values of KMO statistics are between 0 and 1, when the values approach 1, this indicates that there are likely to be patterns of correlation in the data. This suggests that a factor analysis could be a suitable technique to use (Hair et al., 2006). In other words, when the values are high (near 1), then the sum of the correlation coefficients is fairly large compared to the sum of the partial correlation coefficients. This suggest a pattern of correlation in the data verifying the suitability of using factor analysis. Conversely, if the sum of the partial correlation coefficients is fairly great compared to the correlation coefficients, the relationships amongst the data are expected to be quite scattered. This implies that it is not expected that the variables will form discrete factors. Table 8.3 shows Kaiser’s (1974) interpretation of the KMO statistics.

Table 8.3 Interpretation of the KMO Statistics

KMO statistic	Interpretation
in the .90s	Marvellous
in the .80s	Meritorious
in the .70s	Middling
in the .60s	Mediocre
in the .50s	Miserable
below .50	Unacceptable

Source: Kaiser, 1974.

The first stage of running a factor analysis involves determining and extracting the factors that will be used to describe the data set. The technique for extracting factors that the author will be concerned with here is Principle Components Analysis (PCA) with oblique rotation. The oblique rotation allows for some correlation between factors. According to Hutcheson and Moutinho (2008), oblique rotation has become a popular technique for the following reasons. Firstly, it is unlikely that influences in nature are not correlated. Secondly, even if the influences are not correlated in the population, they need not be so in the sample. Hence, it has usually been found that oblique rotation could yield important meaning factors.

Furthermore, the Kaiser-Meyer-Olkin (KMO) (Kaiser, 1970) measure of sampling adequacy is employed. All KMO values are presented in Table 8.4. Ten out of eighteen KMO values are greater than 0.8, which are categorised as “Meritorious” (Table 8.3). Five out of eighteen KMO values range from 0.715 to 0.793, which are grouped as “Middling” (Table 8.3). Only three out of eighteen KMO values are classed as “Mediocre” (ranging from 0.606 to 0.645) (Table 8.3). On the whole, all the KMO values are within acceptable levels; this means that the data sets are suitable for applying factor analysis.

Table 8.4 KMO Results

Version of advertising slogans	KMO
Cognitive appraisals (McDonald's)	0.823
Cognitive appraisals (KFC)	0.832
Cognitive appraisals (Lexus)	0.811
Cognitive appraisals (Volvo)	0.833
Involvement (fast food chains)	0.846
Involvement (cars)	0.853
Attitudes toward the advertisement (McDonald's)	0.764
Attitudes toward the advertisement (KFC)	0.725
Attitudes toward the advertisement (Lexus)	0.715
Attitudes toward the advertisement (Volvo)	0.793
Attitudes toward the brand (McDonald's)	0.606
Attitudes toward the brand (KFC)	0.645
Attitudes toward the brand (Lexus)	0.610
Attitudes toward the brand (Volvo)	0.715
Purchase intention (McDonald's)	0.849
Purchase intention (KFC)	0.866
Purchase intention (Lexus)	0.886
Purchase intention (Volvo)	0.870

8.2.3.1 Cognitive Appraisals Results

8.2.3.1.1 McDonald's and Kentucky Fried Chicken (KFC)

All the factors with eigenvalues larger than 1.0 were extracted. Four factors were extracted from the McDonald's and three factors were extracted from the KFC (Table 8.5). The item 'self-agency' did not group with any other items for the McDonald's; rather it stood out as a factor on its own. Hence, this item was considered to have dropped out at this stage. As presented in Table 8.5 (page 167), most of the factors were extracted with high factor loading, i.e. exceeding 0.60 (Hair et al, 2006).

For the McDonald's, the first factor is strongly related to items such as 'worth', 'value', 'reliability', and 'trustworthiness'. Most of these items load in Frijda's (1987) 'value relevance & certainty' factor, Ortony, Clore, and Collins' (1988) 'blameworthiness & likelihood' factor, and Ruth, Brunel, and Otnes' (2002) 'fairness & certainty' factor. Thus, factor one is interpreted as 'value & certainty' factor. The second factor is strongly correlated to variables 'freshness' and 'novelty'; many of these items load in Ortony, Clore, and Collins' (1988) 'unexpectedness' factor and Scherer's (1988) 'novelty' factor. Therefore, factor two can be interpreted as 'novelty' factor. The third factor is related to 'pleasant feelings', 'enjoyable feelings', 'attractiveness', 'appeal', 'desirability', and

‘expectancy’; the majority of these items group in Frijda’s (1987) ‘valence or pleasantness’ factor, Nyer’s (1997) ‘goal congruence’ and ‘goal relevance’ factors, Ortony, Clore, and Collins’ (1988) ‘appeal’ and ‘desirability’ factors and Watson and Spence’s (2007) ‘outcome desirability’ factor. Hence, factor three can be named ‘outcome desirability’ factor. As Table 8.5 illustrates, communality values are high (above 0.60), indicating that a large amount of the variance has been extracted by the factor solution. The extracted factors account for 71.127 percent of the overall variance.

For the KFC, the first factor is strongly related to items such as ‘pleasant feelings’, ‘enjoyable feelings’, ‘attractiveness’, ‘appeal’, ‘desirability’, ‘expectancy’, ‘worth’, ‘value’, ‘reliability’, and ‘trustworthiness’. A large number of these items group in Ortony, Clore, and Collins’ (1988) ‘appeal’ and ‘desirability’ factors, Nyer’s (1997) ‘goal congruence’ and ‘goal relevance’ factors, Frijda’s (1987) ‘valence or pleasantness’ factor, Frijda’s (1987) ‘value relevance & certainty’ factor, and Watson and Spence’s (2007) ‘outcome desirability’ factor. Thus, factor one is described as ‘outcome desirability’. The second factor is strongly correlated to the variables ‘freshness’ and ‘novelty’, and these items mainly load in Ortony, Clore, and Collins’ (1988) ‘unexpectedness’ factor and Scherer’s (1988) ‘novelty’ factor. Consequently, factor two can be interpreted as ‘novelty’ factor. The item ‘other-agency’ combines well with the item ‘self-agency’, which can be suggested as ‘agency’ factor (Frijda’s ,1987; John and Stewart, 2005; Roseman, 1991) for the factor three. As Table 8.5 shows, communality values are high (above 0.50), with the exception of the self-agency item. This implies that a great deal of the variance has been extracted by the factor solution. The extracted factors explain 65.737 percent of the overall variance.

The item-to-total correlations for all items are higher than the suggested 0.50 benchmark (Bearden and Netemeyer, 1999), with the exception of ‘other-agency’ item of the ‘outcome desirability factor’ of McDonald’s. Thus, it was decided to drop the item of ‘other-agency’. After dropping the ‘other-agency’ item, Cronbach’s Alpha changed value from 0.858 to 0.885 (Table 8.6). For all the extracted factors across two versions - McDonald’s and Kentucky - the Cronbach’s Alpha values are higher than 0.80. The Pearson correlations are reported when the Cronbach’s Alpha is not appropriate. The reliability of the scale is complementarily verified by the Pearson correlation. Most items are all significant at the 0.01 level with the exception of the ‘agency factor’ of KFC. Since the Pearson correlation of the ‘agency factor’ is not significant, it was decided to drop this factor in the Kentucky

case (Table 8.7). Overall, for both the McDonald's and KFC data, for all the extracted factors across two versions, the Cronbach's Alpha coefficients are higher than 0.80 or Pearson correlation greater than 0.30 which is significant at the 0.01 levels. Furthermore, the item-to-total correlations are greater than 0.50. Thus, to some extent it is reasonable to declare that the scales adopted for measuring consumers' cognitive appraisals of fast-food chains are both valid and reliable.

Table 8.5 Evaluation of McDonald's Cognitive Appraisal Factors and KFC Cognitive Appraisal Factors

No	Items	McDonald' s (KMO: 0.823)					KFC (KMO : 0.832)			
		Factor1 Value& Certainty	Factor2 Novelty	Factor3 Outcome Desirability	Fctor4	Communalities	Factor1 Outcome Desirability	Factor2 Novelty	Factor3 Agency	Communalities
1	pleasant feelings			0.804		0.692	0.696			0.585
2	enjoyable feelings			0.766		0.613	0.648			0.578
3	attractiveness			0.699		0.609	0.755			0.592
4	appeal			0.659		0.654	0.734			0.568
5	desirability			0.706		0.692	0.784			0.702
6	expectancy			0.687		0.653	0.787			0.685
7	worth	0.803				0.662	0.810			0.697
8	value	0.823				0.703	0.805			0.764
9	reliability	0.853				0.740	0.799			0.666
10	trustworthiness	0.860				0.742	0.802			0.681
11	freshness		0.950			0.909		0.915		0.855
12	novelty		0.945			0.904		0.931		0.874
13	other agency			0.596		0.657			0.715	0.517
14	self-agency				0.843	0.728			0.648	0.440
Eigenvalues		5.880	1.749	1.272	1.057		6.536	1.618	1.049	
Cumulated variance explained %		71.127%					65.737%			
Percentage of variance explained		41.999	12.493	9.086	7.549		46.686	11.560	7.491	

Table 8.6 McDonald's Cognitive Appraisal Factors Scale of Reliability Analysis & Pearson Correlation (n=190)

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation					
Value& Certainty			0.868						
worth	0.676	0.848		1					
value	0.713	0.834		0.774** 1					
reliability	0.742	0.822		0.510** 0.536** 1					
trustworthiness	0.747	0.820		0.506** 0.545** 0.866** 1					
Outcome Desirability			0.858						
pleasant feelings	0.708	0.817		1					
enjoyable feelings	0.623	0.829		0.725** 1					
attractiveness	0.673	0.821		0.529** 0.392** 1					
appeal	0.660	0.822		0.559** 0.417** 0.688** 1					
desirability	0.734	0.812		0.552** 0.514** 0.626** 0.571** 1					
expectancy	0.709	0.814		0.500** 0.480** 0.574** 0.576** 0.762** 1					
other agency	0.262	0.885		0.267** 0.283** 0.169* 0.136 0.185* 0.228** 1					
	Mean	Std. Deviation							
Novelty									
freshness	3.24	0.837		1					
novelty	3.21	0.857		0.821** 1					

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.7 KFC's Cognitive Appraisal Factors Scale of Reliability Analysis & Pearson Correlation (n=189)

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation								
Outcome Desirability			0.922									
pleasant feelings	0.665	0.917		1								
enjoyable feelings	0.631	0.919		0.773**	1							
attractiveness	0.692	0.915		0.474**	0.468**	1						
appeal	0.677	0.916		0.445**	0.518**	0.688**	1					
desirability	0.740	0.912		0.539**	0.479**	0.474**	0.490**	1				
expectancy	0.726	0.913		0.504**	0.477**	0.477**	0.500**	0.810**	1			
worth	0.772	0.911		0.513**	0.494**	0.559**	0.549**	0.632**	0.622**	1		
value	0.773	0.911		0.473**	0.472**	0.574**	0.535**	0.651**	0.601**	0.849**	1	
reliability	0.690	0.915		0.455**	0.411**	0.552**	0.467**	0.531**	0.515**	0.561**	0.578**	1
trustworthiness	0.693	0.915		0.455**	0.369**	0.570**	0.529**	0.500**	0.503**	0.550**	0.575**	0.799**
	Mean	Std. Deviation										
Novelty												
freshness	3.23	1.097		1								
novelty	3.25	1.097		0.868**	1							
Agency												
other agency	3.53	1.058		1								
self-agency	3.09	0.964		0.140	1							

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

8.2.3.1.2 Lexus and Volvo

Regarding the Lexus and Volvo data, four factors were extracted from the Lexus version and three were extracted from the Volvo version. The eigenvalues of all the factors are greater than 1.0. To a large extent, the contents of the extracted factors are alike across these two versions. As presented in Table 8.8, the majority of the factors were extracted with high factor loading, i.e. exceeding 0.60 (Hair et al, 2006).

For the Lexus version, the factor strongly relates to items such as ‘attractiveness’, ‘appeal’, ‘desirability’, and ‘expectancy’, ‘worth’, ‘value’, ‘reliability’, and ‘trustworthiness’. Most of these items load in Frijda’s (1987) ‘valence or pleasantness’ factor, Nyer’s (1997) ‘goal congruence’ and ‘goal relevance’ factors, Ortony, Clore, and Collins’ (1988) ‘appeal’ and ‘desirability’ factors and Watson and Spence’s (2007) ‘outcome desirability’ factor. Thus, factor one is named the ‘outcome desirability’ factor. Factor two is strongly associated with the variables ‘freshness’ and ‘novelty’, these items load on Ortony, Clore, and Collins’ (1988) ‘unexpectedness’ factor and Scherer’s (1988) ‘novelty’ factor. Therefore, factor two can be called the ‘novelty’ factor. The third factor strongly is related to items ‘other agency’ and ‘self-agency’; the items load on Johnson and Stewart’s (2005), Ortony, Clore, and Collins’ (1988), and Roseman’s (1991) ‘agency’ factor. This factor can be unequivocally called the ‘agency’ factor. The final factor relates to ‘pleasant feelings’ and ‘enjoyable feelings’. The majority of these items group in Frijda’s (1987) ‘valence or pleasantness’ factor, Nyer’s (1997) ‘goal congruence’ and Ortony, Clore, and Collins’ (1988) ‘appeal’ factor. Hence, this last factor can be labelled as the ‘pleasantness’ factor. As Table 8.8 illustrates, communality values are high (above 0.50), indicating that a great deal of the variance has been extracted by the factor solution. The extracted factors account for 72.096 percent of the overall variance.

In the case of Volvo, the factor correlates to items such as ‘attractiveness’, ‘appeal’, ‘desirability’, and ‘expectancy’, ‘worth’, ‘value’, ‘reliability’, ‘trustworthiness’, and ‘other agency’. A good number of these items load in Frijda’s (1987) ‘valence or pleasantness’ factor, Nyer’s (1997) ‘goal congruence’ and ‘goal relevance’ factors, Ortony, Clore, and Collins’ (1988) ‘appeal’ and ‘desirability’ factors and Watson and Spence’s (2007) ‘outcome desirability’ factor. Thus, factor one is labelled the ‘outcome desirability’ factor. The item ‘other agency’ is grouped under the ‘outcome desirability’ factor for the Volvo, but included in the ‘agency’ factor in the case of Lexus. Factor two is strongly connected

to the variables 'freshness' and 'novelty' and these two items load in Ortony, Clore, and Collins' (1988) 'unexpectedness' factor and Scherer's (1988) 'novelty' factor. Consequently, factor two can be known as the 'novelty' factor. The third factor is related to 'pleasant feelings', 'enjoyable feelings', and 'self-agency'; most of these items group in Frijda's (1987) 'valence or pleasantness' factor, Nyer's (1997) 'goal congruence', and Ortony, Clore, and Collins' (1988) 'appeal' factor. Therefore, the final factor can be interpreted as 'pleasantness' factor. As Table 8.8 demonstrates, communality values are high (above 0.60), with the exception of 'other agency' (0.411) and 'self-agency' (0.265) items. This points out that a large amount of the variance has been extracted by the factor solution. The extracted factors account for 66.552 percent of the overall variance.

In principle, the item-to-total correlations for all items are higher than the suggested 0.50 benchmark (Bearden and Netemeyer, 1999), with the exception of 'other agency' item of the 'outcome desirability factor' and the 'self-agency' item of the 'pleasantness factor' of the Volvo. Thus, it was decided to drop the item of 'other agency' and 'self-agency' from the Volvo version (Table 8.10). After dropping the items, the reliability was boosted by 0.018 for the 'outcome desirability factor' and 0.232 for the 'pleasantness factor'. In the case of Volvo, the Cronbach's Alpha values increased from 0.907 to 0.925 for the 'outcome desirability factor' and increased from 0.602 to 0.834 for the 'pleasantness factor'. For all the extracted factors across the two cases of Lexus and Volvo, the Cronbach's Alpha values are above 0.80. The reliability of the scale is further verified by the Pearson correlation. All items are significant at the 0.01 level. (Table 8.9, Table 8.10). Thus, to some extent it is safe to state that the scales adopted for measuring consumers' cognitive appraisals of car sales' version are both valid and reliable.

Table 8.8 Evaluations of Lexus Cognitive Appraisal Factors and Volvo Cognitive Appraisal Factors

No	Items	Lexus (KMO: 0.811)					Volvo (KMO : 0.833)			
		Factor1 Outcome Desirability	Factor2 Novelty	Factor3 Agency	Factor4 Pleasantness	Communalities	Factor1 Outcome Desirability	Factor2 Novelty	Factor3 Pleasantness	Communalities
1	pleasant feelings				-0.862	0.765			-0.696	0.690
2	enjoyable feelings				-0.837	0.747			-0.711	0.700
3	attractiveness	0.692				0.563	0.733			0.664
4	appeal	0.708				0.677	0.756			0.663
5	desirability	0.666				0.569	0.762			0.640
6	expectancy	0.751				0.635	0.766			0.651
7	worth	0.797				0.670	0.830			0.691
8	value	0.786				0.663	0.800			0.640
9	reliability	0.852				0.825	0.866			0.764
10	trustworthiness	0.834				0.779	0.862			0.758
11	freshness		0.941			0.890		0.949		0.903
12	novelty		0.942			0.887		0.936		0.878
13	other agency			0.767		0.727	0.427			0.411
14	self-agency			-0.784		0.697			-0.480	0.265
Eigenvalues		5..971	1.813	1.292	1.018		6..621	1.568	1.128	
Cumulated variance explained %		72.096%					66.552%			
Percentage of variance explained		42.652	12.949	9.226	7.269		47.296	11.197	8.059	

Table 8.9 Lexus' Cognitive Appraisal Factors Scale of Reliability Analysis & Pearson Correlation (n=202)

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation					
Outcome Desirability			0.904						
attractiveness	0.659	0.895		1					
appeal	0.695	0.892		0.650** 1					
desirability	0.654	0.895		0.551** 0.484** 1					
expectancy	0.728	0.889		0.542** 0.528** 0.756** 1					
worth	0.729	0.888		0.408** 0.587** 0.543** 0.577** 1					
value	0.713	0.890		0.432** 0.620** 0.469** 0.562** 0.789** 1					
reliability	0.703	0.891		0.528** 0.457** 0.424** 0.507** 0.539** 0.489** 1					
trustworthiness	0.673	0.893		0.506** 0.453** 0.350** 0.471** 0.500** 0.507** 0.894**					
	Mean	Std. Deviation							
Novelty									
freshness	3.22	0.926		1					
novelty	3.13	0.900		0.820** 1					
Agency									
other agency	3.79	1.002		1					
self-agency	3.27	1.012		-0.227** 1					
Pleasantness									
pleasant feelings	3.66	0.833		1					
enjoyable feelings	3.49	0.926		0.725** 1					

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.10 Volvo's Cognitive Appraisal Factors Scale of Reliability Analysis & Pearson Correlation (n=202)

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation							
Outcome Desirability			0.907								
attractiveness	0.717	0.895		1							
appeal	0.735	0.893		0.782**	1						
desirability	0.722	0.894		0.546**	0.535**	1					
expectancy	0.724	0.894		0.599**	0.568**	0.811**	1				
worth	0.750	0.892		0.519**	0.596**	0.589**	0.593**	1			
value	0.725	0.894		0.599**	0.575**	0.535**	0.571**	0.749**	1		
reliability	0.765	0.891		0.534**	0.548**	0.584**	0.556**	0.658**	0.569**	1	
trustworthiness	0.767	0.891		0.578**	0.609**	0.546**	0.526**	0.625**	0.599**	0.873**	1
other-agency	0.310	0.925		0.212**	0.251**	0.259**	0.194**	0.244**	0.228**	0.328**	0.298**
Pleasantness			0.602								
pleasant feelings	0.535	0.317		1							
enjoyable feelings	0.572	0.283		0.717**	1						
self-agency	0.193	0.834		0.166*	0.192**						
Pleasantness Mean	Std. Deviation										
pleasant feelings	3.33	0.937		1							
enjoyable feelings	3.35	0.875		0.717**	1						
Novelty											
freshness	3.23	0.924		1							
novelty	3.19	0.924		0.904**	1						

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

8.2.3.2 Product Involvement Results

All the factors with eigenvalues larger than 1.0 are extracted (Table 8.11). For both fast-food chain and car company data, two factors were extracted. Interestingly, the items of the two versions all grouped in the equivalent results. Due to the involvement items being generated from the Zaichkowsky's (1994) scale, Zaichkowsky's (1994) interpretations are closely related to the extracted factors. One factor is strongly related to variables, 'important', 'relevant', 'exciting', 'appealing', 'fascinating', and 'involving'. The majority of these items load in Zaichkowsky's (1994) 'affect' factor. Hence, this factor is described as 'affective'. The other remaining involvement factor is strongly related to items such as 'interesting', 'means a lot to me', 'valuable', and 'needed'. Most of these items load in Zaichkowsky's (1994) 'cognitive' factor, thus this factor is named the 'cognitive' factor (Table 8.11). As Table 8.11 reveals, communality values are high (above or near 0.50), with the exception of the item 'interesting' (0.370) in the case of cars. This shows that a large amount of the variance has been extracted by the factor solution. The extracted factors account for 63.534 percent of the overall variance for the fast-food chains and 56.404 percent of the overall variance for the car company.

For both the fast-food chains and cars, the extracted factors all have a Cronbach Alpha value over 0.70 and Pearson correlations higher than 0.25 which is significant at the 0.01 level. The item-to-total correlations for all items are higher than the suggested 0.50 yardstick (Bearden and Netemeyer, 1999), with the exception of the item 'interesting' (0.459) and the item 'valuable' (0.485) in the case of cars. Thus, the extracted factors are considered to be reliable and sufficiently capture single construct. Hence, the outcomes imply that the scale adapted to measure involvement is both valid and reliable. Results are presented in Table 8.12 and Table 8.13.

Table 8.11 Evaluation of Fast-food Chains' Involvement Factors and Car Companies' Involvement Factors

No	Items	Fast-food Chains (KMO: 0.883)			Car Sales (KMO : 0.853)		
		Factor1 Affective factor	Factor2 Cognitive factor	Communalities	Factor1 Affective factor	Factor2 Cognitive factor	Communalities
1	important	0.721		0.600	0.688		0.480
2	interesting		0.695	0.486		0.571	0.370
3	relevant	0.725		0.536	0.686		0.493
4	exciting	0.781		0.616	0.777		0.634
5	means a lot to me		0.832	0.692		0.715	0.561
6	appealing	0.865		0.761	0.788		0.624
7	fascinating	0.787		0.669	0.781		0.630
8	valuable		0.824	0.679		0.784	0.620
9	involving	0.758		0.605	0.733		0.559
10	needed		0.839	0.709		0.816	0.670
Eigenvalues		5.151	1.202		4.379	1.261	
Cumulated variance explained %		63.534%			56.404%		
Percentage of variance explained		51.511	12.023		43.792	12.612	

Table 8.12 Fast-food Chains' Product Involvement Factors Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation	N
Affective factors			0.870		191
important	0.666	0.849		1	
relevant	0.638	0.854		0.630** 1	
exciting	0.673	0.848		0.477** 0.515** 1	
appealing	0.786	0.828		0.608** 0.540** 0.639** 1	
fascinating	0.594	0.861		0.415** 0.358** 0.506** 0.611** 1	
involving	0.669	0.849		0.501** 0.490** 0.520** 0.633** 0.501** 1	
Cognitive factors			0.821		191
interesting	0.549	0.815		1	
means a lot to me	0.661	0.766		0.496** 1	
valuable	0.673	0.761		0.459** 0.537** 1	
needed	0.702	0.747		0.456** 0.599** 0.651** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.13 Car Companies' Product Involvement Factors Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach	Pearson Correlation	N
Affective factors			0.837		200
important	0.530	0.827		1	
relevant	0.504	0.836		0.399** 1	
exciting	0.677	0.797		0.366** 0.445** 1	
appealing	0.667	0.800		0.429** 0.360** 0.563** 1	
fascinating	0.694	0.794		0.398** 0.365** 0.632** 0.665** 1	
involving	0.635	0.807		0.455** 0.389** 0.508** 0.501** 0.554** 1	
Cognitive factors			0.723		
interesting	0.459	0.693		1	202
means a lot to me	0.565	0.629		0.478** 1	
valuable	0.485	0.679		0.252** 0.380** 1	
needed	0.545	0.642		0.341** 0.424** 0.497** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

8.2.3.3 Main Findings Related to Cognitive Appraisals and Product Involvement

The cognitive appraisal items were generated from various sources and supplementary tested using semi-structured interviews in order to verify criteria of cognitive appraisals that consumers use for advertising slogans. It showed that the prior efforts had been helpful. Compared to other cognitive appraisals items, 'self-agency' and 'other agency' seem to be the least important cognitive appraisals for the interviewees when they evaluate a slogan revealed by the semi-structure interviews (for details please refer to Chapter 7). Although this study retained the 'self-agency' and 'other agency' items for the survey questionnaire for further analysis, these two items still had to be dropped out at the stage of factor analysis, with the exception of the Lexus case. On the other hand, for the involvement results, two factors were extracted for both the versions of fast food chains and cars, and all items were grouped in the same results. This result further cross-validated the scales adopted in this research.

Interestingly, for the product involvement results, the items of the two versions all grouped in the same results. Overall, the fact that almost all the items included were well-loaded on extracted factors in all cases, with the exception of the 'self-agency' and 'other agency' items of cognitive appraisal results. Therefore, the self-administered instrument achieved a reasonable standard of reliability and validity.

8.2.3.4 Results of Attitudes towards the Advertisement, Attitudes towards the Brand, and Purchase Intention

Internal consistency is used to evaluate the reliability of a summated scale where several items are summed to form a total score. It can show whether or not each scale measures a single idea, and whether or not the items which make up the scale are internally consistent (Bryman and Cramer, 1999; Malhotra, 1996). Some researchers suggested that the rule of thumb of Cronbach's Alpha should be 0.80 or over (e.g. Bryman and Cramer, 1999), while some researchers accepted a level of at least 0.70 (e.g. DeVellis, 1991; Hinkin, 1995). The less restricted 0.70 level is applied to the testing of the internal reliability of attitudes toward the advertisement, attitudes toward the brand, and purchase intention scale.

The factor analysis solutions of attitudes towards the advertisement, attitudes towards the brand, and purchase intention scale are reported in Table 8.14. Table 8.14 indicates that a one-factor solution is suitable, based on a minimum eigenvalue of one for attitudes towards the advertisement, attitudes towards the brand, and purchase intention measures across all four cases.

The factor loadings for attitudes towards the advertisement range from 0.715 to 0.849 for McDonald's, from 0.736 to 0.846 for KFC, from 0.721 to 0.793 for Lexus, and between 0.795 and 0.832 for Volvo. The extracted factors account for 62.197 percent for McDonald's, 60.576 percent for KFC, 58.566 percent for Lexus, and 65.472 percent for Volvo (Table 8.14).

Similarly, the item factor loadings for attitudes towards the brand fall between 0.670 and 0.825 for McDonald's, 0.697 and 0.804 for KFC, 0.723 and 0.803 for Lexus, 0.679 and 0.843 for Volvo. The variances explained by the factor are 57.850 percent for McDonald's, 59.841 percent for KFC, 58.914 percent for Lexus, 62.795 percent for Volvo. See Table 8.14 for details.

In addition, one factor appears from analysis based on a minimum eigenvalue of one for purchase intention scale across the four cases. The factor loadings range from 0.823 to 0.911 for McDonald's, 0.826 to 0.892 for KFC, 0.863 to 0.914 for Lexus, and 0.855 to 0.911 for Volvo. The extracted factors range from 75.591 percent to 78.823 percent of the total variances across the four cases (Table 8.14). In addition, as Table 8.14 reveals, communality values are high (above or near 0.50), which shows that a large amount of the variance has been extracted by the factor solution.

All the items of the attitudes towards the advertisement, the attitudes towards the brand and the purchase intention scales load on one factor across two versions of the four cases. Thus, this can offer some evidence of content validity for the scales used to measure the attitudes towards the advertisement, the attitudes towards the brand, and the purchase intention constructs across the four cases.

Furthermore, items used to measure the same constructs through the four cases measured the equivalent concept. According to Kaplan and Saccuzo (1997), measures of the same construct converging on the same construct reveal evidence of construct validity. Therefore,

this can prove that the scales used to measure the attitudes towards the advertisement, the attitudes towards the brand and the purchase intention have the construct validity.

Table 8.14 Factor Solutions of Attitudes towards the Advertisement, Attitudes towards the Brand, & Purchase Intention of McDonald's and KFC

No	Items	McDonald's		KFC		Lexus		Volvo	
		Factor loading	Communalities	Factor loading	Communalities	Factor loading	Communalities	Factor loading	Communalities
	Attitudes towards the advertisement	KMO: 0.764		KMO : 0.725		KMO: 0.715		KMO: 0.793	
1	like	0.818	0.669	0.846	0.709	0.784	0.614	0.803	0.645
2	react favourably	0.766	0.586	0.787	0.619	0.761	0.579	0.806	0.650
3	feel positive	0.715	0.512	0.736	0.542	0.793	0.629	0.832	0.692
4	feel good	0.849	0.721	0.744	0.553	0.721	0.520	0.795	0.632
Eigenvalues		2.488		2.423		2.343		2.619	
Percentage of variance explained		62.197		60.576		58.566		65.472	
Extraction method: Principal Component Analysis, 1 components extracted									
	Attitudes towards the brand	KMO: 0.606		KMO : 0.645		KMO: 0.610		KMO: 0.715	
1	like more	0.797	0.636	0.804	0.646	0.800	0.639	0.828	0.686
2	feel more positive	0.741	0.550	0.793	0.629	0.741	0.550	0.809	0.655
3	feel better	0.825	0.680	0.796	0.633	0.803	0.646	0.843	0.711
4	feel more favourable	0.670	0.448	0.697	0.486	0.723	0.522	0.679	0.460
Eigenvalues		2.314		2.394		2.357		2.512	
Percentage of variance explained		57.850		59.841		58.914		62.795	
Extraction method: Principal Component Analysis, 1 components extracted									
	Purchase intention	KMO: 0.849		KMO: 0.866		KMO: 0.886		KMO: 0.870	
1	have intention to buy	0.881	0.777	0.885	0.782	0.871	0.759	0.855	0.731
2	intend to buy	0.911	0.829	0.892	0.795	0.898	0.806	0.892	0.795
3	have high purchase interest	0.838	0.702	0.867	0.751	0.914	0.835	0.911	0.830
4	will buy	0.891	0.793	0.892	0.795	0.893	0.797	0.903	0.815
5	probably buy	0.823	0.678	0.826	0.683	0.863	0.744	0.874	0.764
Eigenvalues		3.780		3.807		3.941		3.935	
Percentage of variance explained		75.591		76.136		78.823		78.698	
Extraction method: Principal Component Analysis, 1 component extracted									

Principally, the item-to-total correlations for all items are higher than the suggested 0.50 benchmark (Bearden and Netemeyer, 1999), with the exception of the item 'feel more favourable' of the 'attitudes towards the brand factor' for the McDonald's (0.462), KFC (0.482) and Volvo (0.483); however, all three values are very near 0.50.

On the whole, for all the extracted factors across the four cases, McDonald's, KFC, Lexus and Volvo, the Cronbach's Alpha values are higher than 0.750, falling within the range of 0.755 to 0.916 for McDonald's; from 0.773 to 0.921 for KFC; from 0.761 to 0.933 for Lexus; and from 0.800 to 0.932 for Volvo. The reliability of the scale is further verified by the Pearson correlation. All items are significant at the 0.01 level. (Table 8.15, Table 8.16, Table 8.17, Table 8.18). Accordingly, to some extent the scales adopted for measuring attitudes towards the advertisement, attitudes towards the brand, and purchase intention scales are both valid and reliable. These satisfactory results of factor analysis, Cronbach's Alpha and Pearson correlation demonstrate that the scales adopted in this study reach a high standard of validity and reliability.

Table 8.15 McDonald's Attitudes towards the Advertisement, Attitudes towards the Brand and Purchase Intention Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's a	Pearson Correlation	N
Attitudes towards the advertisement			0.797		189
like	0.643	0.728		1	
react favourably	0.580	0.759		0.501** 1	
feel positive	0.521	0.786		0.389** 0.423** 1	
feel good	0.692	0.703		0.646** 0.503** 0.489** 1	
Attitudes towards the brand			0.755		191
like more	0.584	0.679		1	
feel more positive	0.538	0.704		0.328** 1	
feel better	0.624	0.657		0.687** 0.466** 1	
feel more favourable	0.462	0.745		0.355** 0.489** 0.283** 1	
Purchase intention			0.916		191
have intention to buy	0.804	0.894		1	
intend to buy	0.856	0.883		0.785** 1	
have high purchase interest	0.750	0.909		0.633** 0.783** 1	
will buy	0.820	0.892		0.708** 0.747** 0.685** 1	
probably buy	0.722	0.910		0.696** 0.629** 0.544** 0.726** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.16 KFC's Attitudes towards the Advertisement, Attitudes towards the Brand and Purchase Intention Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's a	Pearson Correlation	N
Attitudes towards the advertisement			0.781		189
like	0.678	0.678		1	
react favourably	0.592	0.725		0.601** 1	
feel positive	0.538	0.752		0.434** 0.466** 1	
feel good	0.547	0.751		0.545** 0.365** 0.424** 1	
Attitudes towards the brand			0.773		191
like more	0.607	0.702		1	
feel more positive	0.615	0.701		0.440** 1	
feel better	0.609	0.701		0.711** 0.406** 1	
feel more favourable	0.482	0.767		0.296** 0.615** 0.309** 1	
Purchase intention			0.921		191
have intention to buy	0.812	0.900		1	
intend to buy	0.824	0.897		0.772** 1	
have high purchase interest	0.787	0.905		0.689** 0.778** 1	
will buy	0.824	0.897		0.739** 0.701** 0.707** 1	
probably buy	0.733	0.915		0.651** 0.630** 0.603** 0.739** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.17 Lexus' Attitudes towards the Advertisement, Attitudes towards the Brand and Purchase Intention Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's a	Pearson Correlation	N
Attitudes towards the advertisement			0.761		199
like	0.590	0.690		1	
react favourably	0.546	0.713		0.417** 1	
feel positive	0.597	0.690		0.441** 0.587** 1	
feel good	0.518	0.727		0.533** 0.324** 0.383** 1	
Attitudes towards the brand			0.762		201
like more	0.587	0.695		1	
feel more positive	0.555	0.709		0.329** 1	
feel better	0.585	0.694		0.680** 0.434** 1	
feel more favourable	0.529	0.727		0.408** 0.550** 0.311** 1	
Purchase intention			0.933		202
have intention to buy	0.798	0.921		1	
intend to buy	0.836	0.914		0.750** 1	
have high purchase interest	0.859	0.910		0.766** 0.796** 1	
will buy	0.828	0.916		0.673** 0.748** 0.778** 1	
probably buy	0.787	0.924		0.683** 0.687** 0.707** 0.761** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

Table 8.18 Volvo's Attitudes towards the Advertisement, Attitudes towards the Brand and Purchase Intention Scale of Reliability Analysis & Pearson Correlation

	Corrected Item-to-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's a	Pearson Correlation	N
Attitudes towards the advertisement			0.821		199
like	0.641	0.777		1	
react favourably	0.637	0.779		0.507** 1	
feel positive	0.679	0.764		0.536** 0.614** 1	
feel good	0.631	0.783		0.567** 0.492** 0.531** 1	
Attitudes towards the brand			0.800		201
like more	0.652	0.730		1	
feel more positive	0.644	0.735		0.506** 1	
feel good	0.680	0.716		0.722** 0.528** 1	
feel more favourable	0.483	0.810		0.345** 0.530** 0.369** 1	
Purchase intention			0.932		202
have intention to buy	0.775	0.924		1	
intend to buy	0.824	0.915		0.718** 1	
have high purchase interest	0.853	0.910		0.718** 0.821** 1	
will buy	0.844	0.911		0.672** 0.742** 0.685** 1	
probably buy	0.803	0.920		0.695** 0.629** 0.544** 0.726** 1	

**Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

8.2.4 Computing New Variables for Modelling

This stage of the study concentrated on computing new variables for use in the modelling phase of the research after careful assessment of the reliability and validity of the scales. All factor scores were calculated using SPSS. This was carried out by adding up all the scores of the items and then dividing by the total number of the items; after this, the new variables were recorded.

The majority of respondents were within the age group of 18-29 years-old. For example, 74.9% from a total of 191 respondents in the fast-food chain version and 70.8% from a total of 202 respondents in the car company version. In the age group of 30-39 years-old, 19.9% of respondents were in the fast-food chain version and 19.3% of respondents were in the car company. Within the age group of 40-49 years old, only 5.2% and 9.9% of respondents were in the fast-food chain version and car company version respectively (see Section 8.2.1.1). The age statistic features of the samples reveal that the variability in terms of influence is not significant. In other words, there is no significant variability in terms of age group, as most of the respondents fell into the 18-29 age group. Thus, it was decided that only one of the demographic variables - gender - would be considered and no other demographic variables would be taken into account. The demographic variable of gender would be dummy-coded.

In addition, this study only chose as explanatory variables the three dominant emotions that ranked highest. Since they are dummy variables, this research used effect coding to code the three ranked highest dominant emotions. Effect coding offers one way of using categorical predictor variables in a variety of estimation models. Effect coding uses only ones, zeros and minus ones to convey all of the necessary information on group membership; in effect coding, the comparison group is identified by the symbol -1. Generally, with k groups there will be $k-1$ coded variables. Each of the effect coded variables uses one degree of freedom, so k groups have $k-1$ degrees of freedom. Because this research chose only three dominant emotions, there would be two coded variables in each case. Interestingly, the 'bored' emotion is the only negative emotion that was chosen in each case; thus, 'boredom' was coded as -1, -1 as the reference group. In the case of McDonald's, 'joyful' (coded as 1, 0), 'happy' (coded as 0, 1) and 'bored' (coded as -1,-1) ranked as the first, the second and the third respectively. In the case of Kentucky, 'joyful'

(coded as 1, 0), ‘bored’ (coded as -1,-1) and ‘happy’ (coded as 0, 1) ranked as the first, the second and the third respectively. In the case of Lexus, ‘pride’ (coded as 0, 1), ‘joyful’ (coded as 1, 0) and ‘bored’ (coded as -1,-1) ranked as the first, the second and the third respectively. Finally, in the case of Volvo, ‘joyful’ (coded as 1, 0), ‘bored’ (coded as -1,-1) and ‘happy’ (coded as 0, 1) are classed as the first, the second and the third respectively (Table 8.19).

Table 8.19 Frequency of Dominant Emotions of Study One

Dominant Emotion Frequency	McDonald' s	KFC	Lexus	Volvo
Joy	90	67	31	75
Happiness	41	47	7	36
Pride	24	11	147	19
Sadness	0	0	2	4
Anger	7	7	0	8
Boredom	28	58	14	60
Missing	1	1	1	0
Total	191	191	202	202

8.2.5 Consideration of Using OLS

OLS regression was employed in this study. The regression process used was stepwise regression. According to Wright (1997), the stepwise regression method is appropriate for exploratory model building. Thus, it fits in well with the exploratory nature of this study. Prior to building the regression model, analysis was conducted to ensure that the data met the normality assumptions of regression. Firstly, with respect to data normality (i.e. variable distributions and approximate normal distributions), normality was examined through residual histograms, and normal probability plots, each statistical test calculated the significance for the differences from a normal distribution. Examining residuals is an important issue in all statistical modeling. Carefully looking at residuals can confirm that the assumptions are reasonable and the choice of model is suitable. The OLS regression assumes that each variable and all linear combinations of the variables are normally distributed. It is important to meet the assumption of normality, as statistical inference or exploratory power declines when departures from normality arise (Cohen, Cohen, West, and Aiken, 2003; Hutcheson and Sofroniou, 1999). A histogram plot of the residuals should show a symmetric bell-shaped distribution, indicating that the normality assumption

is likely to be true (Cohen, Cohen, West, and Aiken, 2003; Field, 2005). The histograms of residuals clearly illustrate that the distributions of the attitude towards the advertisement, attitude towards the brand, and purchase intention in relation to McDonald's, KFC, Lexus and Volvo are about normal (see Appendix 6). Furthermore, in order to evaluate whether the normality assumption is not violated with SPSS, the normal P-P plot of regression standardised residuals was obtained. This plot plots the cumulative proportions of standardised residuals against the cumulative proportions of the normal distribution. If the normality assumption is not violated, points will cluster around a straight line (Cohen, Cohen, West, and Aiken, 2003; Field, 2005). As Appendix 6 illustrates, the plots support the normality assumption. The pattern in the plot is very close to a straight line. Consequently, the data was appropriate for OLS regression analysis.

Furthermore, the OLS regression entails that all variables being modelled must required to be continuous or to be recorded on at least an interval scale (Hutcheson and Sofroniou, 1999). In this study, the independent variables and the dependent variables were all measured by employing a five point Likert scale (1=strongly disagree, 5=strongly agree), with the exception of the dominant emotions and the demographic variable of gender. The values of all the variables (not including the dominant emotions and the demographic variable) were attained by summing up all the scores of items and then dividing by the total number of items. It is suitable to treat them as continuous variables since final scores take on a wide range of discrete values. Hence, the OLS regression is regarded as a suitable method for modelling the dependent variables.

8.2.6 OLS Regression Results

All the summarised regression results for four slogans are presented in Table 8.20 (attitudes towards the advertisement), Table 8.21 (attitudes towards the brand), Table 8.22 (purchase intention) and Table 8.23 (final model) for McDonald's; Table 8.24 (attitudes towards the advertisement), Table 8.25 (attitude towards the brand), Table 8.26 (purchase intention) and Table 8.27 (final model) for KFC; Table 8.28 (attitude towards the advertisement), Table 8.29 (attitude towards the brand), Table 8.30 (purchase intention) and Table 8.31 (final model) for Lexus; Table 8.32 (attitude towards the advertisement), Table 8.33 (attitude towards the brand), Table 8.34 (purchase intention) and Table 8.35 (final model) for Volvo.

8.2.6.1 Analysed Variables

Due to the greater part of respondents being within the age group of 18-29 years old, for instance, 74.9% for the fast food chains version and 70.8% for the car company version (see Section 8.2.1.1), it was decided that only the demographic variable of gender would be considered. The rest of the explanatory variables are two effect coding variables (dominant emotions), extracted factors related to cognitive appraisals and extracted factors related to involvement. In addition, there are three response variables in the conceptual model: attitudes towards the advertisement, attitudes towards the brand, and purchase intention.

Furthermore, a review of attitudes towards the advertisement and attitudes towards the brand literature indicates that several researchers advised that that attitudes towards the advertisement and attitudes towards the brand are correlated and interact (e.g., Batra and Ray, 1986; Gardner, 1985; Holbrook, 1978; Holbrook and Batra, 1987; MacKenzie, Lutz, and Belch, 1986; Mitchell and Olson, 1981; Moor and Hutchinson, 1983; Park and Young, 1986; Shimp, 1981; Shimp and Yokum, 1982; Spears and Singh, 2004). More specifically, the interpretation of these results in previous research is that favourable attitudes towards the advertisements lead to favourable attitudes towards the brand. Hence, it is essential to check interactions of these two constructs across models and include in the models those which are significant, as significant interactions influence the parameters which are calculated for the other terms in the model (Hutcheson and Sofroniou, 1999). The interaction variable between attitude towards the advertisement and attitude towards the brand ($avAd*avBr$) was applied as an explanatory variable in the four final models of McDonald's, KFC, Lexus and Volvo. In order to provide more thorough information, all the findings will be discussed individually as follows.

8.2.6.2 Analysis Results

8.2.6.2.1 McDonald's Attitude towards the Advertisement Model

For McDonald's, three variables appear to significantly influence attitude towards the advertisement. The three variables are cognitive appraisal-outcome desirability (Beta=0.359, $p<0.000$), effect coding (joyful: bored) (Beta=0.269, $p<0.000$), and affective

involvement factor (Beta=0.191, $p<0.01$). The three explanatory variables account for an adjusted R square of 0.321 in the regression model (Table 8.20). The cognitive appraisals-outcome desirability acquires the most influential role on the dependent variable.

The results also show that compared with the 'bored' emotion, the 'joyful' emotion has a more positive influence on attitude towards the advertisement. Since joy is a positive emotion (Laros and Steenkamp, 2005; Roseman1991), it is reasonable to state that a positive emotion has a positive effect on the formation of an attitude towards that advertisement. This finding is in line with previous research (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002). They claim a positive relationship between positive emotion and attitude towards that advertisement. Affective involvement is shown to have the least effect on the model. This result supports the findings of previous research (e.g., Droge, 1989; MacKenzie, Luts and Blech 1986; MacKenzie and Spreng, 1992; Putrevu and Lord, 1994). They claim that attitude towards advertisements has been shown repeatedly to be relevant in the peripheral route to persuasion. Positive beta value indicates that the subjects are more likely to have a favourable attitude towards the advertisement as they have more affective involvement in the product. Beta values for these three variables are all positive.

8.2.6.2.2 McDonald's Attitude towards the Brand Model

Five explanatory variables account for an adjusted R square of 0.334 in the McDonald's attitude towards the brand model. This model advises that McDonald's attitude towards the brand is cognitive appraisal-value and certainty (Beta=0.201, $p<0.05$), cognitive involvement (Beta=0.286, $p<0.000$), cognitive appraisal-outcome desirability (Beta=0.216, $p<0.05$), effect coding (joyful: bored) (Beta=0.154, $p<0.05$), and cognitive appraisal-novelty (Beta=0.138, $p<0.05$). Cognitive involvement plays the main role in determining the attitude towards the brand of McDonald's, judging by the beta value. The positive beta value demonstrates that the more the subjects are concerned with the cognitive involvement, the more likely they are to have a better attitude towards the brand of McDonald's. The cognitive appraisal-novelty reveals the least influence on the model, although it shows that significant. Beta values for these five variables are positive (Table 8.21).

The favourable attitude towards the brand of McDonald's increases with the increase of cognitive appraisal-value and certainty, outcome desirability and novelty. This means that the more the subjects appreciate the slogan achieving value and certainty, outcome desirability and novelty, the higher the chance that they will have a favorable attitude towards the brand of McDonald's. Unsurprisingly, compared to 'boredom', 'joy' has more influence on the attitude towards the brand. Thus, the more the subjects perceive a joyful emotion from the slogan, the greater the likelihood that they will have a positive attitude towards the brand of McDonald's. This result is in line with previous researchers (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen , Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002).

8.2.6.2.3 McDonald's Purchase Intention Model

Four variables appear to influence significantly the purchase intention of McDonald's. The four explanatory variables account for an adjusted R^2 of 0.477 in the McDonald's purchase intention model. The four variables are affective involvement (Beta=0.316, $p<0.000$), cognitive appraisal-outcome desirability (Beta=0.366, $p<0.000$), cognitive involvement (Beta=0.226, $p<0.01$), and effect coding (joyful: bored) (Beta=0.132, $p<0.05$). Cognitive appraisal-outcome desirability takes the principal influential role on the response variable, affective involvement comes after it, followed by cognitive involvement, while effect coding (joyful: bored) appears to have least influence on the model (Table 8.22).

The tendency to purchase food in McDonald's increases with the increase in the level of the consumer's perception of cognitive appraisal which meets the outcome desirability. Affective involvement and cognitive involvement are the second and third most powerful explanatory variables in the model. It can be explained that the more the subjects are involved in the product, the more likely they are to buy it. As expected, the more the subjects perceive a joyful emotion from the slogan, the more likely they are to have an intention to buy the product. These results support Janssens and De Pelsmacker's (2005) and Ryu and Jang's (2008) research findings, which show a positive relationship between positive emotion and purchase intention.

8.2.6.2.4 McDonald's Final Model

For the final model of McDonald's, four variables appear to influence the purchase intention of McDonald's significantly. These four variables are the interaction variable between attitude towards the advertisement and attitudes towards the brand (avAd*avBr) (Beta=0.275, $p<0.000$), the affective involvement factor (Beta=0.269, $p<0.000$), the cognitive appraisal-outcome desirability factor (Beta=0.259, $p<0.000$), and the cognitive involvement factor (Beta=0.198, $p<0.01$). The four explanatory variables account for an adjusted R square of 0.504 in the regression model (Table 8.23).

The interaction variable between attitude towards the advertisement and attitudes towards the brand (avAd*avBr) plays the most critical role on the dependent variable, judging by its larger Beta value in comparison with other variables. The more favourable the attitudes of the subjects towards the advertisements and towards the brand, the more favourable are their attitudes towards purchase intention of McDonald's. These results are in line with previous findings (e.g., Batra and Ray, 1986; Brown and Stayman, 1992; MacKenzie, Lutz, and Belch, 1986; MacKenzie and Spreng, 1992; Spears and Singh, 2004).

Affective involvement factor is the second most powerful explanatory variable in the final model of McDonald's. The tendency to purchase food in McDonald's increases with the increase in the level of affective involvement; in other words, the more the subjects are affectively involved in the product, the more likely they are to have favourable attitudes towards purchase intention. Fast-food chains belong to a low involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985); therefore, this finding supports previous researchers' findings (e.g., Engel and Blackwell, 1982; Petty and Cacioppo's, 1981; 1986). They claim that the elaboration process of advertising data among individuals can take two different routes depending on the level of involvement; on the low involvement levels, individuals are persuaded by heuristic cues, while on the high involvement levels, individuals are persuaded by cognitive aspects.

As expected, the cognitive appraisals-outcome desirability is found to have significant influence on the model. This indicates that the more the subjects assess the slogan as achieving their outcome desirability, the higher the chance that they will have a preferential attitude towards the purchase intention of McDonald's. This finding is in line

with past researchers' findings (e.g., Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). They asserted that the outcome desirability refers to the initial cognitive appraisal of whether the outcome of a situation is good or bad in terms of personal well-being. It is commonly accepted as the most crucial appraisal of stimuli.

The cognitive involvement factor is the fourth most powerful explanatory variable in the final model of McDonald's. The tendency to purchase food in McDonald's increases with the increase in the level of cognitive involvement; in other words, the more the subjects are cognitively involved in the product, the more likely they are to have favourable attitudes towards purchase intention.

Table 8.20 OLS Stepwise Regression Results (McDonald's)

Dependent variable: Attitude towards the advertisement											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.794		6.374	0.000						2.032
1	M Cog (outcome desirability)	0.358	0.359	5.154	0.000	0.901	1.110	0.221	0.216	43.794	
2	Effect coding (joyful: bored)	0.252	0.269	3.882	0.000	0.914	1.094	0.300	0.290	32.711	
3	Affective involvement factor	0.176	0.191	2.818	0.005	0.949	1.053	0.334	0.321	25.444	

Table 8.21 OLS Stepwise Regression Results (McDonald's)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.302		4.464	0.000						2.029
1	M Cog (value & certainty)	0.158	0.201	2.215	0.028	0.518	1.932	0.195	0.190	37.739	
2	Cognitive involvement factor	0.220	0.286	4.371	0.000	0.989	1.011	0.281	0.272	30.286	
3.	M Cog (outcome desirability)	0.181	0.216	2.420	0.017	0.532	1.881	0.317	0.303	23.786	
4.	Effect coding (joyful: bored)	0.121	0.154	2.204	0.029	0.874	1.145	0.337	0.319	19.420	
5.	M Cog (novelty)	0.101	0.138	2.075	0.040	0.954	1.048	0.355	0.334	16.732	

* The F values are all significant at 0.000 level.

Table 8.22 OLS Stepwise Regression Results (McDonald's)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.622		2.296	0.023						2.015
1	Affective involvement factor	0.286	0.316	4.142	0.000	0.573	1.744	0.305	0.301	68.470	
2	M Cog (outcome desirability)	0.361	0.366	5.979	0.000	0.887	1.127	0.443	0.436	61.688	
3.	Cognitive involvement factor	0.204	0.226	3.029	0.003	0.600	1.667	0.475	0.464	46.372	
4.	Effect coding (joyful: bored)	0.123	0.132	2.192	0.030	0.912	1.097	0.491	0.477	36.840	

Table 8.23 OLS Stepwise Regression Results (McDonald's Final Model)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.587		2.382	0.018						2.112
1	avMA _d *avMBr	0.045	0.275	4.322	0.000	0.654	1.530	0.319	0.315	87.107	
2	Affective involvement factor	0.250	0.269	3.841	0.000	0.540	1.852	0.454	0.448	76.994	
3.	M Cog (outcome desirability)	0.257	0.259	4.260	0.000	0.716	1.397	0.492	0.484	59.371	
4.	Cognitive involvement factor	0.185	0.198	2.954	0.004	0.588	1.702	0.515	0.504	48.579	

* The F values are all significant at 0.000 level

8.2.6.2.5 KFC Attitude towards the Advertisement Model

Three variables are shown to influence significantly the attitude towards the advertisement in the case of Kentucky. These three variables are cognitive appraisal-outcome desirability (Beta=0.333, $p<0.000$), cognitive appraisal-novelty (Beta=0.214, $p<0.01$), and affective involvement factor (Beta=0.183, $p<0.01$). The three explanatory variables account for an adjusted R^2 of 0.252 in the regression model (Table 8.24). Like McDonald's, the cognitive appraisals-outcome desirability has the most influential role on the dependent variable.

In contrast to McDonald's, cognitive appraisal-novelty is the second most influential explanatory variable in this model. As noted in Section 8.2.3.1, the cognitive appraisal-novelty factor includes freshness and novelty. Hence, the result suggests that the more the subjects believe that the slogan of KFC is fresh and novel, the more likely it is that they will have a favorable attitude towards the advertisement. Affective involvement has the least effect on the model, but it is still significant. This is in the same vein as the McDonald's model. This result is in line with findings of those researchers (e.g., Droge, 1989; MacKenzie, Luts and Blech 1986; MacKenzie and Spreng, 1992; Putrevu and Lord, 1994) who claim that the attitude towards the advertisement has been shown repeatedly to be relevant under the peripheral route to persuasion. Therefore, the affective involvement factor plays a significant role in the fast-food chain (low involvement) models. The positive Beta value shows that the subjects are more likely to have a favourable attitude towards the advertisement as they have more affective involvement in the product. Beta values for these three variables are also all positive.

8.2.6.2.6 KFC Attitude towards the Brand Model

There are only two explanatory variables in the KFC attitude towards the brand model. The two explanatory variables account for an adjusted R square of 0.209. This model demonstrates that KFC attitude towards the brand is cognitive appraisal- outcome desirability (Beta=0.387, $p<0.000$), and affective involvement factor (Beta=0.234, $p<0.01$) (Table 8.25). The cognitive appraisal-outcome desirability factor plays the key role in determining the attitude towards the brand of KFC, judging by the beta value. As noted in Section 8.2.3.1, the cognitive appraisal-outcome desirability factor includes pleasantness,

appeal, desirability, value and reliability. Thus, the finding proposes that the more the consumers appraise the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely it is that they will have a better attitude towards the brand of Kentucky.

Like the attitude towards the advertisement model of KFC, the affective involvement factor is statistically significant in the model. This result supports Petty and Cacioppo's (1981, 1986) research findings, who claim that in the peripheral route (low involvement), the individual concentrates on heuristic cues.

8.2.6.2.7 KFC Purchase Intention Model

For the KFC, two variables are shown to influence significantly the purchase intention. They are cognitive appraisal-outcome desirability (Beta=0.527, $p < 0.000$), and affective involvement factor (Beta=0.326, $p < 0.000$). The two explanatory variables account for an adjusted R^2 of 0.403 in the Kentucky purchase intention model. Like the other two models of Kentucky, cognitive appraisal-outcome desirability takes the primary influential role on the response variable; affective involvement comes after it (Table 8.26).

The tendency to purchase food in KFC rises with the rise in the level of the consumer's perception of cognitive appraisal achieving outcome desirability. As noted in the previous part, the cognitive appraisal-outcome desirability factor includes pleasantness, appeal, desirability, value and reliability. As a result, the finding proposes that the more the consumers appraise the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely it is that they will have the intention to buy the product. Affective involvement is the second most influential explanatory variable in the model. This result is in line with Petty and Cacioppo's (1981, 1986) research findings.

8.2.6.2.8 KFC Final Model

There are three explanatory variables in the KFC final model. The three explanatory variables account for an adjusted R square of 0.445. This model shows that the KFC final model is an interaction variable between attitude towards the advertisement and attitudes towards the brand (avAd*avBr) (Beta=0.336, $p < 0.000$), cognitive appraisal-outcome

desirability (Beta=0.355, $p<0.000$), and affective involvement factor (Beta=0.234, $p<0.000$) (Table 8.27).

Like the other models in KFC, the cognitive appraisals-outcome desirability factor plays the most important role in the dependent variable, judging by its greater Beta value in comparison with other variables. This shows that the more the subjects appraise the slogan as meeting their outcome desirability, the higher the chance that they will have a preferential attitude towards the purchase intention of KFC. This result supports the findings of previous research (e.g., Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007). Similarly, the interaction variable between attitude towards the advertisement and attitudes towards the brand ($avAd*avBr$) is found to have a significant influence on the final model of KFC. Affective involvement is shown to have the least effect on the model. The positive Beta value reveals that the subjects are more likely to have a favourable attitude towards purchase intention as they have more affective involvement in the product. Because KFC belongs to low involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985). This finding supports previous researchers' findings (e.g., Engel and Blackwell, 1982; Petty and Cacioppo's, 1981; 1986) that in the elaboration process of advertising data among individuals on the low involvement levels individuals are persuaded by heuristic cues. Beta values for these three variables are all positive.

Table 8.24 OLS Stepwise Regression Results (KFC)

Dependent variable: Attitude towards the advertisement											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.000		3.305	0.001						1.917
1	K Cog (outcome desirability)	0.364	0.333	4.498	0.000	0.815	1.227	0.193	0.188	39.575	
2	K Cog (novelty)	0.156	0.214	2.893	0.004	0.817	1.224	0.232	0.223	24.979	
3	Affective involvement factor	0.181	0.183	2.730	0.007	0.993	1.007	0.266	0.252	19.788	

* The F values are all significant at 0.000 level.

Table 8.25 OLS Stepwise Regression Results (KFC)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.505		5.681	0.000						2.160
1	K Cog (outcome desirability)	0.371	0.387	5.649	0.000	0.994	1.006	0.164	0.159	32.975	
2	Affective involvement factor	0.202	0.234	3.417	0.001	0.994	1.006	0.219	0.209	23.375	

* The F values are all significant at 0.000 level.

Table 8.26 OLS Stepwise Regression Results (KFC)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.453		1.729	0.086						1.839
1	K Cog (outcome desirability)	0.574	0.527	8.851	0.000	0.994	1.006	0.305	0.306	73.570	
2	Affective involvement factor	0.320	0.326	5.474	0.000	0.994	1.006	0.410	0.403	58.111	

* The F values are all significant at 0.000 level.

Table 8.27 OLS Stepwise Regression Results (KFC Final Model)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.673		2.847	0.005						1.857
1	avKAd*avKBr	0.060	0.336	5.332	0.000	0.750	1.333	0.308	0.304	82.555	
2	K Cog (outcome desirability)	0.383	0.355	5.800	0.000	0.795	1.258	0.403	0.396	61.995	
3	Affective involvement factor	0.224	0.234	4.137	0.000	0.937	1.067	0.454	0.445	50.655	

* The F values are all significant at 0.000 level

8.2.6.2.9 Lexus Attitude towards the Advertisement Model

Four variables are shown to influence significantly the attitude towards the advertisement for the Lexus model. The four variables are cognitive appraisal-outcome desirability (Beta=0.541, $p<0.000$), effect coding (pride: bored) (Beta=0.155, $p<0.01$), effect coding (joyful: bored) (Beta=0.163, $p<0.01$), and the cognitive involvement factor (Beta=0.115, $p<0.05$). The four explanatory variables account for an adjusted R^2 of 0.418 in the regression model (Table 8.28). Similar to McDonald's and KFC, the cognitive appraisals-outcome desirability is shown as being the key influence on the response variable.

In addition, the effect coding (pride: bored) and effect coding (joyful: bored) are statistically significant in the model. These results suggest that, compared with boredom, pride and joy are the two emotions which have the most positive influence on the attitude towards the advertisement. This finding is in line with those studies (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) stating that a positive relationship exists between positive emotion and attitude toward the advertisement. Cognitive involvement has the least effect on the model. In contrast to the models of McDonald's and Kentucky, Lexus is a car company which sells luxury automobiles; thus it belongs to high involvement product group (Zaichkowsky, 1987). According to Engel and Blackwell (1982), high involvement products necessitate a thinking or cognitive orientation; on the other hand, low involvement products usually go well with affective appeal. Therefore, this result supports the previous finding; moreover, it is also in line with Petty and Cacioppo's (1981, 1986) research findings. However, it is contradictory to the findings of Morris, Woo and Singh's (2005), Morris, Woo, Geason, and Kim's (2002).

8.2.6.2.10 Lexus Attitude towards the Brand Model

The regression model for the Lexus indicates that attitude towards the brand is cognitive appraisal-outcome desirability (Beta=0.426, $p<0.000$) and cognitive appraisal-pleasantness (Beta=0.181, $p<0.01$). The two explanatory variables account for an adjusted R square of 0.278 (Table 8.29). In comparison to the attitude towards the advertisement of the Lexus

model, this attitude towards the brand of Lexus consists of fewer explanatory variables. Similarly, the cognitive appraisal-outcome desirability factor plays the main role in influencing the attitude towards the brand, judging by the Beta value. As mentioned in Section 8.2.3.1, the cognitive appraisal-outcome desirability factor includes appeal, desirability, value and reliability traits. Therefore, the finding recommends that the more the consumers appraise the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely it is that they will have a favourable attitude toward the brand of Lexus.

8.2.6.2.11 Lexus Purchase Intention Model

Two variables which significantly influence the purchase intention are cognitive appraisal-outcome desirability (Beta=0.257, $p<0.01$), and cognitive appraisal-pleasantness (Beta=0.164, $p<0.05$). The two explanatory variables account for an adjusted R^2 of 0.123 in the Lexus purchase intention model. Similar to the other two models of Lexus, cognitive appraisal-outcome desirability takes the principal role in the response variable (Table 8.30).

The tendency to purchase a Lexus car increases with the increase in the level of the consumer's perception of cognitive appraisal achieving their outcome desirability and pleasantness. Please see Section 8.2.3.1 for detailed content of the above two factors. The finding suggests that the more the consumers evaluate the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely they are to have the intention to buy the car.

8.2.6.2.12 Lexus Final Model

For the final model of Lexus, the interaction variable between attitude towards the advertisement and attitudes towards the brand (avAd*avBr) (Beta=0.462, $p<0.000$) is the only explanatory variable that appears to significantly influence the purchase intention of Lexus. This explanatory variable accounts for an adjusted R^2 of 0.210 in the Lexus final model. The Beta value is high, which indicates that a one unit increase of avAd*avBr results in 0.462 increase of Lexus purchase intention (Table 8.31). As noted previously, other explanatory variables such as cognitive appraisals, pride and joy are not significant in Lexus' final model. Nevertheless, explanatory variables such as the cognitive appraisal-

outcome desirability factor, the cognitive appraisal-pleasantness factor, pride emotion and joyful emotions are found to be positive and significant when attitude towards the advertisement functions as dependent variable or attitudes towards the brand functions as dependent variable. Since Lexus is a luxury car brand and belongs to high involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985), affective factors do not seem to have a significant influence on the Lexus final model. This research holds that the cognitive appraisal-related factors, cognitive involvement factor and positive emotions (e.g., pride and joy) work as gatekeepers in the front which results in favourable attitudes towards the advertisements and favourable attitudes towards the Lexus brand. Consequently, this leads to favourable attitudes towards purchase intention for Lexus.

Table 8.28 OLS Stepwise Regression Results (Lexus)

Dependent variable: Attitude towards the advertisement											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.474		5.588	0.000						1.823
1	L Cog (outcome desirability)	0.492	0.541	9.200	0.000	0.903	1.107	0.374	0.371	110.751	
2	Effect coding (pride: bored)	0.171	0.155	2.663	0.008	0.920	1.087	0.398	0.391	60.835	
3	Effect coding (joyful: bored)	0.227	0.163	2.847	0.005	0.950	1.052	0.418	0.408	43.808	
4	Cognitive involvement factor	0.106	0.115	2.016	0.045	0.965	1.036	0.431	0.418	34.423	

* The F values are all significant at 0.000 level.

Table 8.29 OLS Stepwise Regression Results (Lexus)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.943		8.293	0.000						1.996
1	L Cog (outcome desirability)	0.377	0.426	6.101	0.000	0.788	1.269	0.260	0.256	65.539	
2	L Cog (pleasantness)	0.142	0.181	2.596	0.010	0.788	1.269	0.285	0.278	37.145	

* The F values are all significant at 0.000 level.

Table 8.30 OLS Stepwise Regression Results (Lexus)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.198		2.924	0.004						1.923
1	L Cog (outcome desirability)	0.362	0.257	3.347	0.001	0.787	1.271	0.111	0.106	23.411	
2	L Cog (pleasantness)	0.204	0.164	2.134	0.034	0.787	1.271	0.131	0.123	14.204	

* The F values are all significant at 0.000 level.

Table 8.31 OLS Stepwise Regression Results (Lexus Final Model)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.747		7.682	0.000						1.966
1	avLAd*avLBr	0.102	0.462	7.315	0.000	1.000	1.000	0.214	0.210	53.511	

* The F values are all significant at 0.000 level.

8.2.6.2.13 Volvo Attitude towards the Advertisement Model

There are only two variables which are statistically significant in the attitude towards the advertisement of the Volvo model. These two variables are cognitive appraisal-outcome desirability (Beta=0.534, $p < 0.000$), and effect coding (joyful: bored) (Beta=0.192, $p < 0.01$). The two explanatory variables account for an adjusted R^2 of 0.399 in the regression model (Table 8.32). Interestingly, similar to attitude toward the advertisement models of McDonald's, Kentucky and Lexus, the cognitive appraisals-outcome desirability factor takes the leading influential role in the response variable. This variable is found to have the most impact on the subjects' attitude toward the advertisement, judging by its larger Beta value in comparison with other variables

Additionally, the effect coding (joyful: bored) is statistically significant in the model. This finding advises that, compared to boredom, joy has a more positive influence on the attitude towards the advertisement. This result supports those research findings (e.g., De Pelsmacker, Decock, and Geuens, 1998; Fasseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) claiming that a positive relationship exists between positive emotion and attitude towards the advertisement.

8.2.6.2.14 Volvo Attitude towards the Brand Model

For the attitude towards the brand, two variables appear to have a significant influence on the model of Volvo (Table 8.33). These two variables are cognitive appraisal-outcome desirability (Beta=0.540, $p < 0.000$), and effect coding (joyful: bored) (Beta=0.155, $p < 0.05$). The two explanatory variables account for an adjusted R square of 0.378. This is in the same vein as the attitude towards the advertisement of the Volvo model. Likewise, the cognitive appraisal-outcome desirability factor is the most influential explanatory variable in the model, judging by the larger beta value. As a result, the finding proposes that the more the subjects appraise the slogan as appealing, desirable, valuable and reliable, the more likely that they have a favorable attitude towards the brand of Volvo.

Furthermore, the effect coding (joyful: bored) is the second most influential explanatory variable in the model. This result informs that, compared to boredom, joy has a more positive influence on the attitude towards the brand. This result is in line with those research findings (e.g., De Pelsmacker, Decock, and Geuens, 1998; Fasseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) stating that a positive relationship exists between positive emotion and attitude towards the brand.

8.2.6.2.15 Volvo Purchase Intention Model

Two variables which are shown to influence significantly the purchase intention are cognitive appraisal-outcome desirability (Beta=0.400, $p<0.000$), and cognitive appraisal-novelty (Beta=0.159, $p<0.05$). These two variables account for an adjusted R^2 of 0.227 in the purchase intention model of Volvo (Table 8.34). Similar to the other two models of Volvo, cognitive appraisal-outcome desirability takes the principal role in the response variable. The more the subjects' perception of cognitive appraisal reaches outcome desirability and novelty, the more likely is their intention to purchase cars of Volvo.

8.2.6.2.16 Volvo Final Model

Similar to the final model of Lexus, the interaction variable between attitude towards the advertisement and attitude towards the brand (avAd*avBr) (Beta=0.568, $p<0.000$) is the only explanatory variable shows to significantly influence the purchase intention of Volvo. This explanatory variable accounts for an adjusted R^2 of 0.319 in the Volvo final model. The Beta value is very high, which indicates that a one unit increase of avAd*avBr results in a 0.568 increase of Volvo purchase intention (Table 8.35). As mentioned previously, other explanatory variables such as cognitive appraisals-outcome desirability, cognitive appraisals-novelty, and the emotion of joy are not significant in Volvo's final model. These explanatory variables appear to be positive and significant when attitude towards the advertisement or attitude towards the brand work as dependent variables. Volvo is a luxury car brand and also belongs to a high involvement product group as well (Lastovicka and Gardner, 1978; Zaichkowsky, 1985). These factors do not have significant influence in the Volvo final model. However, cognitive appraisals-outcome desirability, cognitive

appraisal-novelty, and the motion of joy act as doorkeepers in the front, which results in preferable attitudes towards the advertisements and preferable attitudes towards the brand of Volvo. This in turn results in preferential attitudes towards purchase intention for Volvo.

Table 8.32 OLS Stepwise Regression Results (Volvo)

Dependent variable: Attitude towards the advertisement											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.365		5.420	0.000						2.018
1	V Cog (outcome desirability)	0.594	0.534	8.055	0.000	0.830	1.204	0.375	0.372	98.563	
2	Effect coding (joyful: bored)	0.185	0.192	2.893	0.008	0.830	1.204	0.406	0.399	55.683	

* The F values are all significant at 0.000 level.

Table 8.33 OLS Stepwise Regression Results (Volvo)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.623		7.198	0.000						1.934
1	V Cog (outcome desirability)	0.534	0.540	8.058	0.000	0.824	1.213	0.366	0.362	96.316	
2	Effect coding (joyful: bored)	0.133	0.155	2.312	0.025	0.824	1.213	0.386	0.378	52.085	

* The F values are all significant at 0.000 level.

Table 8.34 OLS Stepwise Regression Results (Volvo)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.650		2.217	0.028						1.921
1	V Cog (outcome desirability)	0.461	0.400	5.403	0.000	0.841	1.190	0.215	0.210	45.663	
2	V Cog (novelty)	0.156	0.159	2.151	0.033	0.841	1.190	0.236	0.227	25.640	

* The F values are all significant at 0.000 level.

Table 8.35 OLS Stepwise Regression Results (Volvo Final Model)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.466		10.643	0.000						1.999
1	avVAd*avVBr	0.102	0.568	9.682	0.000	1.000	1.000	0.322	0.319	93.743	

* The F values are all significant at 0.000 level.

8.2.6.2.17 Overall Results

In sum, it can be clearly seen that both histograms of standardised residuals and normal P-P plot of regression standardised residuals show evidence of normality in all cases related to response variables of attitudes towards the advertisement, attitudes towards the brand and purchase intention (Appendix 6). This indicates that the OLS regression is an appropriate technique to employ for data analysis. Moreover, the Variance Inflation Factor (VIF) and the Tolerance tests are two measures that can lead a researcher to recognise multicollinearity. Menard (1995) recommended that tolerance value under 0.2 is likely to give rise to concern. Bowerman and O'Connell (1991) indicated that if the average VIF is greater than 5, then multicollinearity could bias the regression model, and tolerance value under 0.1 revealed severe problems. Although there are no firm rules about what values should be the benchmark of VIF and tolerance, this study regards the VIF value of greater than 5 and tolerance value of less than 0.2 as giving rise to concern; this yardstick is generally agreed by researchers (e.g. Bryman and Cramer, 1999; Field, 2000). In study one, the tolerance values (ranging from 0.518 to 1) are all higher than 0.2, and VIF values (ranging from 1 to 1.932) are all less than 5. Therefore, the levels of multicollinearity among extracted factors and effect coding variables are all within satisfactory limits. See Table 8.20-8.35 for details.

The Durbin-Watson test statistic tests the null hypothesis that the residuals from an OLS (Ordinary Least-Squares) regression are not autocorrelated. The value of Durbin-Watson always lies between 0 and 4. A value of near 2 specifies non-autocorrelation; in other words, the value of 2.0 for the Durbin-Watson indicates that there is no serial correlation. While a value towards 0 shows positive autocorrelation, a value towards 4 indicates negative autocorrelation (Durbin and Watson, 1950; 1951; Gujarati, 2003). In study one, the Durbin-Watson values vary from 1.823 to 2.160 in all sixteen models, which are all near the value of 2.0. Therefore, this reveals that the residuals from all the OLS regression models are not autocorrelated.

Furthermore, when doing least square regression, Cook's distance is a frequently utilised estimate of the influence of a data point. Cook's distance measures the effect of deleting a given observation. Points with a Cook's distance of 1 or more are considered to be worth closer investigation in the analysis (Cook and Weisberg, 1982) because data points with

large residuals (outliers) may misrepresent the result and accuracy of a regression. None of the sixteen models has a Cook's value greater than 1.

R^2 is the percentage of variability in a data set that is accounted for by a statistical model. In other words, the R^2 reveals the proportion of the dependent variable that the independent variables explain. Adjusted R^2 is a modification of R^2 that accounts for the number of explanatory terms in a model; measuring the proportion of the variation in the dependent variable accounted for by the independent variables in a multiple linear regression model and it allows for the degrees of freedom combined with the sums of the squares (Pryce, 2005; Robbins, Saxton, and Southern, 2006). Furthermore, according to Hutcheson and Moutinho (2008), while R^2 is broadly applied, it tends to increase as the number of terms increases. The adjusted R^2 can solve this problem since it takes into account the number of terms entered into the model and does not unavoidably increase when more terms are included. Hence, the adjusted R^2 is generally considered to be a more accurate goodness-of-fit measure than R square (Pryce, 2005; Robbins, Saxton, and Southern, 2006).

The adjusted R^2 of all sixteen models range from 0.123 (Lexus purchase intention model) to 0.504 (McDonald's final model), which is considered adequate. It can be explained by the following rationale. For example, adjusted R^2 of four final models: McDonald's, KFC, Lexus and Volvo are 0.504, 0.445, 0.210 and 0.319 respectively. Although the variance explained is comparatively lower in the case of Lexus (0.210) and Volvo (0.319), this research however considers the results to be acceptable, taking into account the fact that the majority of respondents were within the age group of 18-29 years old. More specifically, 74.9% from a total of 191 respondents in the fast-food chain version and 70.8% from a total of 202 respondents in the car company version. Therefore, most respondents in this study are younger adults aged below 30. Lexus and Volvo are car companies which sell luxury automobiles that are generally unaffordable to younger adults or even most adults. Therefore, fewer participants would have an intention to buy these luxury cars. On the contrary, in the case of McDonald's (0.504) and KFC (0.445) which sell comparatively cheap fast-food, more participants would have an intention to buy these products. In addition, generally speaking, Lexus cars are more expensive than Volvo's. For instance, the lowest priced model of a Lexus car costs approximately £40,000 and of a Volvo car cost approximately £26,000 in Taiwan at time of writing (1 GBP = 47 TWD). Consequently, the adjusted R^2 for the Lexus purchase intention model is 0.123 and for Volvo purchase intention model is 0.227. The results of this study regarding the adjusted

R^2 measures of purchase intention was similar to Lynch, Kent, and Srinivasan's (2001) study, which examined consumers' purchase intention in the e-commerce context and conducted in three different regions: North America, Latin America and Western Europe. Their research found that cheaper products (T-shirts) normally have lower adjusted R^2 than more expensive products (CD player). More specifically, the adjusted R^2 of T-shirts are 0.36 (North America), 0.68 (Latin America) and 0.26 (Western Europe); adjusted R^2 of CD players are 0.21 (North America), 0.31 (Latin America) and 0.16 (Western Europe).

The variables which appear significant in all the models are cognitive appraisal-related factors, except for the final models of Lexus and Volvo. In particular, the cognitive appraisal-outcome desirability appears in all the models with the exception of the final models of Lexus and Volvo final models. Apart from these final models, this factor plays the key influential role in the dependent variable in all the models, with the exception of the attitude towards the brand of the McDonald's model and McDonald's final model. This means that the more the subjects appraise the slogan as reaching their outcome desirability, the higher is the chance that they have preferential attitude towards the advertisement, attitude towards the brand, and purchase intention of McDonald's, KFC, Lexus and Volvo. The cognitive appraisal-outcome desirability factor includes variables such as pleasantness, appeal, desirability, value and reliability features. Thus, the finding proposes that the more the consumers appraise the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely it is that the advertising effectiveness will be increased. Cognitive appraisal theorists consider that emotions are elicited from a subjective assessment of the situation and that it is not the actual situation that educes emotions, but rather the psychological appraisal (Lazarus, 1991; Ortony, Clore, and Collins, 1988; Roseman, 1991; Scherer, 2001). Cognitive appraisals are believed to be interpretations of situations with respect to the possible impact on one's well-being (Bagozzi, Gopinath, and Nyer, 1999). Consumers prefer to consume products which can give them enjoyable, pleasant, appealing, desirable, valuable and reliable feelings. Therefore, when the participants evaluate that slogans meet their goals, they have a favourable attitude towards the advertisement, towards the brand, and towards the purchase intention of McDonald's, KFC, Lexus and Volvo. This finding supports the findings of researchers (e.g., Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007) who claim that the outcome desirability refers to the preliminary cognitive appraisal of whether the outcome of a situation is good or bad in relation to personal well-being. It is generally accepted as the most essential appraisal of stimuli.

In addition, the interaction variable between attitudes towards the advertisement and attitudes towards the brand ($avAd*avBr$) shows a significant influence on all four final models. Interestingly, the interaction variable between attitudes towards the advertisement and attitudes towards the brand ($avAd*avBr$) is the only significant explanatory variable in Lexus' and Volvo's final model; the Beta values are 0.462 in Lexus' model and 0.568 in Volvo's model. These Beta values are very high, which indicates that a one unit increase of $avAd*avBr$ results in a 0.462 increase of Lexus purchase intention and a 0.568 increase of Volvo purchase intention. Although other explanatory variables such as cognitive appraisals, and the emotions of pride and joy emotion are not significant in the final models of Lexus and Volvo. However, explanatory variables such as the cognitive appraisal-outcome desirability factor, the cognitive appraisal-pleasantness factor, the cognitive appraisal-novelty factor, and the emotions of pride and joy are found to be positive and significant in the situation when attitude towards the advertisement or attitude towards the brand work as a dependent variable. Because Lexus and Volvo belong to a high involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985), affective factors do not seem to have a significant influence on their final models. This research believes that the cognitive appraisal-related factors, cognitive involvement factor and positive emotions (e.g., pride and joy) function as doorkeepers in the front, which contributes to favourable attitudes towards the advertisements and favourable attitudes towards the brand for Lexus and Volvo; and this gives favourable attitudes towards purchase intention for Lexus and Volvo in their final models.

The affective involvement factor plays a significant role in the fast-food chain (low involvement) models, but does not significantly influence the car (high involvement) models. However, the cognitive involvement factor is found to significantly influence attitudes towards the advertisement of the Lexus model. In contrast to models of fast-food chains, Lexus is a car company which sells luxury automobiles; thus it belongs to a high involvement product group (Zaichkowsky, 1987). High involvement products necessitate a thinking or cognitive orientation; conversely, low involvement products usually go well with affective appeal (Engel and Blackwell, 1982). Therefore, these results are partly in line with Petty and Cacioppo's (1981, 1986) research findings. They claim that the elaboration process of advertising data among individuals can take two different routes depending on the level of involvement; on the low involvement levels, individuals elaborate the data through a peripheral route, being persuaded by heuristic cues; in contrast,

on the high involvement levels, individuals elaborate the data through a central route, being persuaded by cognitive aspects. Nevertheless, it is contradictory to Morris, Woo and Singh's (2005), Morris, Woo, Geason, and Kim's (2002) findings.

In addition, the results of this study suggest that, compared to boredom, pride and joy are two emotions which have more a positive influence on the models. This finding is in line with those studies (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) stating that there is a positive relationship between positive emotion and advertising effectiveness.

Gender does not appear to be significantly influential in any models. Because study one collected data from the night market, these findings support those researchers who declared that in a fresh exposure situation the freshness of the emotional experience will be so overwhelming that 'gender difference' will disappear (Barrett, Robin, Pietromonaco, and Eyssell, 1998; Kring and Gordon, 1998; Robinson and Clore, 2002). However, the results are contradictory to those of researchers who claimed that female respondents had stronger emotional responses (e.g., Becht and Vingerhoets, 2002; Bradley, Codispoti, Sabatinelli, and Lang, 2001; Morre, 2007). From the above statement, the findings disclose that the determinants of advertising effectiveness are cognitive appraisals, involvement and emotions.

8.2.6.2.18 Relationships between Dependent Variables (Attitude towards the Advertisement, Attitude towards the Brand and Purchase Intention)

This section examines relationships between dependent variables (attitude towards the advertisement, attitude towards the brand and purchase intention) in the research conceptual model. Overall, both histograms of standardised residuals and normal P-P plot of regression standardised residuals disclose evidence of normality in all cases related to response variables of attitude towards the brand and purchase intention (Appendix 7). The Durbin-Watson values vary from 1.909 to 2.274 in all eight models, which are all near the value of 2.0. Hence, this reveals that none of the residuals from all the OLS regression models is autocorrelated. Points with a Cook's distance of 1 or more are considered to

require closer examination in the analysis (Cook and Weisberg, 1982), as data points with large residuals (outliers) may misrepresent the result and accuracy of a regression. There is no case that has a Cook's value greater than 1 in any of the eight models. The adjusted R^2 of all eight models range from 0.258 to 0.523, which are considered satisfactory (Table 8.36-43).

For the case of McDonald's, the attitude towards the advertisement variable appears to have a positive significant influence on the attitude towards the brand (Beta=0.725, $p<0.000$). This explanatory variable accounts for an adjusted R^2 of 0.523 in the regression model (Table 8.36). Furthermore, the attitude towards the brand variable is shown to have a positive significant influence on the purchase intention (Beta=0.585, $p<0.000$) and this explanatory variable accounts for an adjusted R square of 0.338 (Table 8.37).

For KFC, the attitude towards the advertisement variable appears to have a positive significant influence on the attitude towards the brand (Beta=0.629, $p<0.000$). This explanatory variable accounts for an adjusted R^2 of 0.392 in the regression model (Table 8.38). In addition, the attitude towards the brand variable is shown to have a positive significant influence on the purchase intention (Beta=0.530, $p<0.000$) and this explanatory variable accounts for an adjusted R square of 0.277 (Table 8.39).

In the case of Lexus, the attitude towards the advertisement variable appears to have a positive significant influence on the attitude towards the brand (Beta=0.620, $p<0.000$). This explanatory variable accounts for an adjusted R^2 of 0.382 in the regression model (Table 8.40). Moreover, the attitude towards the brand variable is shown to have a positive significant influence on the purchase intention (Beta=0.511, $p<0.000$) and this explanatory variable accounts for an adjusted R square of 0.258 (Table 8.41).

In the case of Volvo, the attitude towards the advertisement variable appears to have a positive significant influence on the attitude towards the brand (Beta=0.711, $p<0.000$). This explanatory variable accounts for an adjusted R^2 of 0.503 in the regression model (Table 8.42). In addition, the attitude towards the brand variable is shown to have a positive significant influence on the purchase intention (Beta=0.554, $p<0.000$) and this explanatory variable accounts for an adjusted R square of 0.304 in the regressions model (Table 8.43).

To sum up, the results of all the eight models indicate that the attitude towards the advertisement has a significant positive effect on the attitude towards the brand. These results are in line with the findings of many researchers (e.g., Batra, 1984; Batra and Ray, 1986; Gardner, 1985; Holbrook, 1978; Holbrook and Batra, 1987; Lutz *et al.*, 1986; MacKenzie, Lutz, Belch, 1986; Mitchell and Olson, 1981; Moor and Hutchinson, 1983; Park and Young, 1986; Shimp, 1981; Shimp and Yokum, 1982; Spears and Singh, 2004). Furthermore, the results of all the eight models reveal that the attitude towards the brand has a significant positive effect on the purchase intention. These findings are in line with past researchers' findings (e.g., Batra and Ray, 1986; Brown and Stayman, 1992; MacKenzie *et al.*, 1986; MacKenzie and Spreng, 1992; Spears and Singh, 2004).

Table 8.36 OLS Regression Results (McDonald's)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin - Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.363		8.501	0.000						
1	Attitude towards the advertisement	0.614	0.725	14.391	0.000	1.000	1.000	0.526	0.523	207.114	2.123

* The F values are all significant at 0.000 level.

Table 8.37 OLS Regression Results (McDonald's)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin - Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.964		3.723	0.000						
1	Attitude towards the brand	0.699	0.585	9.908	0.000	1.000	1.000	0.342	0.338	98.167	2.274

* The F values are all significant at 0.000 level.

Table 8.38 OLS Regression Results (KFC)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.538		9.502	0.000						
1	Attitude towards the advertisement	0.546	0.629	11.502	0.000	1.000	1.000	0.395	0.392	122.137	2.209

* The F values are all significant at 0.000 level.

Table 8.39 OLS Regression Results (KFC)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.197		5.046	0.000						
1	Attitude towards the brand	0.611	0.530	8.590	0.000	1.000	1.000	0.281	0.277	73.781	2.139

* The F values are all significant at 0.000 level.

Table 8.40 OLS Regression Results (Lexus)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.534		7.034	0.000						
1	Attitude towards the advertisement	0.611	0.620	11.104	0.000	1.000	1.000	0.385	0.382	123.299	2.029

* The F values are all significant at 0.000 level.

Table 8.41 OLS Regression Results (Lexus)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.223		0.592	0.555						
1	Attitude towards the brand	0.796	0.511	8.391	0.000	1.000	1.000	0.261	0.258	70.413	2.001

* The F values are all significant at 0.000 level.

Table 8.42 OLS Regression Results (Volvo)

Dependent variable: Attitude towards the brand											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.276		8.062	0.000						
1	Attitude towards the advertisement	0.642	0.711	14.195	0.000	1.000	1.000	0.506	0.503	201.496	1.909

* The F values are all significant at 0.000 level.

Table 8.43 OLS Regression Results (Volvo)

Dependent variable: Purchase intention											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.501		2.099	0.037						
1	Attitude towards the brand	0.637	0.554	9.418	0.000	1.000	1.000	0.307	0.304	88.695	2.034

* The F values are all significant at 0.000 level.

8.2.7 Data Transformation Using R Commander for the Final Models

Transforming variables by a mathematical function is the conventional remedy for violations of linearity, normality and constant variance. It is possible to improve the model by transforming one or more variables to make the relationship more linear. Nevertheless, this can lead to some complex models in terms of interpretation. For example, X1 variable may be transformed into $\log X1$, X2 variable may be transformed into $X2^2$. Hence, how to interpret $\log X1$ and $X2^2$ correctly causes complexity. The transformation of variables may result in optimising one aspect such as constant variance, and may result in side-effects on another (Hutcheson and Sofroniou, 1999), such as causing difficulty in interpreting the model. McCullagh and Nelder (1989) highlighted changing the link function of a model. The benefits involved in the transformation of data over the transformation of variables is that data transformation leaves the observed scale of measurement untouched, which is more desirable (Hutcheson and Moutinho, 2008).

The OLS regression results of the four final models (Section 8.2.6) shows that although the adjusted R^2 and F value are relatively adequate, we do not know if the models correctly reflect the relationship between the variables or if they can be improved. R statistical analysis software was applied to implement this task, since the SPSS does not have as powerful a data transformation function as R. The data transformation analysis results using the R-Commander package are presented in this section. There is a discussion as to which models were to be chosen for further interpretation.

It is expected that transforming the response variable down the ladder of powers will have a positive effect on the model (Fox, 2002). Hence, response variable data was transformed first. If the transforming response variable data did not result in a clear improvement, then the transformation of explanatory variable data was followed. Investigations were conducted on the impact of a range of transformations on the models. Models with the most improvement are presented.

8.2.7.1 Overall Results

Overall, transformation of data has a positive impact on all final models. The improvement of adjusted R Square improved by between 0.002 (Volvo final model) to 0.020 (McDonald's final model); the improvement of F-statistics varies from 0.75 (Volvo final model) to 3.878 (McDonald's final model). However, both the improvement of adjusted R Square and F-statistics are relatively small (Table 8.44, 8.45, 8.46, 8.47). It can be clearly seen that both histograms of standardised residuals and normal P-P plot of regression standardised residuals confirm evidence of normality in all final models (before and after data transformation) (Appendix 8). In addition, the regression diagnostics results (residuals vs. fitted, normal Q-Q, scale-location and residuals vs. leverage) suggest that to some extent the regression assumptions have been met before and after the transformation. Nonetheless, the data transformation has not greatly improved any of the final models (Appendix 9).

Furthermore, the Variance Inflation Factor (VIF) and the Tolerance test are two measures that can lead a researcher to recognise multicollinearity. In all the final models (before and after the transformation), the tolerance values (ranging from 0.588 to 1) are all higher than 0.2, and VIF values (ranging from 1 to 1.702) are all well below 5. Therefore, the levels of multicollinearity among explanatory variables are all within the suggested benchmark (Bowerman and O'Connell, 1991; Bryman and Cramer, 1999; Field, 2000; Menard, 1995). It is clear that none of the models is suffering from a multicollinearity problem. Moreover, the Durbin-Watson test statistic tests the null hypothesis that the residuals from an OLS (Ordinary Least-Squares) regression are not autocorrelated. The value of Durbin-Watson always lies between 0 and 4. When the value is near 2, this shows that there is no serial correlation (Durbin and Watson, 1950; 1951; Gujarati, 1995). The Durbin-Watson values vary from 1.857 to 2.112 in all final models (before and after the transformation), which are all near the value of 2.0. Thus, this reveals that none of the residuals from all the final regression models is autocorrelated. Moreover, points with a Cook's distance of 1 or more are considered to be worth closer inspection in the analysis (Cook and Weisberg, 1982) since data points with large residuals (outliers) may misrepresent the result and accuracy of a regression. In none of the final models (before and after data transformation) is there a case that has a Cook's value greater than 1.

While the data transformation resulted in some degree of improvement in all final models, as mentioned earlier, all the improvements are very slight. Therefore, the conclusion is drawn that the data transformation has not made a great improvement to all the final models. Furthermore, interpreting the transformed models has practical difficulties. Hence, it is considered as reasonable and acceptable to maintain the models which are not involved in any data transformation. All the findings have been discussed previously: in section 8.2.6.2.4 for the McDonald's final model, section 8.2.6.2.8 for the KFC final model, section 8.2.6.2.12 for the Lexus final model and section 8.2.6.2.16 for the Volvo final model.

Table 8.44 OLS Regression Results (McDonald's Final Model) (Dependent variable: Purchase Intention)

Before any transformation											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.587		2.382	0.018						2.112
1	avMAd*avMBr	0.045	0.275	4.322	0.000	0.654	1.530	0.319	0.315	87.107	
2	Affective involvement factor	0.250	0.269	3.841	0.000	0.540	1.852	0.454	0.448	76.994	
3	M Cog (outcome desirability)	0.257	0.259	4.260	0.000	0.716	1.397	0.492	0.484	59.371	
4	Cognitive involvement factor	0.185	0.198	2.954	0.004	0.588	1.702	0.515	0.504	48.579	
After transforming explanatory variables											
	Constant	-3.528		-4.871	0.000						2.092
1.	avMAd*avMBr	0.197	0.278	4.483	0.000	0.663	1.509	0.321	0.318	88.079	
2	Affective involvement factor	1.772	0.271	3.947	0.000	0.538	1.858	0.465	0.459	80.283	
3	M Cog (outcome desirability)	0.088	0.271	4.586	0.000	0.727	1.376	0.507	0.499	63.123	
4	Cognitive involvement factor	2.377	0.214	3.254	0.001	0.588	1.701	0.534	0.524	52.457	

* The F values are all significant at 0.000 level

Table 8.45 OLS Stepwise Regression Results (KFC Final Model) (Dependent variable: Purchase Intention)

Before any transformation											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	0.673		2.847	0.005						1.857
1	avKAd*avKBr	0.060	0.336	5.332	0.000	0.750	1.333	0.308	0.304	82.555	
2	K Cog (outcome desirability)	0.383	0.355	5.800	0.000	0.795	1.258	0.403	0.396	61.995	
3	Affective involvement factor	0.224	0.234	4.137	0.000	0.937	1.067	0.454	0.445	50.655	
After transforming explanatory variables											
	Constant	-2.816		-3.751	0.000						1.865
1.	avKAd*avKBr	0.092	0.351	5.677	0.000	0.775	1.290	0.310	0.306	83.144	
2.	K Cog (outcome desirability)	3.477	0.352	5.854	0.000	0.822	1.216	0.408	0.401	63.362	
3.	Affective involvement factor	0.253	0.229	4.058	0.000	0.936	1.069	0.457	0.448	51.279	

* The F values are all significant at 0.000 level

Table 8.46 OLS Stepwise Regression Results (Lexus Final Model) (Dependent variable: Purchase Intention)

Before any transformation											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.747		7.682	0.000						
1	avLAd*avLBr	0.102	0.462	7.315	0.000	1.000	1.000	0.214	0.210	53.511	1.966
After transforming response and explanatory variables											
	Constant	-0.690		-0.920	0.359						
1.	avLAd*avLBr	1.354	0.473	7.538	0.000	1.000	1.000	0.224	0.220	56.819	1.949

* The F values are all significant at 0.000 level.

Table 8.47 OLS Stepwise Regression Results (Volvo Final Model) (Dependent variable: Purchase Intention)

Before any transformation											
Step	Variables entered	Coefficients		t	Significance	Collinearity Statistics		R Square	Adjusted R Square	F *	Durbin-Watson
		Unstandardised (B)	Standardised (Beta)			Tolerance	VIF				
	Constant	1.466		10.643	0.000						
1	avVAd*avVBr	0.102	0.568	9.682	0.000	1.000	1.000	0.322	0.319	93.743	1.999
After transforming explanatory variables											
	Constant	1.694		14.616	0.000						
1.	avVAd*avVBr	0.041	0.569	9.721	0.000	1.000	1.000	0.324	0.321	94.493	2.013

* The F values are all significant at 0.000 level.

8.2.8 Repeated Measures

Repeated measure is a repetitive procedure to model dependent, or criterion variables, measured using analysis of variance. This study conducted repeated measures analyses of variance on the six emotions of four cases with participants' gender as the between-subject factor and participants' emotional responses at three times as the within-subjects factor. Table 8.48 presents the results of these tests.

In the case of McDonald's, four out of six emotions are significantly different each time. This means that, when participants said the McDonald's slogan out loud three times, their perceptions of the emotions of joy, happiness, pride and boredom were significantly different. Nevertheless, gender does not make a significant difference. Interaction between participants' gender and times does not achieve statistical significance.

For the KFC, five out of six emotions are significantly different at each time. This shows that, when participants said the Kentucky slogan out loud three times, their perceptions of the emotions of joy, happiness, pride, sad and boredom emotions were significantly different. However, gender is not a significant factor. Interaction between participants' gender and times does not achieve statistical significance either.

In the repeated measures results for the Lexus, five out of six emotions are significantly different at each time. This indicates that, when participants said the Lexus slogan out loud three times, their perceptions of the emotions of joy, happiness, pride, anger and boredom emotions were significantly different. On the other hand, gender difference is not significant with the exception of angry emotion. Interaction between participants' gender and times does not reach statistical significance.

Interestingly, in the case of Volvo, only two out of six emotions make a significant difference at each time. It reveals that, when participants said the Volvo slogan out loud three times, their perceptions of the emotions of joy and boredom emotions were significantly different. Gender does not achieve statistical significance. Interaction between participants' gender and times of saying the slogans out loud does not achieve statistical significance either.

In sum, the repeated measures analysis outcomes confirm the dynamic nature of the consumers' emotional responses to the advertising slogan. However, gender and interaction between participants' gender and times of saying the slogans out loud does not achieve statistical significance. Since study one collected data from the night market, the results support those researchers who stated that the gender difference will vanish due to the fresh exposure situation causing an overwhelming emotional experience (Barrett, Robin, Pietromonaco, and Eyssell, 1998; Kring and Gordon, 1998; Robinson and Clore, 2002). However, the results are contradictory to those of researchers who claimed that female respondents had stronger emotional responses (e.g. Becht and Vingerhoets, 2002; Bradley, Codispoti, Sabatinelli, and Lang, 2001; Morre, 2007).

Table 8.48 Repeated Measures Analysis of Variance with Perception of Emotions and Gender

	McDonald's (Valid N- Female:100 Male:91)				KFC (Valid N- Female:100 Male:91)				Lexus (Valid N- Female:116 Male:86)				Volvo (Valid N- Female:116 Male: 86)			
Joy	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	14.305	19.771	0.000	2	9.268	13.811	0.000	2	9.137	12.592	0.000	2	2.826	4.872	0.008
times * gender	2	0.025	0.034	0.966	2	1.575	2.347	0.097	2	0.523	0.721	0.487	2	1.367	2.327	0.099
Between-subject effects (gender)	1	11.534	2.178	0.142	1	0.526	0.123	0.726	1	1.485	0.281	0.597	1	15.776	3.090	0.080
Happiness																
Within-subjects effects (times)																
times	2	8.017	11.444	0.000	2	5.699	9.029	0.000	2	3.178	5.537	0.004	2	0.310	0.643	0.527
times * gender	2	1.068	1.524	0.219	2	0.296	0.469	0.626	2	0.864	1.506	0.223	2	0.818	1.696	0.185
Between-subject effects (gender)	1	16.056	2.968	0.087	1	7.731	1.726	0.190	1	0.837	0.168	0.683	1	0.815	0.169	0.682
Pride																
Within-subjects effects (times)																
times	2	3.758	8.354	0.000	2	1.238	6.744	0.001	2	13.670	21.495	0.000	2	0.363	0.705	0.495
times * gender	2	0.152	0.338	0.713	2	0.041	0.222	0.801	2	0.693	1.090	0.337	2	0.406	0.789	0.455
Between-subject effects (gender)	1	4.515	1.081	0.300	1	0.259	0.147	0.702	1	2.108	0.356	0.551	1	0.000	0.000	1.000

(continued)

Table 8.48 (continued)

	McDonald's (Valid N- Female:100 Male:91)				KFC (Valid N- Female:100 Male:91)				Lexus (Valid N- Female:116 Male:86)				Volvo (Valid N- Female:116 Male:86)			
Sadness	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	0.420	2.600	0.076	2	0.436	3.182	0.043	2	0.176	0.829	0.437	2	0.016	0.125	0.883
times * gender	2	0.019	0.118	0.889	2	0.003	0.022	0.978	2	0.037	0.176	0.839	2	0.082	0.655	0.520
Between-subject effects (gender)	1	0.599	0.784	0.377	1	0.933	1.661	0.199	1	2.996	3.328	0.070	1	0.284	0.526	0.469
Anger																
Within-subjects effects (times)																
times	2	0.223	0.695	0.500	2	0.230	0.691	0.502	2	0.189	0.699	0.004	2	0.185	1.029	0.358
times * gender	2	1.165	3.635	0.027	2	0.712	2.135	0.120	2	0.218	0.809	0.223	2	0.423	2.349	0.097
Between-subject effects (gender)	1	0.021	0.023	0.880	1	0.647	0.379	0.539	1	4.469	4.776	0.030	1	0.399	0.272	0.602
Boredom																
Within-subjects effects (times)																
times	2	2.155	3.751	0.024	2	3.610	5.266	0.006	2	3.233	7.375	0.001	2	5.964	11.941	0.000
times * gender	2	0.982	1.709	0.182	2	0.748	1.091	0.337	2	0.180	0.411	0.663	2	0.393	0.787	0.456
Between-subject effects (gender)	1	7.024	2.872	0.092	1	2.068	0.759	0.385	1	3.320	1.816	0.179	1	0.352	0.108	0.743

8.3 Analysis of Study Two

The purpose of study two was to compare results between self-report questionnaires and the Slogan Validator, and to discuss the difference between these two methods. Study two was conducted in recording studios. There were 37 female subjects and 39 males; they were a mix of postgraduate students, and workers (e.g., salespeople and librarians). All the subjects were asked to do two versions of each method, i.e. the fast-food chain version and car version. However, one subject's voice when saying the Lexus slogan could not be recognised by the Slogan Validator, so the researcher decided to delete this subject's result of the car version, but kept the fast-food chain version. This led to 76 results in the fast-food chain version and 75 results in the car version. In addition, for fast-food chains, the age of the majority of subjects is concentrated in the 18 to 29 year-old group (71.1%). This is followed by those in the 30 to 39 year-old group (21.1%), and then those in the group aged 40 to 49 (7.9%). Similarly, for the results of cars, the age of the majority of subjects is grouped in the 18 to 29 year-old group (72%). This is followed by those in the 30 to 39 year-old group (20%), and then those in the group aged 40 to 49 (8%) (Table 8.49). Regarding gender profile, for the fast-food chain version, 48.7 percent of respondents are female and 51.3 percent male; for the car version, 48 percent of respondents are female and 52 percent male (Table 8.50). In addition, sample characteristics of study two are similar to those of study one in terms of age and gender.

Table 8.49 Age Group of the Respondents in Study Two

Age group	Fast-food chains		Cars	
	N	Percentage	N	Percentage
18-29	54	71.1	54	72.0
30-39	16	21.1	15	20.0
40-49	6	7.9	6	8.0
Total	76	100.0	75	100.0

Table 8.50 Gender of the Respondents in Study Two

Gender	Fast-food chains		Cars	
	N	Percentage	N	Percentage
Female	37	48.7	36	48.0
Male	39	51.3	39	52.0
Total	76	100.0	75	100.0

8.3.1 Compare Means: Paired Samples T Test

Paired sample t-test is a statistical method that is employed to compare two population means in the case of two samples that are correlated. Study two examined whether scale scores of self-report questionnaires were significantly different from the results of the Slogan Validator or not. For the fast-food chain version, in the case of McDonald's, happiness is the only emotion that is not significantly different each time. Four out of five emotions are significantly different (Table 8.51). In the case of KFC, 'happy' is not significant the first time and the second time; however, it is significant the third time. Similarly, 'sad', 'angry', 'bored' and 'neutral' are all significantly different three times (Table 8.51). In addition, for the car sales version, all five emotions are significantly different for both Lexus and Volvo cases (Table 8.52). It seems that the results of the self-report questionnaires and the Slogan Validator are almost completely different, with the exception of 'happy' in the cases of McDonald's and KFC.

This result, although not what the researcher expected, is not surprising. It can be explained as follows. Firstly, the researcher employed factor analysis for emotional responses in study one, to see the relationship between the emotions of joy, happiness and pride. From the component plots of the emotional responses to Lexus' and Volvo's slogans, these clearly illustrate that 'joyful' and 'happy' are very close to each other; nevertheless, 'proud' stands far from these other two emotions (Figure 8.1 and Figure 8.2). This is in the same vein as Laros and Steenkamp (2005), who found that 'happy' and 'joyful' are within the group of basic emotions – 'happiness', but that 'proud' is outside the group. Thus, it is reasonable to regard 'happy' and joyful emotions as being in the group of 'happiness'. Happiness is the main emotion in the slogans of McDonald's and KFC overall (Table 8.53), and it is easier for the Slogan Validator to capture the 'happiness' emotion. In contrast, 'happiness' is not the key emotion of the Lexus and Volvo slogans. In the results of study one, pride is the core emotion for the slogan of Lexus. Although the emotion of pride is not an important emotion for the Volvo slogan, the emotions of joy and happiness are, but not to the same degree as for McDonald's and KFC. For instance, 'joyful' and 'happy' account for 68.59%, 59.69%, 18.81% and 54.95% of all dominant emotions for McDonald's, KFC, Lexus and Volvo respectively in study one (Table 8.53). Moreover, 'happiness' accounts for 82.89%, 65.79%, 57.33% and 38.67% of all dominant emotions

for McDonald's, KFC, Lexus and Volvo respectively in study two (Table 8.54). This also confirmed that 'happiness' is the key dominant emotion for McDonald's and KFC. Therefore, this is considered rational as the Slogan Validator only can capture five basic emotions, namely, happiness, sadness, anger, boredom and neutral. It can be expected that 'happiness' is the only emotion that is not significantly different in the cases of McDonald's and KFC. Thus, it is not easy for the Slogan Validator to grasp participants' emotional responses correctly, because consumers' emotions are more complicated than the above five basic emotions.

Furthermore, compared with the results of the Slogan Validator, the results of self-report questionnaires revealed that the intensity of mixed emotion is underestimated, as the participants needed to recall their emotional responses of slogans for self-report questionnaires. Conversely, the Slogan Validator captured their emotional responses immediately. Thus, these results are in line with those of Aaker, Drolet, and Griffin (2008), who demonstrated that the intensity of mixed emotions is generally underestimated at the time of recall.

Table 8.51 Descriptive and Paired Samples t Tests (McDonald's & KFC)

Measure	McDonald's							KFC						
	Self-report		Slogan Validator		N	t value	Sig (2-tailed)	Self-report		Slogan Validator		N	t value	Sig (2-tailed)
Mean	SD	Mean	SD	Mean				SD	Mean	SD	Mean			
<i>Emotions at first time</i>														
Happiness	3.68	1.061	3.83	0.826	76	-1.073	0.287	3.41	1.073	3.60	0.818	76	-1.486	0.142
Sadness	1.45	0.755	4.64	0.445	76	-32.343	0.000	1.43	0.789	4.47	0.485	76	-29.957	0.000
Anger	1.46	0.871	3.58	1.040	76	-12.963	0.000	1.45	0.839	3.83	1.159	76	-14.553	0.000
Boredom	1.84	0.994	4.07	1.290	76	-11.886	0.000	2.03	1.107	3.78	1.401	76	-9.876	0.000
Neutral	2.45	1.051	3.93	0.805	76	-9.478	0.000	2.36	1.003	4.00	1.131	76	-8.787	0.000
<i>Emotions at second time</i>														
Happiness	3.57	1.024	3.76	0.890	76	-1.348	0.182	3.42	1.049	3.61	0.773	76	-1.425	0.158
Sadness	1.45	0.807	4.61	0.456	76	-29.270	0.000	1.49	0.856	4.52	0.507	76	-29.161	0.000
Anger	1.53	1.039	3.56	1.098	76	-10.551	0.000	1.50	0.872	3.56	1.098	76	-12.161	0.000
Boredom	1.89	1.078	4.05	1.312	76	-11.516	0.000	2.07	1.124	4.05	1.312	76	-10.581	0.000
Neutral	2.29	1.069	3.93	0.797	76	-10.249	0.000	2.37	1.018	4.05	1.159	76	-8.378	0.000
<i>Emotions at third time</i>														
Happiness	3.53	1.137	3.81	0.875	76	-1.864	0.066	3.33	1.119	3.65	0.791	75	-2.105	0.039
Sadness	1.42	0.804	4.60	0.448	76	-29.315	0.000	1.47	0.844	4.45	0.645	75	-26.403	0.000
Anger	1.62	1.019	3.61	1.139	76	-10.068	0.000	1.56	1.003	3.88	1.072	75	-12.774	0.000
Boredom	2.14	1.293	4.06	1.303	76	-8.239	0.000	2.28	1.250	3.75	1.345	76	-6.741	0.000
Neutral	2.34	1.027	3.99	0.786	76	-11.265	0.000	2.39	1.077	4.03	1.108	75	-8.642	0.000

Table 8.52 Descriptive and Paired Samples t Tests (Lexus & Volvo)

Measure	Lexus							Volvo						
	Self-report		Slogan Validator		N	t value	Sig (2-tailed)	Self-report		Slogan Validator		N	t value	Sig (2-tailed)
Mean	SD	Mean	SD	Mean				SD	Mean	SD	Mean			
<i>Emotions at first time</i>														
Happiness	2.97	1.026	3.97	0.765	75	-2.812	0.006	2.78	1.101	3.80	0.725	74	-7.085	0.000
Sadness	1.60	0.900	4.51	0.464	75	-26.930	0.000	1.57	0.908	4.53	0.460	74	-25.745	0.000
Anger	1.63	0.927	3.89	1.089	75	-14.165	0.000	1.57	0.877	3.88	1.089	74	-13.777	0.000
Boredom	1.88	1.039	4.21	1.269	75	-11.368	0.000	2.00	1.103	4.03	1.227	75	-10.815	0.000
Neutral	2.79	1.069	4.18	0.820	75	-8.034	0.000	2.59	0.964	4.21	0.768	74	-10.575	0.000
<i>Emotions at second time</i>														
Happiness	2.93	1.018	3.46	0.793	75	-3.626	0.001	2.73	1.076	3.76	0.743	74	-7.304	0.000
Sadness	1.47	0.741	4.50	0.489	75	-32.487	0.000	1.49	0.781	4.48	0.482	74	-29.477	0.000
Anger	1.48	0.795	3.35	1.079	75	-12.321	0.000	1.57	0.861	3.79	1.105	74	-13.140	0.000
Boredom	1.91	1.068	4.15	1.289	75	-11.009	0.000	2.24	1.113	4.07	1.307	75	-8.909	0.000
Neutral	2.75	1.041	4.23	0.813	75	-8.923	0.000	2.62	1.030	4.18	0.880	74	-8.924	0.000
<i>Emotions at third time</i>														
Happiness	2.96	0.992	3.47	0.802	75	-3.505	0.001	2.69	1.193	3.76	0.741	74	-6.532	0.000
Sadness	1.59	0.824	4.51	0.461	75	-27.053	0.000	1.54	0.863	4.43	0.534	74	-24.500	0.000
Anger	1.60	0.885	3.41	1.077	75	-10.921	0.000	1.54	0.863	3.84	1.088	74	-13.637	0.000
Boredom	2.11	1.258	4.14	1.335	75	-8.262	0.000	2.48	1.408	4.02	1.287	75	-6.473	0.000
Neutral	2.76	1.149	4.25	0.828	75	-8.565	0.000	2.80	1.085	4.25	0.765	74	-9.566	0.000

Component Plot in Rotated Space

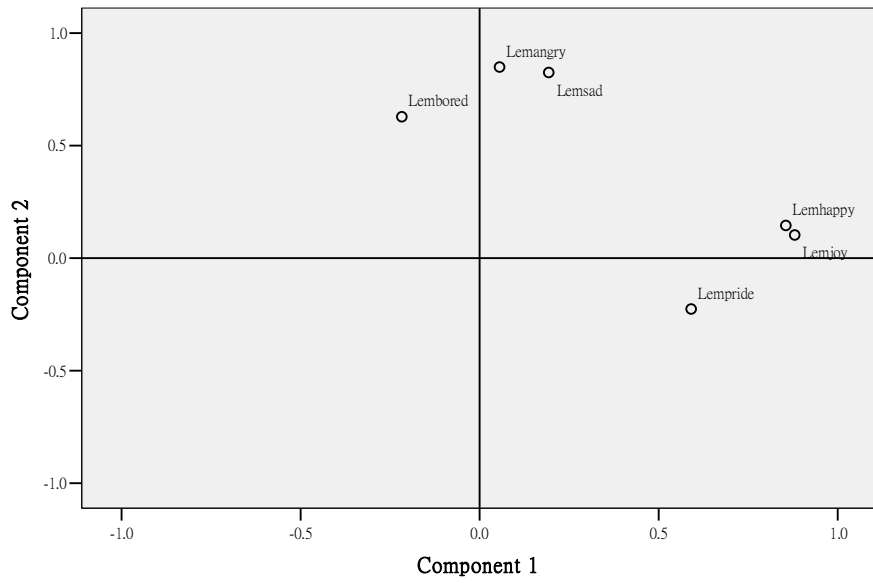


Figure 8.1: Component Plot of Emotional Responses of Lexus Slogan

Component Plot in Rotated Space

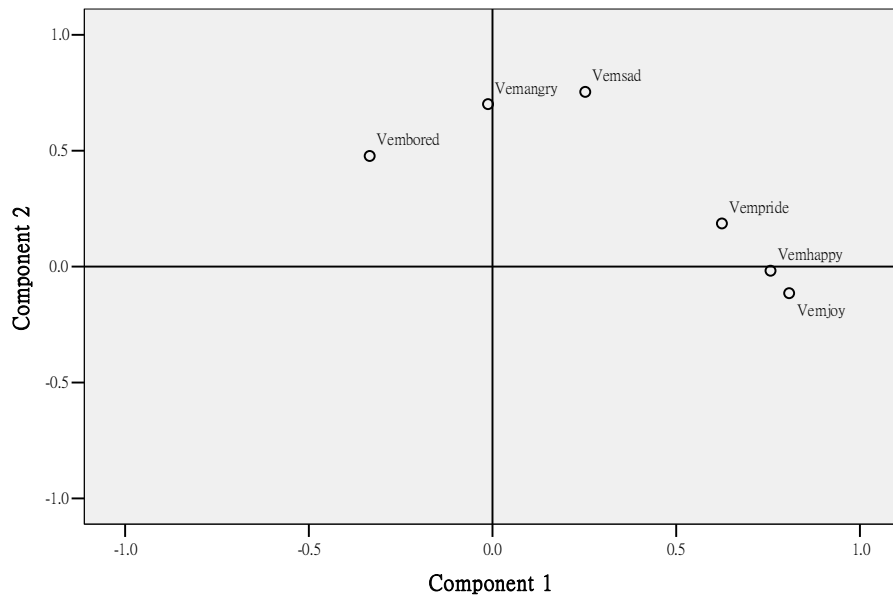


Figure 8.2: Component Plot of Emotional Responses of Volvo Slogan

Table 8.53 Frequency of Dominant Emotion of McDonald’s, KFC, Lexus and Volvo (Study One)

Dominant Emotion Frequency	McDonald’ s		KFC		Lexus		Volvo		Percentage			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage		
Joy	90		67		31		75					
Happiness	41	131	47	114	7	38	36	111	68.59	59.69	18.81	54.95
Pride	24	24	11	11	147	147	19	19	12.57	5.76	72.77	9.41
Sadness	0	0	0	0	2	2	4	4	0.00	0.00	0.99	1.98
Anger	7	7	7	7	0	0	8	8	3.67	3.66	0.00	3.96
Boredom	28	28	58	58	14	14	60	60	14.66	30.37	6.93	29.70
Missing	1	1	1	1	1	1	0	0	0.51	0.52	0.50	0.00
Total	191	191	191	191	202	202	202	202	100.00	100.00	100.00	100.00

Table 8.54 Frequency of Dominant Emotion of McDonald’s, KFC, Lexus and Volvo (Study Two)

Dominant Emotion Frequency	McDonald’ s		KFC		Lexus		Volvo		Percentage	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Happiness	63	82.89	50	65.79	43	57.33	29	38.67		
Sadness	0	0.00	1	1.32	0	0.00	0	0.00		
Anger	0	0.00	1	1.32	0	0.00	3	4.00		
Boredom	2	2.63	11	14.48	2	2.67	14	18.66		
Neutral	11	14.48	13	17.00	30	40.00	29	38.67		
Total	76	100.00	76	100.00	75	100.00	75	100.00		

8.3.2 Repeated Measures

Again, study two conducted repeated measure analyses of variance on the five emotions of the four cases, with participants' gender as the between-subject factor and participants' emotional responses at three separate times as the within-subjects factor for the results of self-report and Slogan Validator. Table 8.55 and Table 8.56 illustrate the results of these tests.

In the case of McDonald's, four out of five emotions were not significantly different each time for the self-report questionnaires, with the exception of 'boredom'; none of the five emotions was significantly different each time for the Slogan Validator. This means that, when participants said the McDonald's slogan out loud three times, their perceptions of emotions were not significantly different for self-report questionnaires and Slogan Validator. Nevertheless, gender does make a significant difference in the self-report questionnaires, with the exception of 'anger'. These findings support those of Moore (2007) and Becht and Vingerhoets (2002), who found gender differences in responses to emotional advertising, but are contradictory to those of Robinson and Clore (2002) and Kring and Gordon (1998). However, gender does not achieve statistical significance for the Slogan Validator, with the exception of 'happiness' and 'neutral'. Interaction between participants' gender and number of times the slogan was said out loud does not achieve statistical significance for either the self-report questionnaires or the Slogan Validator.

For KFC, four out of five emotions are not significantly different each time for the self-report questionnaires, with the exception of 'boredom'; none of the five emotions is significantly different at each time for the Slogan Validator. This shows that, when participants said Kentucky slogan out loud three times, their perceptions of happy, sad, angry, bored and neutral emotions were not significantly different for self-report questionnaires and Slogan Validator. However, gender is not a significant factor for the self-report questionnaires, with the exceptions of 'happiness' and 'anger'; and neither is it a significant factor for the Slogan Validator, with the exception of 'neutral'. Interaction between participants' gender and times does not achieve statistical significance for either the self-report questionnaires or Slogan Validator, with the exception of the 'neutral' emotion of the self-report results.

The repeated measures results for the Lexus, none of the five emotions is significantly different each time for self-report questionnaires and the Slogan Validator. It specifies that, when participants said the Lexus slogan out loud three times, their perceptions of happy, sad, angry, bored and neutral emotions were not significantly different for the results of the self-report questionnaires and the Slogan Validator. Gender differences are found to be significant for self-report questionnaires, with the exception of 'sadness' and 'anger'; conversely, gender differences are not found to be significant in most emotions for the Slogan Validator, with the exception of 'boredom'. Interaction between participants' gender and times does not reach statistical significance for either the self report or the Slogan Validator.

In the repeated measures results for the case of Volvo, four out of five emotions are not significantly different each time for self-report questionnaires, with the exception of boredom; none of the five emotions is significantly different each time for the Slogan Validator. It reveals that, when participants said the Volvo slogan out loud three times, their perceptions of emotions were not significantly different in the results of self-report questionnaires and the Slogan Validator. Gender does not achieve statistical significance for self-report questionnaires, with the exception of 'neutral'; gender does not achieve statistical significance for the Slogan Validator, with the exception of 'happiness'. Interaction between participant gender and times does not achieve statistical significance for either self-report questionnaires or Slogan Validator.

Overall, for the self-report questionnaires, results of within-subject effects (times) demonstrate that seventeen out of twenty circumstances (five emotions*four cases) are not significant. For the Slogan Validator, results of within subject effect (times) show that there does not exist any circumstance in which statistical significance is achieved. This means that the repeated measures analysis outcomes do not confirm the dynamic nature of consumers' emotional responses to advertising slogan. The findings are contradictory to the findings of study one. This can be explained as follows. Study two was conducted in laboratory settings which involved a simulated situation; therefore, it would be difficult to elicit participants' actual perceptions of emotions. As Lazarus (1995) pointed out, it is hard to evoke emotions reliably as their intensity may be weaker than it would be in a natural setting even if the correct emotion is created. Interestingly, for the self-report questionnaires, results of between-subject effects (gender) reveal that ten out of twenty circumstances (five emotions*four cases) are significant. For the Slogan Validator, results

of between-subject effects (gender) indicate that only five out of twenty circumstances (five emotions*four cases) are significant. Generally speaking, the majority of results are consistent with those of study one, which reveal that 'gender' is not a significant factor. Interaction between participants' gender and number of times of saying the slogan aloud peaking out does not achieve statistical significance for either the self-report questionnaires or the Slogan Validator.

Table 8.55 Repeated Measures Analysis of Variance with Perception of Emotions and Gender (Self-Report)

	McDonald's (Valid N- Female:37 Male:39)				KFC (Valid N- Female:37 Male:38)				Lexus (Valid N- Female:36 Male:39)				Volvo (Valid N- Female:35 Male: 39)			
Happiness	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	0.512	2.460	0.089	2	0.254	1.348	0.263	2	0.033	0.244	0.784	2	0.170	0.640	0.529
times * gender	2	0.082	0.396	0.674	2	0.005	0.026	0.975	2	0.086	0.638	0.530	2	0.017	0.064	0.938
Between-subject effects (gender)	1	20.626	7.323	0.008	1	15.579	5.304	0.024	1	25.422	10.199	0.002	1	5.794	1.791	0.185
Sadness																
Within-subjects effects (times)																
times	2	0.018	0.197	0.821	2	0.057	0.977	0.379	2	0.393	3.005	0.053	2	0.111	0.920	0.401
times * gender	2	0.053	0.591	0.555	2	0.013	0.216	0.806	2	0.046	0.355	0.702	2	0.219	1.819	0.166
Between-subject effects (gender)	1	6.802	4.195	0.044	1	6.293	3.308	0.073	1	3.754	2.143	0.148	1	3.447	1.801	0.184
Anger																
Within-subjects effects (times)																
times	2	0.478	2.386	0.096	2	0.266	1.676	0.191	2	0.450	2.493	0.086	2	0.017	0.093	0.911
times * gender	2	0.039	0.195	0.823	2	0.168	1.059	0.349	2	0.024	0.131	0.877	2	0.017	0.093	0.911
Between-subject effects (gender)	1	8.805	3.676	0.059	1	9.614	4.659	0.034	1	3.713	1.962	0.166	1	2.891	1.540	0.219

(continued)

Table 8.55 (continued)

	McDonald's (Valid N- Female:37 Male:39)				KFC (Valid N- Female:37 Male:38)				Lexus (Valid N- Female:36 Male:39)				Volvo (Valid N- Female:35 Male:39)			
Boredom	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	1.939	5.909	0.003	2	1.338	4.345	0.015	2	1.113	3.048	0.050	2	4.231	13.373	0.000
times * gender	2	0.404	1.230	0.295	2	0.846	2.749	0.067	2	0.180	0.493	0.612	2	0.249	0.787	0.457
Between-subject effects (gender)	1	23.541	8.149	0.006	1	1.308	0.379	0.540	1	18.416	6.423	0.013	1	6.374	1.690	0.198
Neutral																
Within-subjects effects (times)																
times	2	0.494	1.947	0.146	2	0.035	0.158	0.854	2	0.028	0.088	0.915	2	0.862	2.703	0.070
times * gender	2	0.056	0.220	0.803	2	0.969	4.329	0.015	2	0.215	0.679	0.509	2	0.133	0.416	0.661
Between-subject effects (gender)	1	29.398	12.056	0.001	1	8.184	3.059	0.084	1	21.268	7.979	0.006	1	14.650	6.192	0.015

Table 8.56 Repeated Measures Analysis of Variance with Perception of Emotions and Gender (Slogan Validator)

	McDonald's (Valid N- Female:37 Male:39)				KFC (Valid N- Female:37 Male:39)				Lexus (Valid N- Female:36 Male:39)				Volvo (Valid N- Female:36 Male: 39)			
Happiness	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	0.004	0.860	0.425	2	0.001	0.375	0.688	2	0.010	2.219	0.112	2	0.002	0.391	0.677
times * gender	2	0.008	1.805	0.168	2	0.002	0.651	0.523	2	0.004	0.936	0.395	2	0.005	1.177	0.311
Between-subject effects (gender)	1	0.340	4.406	0.039	1	0.083	1.226	0.272	1	0.235	3.749	0.057	1	0.379	7.482	0.008
Sadness																
Within-subjects effects (times)																
times	2	0.002	0.711	0.493	2	0.004	0.962	0.384	2	0.000	0.050	0.951	2	0.009	2.841	0.062
times * gender	2	0.004	2.042	0.133	2	0.003	0.870	0.421	2	0.001	0.362	0.697	2	0.002	0.493	0.612
Between-subject effects (gender)	1	0.046	2.377	0.127	1	0.024	0.856	0.358	1	0.029	1.365	0.246	1	0.001	0.042	0.839
Anger																
Within-subjects effects (times)																
times	2	0.003	0.373	0.689	2	0.002	0.182	0.834	2	0.018	2.982	0.054	2	0.005	0.951	0.389
times * gender	2	0.002	0.296	0.744	2	0.001	0.175	0.839	2	0.000	0.045	0.956	2	0.008	1.408	0.248
Between-subject effects (gender)	1	0.121	0.929	0.338	1	0.025	0.195	0.660	1	0.056	0.439	0.510	1	0.299	2.293	0.134

(continued)

Table 8.56 (continued)

	McDonald's (Valid N- Female:37 Male:39)				KFC (Valid N- Female:37 Male:39)				Lexus (Valid N- Female:36 Male:39)				Volvo (Valid N- Female:36 Male:39)			
Boredom	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig	df	Mean Square	F	Sig
Within-subjects effects (times)																
times	2	0.000	0.208	0.812	2	0.002	0.357	0.700	2	0.004	0.992	0.373	2	0.003	0.599	0.551
times * gender	2	0.001	0.508	0.602	2	0.000	0.047	0.954	2	0.001	0.306	0.737	2	0.013	2.691	0.071
Between-subject effects (gender)	1	0.659	3.402	0.069	1	0.208	0.963	0.330	1	0.822	4.428	0.039	1	0.443	2.448	0.122
Neutral																
Within-subjects effects (times)																
times	2	0.003	1.003	0.369	2	0.002	0.254	0.776	2	0.005	1.573	0.211	2	0.004	0.584	0.559
times * gender	2	0.000	0.136	0.873	2	0.008	0.932	0.396	2	0.002	0.763	0.468	2	0.014	2.024	0.136
Between-subject effects (gender)	1	0.271	4.002	0.049	1	0.521	3.989	0.049	1	0.264	3.655	0.060	1	0.095	1.506	0.224

8.4 Summary

This chapter concentrates on data analysis and presenting the research findings and discussions. This research conducted two studies: study one and study two. The data of study one was collected in the night market. Study two was done in laboratory settings. Two commonly adopted statistical analysis software programmes, SPSS and R statistical software, were employed to analyse the data with the aim of obtaining more robust results. In study one, SPSS was utilised to apply factor analysis, OLS regression and repeated measures. R was used to employ data transformation. Chiefly, the Box-Cox and Box-Tidwell techniques were used. In study two, SPSS was used to apply paired samples T test and repeated measures. Prior to the stage of analysis, the researcher checked the data extensively in order to identify potential biases. This involves examination of raw data, the representativeness of the data, the distribution of values of each variable, adopted scales of reliability and validity, data normality and the possibility of multicollinearity problems.

The features of the samples were examined by publicly available statistics for study one. Although these showed that the samples did not appear to represent the target population well, other researchers (e.g., Chang and Hsieh, 2006; Yoo, Park and MacInnis, 1998) found a similar pattern in terms of age and gender in their studies. Thus, it is still considered acceptable. All measures presented reasonable variance after using descriptive statistics.

Given the time constraint for this research, extensive examination and discussion of the measurement reliability and validity were offered only for the study one. Factor analysis, Cronbach's Alpha, item-to-total correlations and Pearson correlations were used to assess reliability and validity. Overall, the generally satisfactory results of factor analysis, item-to-total correlation, Cronbach's Alpha and Pearson correlation demonstrated that the scales adopted in the current research reach a high standard of reliability and validity for all four cases.

For study one, normality was examined through residual histograms, and normal probability plots. The histograms of residuals clearly demonstrate that the distributions of all models are about normal. In addition, the normal P-P plot of regression standardised residuals was obtained for examining the data normality. The plots support the normality assumption. The pattern in the plot is very close to a straight line. Accordingly, the data was appropriate for OLS regression analysis.

Furthermore, in study one; stepwise regression was conducted to test the research model. The research results reveal that the determinants of advertising effectiveness are cognitive appraisals, product involvement and dominant emotion. Interestingly, cognitive appraisal-outcome desirability takes the key influential role in the response variable, i.e. it is the only one which constantly appears in each model and functions as the most important explanatory variable in all models with the exception of the Lexus and Volvo final models. The repeated measures analysis outcomes confirm the dynamic nature of consumers' emotional responses to the advertising slogan. Nevertheless, gender and interaction between participants' gender and number of times of saying a slogan aloud do not achieve statistical significance.

However, the OLS regression results of four final models (Section 8.2.6) indicates that although the adjusted R Square and F value are relatively acceptable, we do not know if the models can be able to be improved or if the models are properly reflecting the relationship among variables. The R statistical analysis software was applied to implement the data transformation as R has a more powerful function than SPSS. In spite of the researcher's efforts, overall, employing data transformation did not improve the final models greatly. While data transformation did not produce a significant improvement, the application of the data transformation supports the belief that the original models founded on the untransformed data are the best results under the present circumstances.

The objective of study two is to compare the difference between self-report questionnaires and the Slogan Validator. Results of the paired samples T test reveals that the results of the self-report questionnaires and the Slogan Validator are almost completely different, with the exception of the emotion 'happy' in the cases of McDonald's and KFC. In addition, compared with the results of the Slogan Validator, the results of self-report questionnaires show that the intensity of mixed emotion is underestimated. Findings of the repeated measures analysis do not confirm the dynamic nature of the consumers' emotional responses to the advertising slogan. The findings are incongruous with the findings of study one. Comprehensive interpretations and descriptions combining with research findings have all been offered in the chapter.

Generally speaking, from the results of study two, we are not sure that the Slogan Validator can complement the traditional emotion research methodology (e.g., semi-

structured interview, focus groups, survey research method dealing with self-reported measurements, phenomenological research based on psychophysiological measures). Marketing studies using voice pitch analysis have been carried out only very infrequently since the 80s (Wang and Minor, 2008). Nevertheless, this research takes the first steps in employing the signal-based emotion recognition (human-computer interaction) in the marketing literature. However, the preliminary results revealed that our approach still sheds light on an avenue leading to increased effectiveness of advertising copy strategy. The discussion and summary of the research findings will be presented in the next chapter, as the core purpose of this chapter is to report the research findings and comprehensive interpretation.

Chapter 9 Conclusions

9.1 Introduction

Study one examines the under-investigated theme of the absence of a link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. It proposes a totally new construct - “the consumer’s emotional corridor”. Study two compares results from self-reported questionnaires and the Human Computer Interface – the Slogan Validator - and evaluates to what extent the signal-based emotion recognition approach can complement traditional emotion research methodology.

The key purposes of this final chapter are to present a brief summary of this research. To recap, the current chapter starts with an overview of the themes of emotions in advertising, slogan related research, the consumer’s emotional corridor and research methodology in emotion research and presents key gaps in theoretical and methodological perspectives (Section 9.2). In response to Chapter 5, an overview of the proposed research hypothesis is conducted and presented at the end of the “Discussion of Research Findings in Study One”. This project concludes by providing a detailed discussion of the overall research findings of study one and study two (Section 9.3), presenting theoretical and methodological research contributions (Section 9.4), and discussing the implications of the research (Section 9.5). Finally, it provides a detailed account of the limitations of this research and proposes possible directions for further academic work (Section 9.6).

9.2 Overview of Themes and Identified Research Gaps

This research has identified research problems and gaps both in the theoretical (Chapter 2 and 3) and methodological perspectives (Chapter 4). Summaries of themes and the identified research gaps are illustrated in two separate sub-sections: theoretical gaps and methodological gaps.

9.2.1 Overview of Themes and Identified Theoretical Research Gaps

The situation of emotion in advertising and consumer behaviour literature has changed since the 1980s, initiated by Zajonc's (1980) study (Poels and Dewitte, 2006). Neuroscience researchers (e.g., Damasio, 1994; LeDoux, 1994) further contributed to bringing about the general consensus that emotions are important elements for rational decision-making behaviour (Poels and Dewitte, 2006). Based on the above views, advertising and marketing researchers have emphasised the momentous character of emotion in decision-making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimlerl, 2007). Consequently, it is clear that emotions govern cognition and require to be treated as the main feature in the advertising process. Investigating the role emotion plays in advertising slogans is indispensable. Particularly, how do consumers' emotional responses to advertising slogans influence advertising effectiveness? This needs to be addressed in the advertising literature in order to uncover the role and nature of emotions elicited by advertising slogans and their influence on the development of advertising effectiveness.

In addition, the review of literature on emotion research indicates that the study of mixed emotions, continuous emotions and continuous measures of emotions have become attractive to researchers because of their importance. Outside the laboratory, experiencing a single emotion is comparatively rare compared with experiencing two or more emotions (Folkman and Lazarus, 1985; Polivy, 1981; Schwartz and Weinberger, 1980). Most advertising contains elements of considerable feelings and heavy repetition (Aaker, Stayman, and Hagerty, 1986). Neuroscience has revealed that emotional and memory systems are dynamic and subject to change (DuPlessis, 2006; LeDoux, 1989, 1994; Marci, 2006). Continuous measurements of emotional feelings become essential to conceptualise emotions as fluid processes instead of fixed states. Thus, in recent years, the continuous measure of consumers' responses to advertisements has been attracting the attention of numerous advertising researchers.

Moreover, a vital feature overlooked by the non-cognitive approaches is that emotions involve evaluations. Evidence from neuroscience shows that emotional centres closely interact with the cognitive centres of the brain and receive information prior to and affected by cognitive processing and behaviour (DuPlessis, 2006; Marci, 2006). Bagozzi, Gopinath, and Nyer (1999) and Johnson and Stewart (2005) affirmed that the cognitive appraisal

approach demonstrates great potential for pursuing the study of emotions from marketing perspectives. Moreover, there is increasing agreement that appraisals are one of the essential underlying instruments of the component approach to emotion (Frijda, 2007a, 2007b; Scherer, 2005, 2007, 2009). Researchers (e.g., Bagozzi, Gopinath, and Nyer, 1999; Roseman, 1991; Johnson and Stewart, 2005) have suggested that the cognitive appraisal approach can obtain a more detailed insight into the impact of specific emotions. The cognitive appraisal approach uses emotions' fundamental motivational and evaluative origins to explain their influences on consumption-related behaviours. Based on the above, it is apparent that the cognitive appraisal approach can offer a more comprehensive way of explaining the minor differences between emotions, and it is better suited than the other approaches such as categories approach and dimensions approach (see Chapter 2, Section 2.4 for details) to explaining emotions. Even if emotions have been shown to have considerable effects on consumer behaviour, the cognitive appraisals linked to mixed emotions have been under-investigated. A circumstance of mixed emotions indicates that the appraisal pattern for one emotion may be dominant, but not quite as clear as in a situation of one, single unmixed emotion (Ortony, Clore, and Collins, 1988; Ruth, Brunel, and Otnes, 2002). One emotion may be dominant over the other, instead of conflicting emotions being experienced in equivalent intensity. Psychology researchers (e.g., Bower and Cohen, 1982; Clark, 1982; Davidson, Ekman, Saron, Senulis, and Friesen, 1990; Izard, 1972; Polivy, 1981; Schwartz, 1990; Schwartz and Weinberger, 1980) have argued that dominant as well as the non-dominant emotions are triggered by a stimulus which is fixed in memory and becomes associated with the representation of the stimulus itself. Derived from this, there is a missing link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion.

To a large extent slogan-related research has examined effects associated with issues concerning how to make a slogan memorable, brand awareness, and relationships between consumer demographic characteristics and slogan learning and assessment. There is no slogan-related work modelling consumers' emotional responses to advertising slogans and their effects on advertising effectiveness in the literature. This research is the first study to model how consumers' emotional responses to advertising slogans affect advertising effectiveness by integration with the new theoretical research construct: the consumer's emotional corridor. Moreover, all the slogan-related studies were conducted in Western countries, either in America, Canada, Australia or in Europe; there has been no research conducted from the Eastern perspective. This research is the first slogan-related research

conducted in an Asian country-Taiwan and tests slogans in Mandarin Chinese, which is one of the most widely spoken languages in the world. Hence, this research aims to fill the theoretical research gaps identified above with the intention of making a significant theoretical contribution.

9.2.2 Overview of Themes and Identified Methodological Research Gaps

A review of the literature on the different measurement methods used in emotion research reveals that the major disadvantage of self-reported measurements is its significant limitation referred to as "cognitive bias", as the validity of self-reported measurements for measuring emotions is regularly affected by cognitive aspects (Chamberlain and Broderick 2007; Dennett 1991; Frijda, Markan, Sato, and Wiers 1995; Hazlett and Hazlett 1999; Ortony, Clore, and Collins 1988) or social desirability constraints (King and Bruner 2000). Physiological measurements can conquer this problem as they can measure emotional responses beyond the participants' control (Chamberlain and Broderick 2007; Hupp et al., 2008; Poels and Dewitte, 2006; Wang and Minor, 2008). Several researchers have highlighted the demand for measuring emotion to go beyond self-reported measurements (Bagozzi, Gopinath, and Nyer 1999; Chamberlain and Broderick 2007; Hupp et al., 2008; Poels and Dewitte, 2006; Wang and Minor, 2008). Given the significance of emotions in the advertising process, accurate measurement of emotions is crucial. However, measuring emotions is understandably difficult; the available literature is unclear as to which measurement instrument can produce the most accurate results. Emotional responses to advertising have been measured in numerous ways (Bagozzi, Gopinath, and Nyer 1999). Psychophysiological measurements have a number of advantages over self-reported measurements - they are more objective and can capture emotions when they are taking place (Hupp et al., 2008). Thus, it is essential to complement other psychophysiological measures with self-reported measures to access both the conscious and subconscious experiences of the consumers.

Despite the fact that psychophysiological measurements have several advantages over self-reported measurements; experimental studies in marketing and advertising using psychophysiological measures such as heart rate, electrodermal analysis, facial expression and brain imagining analysis still have several applicability, validity, and reliability

problems. Voice pitch analysis has as at least two clear advantages over other psychophysiological techniques in marketing research. First, rather than cumbersome equipment, the experimental process only needs oral responses and audio recording equipment. Second, since the recording equipment is not obvious and intrusive, participants are less likely to be affected by controlled and unnatural experimental settings (Klebba, 1985).

Human computer interaction is the study of interaction between people (users) and computers. It is considered to be the intersection of computer science, behavioural sciences, design and other domains of study. Interaction between users and computers occurs at the user interface, which includes both software and hardware. The human computer interface is the aggregate of means by which the users interact with a particular machine, device, computer program or other complicated tool. Vocal aspects of communicative messages can reveal non-verbal information; for example, the emotional state, the regional accent, age, gender, personal identity and the health of the speaker (Ohala, 1996). However, there have been very few attempts to develop computer-based tools specifically to support evaluation of advertising slogans. This is chiefly because few computer scientists take part in marketing research and, more specifically, advertising slogan research. Moreover, it is hard to find any researchers who employ voice recognition technique in marketing literature. As mentioned previously, questionnaire analysis is the most common method of evaluating slogans as it is easy to conduct and cost effective. Signal-based evaluation tools address some of the constraints of the self-reported measurements. For example, it is possible to capture and analyse speech signals of slogans and elicit emotions from the signal data. This is a more natural means than analysing recalled emotional responses data from self-reported questionnaires.

Therefore, this research suggests an alternative method: the Slogan Validator, which is a human computer interface developed by researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan. It can recognise five basic emotions, happiness, anger, sadness, boredom, and neutral (no emotion) of Mandarin speech. The work of these researchers has been published in numerous international journals, and has been highly acclaimed in their field (please see Appendix 2). Thus, this research seeks to fill the identified research gaps: several marketing researchers (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; Lee, Broderick, and Chamberlain 2007; Oatley 1992) stated the necessity of measuring emotions to go beyond self-reported

measurements and called for collaboration with other research fields to advance consumer behaviour research in the study of emotion. Published material since the 1980's related to voice pitch analysis in marketing studies is scarcely to be found (Wang and Minor, 2008). This research is the first study to collaborate with researchers in the field of human-computer interaction and to analyse consumers' voices for emotion in marketing literature; and the first one to employ a novel method, namely, the Slogan Validator.

9.3 Discussion of Research Findings

The purposes of this research are twofold: firstly, to explore the role and nature of emotions elicited by advertising slogans and their impact on the development of advertising effectiveness (see study one below); secondly, to evaluate whether or not the signal-based emotion recognition (human-computer interface) technique can complement traditional research methodology (e.g., semi-structured interviews, focus groups, survey research method dealing with self-reported measurements, phenomenological research based on psychophysiological measures) in order to increase the overall effectiveness of advertising copy strategy and achieve both theoretical and methodological contributions (see study two below).

9.3.1 Study One

The aim of study one is to investigate the variables which are most important in the different stages of advertising effectiveness, namely, attitude towards the advertisement, attitude towards the brand and purchase intention. From the results of multiple regression analysis, it can be seen that a variety of determinants have a significant influence on the development of advertising effectiveness. These determinants contain cognitive appraisals (outcome desirability, value and certainty, novelty and pleasantness), cognitive involvement, affective involvement, dominant emotions (joy and pride), and the interaction between attitude towards the advertisement and attitude towards the brand. In this study, there exist some differences in the types of determinants and their degree of influence on the attitude towards the advertisement, the attitude towards the brand and the purchase

intention in four slogan cases (McDonald's, KFC, Lexus and Volvo) (Tables 9.1, 9.2, 9.3 and 9.4).

Table 9.1 Regression Results: Dependent Variable-Attitude towards the Advertisement

McDonald's	KFC	Lexus	Volvo
Adjusted R Square=0.321	Adjusted R Square=0.252	Adjusted R Square=0.418	Adjusted R Square=0.399
F***	F***	F***	F***
(+) M Cog (outcome desirability)***	(+) K Cog (outcome desirability)***	(+) L Cog (outcome desirability)***	(+) V Cog (outcome desirability)***
(+) Joy***	(+) K Cog (novelty)**	(+) Pride***	(+) Joy**
(+) Affective involvement factor**	(+) Affective involvement factor**	(+) Joy**	
		(+) Cognitive involvement factor*	

Significance at p ***<.001 **<.01 *<.05

Table 9.2 Regression Results: Dependent Variable-Attitude towards the Brand

McDonald's	KFC	Lexus	Volvo
Adjusted R Square=0.334	Adjusted R Square=0.209	Adjusted R Square=0.278	Adjusted R Square=0.378
F***	F***	F***	F***
(+) M Cog (value & certainty)*	(+) K Cog (outcome desirability)***	(+) L Cog (outcome desirability)***	(+) V Cog (outcome desirability)***
(+) Cognitive involvement factor***	(+) Affective involvement factor**	(+) L Cog (pleasantness) **	(+) Joy*
(+) M Cog (outcome desirability)*			
(+) Joy*			
(+) M Cog (novelty)*			

Significance at p ***<.001 **<.01 *<.05

Table 9.3 Regression Results: Dependent Variable-Purchase Intention

McDonald's	KFC	Lexus	Volvo
Adjusted R Square=0.477	Adjusted R Square=0.403	Adjusted R Square=0.123	Adjusted R Square=0.227
F***	F***	F***	F***
(+) Affective involvement factor ***	(+) K Cog (outcome desirability)***	(+) L Cog (outcome desirability) **	(+)V Cog (outcome desirability)
(+) M Cog (outcome desirability)***	(+) Affective involvement factor***	(+) L Cog (pleasantness)*	(+)V Cog (novelty)
(+) Cognitive involvement factor**			
(+) Joy*			

Significance at p ***<.001 **<.01 *<.05

Table 9.4 Regression Results: Final Models before Any Transformation (Dependent variable-Purchase Intention)

McDonald's	KFC	Lexus	Volvo
Adjusted R Square=0.504	Adjusted R Square=0.445	Adjusted R Square=0.210	Adjusted R Square=0.319
F***	F***	F***	F***
(+) Affective involvement factor***	(+) avKAd X avKBr***	(+) avLAd X avLBr***	(+) avVAd X avVBr
(+) M Cog (outcome desirability)***	(+) K Cog (outcome desirability)***		
(+) avMAd X avMBr***	(+) Affective involvement factor***		
(+) Cognitive involvement factor**			

Significance at p ***<.001 **<.01 *<.05

The cognitive appraisal-outcome desirability appears in all the sixteen models with the exception of Lexus' and Volvo's final models. Furthermore, despite the Lexus' and Volvo's final models, this variable plays the key influential role on the dependent variable in all the models, with the exception of the attitude towards the brand of the McDonald's model and McDonald's final model (see Chapter 8, Section 8.2.6 for details). In other words, the cognitive appraisal-outcome desirability variable's dominant position in terms of explaining the dependent variables stays unchanged across all sixteen models, with the exception of four models, with it dropping to the second most important variable (after the cognitive involvement factor) on the attitude towards the brand of the McDonald's model and dropping to the third most important variable (after the interaction variable between attitude towards the advertisement and attitude towards the brand and the affective involvement variable) on the McDonald's final model. In the Lexus and Volvo final models, it does not have significant impact. Moreover, the interaction variable between attitude towards the advertisement and attitude towards the brand (avAd*avBr) proves their significant influence on all four final models. Interestingly, the interaction variable between attitude towards the advertisement and attitude towards the brand (avAd*avBr) is the only significant explanatory variable in the Lexus and Volvo final models.

Overall, the findings seem to suggest that, among the variables tested in study one, the cognitive appraisal-outcome desirability variable performs the best in explaining the attitude towards the advertisement, attitude towards the brand and purchase intention in four slogan cases (McDonald's, KFC, Lexus and Volvo). As noted earlier, the cognitive appraisal-outcome desirability variable includes determinants such as pleasantness, appeal, desirability, value and reliability features. The findings suggest that the more consumers

evaluate the slogan as pleasant, appealing, desirable, valuable and reliable, the more likely it is that they will have favourable attitudes towards the advertisement, favourable attitudes towards the brand, and purchase intention. In other words, consumers prefer slogans which give rise to enjoyable, pleasant, appealing, desirable, valuable and reliable feelings and so are much more likely to buy products associated with such slogans. Cognitive appraisal theorists believe that emotions are elicited from a subjective appraisal of the circumstances and that it is not the actual situation that produces emotions, but the psychological appraisal (Lazarus, 1991; Ortony, Clore, and Collins, 1988; Roseman, 1991; Scherer, 2001) and cognitive appraisals are believed to be interpretations of situations relating to the possible influence on one's well-being (Bagozzi, Gopinath, and Nyer, 1999). Therefore, when the participants perceive that slogans are reaching their goals and outcome desirability, they have a favourable attitude towards the advertisement, towards the brand, and towards the purchase intention of McDonald's, KFC, Lexus and Volvo. This finding supports previous researchers' findings (e.g., Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005; Watson and Spence, 2007) that the outcome desirability refers to the initiatory cognitive appraisal of whether the outcome of circumstances is good or bad regarding personal well-being. This is commonly agreed to be the main critical appraisal of stimuli.

Moreover, the affective involvement variable has a positive impact on the fast food chains (low involvement) models but does not have any notable influence on the car sales (high involvement) models. More specifically, in the fast food chains group, the affective involvement variable is found to be significant in seven out of eight models. However, in the car companies group, the affective involvement variable does not have any significant influence on any of the eight models. Interestingly, in the fast food chains group, the cognitive involvement variable is also found to have a significant influence on McDonald's attitude towards the brand model, McDonald's purchase intention model and McDonald's final model. In addition, in the car companies group, the cognitive involvement variable is found to significantly affect only the attitude towards the advertisement of Lexus model. Compared to the fast food chains group, Lexus is a car company which sells luxury automobiles; thus it belongs to a high involvement product (Zaichkowsky, 1987). High involvement products require a thinking or cognitive orientation; on the other hand, low involvement products generally go well with affective appeal (Engel and Blackwell, 1982). Hence, overall, the affective involvement variable has more influential power than the cognitive involvement variable in the low involvement group (McDonald's and KFC).

Conversely, in the high involvement group, (Lexus and Volvo), the cognitive involvement variable appears significant in only one out of eight models, while the affective involvement variable does not appear to have any significant influence. Therefore, these results are partly supported by Petty and Cacioppo's (1981, 1986) research findings. This is particularly true in the models of the low involvement group (see Chapter 8, Section 8.2.6.17 for details). However, the results are contradictory to those of Morris, Woo and Singh (2005), who found that the emotional feature is as important as the cognitive feature in both the peripheral and central routes of information processing.

The demographic variable of gender is not shown to have any significant influence in any models. Study one collected data from the night market, which is a real purchase environment. These results provide empirical support to previous researchers' findings (e.g., Barrett, Robin, Pietromonaco, and Eyssell, 1998; Kring and Gordon, 1998; Robinson and Clore, 2002) who stated that in a fresh exposure situation the freshness of the emotional experience will be so overwhelming that 'gender difference' will disappear. However, the results are contradictory to those of other researchers (e.g., Becht and Vingerhoets, 2002; Bradley, Codispoti, Sabatinelli, and Lang, 2001; Morre, 2007) who claimed that female respondents had stronger emotional responses.

In terms of emotions, pride and joy are two emotions which are found to have a positive influence on some of the models. These results are in line with studies (e.g., De Pelsmacker, Decock, and Geuens, 1998; Faseur and Geuens, 2006; Janssens and De Pelsmacker, 2005; Kamins, Marks, and Skinner, 1991; Martensen, Gronholdt, Bendtsen, and Jensen, 2007; Shapiro, MacInnis, and Park, 2002) asserting that there is a positive relationship between positive emotion and advertising effectiveness. More specifically, joyful emotion is positively significant in all McDonald's models, with the exception of the final model. Joyful emotion is positively significant in Volvo's attitude towards the advertisement and attitude towards the brand models. According to Bagozzi, Baumgartner, and Pieters (1998), happiness, gladness, and satisfaction are instances of joy. Joy is an emotional state that can lead to and enhance satisfaction (Kuenzel and Yassim, 2007). Madrigal (1995) stated that enjoyment had a stronger connection with satisfaction. Therefore, the slogan of McDonald's: "McDonald's is all for you!" and the slogan of Volvo: "Which of you deserves a Volvo?" result in the creation of joyful emotions for the participants. Pride and joy are found to have positive effect on the attitude towards the advertisement model in the case of Lexus. It is believed that having a luxury car produces

an emotion of pride in car owners. Pride concerns feelings of superiority (Laros and Steenkamp, 2005), and feelings of pride reinforce one's ego and sense of achievement. The regulation of pride is fundamentally linked to the regulation and maintenance of self-esteem and achievement. Pride is the emotion that generates self-esteem (Browan and Marshall, 2001). The emotion of pride can increase an individual's self-esteem and cause him/her to be valued by others (Tracy and Robins, 2004). Therefore, it is commonly believed that having a luxury car gives the car owner high self-esteem and prestige. It is always advantageous for advertising slogans of luxury automobiles to elicit the pride emotion for consumers. Lexus is a famous, expensive, luxury car brand in Taiwan. Hence, the slogan of Lexus: "Pursuing perfection nearly to a fault!" generated emotions of pride and joy in participants. However, the slogan of Kentucky: "All in Kentucky is delicious!" did not create any significant dominant emotion for the participants.

Furthermore, the interaction variable between attitude towards the advertisement and attitude towards the brand ($avAd*avBr$) was used as an explanatory variable in the four final models of McDonald's, KFC, Lexus and Volvo. The interaction variable between attitude towards the advertisement and attitude towards the brand ($avAd*avBr$) indicated a significant positive impact on all four final models. The beta values are 0.275, 0.336, 0.462 and 0.568 in the McDonald's, KFC, Lexus and Volvo final models respectively (Chapter 8, Section 8.2.6.2). Interestingly, the interaction variable between attitudes towards the advertisement and attitudes towards the brand ($avAd*avBr$) is the only significant explanatory variable in the Lexus and Volvo final models, although other explanatory variables such as cognitive appraisals, product involvement, and emotions of pride and joy do not have a significant impact on the Lexus and Volvo final models. However, explanatory variables such as the cognitive appraisal-outcome desirability variable, the cognitive appraisal-pleasantness variable, the cognitive appraisal-novelty variable, emotions of pride and joy are found to be positive and significant in the situation where attitude towards the advertisement or attitude towards the brand functions as response variables. This can be explained by Lexus and Volvo belonging to a high involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985); affective factors do not seem to have any significant impact on their final models. This study considers that the cognitive appraisal-related variables and positive emotions (e.g., pride and joy) function as gatekeepers in the preliminary stage of advertising effectiveness, and contribute to favourable attitudes towards the advertisements and favourable attitudes towards the brand for Lexus and Volvo. This process, through the interaction between attitude towards the

advertisement and attitude towards the brand (avAd*avBr), results in favourable attitudes towards purchase intention for Lexus and Volvo in their final models.

Outcomes of repeated measures analysis verify the dynamic nature of the consumers' emotional responses to the advertising slogan. However, gender and interaction between participants' gender and number of times of saying slogans out loud do not achieve statistical significance. Because study one gathered data from the night market which is in the real purchase environment, the findings support previous researchers (e.g., Barrett, Robin, Pietromonaco, and Eyssell, 1998; Kring and Gordon, 1998; Robinson and Clore, 2002), who claimed that the disappearance of the gender difference is attributable to the fresh exposure circumstances causing an overwhelming emotional experience. However, the results are contradictory to those researchers (e.g., LaFrance and Hecht, 2000; Morre, 2007) who asserted that female individuals normally had stronger emotional reactions.

According to the above summarised research findings, study one indicates that the key determinants of advertising effectiveness are cognitive appraisals related variables, especially the cognitive appraisal-outcome desirability variable. Advertising and marketing researchers have emphasised the significant nature of emotion in decision-making and consumer behaviour (Ambler, Ioannides and Rose, 2000; Ambler and Burne, 1999; Du Plessis, 2005; Hall, 2002; Haimeri, 2007) over the past two decades. In addition, an important feature overlooked by the non-cognitive approaches is that emotions involve appraisals. Evidence from neuroscience proved that emotional centres interact closely with the cognitive centres of the brain and receive information prior to and affected by cognitive processing and behaviour (DuPlessis, 2006; Marci, 2006). The cognitive appraisal approach shows great potential for pursuing the study of emotions from marketing perspectives (Bagozzi, Gopinath, and Nyer, 1999; Johnson and Stewart, 2005). Moreover, there is increasing agreement that appraisals should be considered as one of the essential underlying instruments in the component approach to emotion (Frijda, 2007a, 2007b; Scherer, 2005, 2009). In the advertising and marketing literature, mixed emotions have been revealed to have considerable influence (e.g., Larsen, McGraw, and Cacioppo, 2001; Ruth, Brunel, and Otnes, 2002), but the cognitive appraisals linked to mixed emotions have not been fully investigated (Ruth, Brunel, and Otnes, 2002). Thus, these findings go beyond previous research to link the cognitive appraisals and mixed emotions, finding that the cognitive appraisal-outcome desirability is the dominant determinant variable on the development of advertising effectiveness. Furthermore, when the interaction between

attitude towards the advertisement and attitude towards the brand (avAd*avBr) variable worked as an explanatory variable, this interaction variable: avAd*avBr is the main determinant variable on the purchase intention response variable in all the four final models but one, where it dropped to the second most important variable (after the cognitive appraisal-outcome desirability).

Although the OLS regression results for four final models indicate that the adjusted R² and F values are comparatively satisfactory (Table 9.4), we do not know if the models correctly reflect the relationship between the variables or if they can be improved. Since R statistical analysis software has a more powerful data transformation function than SPSS, study one employed R statistical analysis software to carry out this task. However, on the whole, employing data transformation did not significantly improve the final models (Table 9.5). Therefore, the application of the data transformation supports the understanding that the original models based on the untransformed data are the best decisions under the present circumstances, as the data transformation did not produce significant improvement.

Table 9.5 Regression Results: Final Models after Transformation (Dependent variable- Purchase Intention)

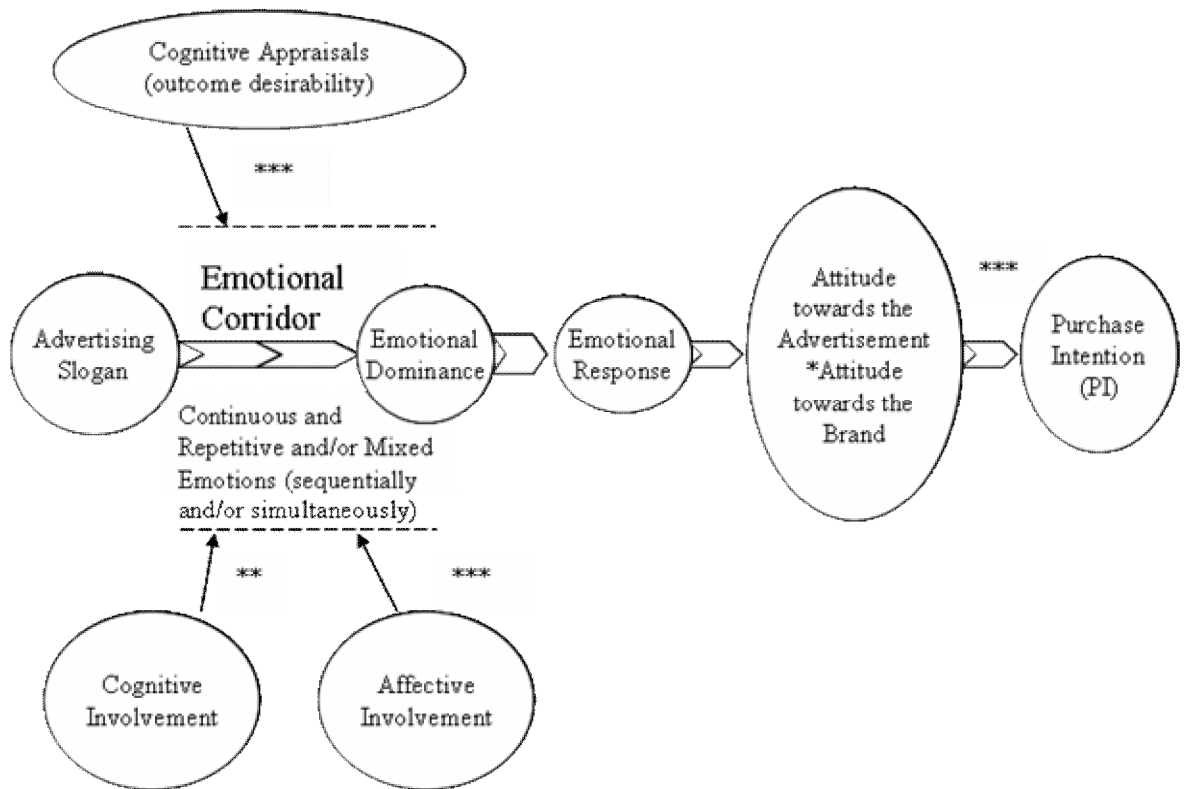
McDonald's	KFC	Lexus	Volvo
transforming explanatory variables	transforming explanatory variables	transforming response and explanatory variables	transforming explanatory variables
Adjusted R Square=0.524	Adjusted R Square=0.448	Adjusted R Square=0.220	Adjusted R Square=0.321
F***	F***	F***	F***
(+) Affective involvement factor***	(+) avKAd X avKBr***	(+) avLAd X avLBr***	(+) avVAd X avVBr
(+) M Cog (outcome desirability)***	(+) K Cog (outcome desirability)***		
(+) avMAd X avMBr***	(+) Affective involvement factor***		
(+) Cognitive involvement factor**			

Significance at p ***<.001 **<.01 *<.05

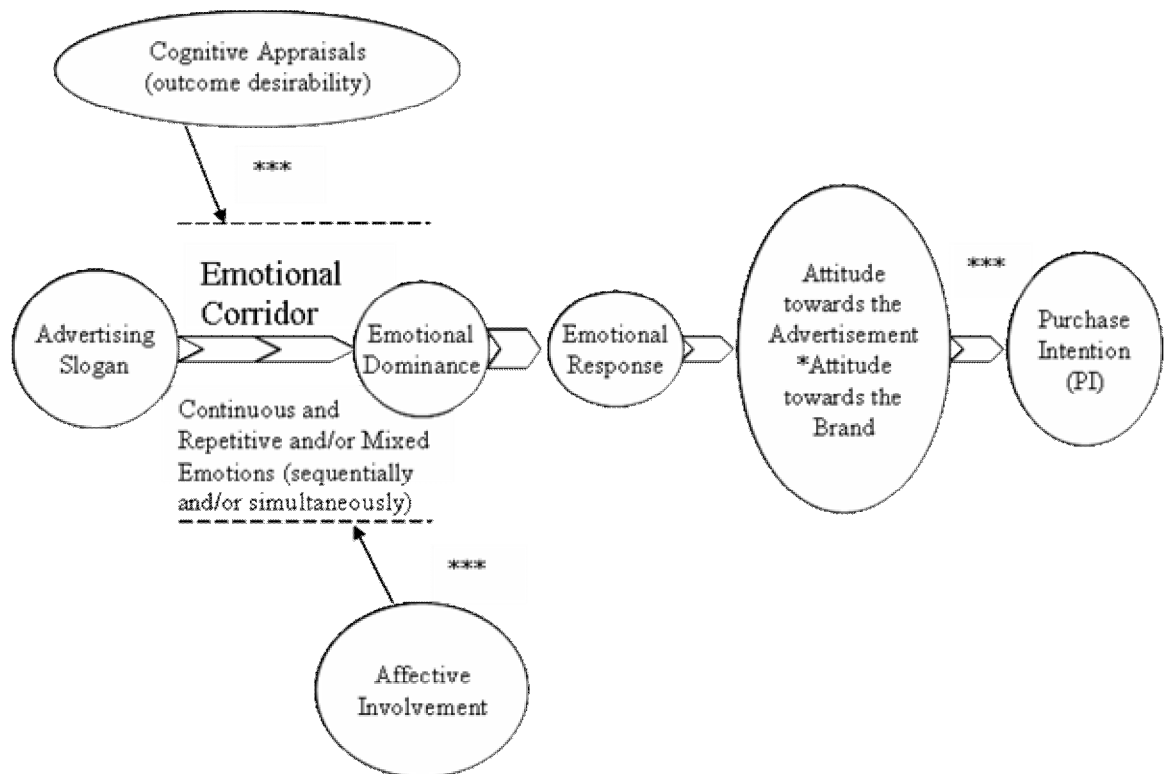
Figures 9.1 (McDonald's Final Model), 9.2 (KFC Final Model), 9.3 (Lexus Final Model) and 9.4 (Volvo Final Model) below illustrate the overall conclusions of study one in terms of the proposed research conceptual model. In addition, all the above results are generated from the regression modelling and repeated measures data analysis. With the intention of

providing a clear overview of the generalised research results given above, the test results of all the proposed hypotheses in Chapter 5 are presented in Table 9.6.

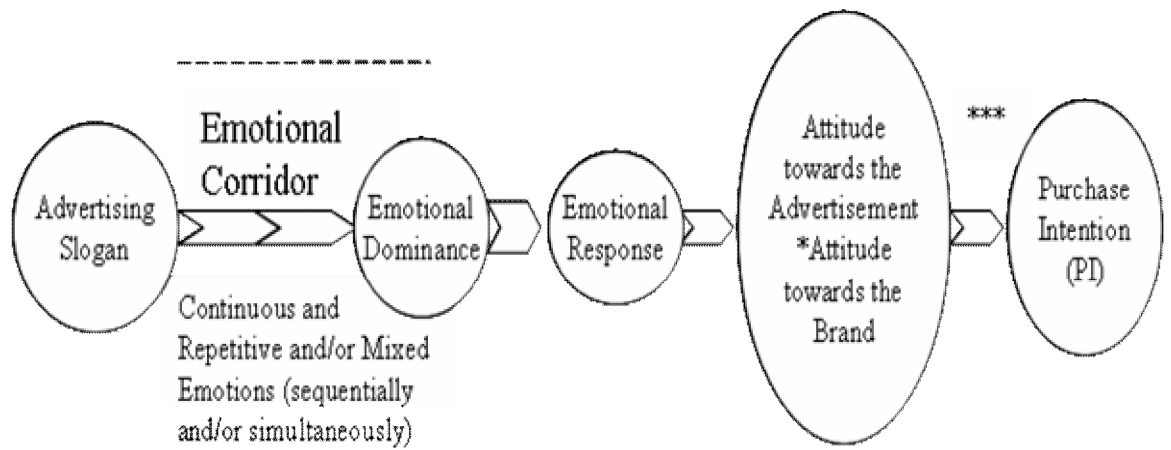
Overall, the main determinants of advertising effectiveness are cognitive appraisals related variable-outcome desirability, the affective involvement variable in the low involvement group (McDonald's and KFC) and the dominant emotions (joy and pride). As mentioned earlier, the cognitive appraisal-outcome desirability variable comprises features such as pleasantness, appeal, desirability, value and reliability. In addition, the interaction variable between attitude towards the advertisement and attitude towards the brand (avAd*avBr) was utilised as an explanatory variable in the four final models of McDonald's, KFC, Lexus and Volvo. The interaction variable between attitude towards the advertisement and attitude towards the brand (avAd*avBr) is shown to have a significant positive impact on all four final models. Furthermore, the interaction variable between attitudes towards the advertisement and attitudes towards the brand (avAd*avBr) is the only significant explanatory variable in the Lexus and Volvo final models. Despite the fact that other explanatory variables such as cognitive appraisals, involvement, and emotions of pride and joy are not shown to have significant effect on Lexus' and Volvo's final models, explanatory variables such as the cognitive appraisal-outcome desirability variable, the cognitive appraisal-pleasantness variable, the cognitive appraisal-novelty variable, and emotions of pride and joy are found to be positive and significant in a situation where attitude towards the advertisement or attitude towards the brand functions as response variables in the cases of Lexus and Volvo. As noted earlier, Lexus and Volvo belong to a high involvement product group (Lastovicka and Gardner, 1978; Zaichkowsky, 1985). Affective-related factors do not have any significant effect on the final models of the high involvement group. However, cognitive appraisal-related variables and positive emotions (e.g., pride and joy) function as doorkeepers in the preliminary phase of advertising effectiveness and result in favourable attitudes towards the advertisements and favourable attitudes towards the brands for the high involvement group: Lexus and Volvo. Subsequently, this development process, through the interaction between attitude towards the advertisements and attitude towards the brands (avAd*avBr), leads to favourable attitudes towards purchase intention for Lexus and Volvo in their final models. Therefore, it can be concluded that results of study one reveal that affective-related factors play the most critical role in the advertising process in both the low and the high involvement groups.



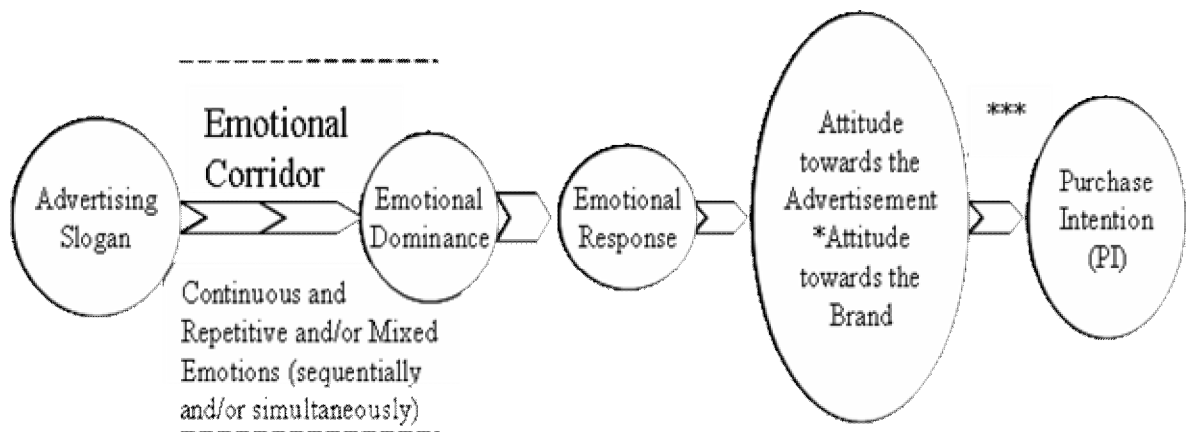
Significance at p ***<.001 **<.01 *<.05
 Figure 9.1: McDonald's Final Model



Significance at p ***<.001 **<.01 *<.05
 Figure 9.2: KFC Final Model



Significance at p ***<.001 **<.01 *<.05
 Figure 9.3: Lexus Final Model



Significance at p ***<.001 **<.01 *<.05
 Figure 9.4: Volvo Final Model

Table 9.6: Hypotheses Test Results of the Study One

Hypothesis	Description	McDonald's			KFC			Lexus			Volvo		
		Aad	Ab	PI	Aad	Ab	PI	Aad	Ab	PI	Aad	Ab	PI
H1cognitive appraisals1	Positive emotions and their associated appraisals will have a positive effect on attitudes towards the advertisement.	S	S	S	S	S	S	S	S	S	S	S	S
H1cognitive appraisals2	Positive emotions and their associated appraisals will have a positive effect on attitudes towards the brand	S	S	S	S	S	S	S	S	S	S	S	S
H1cognitive appraisals3	Positive emotions and their associated appraisals will have a positive effect on purchase intention.	S	S	S	S	S	S	S	S	S	S	S	S
H2product involvement1	The level of product involvement has a negative relationship with the preference of emotional appeals.	S	S	S	NS	NS	NS	NS	S	S	NS	NS	S
H2product involvement2	The level of product involvement has a positive relationship with the preference of cognitive involvement.	S	NS	NS	S	S	S	S	NS	NS	NS	NS	NS
H2product involvement3	The level of product involvement has a negative relationship with the preference of affective involvement.	S	NS	S	S	S	S	S	S	S	S	S	S
H3gender	Gender difference will have a significant effect on the consumers' emotional responses to advertising slogans.	NS			NS			NS			NS		
H4emotional responses	The greater the repetition of exposures, the higher the variability of consumers' emotional responses.	S			S			S			S		
H5 Aad	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the advertisement (Aad).	S			NS			S			S		
H6 Ab	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of attitudes towards the brand (Ab).	S			NS			NS			S		
H7 PI	Consumers' emotional responses to the advertising slogan have a positive relationship with the likelihood of purchase intention (PI).	S			NS			NS			NS		
H8 Aad&Ab	Attitude towards the advertisement (Aad) has a positive effect on attitude towards the brand (Ab).	S			S			S			S		
H9 Ab&PI:	Attitude towards the brand (Ab) has a positive effect on purchase intention (PI).	S			S			S			S		
Aad=Attitudes towards the advertisement , Ab=Attitudes towards the brand, PI=Purchase intention S=Support, NS=Not support													

9.3.2 Study Two

The aim of study two is to compare the difference between self-report questionnaires and the Slogan Validator. This study initiated the cooperation with researchers from the human-computer interaction field to analyse consumers' voices for emotion in advertising research; more specifically, advertising slogan research. Moreover, this study launched the employment of a novel method, namely, the Slogan Validator, in advertising research. All these efforts aim to assess to what extent the signal-based emotion recognition approach can complement traditional research methodology and to make methodological contributions to emotion research in the advertising literature.

Results of the paired samples T test shows that the results of the self-report questionnaires and the Slogan Validator are almost entirely different, except for the happy emotion in the cases of McDonald's and KFC. Although the finding is not as expected, it is not entirely surprising, and can be explained as follows. The Slogan Validator can only measure five basic emotions: happiness, sadness, anger, boredom and neutral. As happiness is the overall key emotion in the slogans of McDonald's and KFC, it would be easy for the Slogan Validator to capture the 'happiness' emotion. On the other hand, 'happiness' is not the key emotion of the Lexus and Volvo slogans (see Chapter 8, Section 8.3.1 for details). However, consumers' emotional responses to advertising slogans are much more complex than the five basic emotions listed above and therefore it will be difficult for the Slogan Validator to capture emotions entirely accurately.

In addition, previous researchers (e.g., Baggett, Saab, and Carver, 1996; Beidel, Turner, and Dancu, 1985; Bernstein, Borkovec, and Coles, 1986; Calvo and Cano-Vindel, 1997; Calvo and Eysenck, 1998; Craske and Craig, 1984; Newton and Contrada, 1992) have revealed that there exist discrepancies in subjective and objective measures. For instance, researchers (Calvo and Cano-Vindel, 1997; Newton and Contrada, 1992) found that highly anxious people expressed considerable increases in distress in the self-reported records, but only modest increases were shown in actual heart rate and diminution in skin resistance. Calvo and Eysenck (1998) compared subjective (self-report) and objective (heart rate, cardiovascular and biochemical measures) measures on the same scale and disclosed evidence of discrepancy between these two measures. Their results indicated that highly anxious people usually reported disproportionately greater concerns than there were real

problems. Conversely, individuals with low levels of anxiety usually minimised distress (with lower self-reported records than real problems). Therefore, the discrepancy of subjective and objective measures has been identified by many previous researchers. Hence, it is not surprising that the results of study two disclosed the incongruity between subjective and objective measures. More specifically, incongruity exists between self-reported measures and the Slogan Validator measures.

Furthermore, self-reported measurements have suffered from a critical constraint referred to as “cognitive bias” (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Poels and Dewitte, 2006; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Self-reported measurements offer the only entrée to the subjective experience level of emotions. They are usually criticised for inducing rationalisation in respondents and discouraging spontaneous responses (Hupp et al., 2008). Winkielman, Berridge, and Wilbarger (2005) verified the existence of emotions that influence people’s behaviour without being consciously experienced by themselves. Researchers (e.g., Bargh and Chartrand, 1999; Chartrand, 2005; Zaltmann, 2003) stated that individuals are normally not fully conscious of their ways of doing things but rather behave spontaneously in many circumstances and process information automatically. These reasons can offer explanations as to why the results of the self-report questionnaires and the Slogan Validator are almost entirely different, with the exception of the happy emotion in the cases of McDonald’s and KFC.

Moreover, compared with results of the Slogan Validator, the results of the self-report questionnaires reveal that the intensity of mixed emotion is underestimated (see Chapter 8, Section 8.3.1 for details). In general, the results are consistent with study one which reveals that ‘gender’ is not a significant factor. Interestingly, the results of the repeated measures analysis do not verify the dynamic nature of the consumers’ emotional responses to the advertising slogan. This finding is inconsistent with the finding of study one. It can be explained by the following rationale. Study two was conducted in laboratory surroundings which offered a simulated situation and was therefore completely different from study one, which was conducted in a real consumption environment; it would be difficult to elicit respondents’ actual perceptions of emotions in study two. This may be the main reason for the consumers’ emotional responses to the advertising slogans in study one being dynamic in nature, while the consumers’ emotional responses to the advertising slogans in study two are static in nature. As Lazarus (1995) stated, it is usually difficult to evoke emotions

reliably; even if the proper emotion is created, its intensity may be milder than it would be if it occurred in a real situation.

On the whole, from the results of study two, we do not know if the Slogan Validator can complement the traditional emotion research methodology (e.g., semi-structured interviews, focus groups, survey research method dealing with self-reported measurements, phenomenological research based on psychophysiological measures). However, applying the Slogan Validator is an uncomplicated and cheap method compared to other psychophysiological techniques in marketing research. As mentioned previously, the Slogan Validator is a user interface (also known as human computer interface) developed by researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan. Their research has been published in numerous international journals, and their work has received considerable recognition in their field. The Appendix 2 presents some of their publications. As noted earlier, this technique needs only oral responses and audio recording equipment and is therefore comparatively unintrusive. Applying the Slogan Validator is also an easy and cheap method compared to other psychophysiological techniques in marketing research. This research introduced the employment of a novel method in advertising research, namely, the Slogan Validator. Although the technology of the Slogan Validator is still at an early stage, the preliminary results revealed that our approach still sheds light on an avenue that may lead to increased effectiveness of advertising copy strategy.

9.4 Research Contributions

This research will make both theoretical and methodological contributions in several ways. The discussion regarding the research contributions are presented in the following sections.

9.4.1 Theoretical Contributions

This research is the first to develop a new theoretical research construct, the consumer's emotional corridor, providing the missing link between repetitive emotions, mixed emotions, continuous measures of emotions and the dominant emotion. In addressing this gap, the present research deals particularly with examining the dynamic characteristics of the emotional process and the connection between repetitive emotions, mixed emotions and the prevailing emotion. This research argues that it is not appropriate to ask participants only once about their emotional responses to an advertising slogan, as evidence from neuroscience has revealed that emotional and memory systems are dynamic and change from moment to moment (DuPlessis, 2006; LeDoux's, 1989, 1994; Marci, 2006). Continuous measurements of emotional feelings has become essential as theorists have come to conceptualise emotions as fluid processes rather than static states (e.g., Fenwick and Rice, 1991; Larsen, McGraw, Mellers, and Cacioppo, 2004; Scherer, 2009; Stayman and Aaker, 1993) and can help to understand both the nature and effect of specific feelings (Aaker, Stayman, and Hagerty, 1986). Furthermore, although consumers' emotional responses to advertising slogans may include repetitive and/or mixed emotions, their perceptions of emotions may be fuzzy and unclear. However, after lengthening these emotional experiences and reinforcing their emotional states, one dominant emotion will prevail over the other emotions. Therefore, this research conceptualises consumers' emotional responses to advertising slogans as an "emotional corridor" which is fluid and dynamic. The "emotional corridor" has been defined in Chapter 3 as a corridor for emotions to pass through, containing repetitive emotions and/or mixed emotional experiences resulting in the blurring of individuals' emotional perceptions. If the emotional responses are prolonged, the individuals' emotional states will be reinforced and one emotion will become dominant and prevail. With the intention of investigating the consumer's emotional corridor, the techniques of "three-hit-theory" and "projective techniques" were chosen and sentence completion for projective technique was applied. In particular, participants were firstly required to say each slogan out loud three times. Each time after saying the slogan out loud they were asked to report their perceptions of emotions; this process was repeated three times. Subsequently, participants were asked to identify their dominant emotion in relation to the slogan. In other words, the slogan was embedded in three phrases that the participants had to repeat, thus prolonging their

emotions. This was intended to obtain the participant's dominant emotion to the advertising slogan (see Chapter 5, Section 5.3.3.1.3.6 for details). More specifically, the dominant emotion was regarded as the consumer's emotional response and was modelled in the regression models. The main purpose of the applicability of integrating these two techniques ("three-hit-theory" and "projective techniques") was to elicit mixed emotions and the dominant emotion. In general, the majority of the respondents did not appear to have any difficulty in responding to the questionnaires.

This research contributes to the existing literature by establishing the consumer's emotional corridor construct, which appears to be more advantageous for measuring consumers' emotional responses to advertising slogans than any previous researcher's suggestion for overall assessments of continuous measures. For example, some researchers (e.g., Aaker, Stayman, and Hagerty, 1986; Polsfuss and Hess, 1991; and Thorson and Friestad, 1989) calculating the mean score across the advertisement as a sign of overall advertisement assessment was inadequate. The identical or similar mean could be generated by a flat affect pattern and affect curves with positive or negative slopes, although respondents may not assess them in the identical way (Hughes, 1992). The peak-and-end rule (e.g., Fredrickson, 2000; Kahneman, Fredrickson, Schreiber, and Redelmeier, 1990; Larsen and Fredrickson, 1999) is not suitable either, as this study focuses on modelling the consumers' emotional responses to advertising slogans. There are two main points of emotional states in the peak-and-end rule - which one should be chosen as the main one and modelled as an explanatory variable? This is a difficult decision. Identifying positive and negative changes (e.g., Thorson, 1991), or indicating the end point (e.g., Aaker, Stayman, and Hagerty 1986) as a sign of overall evaluation is also challenging. These studies have been criticised because there is a lack of systematic explanation of what affect patterns consumers prefer in advertisements (Baumgartner, Sujan, and Padgett, 1997). Accordingly, this research argues that the consumer's emotional corridor construct provides more rational insights of conceptualising consumers' emotional responses to advertising slogans.

This research not only fills the identified theoretical literature gap by modelling consumers' emotional responses to advertising slogans combined with the new theoretical research construct, the consumer's emotional corridor, and uncovering the determinants of advertising effectiveness from the consumers' emotional responses to advertising slogan perspective, but also reveals that the cognitive appraisal-outcome desirability is the key

variable in explaining the attitude towards the advertisement, attitude towards the brand, and purchase intention in four slogan cases. Furthermore, this research is the first slogan-related research in the advertising literature to be conducted from the Eastern perspective, as it was conducted in an Asian country, Taiwan, and tested the slogans in Mandarin Chinese, which is one of the most widely spoken languages in the world.

Moreover, study one was conducted in a real consumption environment and study two conducted in a laboratory setting. The results of the repeated measures analysis in study one indicate the dynamic nature of the consumers' emotional responses to the advertising slogan; in contrast, the results of the repeated measures analysis in study two appear to show the static nature of the consumers' emotional responses to the advertising slogan. This finding is completely new to advertising literature.

9.4.2 Methodological Contributions

Since the validity of self-reported measurements are frequently affected by cognitive or social desirability concerns, "cognitive bias" is the major limitation for self-reported measurements. In responding to previous researchers (e.g., Babin et al., 1998; Bagozzi, Gopinath, and Nyer 1999; LeDoux, 1996; Oatley 1992) who indicated the need of measuring emotions to go beyond self-reported measurements and called for collaboration with other research fields (Lee, Broderick, and Chamberlain 2007; Cacioppo and Gardner, 1999) to move consumer behaviour research in the study of emotion in the marketing realm forward, the researcher has studied the emotion reflected in the consumers' voice recordings and has collaborated with researchers in the field of human-computer interaction. Furthermore, the Slogan Validator was used for the first time in marketing research.

As mentioned earlier, experimental studies in marketing and advertising using psychophysiological measures such as brain imagining analysis, facial expression, heart rate and electrodermal analysis still suffer several applicability, validity, and reliability problems. Regarding brain imagining analysis, while numerous advertising researchers have noted the importance of keeping in touch with the newest developments in neuroscience (Du Plessis, 2005; Hall, 2002; Vakratsas and Ambler, 1999), employing this

technique needs specific expertise and a longer time period for collecting data and is also very costly. Electroencephalography (EEG), magnetoencephalography (MEG), positron emission tomography (PET), and functional magnetic resonance imaging (fMRI) are all complex techniques. Brain imaging analysis is intrusive for participants and has been increasingly challenged from an ethical viewpoint (Thompson, 2003; Wahlberg, 2004). In relation to facial expression, electrodes put on the participants' faces can make them conscious that their facial expressions are being measured. This awareness may therefore reduce validity. Facial EMG needs to be implemented in an unnatural laboratory environment and can result in concern for ecological validity. Moreover, facial EMG is sensitive to noise and unexpected movements of the participant may reduce reliability (Bolls, Lang, and Potter, 2001). Finally, facial EMG measurement needs to be done individually and is a time-consuming technique (Hazlett and Hazlett, 1999; Poels and Dewitte, 2006). With regard to heart rate, applying heart rate as the only measurement method of emotional response is not suitable, as heart rate changes may occur through various psychological processes. Regarding electrodermal analysis, measuring electrodermal activity (EDA) and analysing EDA need much practice. With the intention of producing accurate results it is best implemented by experts (LaBarbera and Tucciarone, 1995) in well-chosen, suitable, and controlled laboratory settings (Stewart and Furse, 1982). There is great dissimilarity among individuals when measuring physiological reactions such as skin conductance (Ben-Shakhar, 1985). Fatigue, women's menstrual cycle and medication can have an effect on EDA measures (Hopkins and Fletcher, 1994). Since it cannot confirm the direction or the valence of the emotional responses, it only measures arousal that can be either positive or negative in valence (Hopkins and Fletcher, 1994).

On the other hand, human/computer interaction is the study of the interaction between people (users) and computers. Affective computing expands human computer interaction by including emotional communication together with suitable means of handling affective information (Picard, 1997). According to Picard (1997, p.2), the main expert in this field, affective computing "relates to, arises from, or deliberately influences emotions". Affective computing aims at the automatic recognition and synthesis of emotions in speech, facial expressions, or any other biological communication channel. It is a human-factor effort to investigate the values of emotions while individuals are working with human-computer interfaces. The Slogan Validator is a human/computer interface. This is a speech signal-based evaluation tool which can analyse elicited emotions from signal data. Thus, the Slogan Validator can offer a more natural way to analyse individuals' emotional

responses than self-reported measurements. The Slogan Validator still needs to be employed in a laboratory setting like the other psychophysiological techniques. Similar to the facial EMG, it is sensitive to noise. Conducting this technique basically needs oral responses and audio recording equipment; it is a comparatively uncomplicated and unintrusive method, and compared with other psychophysiological techniques it is also a cost effective method in marketing research. More specifically, since the 1980s, published material related to voice pitch analysis in marketing studies is hardly to be found (Wang and Minor, 2008). This research pioneered the employment of a novel method, namely, the Slogan Validator, in voice recognition study in advertising literature.

9.5 Managerial Implications

9.5.1 Study One

The prevalence of the cognitive appraisal-outcome desirability variable in determinants of the attitude towards the advertisement, the attitude towards the brand and purchase intention challenges the research findings of Petty and Cacioppo (1981, 1986). They stated that the elaboration process of advertising data among individuals relies on the level of involvement; on the low involvement levels, individuals are persuaded by heuristic cues, whereas on the high involvement levels, individuals are persuaded by cognitive aspects. This study tested four slogans, two in the group of low involvement, and two in the group of high involvement. The consistent positive influence of cognitive appraisal-outcome desirability on the attitude towards the advertisement, the attitude towards the brand, and purchase intention on four tested slogans indicates that there is a greater chance that consumers will have favourable attitudes towards the advertisement, favourable attitudes towards the brand and even purchase the products when they appraise the slogan as pleasant, appealing, desirable, valuable and reliable, whether or not the product is in the low involvement or in the high involvement group. In other words, regardless of whether the products are in low, middle, or high involvement groups, individuals prefer to consume a product associated with a slogan that can give them enjoyable, pleasant, appealing, desirable, valuable and reliable feelings. Therefore, marketing campaigns can gain outstanding success if they propose a slogan which meets consumers' outcome desirability; more specifically, which can produce in consumers pleasant, appealing, desirable, valuable and reliable feelings.

Overall, the affective involvement variable has a positive significant influential power in the low involvement group: McDonald's and KFC. The affective involvement variable includes items such as 'important', 'relevant', 'exciting', 'appealing', 'fascinating' and 'involving'. Hence, it would be advantageous for marketers who sell low involvement products to design their products so that they can create affective involvement for consumers. More particularly, in the low involvement category, if the slogan produces in potential consumer's feelings of excitement, appeal, fascination and connection with the product, marketers will benefit greatly.

Joy and pride are two emotions which have a positive and significant effect on several attitudes towards the advertisement, attitudes towards the brand, and purchase intention models. More specifically, joy appears to have a more frequent and significant influence than pride. Joy is found to be positively significant across the low involvement group (e.g., McDonald's) and the high involvement group (e.g., Lexus and Volvo). Joy has a stronger link with satisfaction (Bagozzi, Baumgartner, and Pieters, 1998; Madrigal, 1995) and can improve satisfaction (Kuenzel and Yassim, 2007). Thus, creating a joyful emotion embedded in slogans can bring about increasing advertising effectiveness and consumer satisfaction in both low and high involvement products. In addition, pride is found to be positively significant in the Lexus slogan. Lexus cars are generally more expensive than Volvo's, and the lowest priced model of a Lexus car costs about £40,000 in Taiwan. Pride creates and enhances self-esteem (Browan and Marshall, 2001) and may improve people's standing in society (Tracy and Robins, 2004). Designing a slogan which can generate pride in consumers is advantageous for marketers who sell luxury products, particularly luxury automobiles.

The results of this study suggest that the demographic variable of gender does not have a significant effect on individuals' attitudes towards the advertisement and attitudes towards the brand and purchase intention. As a result, this study suggests that proposing a slogan does not require any segmentation in terms of the gender aspect.

The interaction between attitudes towards the advertisement and attitudes towards the brand is found to be an important determinant in purchase intention for the four slogans in their final models. Individuals who scored higher values in the interaction variable tended towards the purchase of products in McDonald's, KFC, Lexus and Volvo. Therefore,

determinants which are found to be significant when the attitudes towards the advertisement works as a dependent variable or the attitudes towards the brand works as a dependent variable, all need to be carefully considered by practitioners. For example, as noted previously, these determinants such as cognitive appraisals (outcome desirability, value & certainty, novelty and pleasantness), cognitive involvement, affective involvement, joy and pride emotions can indicate favoured attitudes towards the advertisement and favoured attitudes towards the brand, resulting in favoured attitudes towards purchase intention. Hence, attitudes towards the advertisement and attitudes towards the brand function may act as governing factors which can guarantee consumers have a preference for buying the advertised products.

9.5.2 Study Two

While the results of study two disclosed the discrepancy between subjective and objective measures, more specifically, a discrepancy exists between self-reported measures and the Slogan Validator measures. According to Marci (2008), many aspects of information processing, emotional processing and learning take place automatically, without direct consciousness, and include comparatively distinct areas of the brain disconnected from language centres. This results in complicating the ability of individuals to report their emotional experiences with accuracy. The fact is that self-reported measurements is the method most widely adopted by practitioners and scholars for measuring emotions (Mehta and Purvis, 2006; Poels and Dewitte, 2006) and they are user-friendly and rapid measures of emotional responses. Moreover, they do not need complicated techniques or programmes and it is a practical method to measure emotional responses to a fairly great set of advertising stimuli. It is generally believed that self-reported measurements experience a serious constraint referred to as “cognitive bias” (Bargh and Chartrand, 1999; Chamberlain and Broderick, 2007; Poels and Dewitte, 2006; Zaltmann, 2003; Winkielman, Berridge, and Wilbarger, 2005). Self-reported measurements are cost-effective and easy, but they inevitably involve a cognitive intervention (Poels and Dewitte, 2006). This finding provides empirical support for the existence of discrepancies between subjective and objective measures. Therefore, this research suggests that for validation objectives, researchers may combine a self-reported measure and a psychophysiological measure to investigate individuals’ emotional response to stimuli. Self-reported measures combined

with psychophysiological measures can also assist in controlling the bias caused by participants' characteristics or environmental disturbances (Wiles and Cornwell, 1990).

Although the technology of the Slogan Validator is still in its early days and it can only measure five primary emotions, signal-based assessment techniques address some of the limitations of the self-reported measures. For example, it is possible to capture and analyse speech signals of advertising slogans and elicit emotions from the signal data and, more particularly, to capture objective measures of consumers' voices of emotional responses elicited by advertising slogans. This is a more natural method of measuring emotions than analysing the recalled data from self-reported measurements. The preliminary results revealed that our approach still sheds light on an avenue leading to increased effectiveness of advertising copy strategy. Particularly, when, in the future, the technology of the Slogan Validator improves so as to have the ability to recognise more emotions and reduce the sensitivity to noise, the Slogan Validator can be designed as a portable machine that individuals can carry while they are watching advertisements and saying slogans aloud, and this tool will then actually capture real-time data which will be very valuable for practitioners, and particularly for time-based management. Moreover, the Slogan Validator will provide marketers with an alternative way of measuring individuals' emotions from their voices, and this can then be used in the real purchase environment or call centres to capture customers' emotional responses in real time. Therefore, this technique appears very promising and in future it is likely that it will possess the ability to shed a new exciting light on understanding how emotions affect advertising effectiveness and consumption behaviour for both practitioners and scholars

9.6 Limitations of the Research and Recommendations for Further Research

9.6.1 Study One

In relation to the first phase of this research, the qualitative study, twelve semi-structured interviews were conducted to assist in defining criteria of cognitive appraisals that consumers used for advertising slogans and to validate the research model. Even though the researcher was well prepared for the semi-structured interviews, the criticism of a result achieved too quickly could not be avoided. It would be more rigorous academically to conduct more semi-structured interviews.

Another limitation of the present study pertains to the fact that the study is exploratory in nature. Compared to most confirmatory studies, the present study lacks to some extent statistical rigour and sophistication. For example, a convenience sample was applied instead of a probability sample, as mentioned in Chapter 6 (Section 6.4.1.3.1), although this study intended to reach a certain standard of benefits that the probability sampling technique could offer and introduced probability elements. A systematic sampling technique was utilised in terms of the probability sampling technique. The researcher still cannot be fully confident in declaring that the sampling method applied is better than probability sampling, even though the use of the convenience sample was carefully justified from both practical and theoretical viewpoints. Therefore, the results of this study cannot be generalised to the whole population. Further research should use a probability sample in order to generalise results to the entire population.

An additional limitation of the present study relates to the tested slogans. Specifically, this study chose the advertising slogans of four well know brands. However, it could not be avoided that the participants might already have their own opinions about the brands and/or slogans before filling out the questionnaires; this may influence the results to a certain extent and produce bias. Further research would be thus advised employ fictitious advertising slogans which are entirely new to participants with the aim of reducing bias in this aspect. Furthermore, only one version of advertising slogan was used for each brand, whereas in fact the tested brands might use various advertising slogans in their advertisements. Individuals' emotional reactions to other slogans within the same brand might be distinguishably different from each other. Therefore, this represents another issue that future research could usefully address.

Furthermore, the present study did not account for effects from branding perspectives such as brand awareness or brand image. Slogans are an important component of a brand's identity, and contribute to a brand's equity (Kohli, Leuthesser, and Suri, 2007). Slogans can play a critical role in sustaining or damaging a brand extension strategy (Boush, 1993). Slogans can work as transporters of brand equity; however, slogan learning can be biased by the brand's equity. Further research should pay particular attention to the effects of branding standpoints on advertising slogans.

Moreover, other factors could significantly influence the “emotional corridor”. For instance, personality (e.g., Gountas and Gountas, 2007; Hjelle and Ziegler, 1992; Larsen, 1987; Larsen and Ketelaar, 1991; Wim, Patrick, and Marcel, 2007) and culture (e.g. Bagozzi, Gopinath, and Nyer, 1999; Rothbuam and Tsang, 1998; Shore, 1996; Williams, and Aaker, 2002) are found to be significantly influential in consumers’ emotional responses. Therefore, it would be worthwhile for further research to bring more constructs to the research model in order to reinforce the conceptual model. It would also be valuable to reframe the consumer’s emotional corridor to other consumption-related behaviours. Furthermore, applying another statistical technique such as “neural network” and “classification and regression trees” would also be a very promising avenue for further research to explore.

9.6.2 Study Two

Study two is of a laboratory-based nature. As Lazarus (1995) pointed out, it is usually difficult to reliably evoke emotions in such a setting. Even if the right emotion is produced, a reliable study may not be possible if the intensity is lower than it could be if occurring naturally, although the researcher tried her best to collect voice data in different places (e.g., participants’ homes and empty classrooms) in order to make participants more relaxed. Nevertheless, the Slogan Validator is sensitive to noise; all the recorded data collected outside the laboratory was discarded as it could not be recognised by the technique. Therefore, the research findings should be viewed with caution. Researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan are trying to reduce the sensitivity to noise of the Slogan Validator. If they can decrease the sensitivity to noise to a certain extent, it would be worthwhile collecting participants’ voice data in a room close to a real consumption environment; for example, the janitor’s room of Feng Chia University Main Gate, where study one was conducted. This room is in the centre of the shopping environment and due to the large areas of glass; participants are in no way cut off from the real atmosphere of the market. It is situated in the Feng Chia night market, which is the biggest night market in Taiwan. If the Slogan Validator has the ability to recognise more emotions and less sensitivity to noise in future, it would be very promising for further research to use the Slogan Validator to collect real-time voice data

while consumers are watching advertisements or purchasing products. This real-time data could provide valuable insight for both practitioners and researchers.

In addition, another limitation of study two regards the technology itself. The Slogan Validator can only recognise five basic emotions, which is a critical constraint of this study. As mentioned earlier, consumers' emotional responses to advertising and advertising slogans are much more complex than these five primary emotions. Again, our research partners are trying to develop further dedicated techniques which can recognise more emotions and are more suitable for advertising and advertising slogan- related research. Further research will benefit greatly if the technology improves.

Finally, the present study only applied combined voice recognition technique with self-reported measurements with the same participants. Previous researchers (Bagozzi, 1991; Plutchik, 2003) suggested that it is better to use multiple autonomic measures on one participant at the same time in order to result in a more accurate interpretation.

As Ambler (2000) stated, the difficulty of measuring emotions needs to be considered, not overlooked. Hence, further research should at least try to use one other psychophysiological measurement to achieve valid and reliable results with the aim of generating a deeper understanding of the construct of emotion. Past researchers (Du Plessis, 2005; Hall, 2002; Poels and Dewitte, 2006; Vakratsas and Ambler, 1999) have emphasised the significance of keeping in touch with the newest development in neuroscience. To date, the use of neuroscience in advertising is still limited (Poels and Dewitte, 2006). Therefore, it is very promising for future marketing researchers to cooperate with those in other fields, particularly that of neuroscience, to study emotional reactions evoked by advertising.

Appendix

Appendix 1 Questionnaires in English Version and Questionnaires in Chinese
Version

Questionnaires for the study one (Questionnaires in English version)



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Dear interviewees,

I am a PhD student in the University of Glasgow. The overall aim of the research is to explore the role and nature of emotions embedded in advertising slogans and their impact on the development of advertising effectiveness. This research is a collaboration between researchers from University of Glasgow (UK), Feng Chia University and Tatung University (Taiwan). Your participation in this research is very important. All information that you give will be treated with confidentiality. Many thanks for your cooperation.

Yours truly,

Wan Chen, Wang

University of Glasgow,
Business and Management Department

Wan Chen, Wang

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Fast-food chains

A. Cognitive appraisals

For each item, please circle the number that best describes how you felt at the point of the perception of emotion from the advertising slogan.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>					<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>				
0. The advertising slogan gave me pleasant feelings.	1	2	3	4	⑤	1	2	③	4	5

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>					<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>				
Pleasantness										
1. The advertising slogan gave me pleasant feelings.	1	2	3	4	5	1	2	3	4	5
2. The advertising slogan gave me enjoyable feelings.	1	2	3	4	5	1	2	3	4	5
Appeal										
3. The advertising slogan was attractive.	1	2	3	4	5	1	2	3	4	5
4. The advertising slogan was appealing.	1	2	3	4	5	1	2	3	4	5
Desirability										
5. The advertising slogan gave me feelings of desire.	1	2	3	4	5	1	2	3	4	5
6. The advertising slogan caused me to have increased expectation.	1	2	3	4	5	1	2	3	4	5
Value relevance										
7. The advertising slogan gave me feelings of worth.	1	2	3	4	5	1	2	3	4	5
8. The advertising slogan gave me feelings of value.	1	2	3	4	5	1	2	3	4	5
Certainty										
9. When I heard the advertising slogan, it made me feel it was reliable.	1	2	3	4	5	1	2	3	4	5
10. When I heard the advertising slogan, it made me feel it was trustworthy.	1	2	3	4	5	1	2	3	4	5
Novelty										
11. When I heard the advertising slogan, it made me feel it was fresh.	1	2	3	4	5	1	2	3	4	5
12. When I heard the advertising slogan, it made me feel it was novel.	1	2	3	4	5	1	2	3	4	5
Agency										

13. (Other agency) Do you think that the company gave you such feelings?	1	2	3	4	5		1	2	3	4	5
14. (Self-agency) Do you think that you gave yourself such feelings?	1	2	3	4	5		1	2	3	4	5

B. Emotions

Please indicate how much of the following emotions you perceived at different times when you **were saying this** advertising slogan out loud and your dominant emotion.

(1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree) For example:

Joy	1	2	3	4	⑤
Happiness	1	2	3	4	⑤
Pride	1	2	③	4	5
Sadness	1	②	3	4	5
Anger	1	2	③	4	5
Boredom	1	②	3	4	5

McDonald's: McDonald's is all for you!

1. Please say out loud once: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

2. Please say out loud again: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

3. Please say out loud again: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

Kentucky: All in Kentucky is delicious!

1. Please say out loud once: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

2. Please say out loud again: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

3. Please say out loud again: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

C. Involvement

How interested are you in the fast-food chains?

Please indicate the extent to which you agree with the following statement using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree.

For example:

0. The fast-food chains are important to me.	1	2	③	4	5
1. The fast-food chains are important to me.	1	2	3	4	5
2. I get bored when people talk to me about the fast-food chains.	1	2	3	4	5
3. The fast-food chains are relevant to me.	1	2	3	4	5
4. The fast-food chains are exciting products.	1	2	3	4	5
5. The fast-food chains mean nothing to me.	1	2	3	4	5
6. The fast-food chains are appealing to me.	1	2	3	4	5
7. The fast-food chains are fascinating to me.	1	2	3	4	5
8. The fast-food chains are worthless to me.	1	2	3	4	5
9. I care about the fast-food chains.	1	2	3	4	5
10. I do not need the fast-food chains.	1	2	3	4	5

D. Attitudes Towards the Advertisement (Aad)

Please indicate what your opinion of the advertisement is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>		<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
0. I dislike the advertisement.	1 ② 3 4 5		1 2 ③ 4 5

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>		<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
1. I dislike the advertisement.	1 2 3 4 5		1 2 3 4 5
2. I react favourably to the advertisement.	1 2 3 4 5		1 2 3 4 5
3. I feel positive towards the advertisement.	1 2 3 4 5		1 2 3 4 5
4. I feel the advertisement is bad.	1 2 3 4 5		1 2 3 4 5

E. Attitudes Towards the Brand (Ab)

Please indicate what your opinion of the brand is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>		<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
0. I dislike the brand more.	1 ② 3 4 5		1 2 3 4 ⑤

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>		<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
1. I dislike the brand more.	1 2 3 4 5		1 2 3 4 5
2. I feel more positive about the brand.	1 2 3 4 5		1 2 3 4 5
3. I feel worse about the brand.	1 2 3 4 5		1 2 3 4 5
4. I feel more favourable towards the brand.	1 2 3 4 5		1 2 3 4 5

F. Do you intend to buy its products (Purchase Intention)?

Please indicate the extent to which you agree with the following statements using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>		<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
0. I intend to buy its products.	1 2 3 4 ⑤		1 2 ③ 4 5

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>		<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
1. I have the intention to buy its products.	1 2 3 4 5		1 2 3 4 5
2. I intend to buy its products.	1 2 3 4 5		1 2 3 4 5
3. I have high purchase interest in of its products	1 2 3 4 5		1 2 3 4 5
4. I buy its products.	1 2 3 4 5		1 2 3 4 5
5. I will probably buy its products.	1 2 3 4 5		1 2 3 4 5

G. Information about you

Please indicate your personal details by ticking the appropriate box.

1. Age : 18-29 30-39 40-49 50+

2. Gender : Male Female

Thank you very much for the time you devoted to filling out this questionnaire!

Questionnaires for study one (Questionnaires in English version)



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Dear interviewees,

I am a PhD student in the University of Glasgow. The overall aim of the research is to explore the role and nature of emotions embedded in advertising slogans and their impact on the development of advertising effectiveness. This research is a collaboration between researchers from University of Glasgow (UK), Feng Chia University and Tatung University. Your participation in this research is very important. All information that you give will be treated with confidentiality. Many thanks for your cooperation.

Yours truly,

Wan Chen, Wang

University of Glasgow,
Business and Management Department

Wan Chen, Wang

Email: w.wang.1@research.gla.ac.uk

Car companies

A. Cognitive appraisals

For each item, please circle the number that best describes how you felt at the point of the perception of emotion from the advertising slogan.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
0. The advertising slogan gave me pleasant feelings.	1	2	3	4	⑤	1	2	③	4	5

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
Pleasantness										
1. The advertising slogan gave me pleasant feelings.	1	2	3	4	5	1	2	3	4	5
2. The advertising slogan gave me enjoyable feelings.	1	2	3	4	5	1	2	3	4	5
Appeal										
3. The advertising slogan was attractive.	1	2	3	4	5	1	2	3	4	5
4. The advertising slogan was appealing.	1	2	3	4	5	1	2	3	4	5
Desirability										
5. The advertising slogan gave me feelings of desire.	1	2	3	4	5	1	2	3	4	5
6. The advertising slogan caused me to have increased expectation.	1	2	3	4	5	1	2	3	4	5
Value relevance										
7. The advertising slogan gave me feelings of worth.	1	2	3	4	5	1	2	3	4	5
8. The advertising slogan gave me feelings of value.	1	2	3	4	5	1	2	3	4	5
Certainty										
9. When I heard the advertising slogan, it made me feel it was reliable.	1	2	3	4	5	1	2	3	4	5
10. When I heard the advertising slogan, it made me feel it was trustworthy.	1	2	3	4	5	1	2	3	4	5
Novelty										
11. When I heard the advertising slogan, it made me feel it was fresh.	1	2	3	4	5	1	2	3	4	5
12. When I heard the advertising slogan, it made me feel it was novel.	1	2	3	4	5	1	2	3	4	5
Agency										

13. (Other agency) Do you think that the company gave you such feelings?	1	2	3	4	5		1	2	3	4	5
14. (Self-agency) Do you think that you gave yourself such feelings?	1	2	3	4	5		1	2	3	4	5

B. Emotions

Please indicate how much of the following emotions you perceived at different times when you **were saying this** advertising slogan out loud and your dominant emotion.

(1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree) For example:

Joy	1	2	3	4	⑤
Happiness	1	2	3	4	⑤
Pride	1	2	③	4	5
Sadness	1	②	3	4	5
Anger	1	2	③	4	5
Boredom	1	②	3	4	5

Lexus: Pursuing perfection nearly to a fault!

1. Please say out loud once: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

2. Please say out loud again: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

3. Please say out loud again: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

Volvo: Which of you deserves a Volvo?

1. Please say out loud once: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

2. Please say out loud again: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

3. Please say out loud again: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Joy	1	2	3	4	5
Happiness	1	2	3	4	5
Pride	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5

C. Involvement

How interested are you in the car companies?

Please indicate the extent to which you agree with the following statement using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree.

For example:

0. The car companies are important to me.	1	2	③	4	5
1. The car companies are important to me.	1	2	3	4	5
2. I get bored when people talk to me about the car companies.	1	2	3	4	5
3. The car companies are relevant to me.	1	2	3	4	5
4. The cars are exciting products.	1	2	3	4	5
5. The car companies mean nothing to me.	1	2	3	4	5
6. The car companies are appealing to me.	1	2	3	4	5
7. The car companies are fascinating to me.	1	2	3	4	5
8. The car companies are worthless to me.	1	2	3	4	5
9. I care about the car companies.	1	2	3	4	5
10. I do not need the car companies.	1	2	3	4	5

D. Attitudes Towards the Advertisement (Aad)

Please indicate what your opinion of the advertisement is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
0. I dislike the advertisement.	1	②	3	4	5	1	2	③	4	5

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
1. I dislike the advertisement.	1	2	3	4	5	1	2	3	4	5
2. I react favourably to the advertisement.	1	2	3	4	5	1	2	3	4	5
3. I feel positive towards the advertisement.	1	2	3	4	5	1	2	3	4	5
4. I feel the advertisement is bad.	1	2	3	4	5	1	2	3	4	5

E. Attitudes Towards the Brand (Ab)

Please indicate what your opinion of the brand is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
0. I dislike the brand more.	1	②	3	4	5	1	2	3	4	⑤

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
1. I dislike the brand more.	1	2	3	4	5	1	2	3	4	5
2. I feel more positive about the brand.	1	2	3	4	5	1	2	3	4	5
3. I feel worse about the brand.	1	2	3	4	5	1	2	3	4	5
4. I feel more favourable towards the brand.	1	2	3	4	5	1	2	3	4	5

F. Do you intend to buy its products (Purchase Intention)?

Please indicate the extent to which you agree with the following statements using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>	<u><i>Volvo: Which of you deserves a Volvo?</i></u>
0. I intend to buy its products.	1 2 3 4 ⑤	1 2 ③ 4 5

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>	<u><i>Volvo: Which of you deserves a Volvo?</i></u>
1. I have the intention to buy its products.	1 2 3 4 5	1 2 3 4 5
2. I intend to buy its products.	1 2 3 4 5	1 2 3 4 5
3. I have high purchase interest in of its products	1 2 3 4 5	1 2 3 4 5
4. I buy its products.	1 2 3 4 5	1 2 3 4 5
5. I will probably buy its products.	1 2 3 4 5	1 2 3 4 5

G. Information about you

Please indicate your personal details by ticking the appropriate box.

1. Age : 18-29 30-39 40-49 50+

2. Gender : Male Female

Thank you very much for the time you devoted to filling out this questionnaire!

Questionnaires for the study two (Questionnaires in English version)



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Dear interviewees,

I am a PhD student in the University of Glasgow. The overall aim of the research is to explore the role and nature of emotions embedded in advertising slogans and their impact on the development of advertising effectiveness. This research is a collaboration between researchers from University of Glasgow (UK), Feng Chia University and Tatung University. Your participation in this research is very important. All information that you give will be treated with confidentiality. Many thanks for your cooperation.

Yours truly,

Wan Chen, Wang

University of Glasgow,
Business and Management Department

Wan Chen, Wang
Email: w.wang.1@research.gla.ac.uk

Fast-food chains

Slogan Validator

McDonald's: McDonald's is all for you!

Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Kentucky: All in Kentucky is delicious!

Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Traditional Questionnaire

Fast-food chains

A. Cognitive appraisals

For each item, please circle the number that best describes how you felt at the point of the perception of emotion from the advertising slogan.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>					<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>				
0. The advertising slogan gave me pleasant feelings.	1	2	3	4	⑤	1	2	③	4	5

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>					<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>				
Pleasantness										
1. The advertising slogan gave me pleasant feelings.	1	2	3	4	5	1	2	3	4	5
2. The advertising slogan gave me enjoyable feelings.	1	2	3	4	5	1	2	3	4	5
Appeal										
3. The advertising slogan was attractive.	1	2	3	4	5	1	2	3	4	5
4. The advertising slogan was appealing.	1	2	3	4	5	1	2	3	4	5
Desirability										
5. The advertising slogan gave me feelings of desire.	1	2	3	4	5	1	2	3	4	5
6. The advertising slogan caused me to have increased expectation.	1	2	3	4	5	1	2	3	4	5
Value relevance										
7. The advertising slogan gave me feelings of worth.	1	2	3	4	5	1	2	3	4	5
8. The advertising slogan gave me feelings of value.	1	2	3	4	5	1	2	3	4	5
Certainty										
9. When I heard the advertising slogan, it made me feel it was reliable.	1	2	3	4	5	1	2	3	4	5
10. When I heard the advertising slogan, it made me feel it was trustworthy.	1	2	3	4	5	1	2	3	4	5
Novelty										
11. When I heard the advertising slogan, it made me feel it was fresh.	1	2	3	4	5	1	2	3	4	5
12. When I heard the advertising slogan, it made me feel it was novel.	1	2	3	4	5	1	2	3	4	5

Agency

13. (Other agency) Do you think that the company gave you such feelings? 1 2 3 4 5 | 1 2 3 4 5

14. (Self-agency) Do you think that you gave yourself such feelings? 1 2 3 4 5 | 1 2 3 4 5

B. Emotions

Please indicate how much of the following emotions you perceived at different times when you **were saying this** advertising slogan out loud and your dominant emotion.

(1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree) For example:

Happiness	1	2	3	4	⑤
Sadness	1	2	3	4	⑤
Anger	1	2	③	4	5
Boredom	1	②	3	4	5
Neutral	1	2	③	4	5

McDonald's: McDonald's is all for you!

1. Please say out loud once: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

2. Please say out loud again: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

3. Please say out loud again: "McDonald's is all for you!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Kentucky: All in Kentucky is delicious!

1. Please say out loud once: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

2. Please say out loud again: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

3. Please say out loud again: "All in Kentucky is delicious!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

C. Involvement

How interested are you in the fast-food chains?

Please indicate the extent to which you agree with the following statement using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree.

For example:

0. The fast-food chains are important to me.	1	2	③	4	5
1. The fast-food chains are important to me.	1	2	3	4	5
2. I get bored when people talk to me about the fast-food chains.	1	2	3	4	5
3. The fast-food chains are relevant to me.	1	2	3	4	5
4. The fast-food chains are exciting products.	1	2	3	4	5
5. The fast-food chains mean nothing to me.	1	2	3	4	5
6. The fast-food chains are appealing to me.	1	2	3	4	5
7. The fast-food chains are fascinating to me.	1	2	3	4	5
8. The fast-food chains are worthless to me.	1	2	3	4	5
9. I care about the fast-food chains.	1	2	3	4	5
10. I do not need the fast-food chains.	1	2	3	4	5

D. Attitudes Towards the Advertisement (Aad)

Please indicate what your opinion of the advertisement is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>	<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
0. I dislike the advertisement.	1 ② 3 4 5	1 2 ③ 4 5

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>	<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
1. I dislike the advertisement.	1 2 3 4 5	1 2 3 4 5
2. I react favourably to the advertisement.	1 2 3 4 5	1 2 3 4 5
3. I feel positive towards the advertisement.	1 2 3 4 5	1 2 3 4 5
4. I feel the advertisement is bad.	1 2 3 4 5	1 2 3 4 5

E. Attitudes Towards the Brand (Ab)

Please indicate what your opinion of the brand is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>	<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
0. I dislike the brand more.	1 ② 3 4 5	1 2 3 4 ⑤

	<u><i>McDonald's:</i></u> <u><i>McDonald's is all for</i></u> <u><i>you!</i></u>	<u><i>Kentucky: All in</i></u> <u><i>Kentucky is</i></u> <u><i>delicious!</i></u>
1. I dislike the brand more.	1 2 3 4 5	1 2 3 4 5
2. I feel more positive about the brand.	1 2 3 4 5	1 2 3 4 5
3. I feel worse about the brand.	1 2 3 4 5	1 2 3 4 5
4. I feel more favourable towards the brand.	1 2 3 4 5	1 2 3 4 5

F. Do you intend to buy its products (Purchase Intention)?

Please indicate the extent to which you agree with the following statements using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>	<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
0. I intend to buy its products.	1 2 3 4 ⑤	1 2 ③ 4 5

	<u>McDonald's:</u> <u>McDonald's is all for</u> <u>you!</u>	<u>Kentucky: All in</u> <u>Kentucky is</u> <u>delicious!</u>
1. I have the intention to buy its products.	1 2 3 4 5	1 2 3 4 5
2. I intend to buy its products.	1 2 3 4 5	1 2 3 4 5
3. I have high purchase interest in of its products	1 2 3 4 5	1 2 3 4 5
4. I buy its products.	1 2 3 4 5	1 2 3 4 5
5. I will probably buy its products.	1 2 3 4 5	1 2 3 4 5

G. Information about you

Please indicate your personal details by ticking the appropriate box.

1. Age : 18-29 30-39 40-49 50+

2. Gender : Male Female

Thank you very much for the time you devoted to filling out this questionnaire!

Questionnaires for the study two (Questionnaires in English version)



UNIVERSITY
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Dear interviewees,

I am a PhD student in the University of Glasgow. The overall aim of the research is to explore the role and nature of emotions embedded in advertising slogans and their impact on the development of advertising effectiveness. This research is a collaboration between researchers from University of Glasgow (UK), Feng Chia University and Tatung University. Your participation in this research is very important. All information that you give will be treated with confidentiality. Many thanks for your cooperation.

Yours truly,

Wan Chen, Wang

University of Glasgow,
Business and Management Department
Wan Chen, Wang

Email: w.wang.1@research.gla.ac.uk

Car companies

Slogan Validator

Lexus: Pursuing perfection nearly to a fault!

Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Volvo: Which of you deserves a Volvo?

Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Traditional Questionnaire

A. Cognitive appraisals

For each item, please circle the number that best describes how you felt at the point of the perception of emotion from the advertising slogan.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
0. The advertising slogan gave me pleasant feelings.	1	2	3	4	⑤	1	2	③	4	5

	<u><i>Lexus: Pursuing perfection nearly to a fault!</i></u>					<u><i>Volvo: Which of you deserves a Volvo?</i></u>				
Pleasantness										
1. The advertising slogan gave me pleasant feelings.	1	2	3	4	5	1	2	3	4	5
2. The advertising slogan gave me enjoyable feelings.	1	2	3	4	5	1	2	3	4	5
Appeal										
3. The advertising slogan was attractive.	1	2	3	4	5	1	2	3	4	5
4. The advertising slogan was appealing.	1	2	3	4	5	1	2	3	4	5
Desirability										
5. The advertising slogan gave me feelings of desire.	1	2	3	4	5	1	2	3	4	5
6. The advertising slogan caused me to have increased expectation.	1	2	3	4	5	1	2	3	4	5
Value relevance										
7. The advertising slogan gave me feelings of worth.	1	2	3	4	5	1	2	3	4	5
8. The advertising slogan gave me feelings of value.	1	2	3	4	5	1	2	3	4	5
Certainty										
9. When I heard the advertising slogan, it made me feel it was reliable.	1	2	3	4	5	1	2	3	4	5
10. When I heard the advertising slogan, it made me feel it was trustworthy.	1	2	3	4	5	1	2	3	4	5
Novelty										
11. When I heard the advertising slogan, it made me feel it was fresh.	1	2	3	4	5	1	2	3	4	5
12. When I heard the advertising slogan, it made me feel it was novel.	1	2	3	4	5	1	2	3	4	5

Agency

13. (Other agency) Do you think that the company gave you such feelings? 1 2 3 4 5 | 1 2 3 4 5

14. (Self-agency) Do you think that you gave yourself such feelings? 1 2 3 4 5 | 1 2 3 4 5

B. Emotions

Please indicate how much of the following emotions you perceived at different times when you **were saying this** advertising slogan out loud and your dominant emotion.

(1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree) For example:

Happiness	1	2	3	4	⑤
Sadness	1	2	3	4	⑤
Anger	1	2	③	4	5
Boredom	1	②	3	4	5
Neutral	1	2	③	4	5

Lexus: Pursuing perfection nearly to a fault!

1. Please say out loud once: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

2. Please say out loud again: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

3. Please say out loud again: "Pursuing perfection nearly to a fault!" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

Volvo: Which of you deserves a Volvo?

1. Please say out loud once: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

2. Please say out loud again: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

3. Please say out loud again: "Which of you deserves a Volvo?" How much emotion did you experience at this point when you were saying this advertising slogan aloud?

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

4. Please think carefully, what was the dominant emotion you experienced at this point when you were saying this advertising slogan aloud? PLEASE CHOOSE ONE EMOTION.

Happiness	1	2	3	4	5
Sadness	1	2	3	4	5
Anger	1	2	3	4	5
Boredom	1	2	3	4	5
Neutral	1	2	3	4	5

C. Involvement

How interested are you in the car companies?

Please indicate the extent to which you agree with the following statement using the scale given.

1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree.

For example:

0. The car companies are important to me.	1	2	③	4	5
1. The car companies are important to me.	1	2	3	4	5
2. I get bored when people talk to me about the car companies.	1	2	3	4	5
3. The car companies are relevant to me.	1	2	3	4	5
4. The cars are exciting products.	1	2	3	4	5
5. The car companies mean nothing to me.	1	2	3	4	5
6. The car companies are appealing to me.	1	2	3	4	5
7. The car companies are fascinating to me.	1	2	3	4	5
8. The car companies are worthless to me.	1	2	3	4	5
9. I care about the car companies.	1	2	3	4	5
10. I do not need the car companies.	1	2	3	4	5

D. Attitudes Toward the Advertisement (Aad)

Please indicate what your opinion of the advertisement is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u>Lexus: Pursuing perfection nearly to a fault!</u>					<u>Volvo: Which of you deserves a Volvo?</u>				
0. I dislike the advertisement.	1	②	3	4	5	1	2	③	4	5

	<u>Lexus: Pursuing perfection nearly to a fault!</u>					<u>Volvo: Which of you deserves a Volvo?</u>				
1. I dislike the advertisement.	1	2	3	4	5	1	2	3	4	5
2. I react favourably to the advertisement.	1	2	3	4	5	1	2	3	4	5
3. I feel positive towards the advertisement.	1	2	3	4	5	1	2	3	4	5
4. I feel the advertisement is bad.	1	2	3	4	5	1	2	3	4	5

E. Attitudes Toward the Brand (Ab)

Please indicate what your opinion of the brand is after saying the advertising slogans out loud. Please indicate the extent to which you agree with the following statement using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree. For example:

	<u>Lexus: Pursuing perfection nearly to a fault!</u>		<u>Volvo: Which of you deserves a Volvo?</u>
0. I dislike the brand more.	1 ② 3 4 5		1 2 3 4 ⑤
	<u>Lexus: Pursuing Lexus: Pursuing perfection nearly to a fault!</u>		<u>Volvo: Which of you deserves a Volvo?</u>
1. I dislike the brand more.	1 2 3 4 5		1 2 3 4 5
2. I feel more positive about the brand.	1 2 3 4 5		1 2 3 4 5
3. I feel worse about the brand.	1 2 3 4 5		1 2 3 4 5
4. I feel more favourable towards the brand.	1 2 3 4 5		1 2 3 4 5

F. Do you intend to buy its products (Purchase Intention)?

Please indicate the extent to which you agree with the following statements using the scale given. 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly agree

For example:

	<u>Lexus: Pursuing perfection nearly to a fault!</u>		<u>Volvo: Which of you deserves a Volvo?</u>
0. I intend to buy its products.	1 2 3 4 ⑤		1 2 ③ 4 5
	<u>Lexus: Pursuing perfection nearly to a fault!</u>		<u>Volvo: Which of you deserves a Volvo?</u>
1. I have the intention to buy its products.	1 2 3 4 5		1 2 3 4 5
2. I intend to buy its products.	1 2 3 4 5		1 2 3 4 5
3. I have high purchase interest in of its products	1 2 3 4 5		1 2 3 4 5
4. I buy its products.	1 2 3 4 5		1 2 3 4 5
5. I will probably buy its products.	1 2 3 4 5		1 2 3 4 5

G. Information about you

Please indicate your personal details by ticking the appropriate box.

1. Age : 18-29 30-39 40-49 50+

2. Gender : Male Female

Thank you very much for the time you devoted to filling out this questionnaire!

Questionnaires for the study one (Questionnaires in Chinese version)



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親愛的受訪者,

我是英國格拉斯哥大學博士班的研究生. 我的研究目的主要是探索廣告口號所產生的情緒對廣告效益的影響. 此研究計畫是由英國格拉斯哥大學、台灣逢甲大學和大同大學的學者們一起合作. 您的參與對於本研究是非常重要的, 您所提供的所有訊息將絕對保密. 謝謝您的合作.

敬祝

萬事如意 鴻圖大展

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敬上

Email: w.wang.1@research.gla.ac.uk

廣告口號情緒之問卷調查

A. 產生情緒之認知的評估標準

以下幾個產生情緒之認知的評估標準, 請您圈選出這廣告口號給與您的感受。
請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>					<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>				
0. 這廣告口號帶給我愉快的感覺	1	2	3	4	⑤	1	2	③	4	5

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>					<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>				
愉快的感覺										
1. 這廣告口號帶給我愉快的感覺	1	2	3	4	5	1	2	3	4	5
2. 這廣告口號帶給我歡樂的感覺	1	2	3	4	5	1	2	3	4	5
有魅力的, 動人的										
3. 這廣告口號對我來說是有魅力的	1	2	3	4	5	1	2	3	4	5
4. 這廣告口號對我來說是動人的	1	2	3	4	5	1	2	3	4	5
值得嚮往的, 期待的										
5. 這廣告口號讓我有嚮往的感覺	1	2	3	4	5	1	2	3	4	5
6. 這廣告口號讓我有期待的感覺	1	2	3	4	5	1	2	3	4	5
值得的, 有價值的										
7. 這廣告口號帶給我值得的感覺	1	2	3	4	5	1	2	3	4	5
8. 這廣告口號帶給我有意義的感覺	1	2	3	4	5	1	2	3	4	5
可靠的, 可信賴的										
9. 這廣告口號帶給我可靠的感覺	1	2	3	4	5	1	2	3	4	5
10. 這廣告口號帶給我可信賴的感覺	1	2	3	4	5	1	2	3	4	5
新鮮的, 新奇的										
11. 這廣告口號帶給我新鮮的感覺	1	2	3	4	5	1	2	3	4	5
12. 這廣告口號帶給我新奇的感覺	1	2	3	4	5	1	2	3	4	5
起因										
13. 您認為造成你目前的感覺是廠商所營造的?	1	2	3	4	5	1	2	3	4	5
14. 您認為造成你目前的感覺是自己所營造的?	1	2	3	4	5	1	2	3	4	5

B. 情緒

請圈選出當您第一次, 第二次, 第三次說出廣告口號所產生的情緒以及最後所產生的主要情緒. 請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

愉悅的感覺	1	2	3	4	⑤
-------	---	---	---	---	---

快樂的感覺	1	2	3	4	⑤
尊榮的感覺	1	2	③	4	5
悲傷的感覺	1	②	3	4	5
生氣的感覺	1	2	③	4	5
無聊的感覺	1	②	3	4	5

麥當勞(McDonald's): 麥當勞都是為你

1. 請您大聲說出: “麥當勞都是為你” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

2. 請您再大聲說出: “麥當勞都是為你” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

3. 請您再大聲說出: “麥當勞都是爲你” 第三次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

肯德基(Kentucky):

1. 請您大聲說出: “好吃都在肯德基” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

2. 請您再大聲說出: “好吃都在肯德基” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

3. 請您再大聲說出: “好吃都在肯德基” 第三次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

C. 涉入程度

請問您對於速食連鎖店多有興趣? 請圈選合適的欄位.(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)例如:

0. 速食連鎖店對我來說是重要的.	1	2	③	4	5
1. 速食連鎖店對我來說是重要的.	1	2	3	4	5
2. 當我聽到他人與我談論速食連鎖店我覺得無聊.	1	2	3	4	5
3. 速食連鎖店跟我是相關的.	1	2	3	4	5
4. 速食連鎖店是一種令人興奮的產品.	1	2	3	4	5
5. 速食連鎖店對我來說沒有甚麼.	1	2	3	4	5
6. 速食連鎖店對我來說是具有吸引力的.	1	2	3	4	5
7. 速食連鎖店對我來說是迷人的, 極美的.	1	2	3	4	5
8. 速食連鎖店對我來說是不值得的.	1	2	3	4	5
9. 我在意速食連鎖店.	1	2	3	4	5
10. 速食連鎖店對我來說是不需要的.	1	2	3	4	5

D. 對於廣告的態度

請圈選出在您說出廣告口號所產生的情緒之後對於廣告的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我不喜歡這個廣告	1 ② 3 4 5	1 2 ③ 4 5

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我不喜歡這個廣告	1 2 3 4 5	1 2 3 4 5
2. 我偏好這個廣告	1 2 3 4 5	1 2 3 4 5
3. 這個廣告對我來說感覺是正面的	1 2 3 4 5	1 2 3 4 5
4. 我覺得這個廣告不好	1 2 3 4 5	1 2 3 4 5

E. 對於品牌的態度

請指出在您說出廣告口號所產生的情緒之後對於品牌的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我更不喜歡這個品牌	1 ② 3 4 5	1 2 3 4 ⑤

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我更不喜歡這個品牌	1 2 3 4 5	1 2 3 4 5
2. 我對於這個品牌感覺更正面	1 2 3 4 5	1 2 3 4 5
3. 我對於這個品牌感覺更差	1 2 3 4 5	1 2 3 4 5
4. 我更偏好這個品牌	1 2 3 4 5	1 2 3 4 5

F. 您有意願買這個品牌的產品嗎？

請您勾出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我有意願買這個品牌的產品	1 2 3 4 ⑤	1 2 ③ 4 5

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我有意願買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
2. 我打算買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
3. 我有很高的購買興趣買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
4. 我會買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
5. 我有可能買這個品牌的產品	1 2 3 4 5	1 2 3 4 5

H. 您的資訊

請您在合適的欄位打勾

1. 年齡：19-29 30-39 40-49 50-59 60↑

2. 性別：男性 女性

非常感激您撥出寶貴的時間填這份問卷！

謝謝您的合作！

Questionnaires for the study one (Questionnaires in Chinese version)



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親愛的受訪者,

我是英國格拉斯哥大學博士班的研究生. 我的研究目的主要是探索廣告口號所產生的情緒對廣告效益的影響. 此研究計畫是由英國格拉斯哥大學、台灣逢甲大學和大同大學的學者們一起合作. 您的參與對於本研究是非常重要的, 您所提供的所有訊息將絕對保密. 謝謝您的合作.

敬祝

萬事如意 鴻圖大展

英國格拉斯哥大學行銷研究所

研究生: 王婉禎
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Email: w.wang.1@research.gla.ac.uk

廣告口號情緒之問卷調查

A. 產生情緒之認知的評估標準

以下幾個產生情緒之認知的評估標準, 請您圈選出這廣告口號給與您的感受。

請您圈選出您的同意程度,

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如:

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>				
0. 這廣告口號帶給我愉快的感覺	1	2	3	4	⑤	1	2	③	4	5

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>				
愉快的感覺										
1. 這廣告口號帶給我愉快的感覺	1	2	3	4	5	1	2	3	4	5
2. 這廣告口號帶給我歡樂的感覺	1	2	3	4	5	1	2	3	4	5
有魅力的, 動人的										
3. 這廣告口號對我來說是有魅力的	1	2	3	4	5	1	2	3	4	5
4. 這廣告口號對我來說動人的	1	2	3	4	5	1	2	3	4	5
值得嚮往的, 期待的										
5. 這廣告口號讓我有嚮往的感覺	1	2	3	4	5	1	2	3	4	5
6. 這廣告口號讓我有期待的感覺	1	2	3	4	5	1	2	3	4	5
值得的, 有價值的										
7. 這廣告口號帶給我值得的感覺	1	2	3	4	5	1	2	3	4	5
8. 這廣告口號帶給我價值的感覺	1	2	3	4	5	1	2	3	4	5
可靠的, 可信賴的										
9. 這廣告口號帶給我可靠的感覺	1	2	3	4	5	1	2	3	4	5
10. 這廣告口號帶給我可信賴的感 覺	1	2	3	4	5	1	2	3	4	5
新鮮的, 新奇的										
11. 這廣告口號帶給我新鮮的感覺	1	2	3	4	5	1	2	3	4	5
12. 這廣告口號帶給我新奇的感覺	1	2	3	4	5	1	2	3	4	5
起因										
13. 您認為造成你目前的感覺是廠 商所營造的?	1	2	3	4	5	1	2	3	4	5
14. 您認為造成你目前的感覺是自 己所營造的?	1	2	3	4	5	1	2	3	4	5

B. 情緒

請圈選出當您第一次, 第二次, 第三次說出廣告口號所產生的情緒以及最後所產生的主要情緒. 請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

愉悅的感覺	1	2	3	4	⑤
快樂的感覺	1	2	3	4	⑤
尊榮的感覺	1	2	③	4	5
悲傷的感覺	1	②	3	4	5
生氣的感覺	1	2	③	4	5
無聊的感覺	1	②	3	4	5

凌志汽車(Lexus): 專注完美, 近乎苛求

1. 請您大聲說出: “專注完美, 近乎苛求” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

2. 請您再大聲說出: “專注完美, 近乎苛求” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

3. 請您再大聲說出: “專注完美, 近乎苛求” 第三次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

富豪汽車(Volvo): 誰值得你 Volvo

1. 請您大聲說出: “誰值得你 Volvo” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

2. 請您再大聲說出: “誰值得你 Volvo” 一次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

3. 請您再大聲說出: “誰值得你 Volvo” 第三次, 說出這廣告口號帶給您的情緒是那些 ?

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

愉悅的感覺	1	2	3	4	5
快樂的感覺	1	2	3	4	5
尊榮的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5

C. 涉入程度

請問您對於汽車銷售業多有興趣? 請圈選合適的欄位.(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)例如 :

0. 汽車銷售業對我來說是重要的.	1	2	③	4	5
1. 汽車銷售業對我來說是重要的.	1	2	3	4	5
2. 當我聽到他人與我談論汽車銷售業 我覺得無聊.	1	2	3	4	5
3. 汽車銷售業跟我是相關的.	1	2	3	4	5
4. 汽車銷售業是一種令人興奮的產品.	1	2	3	4	5
5. 汽車銷售業對我來說沒有甚麼.	1	2	3	4	5
6. 汽車銷售業對我來說是具有吸引力的.	1	2	3	4	5
7. 汽車銷售業對我來說是迷人的, 極美的.	1	2	3	4	5
8. 汽車銷售業對我來說是不值得的.	1	2	3	4	5
9. 我在意汽車銷售業.	1	2	3	4	5
10. 汽車銷售業對我來說是不需要的.	1	2	3	4	5

D. 對於廣告的態度

請圈選出在您說出廣告口號所產生的情緒之後對於廣告的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
0. 我不喜歡這個廣告	1 ② 3 4 5	1 2 ③ 4 5

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
1. 我不喜歡這個廣告	1 2 3 4 5	1 2 3 4 5
2. 我偏好這個廣告	1 2 3 4 5	1 2 3 4 5
3. 這個的廣告對我來說感覺是正面的	1 2 3 4 5	1 2 3 4 5
4. 我覺得這個廣告不好	1 2 3 4 5	1 2 3 4 5

E. 對於品牌的態度

請指出在您說出廣告口號所產生的情緒之後對於品牌的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
0. 我更不喜歡這個品牌	1 ② 3 4 5	1 2 3 4 ⑤

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
1. 我更不喜歡這個品牌	1 2 3 4 5	1 2 3 4 5
2. 我對於這個品牌感覺更正面	1 2 3 4 5	1 2 3 4 5
3. 我對於這個品牌感覺更差	1 2 3 4 5	1 2 3 4 5
4. 我更偏好這個品牌	1 2 3 4 5	1 2 3 4 5

F. 您有意願買這個品牌的產品嗎？

請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰值得你 Volvo</u>				
0. 我有意願買這個品牌的產品	1	2	3	4	⑤	1	2	③	4	5

	<u>凌志汽車(Lexus): 專注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰值得你 Volvo</u>				
1. 我有意願買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
2. 我打算買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
3. 我有很高的購買興趣買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
4. 我會買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
5. 我有可能買這個品牌的產品	1	2	3	4	5	1	2	3	4	5

H. 您的資訊

請您在合適的欄位打勾

1. 年齡：19-29 30-39 40-49 50-59 60↑

2. 性別：男性 女性

非常感激您撥出寶貴的時間填這份問卷！

謝謝您的合作！

Questionnaires for the study two (Questionnaires in Chinese version)



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親愛的受訪者,

我是英國格拉斯哥大學博士班的研究生. 我的研究目的主要是探索廣告口號所產生的情緒對廣告效益的影響. 此研究計畫是由英國格拉斯哥大學、台灣逢甲大學和大同大學的學者們一起合作. 您的參與對於本研究是非常重要的, 您所提供的所有訊息將絕對保密. 謝謝您的合作.

敬祝

萬事如意 鴻圖大展

英國格拉斯哥大學行銷研究所

研究生: 王婉禎 敬上

Email: w.wang.1@research.gla.ac.uk

Slogan Validator(錄製完聲音之後請填寫此頁)

請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

麥當勞(McDonald's): 麥當勞都是為你

請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? **請單選.**

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

肯德基(Kentucky): 好吃都在肯德基

請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? **請單選.**

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

品牌標語情緒之問卷調查

A. 產生情緒之認知的評估標準

以下幾個產生情緒之認知的評估標準，請您圈選出這廣告口號給與您的感受。請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如：

	<u>麥當勞</u> <u>(McDonald's): 麥當勞都是為你</u>					<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>				
0. 這廣告口號帶給我愉快的感覺	1	2	3	4	⑤	1	2	③	4	5

	<u>麥當勞</u> <u>(McDonald's): 麥當勞都是為你</u>					<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>				
愉快的感覺										
1. 這廣告口號帶給我愉快的感覺	1	2	3	4	5	1	2	3	4	5
2. 這廣告口號帶給我歡樂的感覺	1	2	3	4	5	1	2	3	4	5
有魅力的, 動人的										
3. 這廣告口號對我來說是有魅力的	1	2	3	4	5	1	2	3	4	5
4. 這廣告口號對我來說是動人的	1	2	3	4	5	1	2	3	4	5
值得嚮往的, 期待的										
5. 這廣告口號讓我有嚮往的感覺	1	2	3	4	5	1	2	3	4	5
6. 這廣告口號讓我有期待的感覺	1	2	3	4	5	1	2	3	4	5
值得的, 有價值的										
7. 這廣告口號帶給我值得的感覺	1	2	3	4	5	1	2	3	4	5
8. 這廣告口號帶給我有意義的感覺	1	2	3	4	5	1	2	3	4	5
可靠的, 可信賴的										
9. 這廣告口號帶給我可靠的感覺	1	2	3	4	5	1	2	3	4	5
10. 這廣告口號帶給我可信賴的感覺	1	2	3	4	5	1	2	3	4	5
新鮮的, 新奇的										
11. 這廣告口號帶給我新鮮的感覺	1	2	3	4	5	1	2	3	4	5
12. 這廣告口號帶給我新奇的感覺	1	2	3	4	5	1	2	3	4	5
起因										
13. 您認為造成你目前的感覺是廠商所營造的?	1	2	3	4	5	1	2	3	4	5
14. 您認為造成你目前的感覺是自己所營造的?	1	2	3	4	5	1	2	3	4	5

B. 情緒

請圈選出當您第一次, 第二次, 第三次說出廣告口號所產生的情緒以及最後所產生的主要情緒. 請您圈選出您的同意程度, 請每種情緒請圈選一個號碼,

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如：

快樂的感覺	1	2	3	4	⑤
悲傷的感覺	1	2	3	4	⑤
生氣的感覺	1	2	③	4	5

無聊的感覺	1	2	③	4	5
中立	1	2	③	4	5

麥當勞(McDonald's): 麥當勞都是為你

1. 請您大聲說出: “麥當勞都是為你” 一次, 說出這廣告口號帶給您的情緒是那些?
請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

2. 請您再大聲說出: “麥當勞都是為你” 一次, 說出這廣告口號帶給您的情緒是那些?
請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

3. 請您再大聲說出: “麥當勞都是為你” 第三次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

肯德基(Kentucky):

1. 請您大聲說出: “好吃都在肯德基” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

2. 請您再大聲說出: “好吃都在肯德基” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

3. 請您再大聲說出: “好吃都在肯德基” 第三次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

C. 涉入程度

請問您對於速食連鎖店多有興趣? 請圈選合適的欄位.

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)例如:

0. 速食連鎖店對我來說是重要的.	1	2	③	4	5
1. 速食連鎖店對我來說是重要的.	1	2	3	4	5
2. 當我聽到他人與我談論速食連鎖店 我覺得無聊.	1	2	3	4	5
3. 速食連鎖店跟我是相關的.	1	2	3	4	5
4. 速食連鎖店是一種令人興奮的產品.	1	2	3	4	5
5. 速食連鎖店對我來說沒有甚麼.	1	2	3	4	5
6. 速食連鎖店對我來說是具有吸引力的.	1	2	3	4	5
7. 速食連鎖店對我來說是迷人的, 極美的.	1	2	3	4	5
8. 速食連鎖店對我來說是不值得的.	1	2	3	4	5
9. 我在意速食連鎖店.	1	2	3	4	5
10. 速食連鎖店對我來說是不需要的.	1	2	3	4	5

D. 對於廣告的態度

請圈選出在您說出廣告口號所產生的情緒之後對於廣告的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我不喜歡這個廣告	1 ② 3 4 5	1 2 ③ 4 5

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我不喜歡這個廣告	1 2 3 4 5	1 2 3 4 5
2. 我偏好這個廣告	1 2 3 4 5	1 2 3 4 5
3. 這個廣告對我來說感覺是正面的	1 2 3 4 5	1 2 3 4 5
4. 我覺得這個廣告不好	1 2 3 4 5	1 2 3 4 5

E. 對於品牌的態度

請指出在您說出廣告口號所產生的情緒之後對於品牌的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我更不喜歡這個品牌	1 ② 3 4 5	1 2 3 4 ⑤

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我更不喜歡這個品牌	1 2 3 4 5	1 2 3 4 5
2. 我對於這個品牌感覺更正面	1 2 3 4 5	1 2 3 4 5
3. 我對於這個品牌感覺更差	1 2 3 4 5	1 2 3 4 5
4. 我更偏好這個品牌	1 2 3 4 5	1 2 3 4 5

F. 您有意願買這個品牌的產品嗎？

請您勾出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
0. 我有意願買這個品牌的產品	1 2 3 4 ⑤	1 2 ③ 4 5

	<u>麥當勞</u> <u>(McDonald's): 麥當</u> <u>勞都是為你</u>	<u>肯德基(Kentucky):</u> <u>好吃都在肯德基</u>
1. 我有意願買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
2. 我打算買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
3. 我有很高的購買興趣買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
4. 我會買這個品牌的產品	1 2 3 4 5	1 2 3 4 5
5. 我有可能買這個品牌的產品	1 2 3 4 5	1 2 3 4 5

G. 您的資訊

請您在合適的欄位打勾

1. 年齡：19-29 30-39 40-49 50-59 60↑

2. 性別：男性 女性

非常感激您撥出寶貴的時間填這份問卷！

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我是英國格拉斯哥大學博士班的研究生. 我的研究目的主要是探索廣告口號所產生的情緒對廣告效益的影響. 此研究計畫是由英國格拉斯哥大學、台灣逢甲大學和大同大學的學者們一起合作. 您的參與對於本研究是非常重要的, 您所提供的所有訊息將絕對保密. 謝謝您的合作.

敬祝

萬事如意 鴻圖大展

英國格拉斯哥大學行銷研究所

研究生: 王婉禎 敬上

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Slogan Validator(錄製完聲音之後請填寫此頁)

請圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

凌志汽車(Lexus): 專注完美, 近乎苛求

請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

富豪汽車(Volvo): 誰值得你 Volvo

請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

廣告口號情緒之問卷調查

A. 產生情緒之認知的評估標準

以下幾個產生情緒之認知的評估標準, 請您圈選出這廣告口號給與您的感受.

請您圈選出您的同意程度,

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如:

	<u>凌志汽車(Lexus): 專注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰值得你 Volvo</u>				
0. 這廣告口號帶給我愉快的感覺	1	2	3	4	⑤	1	2	③	4	5

	<u>凌志汽車(Lexus): 專注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰值得你 Volvo</u>				
愉快的感覺										
1. 這廣告口號帶給我愉快的感覺	1	2	3	4	5	1	2	3	4	5
2. 這廣告口號帶給我歡樂的感覺	1	2	3	4	5	1	2	3	4	5
有魅力的, 動人的										
3. 這廣告口號對我來說是有魅力的	1	2	3	4	5	1	2	3	4	5
4. 這廣告口號對我來說是有動人的	1	2	3	4	5	1	2	3	4	5
值得嚮往的, 期待的										
5. 這廣告口號讓我有嚮往的感覺	1	2	3	4	5	1	2	3	4	5
6. 這廣告口號讓我有期待的感覺	1	2	3	4	5	1	2	3	4	5
值得的, 有價值的										
7. 這廣告口號帶給我值得的感覺	1	2	3	4	5	1	2	3	4	5
8. 這廣告口號帶給我有意義的感覺	1	2	3	4	5	1	2	3	4	5
可靠的, 可信賴的										
9. 這廣告口號帶給我可靠的感覺	1	2	3	4	5	1	2	3	4	5
10. 這廣告口號帶給我可信賴的感覺	1	2	3	4	5	1	2	3	4	5
新鮮的, 新奇的										
11. 這廣告口號帶給我新鮮的感覺	1	2	3	4	5	1	2	3	4	5
12. 這廣告口號帶給我新奇的感覺	1	2	3	4	5	1	2	3	4	5
起因										
13. 您認為造成你目前的感覺是廠商所營造的?	1	2	3	4	5	1	2	3	4	5
14. 您認為造成你目前的感覺是自己所營造的?	1	2	3	4	5	1	2	3	4	5

B. 情緒

請圈選出當您第一次, 第二次, 第三次說出廣告口號所產生的情緒以及最後所產生的主要情緒. 請您圈選出您的同意程度, 請每種情緒請圈選一個號碼.

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意) 例如:

快樂的感覺	1	2	3	4	⑤
悲傷的感覺	1	2	3	4	⑤
生氣的感覺	1	2	③	4	5
無聊的感覺	1	2	③	4	5
中立	1	2	③	4	5

凌志汽車(Lexus): 專注完美, 近乎苛求

1. 請您大聲說出: “專注完美, 近乎苛求” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

2. 請您再大聲說出: “專注完美, 近乎苛求” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

3. 請您再大聲說出: “專注完美, 近乎苛求” 第三次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

富豪汽車(Volvo): 誰值得你 Volvo

1. 請您大聲說出: “誰值得你 Volvo” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

2. 請您再大聲說出: “誰值得你 Volvo” 一次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

3. 請您再大聲說出: 「誰值得你 Volvo」 第三次, 說出這廣告口號帶給您的情緒是那些? 請每種情緒請圈選一個號碼.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

4. 請您仔細想想, 說出這廣告口號帶給您的主要情緒是那個? 請單選.

快樂的感覺	1	2	3	4	5
悲傷的感覺	1	2	3	4	5
生氣的感覺	1	2	3	4	5
無聊的感覺	1	2	3	4	5
中立	1	2	3	4	5

C. 涉入程度

請問您對於汽車銷售業多有興趣? 請圈選合適的欄位.(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)例如:

0. 汽車銷售業對我來說是重要的.	1	2	③	4	5
1. 汽車銷售業對我來說是重要的.	1	2	3	4	5
2. 當我聽到他人與我談論汽車銷售業我覺得無聊.	1	2	3	4	5
3. 汽車銷售業跟我是相關的.	1	2	3	4	5
4. 汽車銷售業是一種令人興奮的產品.	1	2	3	4	5
5. 汽車銷售業對我來說沒有甚麼.	1	2	3	4	5
6. 汽車銷售業對我來說是具有吸引力的.	1	2	3	4	5
7. 汽車銷售業對我來說是迷人的, 極美的.	1	2	3	4	5
8. 汽車銷售業對我來說是不值得的.	1	2	3	4	5
9. 我在意汽車銷售業.	1	2	3	4	5
10. 汽車銷售業對我來說是不需要的.	1	2	3	4	5

D. 對於廣告的態度

請圈選出在您說出廣告口號所產生的情緒之後對於廣告的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
0. 我不喜歡這個廣告	1 ② 3 4 5	1 2 ③ 4 5

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
1. 我不喜歡這個廣告	1 2 3 4 5	1 2 3 4 5
2. 我偏好這個廣告	1 2 3 4 5	1 2 3 4 5
3. 這個的廣告對我來說感覺是正面的	1 2 3 4 5	1 2 3 4 5
4. 我覺得這個廣告不好	1 2 3 4 5	1 2 3 4 5

E. 對於品牌的態度

請指出在您說出廣告口號所產生的情緒之後對於品牌的態度。

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
0. 我更不喜歡這個品牌	1 ② 3 4 5	1 2 3 4 ⑤

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>	<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>
1. 我更不喜歡這個品牌	1 2 3 4 5	1 2 3 4 5
2. 我對於這個品牌感覺更正面	1 2 3 4 5	1 2 3 4 5
3. 我對於這個品牌感覺更差	1 2 3 4 5	1 2 3 4 5
4. 我更偏好這個品牌	1 2 3 4 5	1 2 3 4 5

F. 您有意願買這個品牌的產品嗎？

請您圈選出您的同意程度

(1: 非常不同意, 2: 不同意, 3: 普通, 4: 同意, 5: 非常同意)

例如：

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>				
0. 我有意願買這個品牌的產品	1	2	3	4	⑤	1	2	③	4	5

	<u>凌志汽車(Lexus): 專 注完美, 近乎苛求</u>					<u>富豪汽車(Volvo): 誰 值得你 Volvo</u>				
1. 我有意願買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
2. 我打算買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
3. 我有很高的購買興趣買這個品牌 的產品	1	2	3	4	5	1	2	3	4	5
4. 我會買這個品牌的產品	1	2	3	4	5	1	2	3	4	5
5. 我有可能買這個品牌的產品	1	2	3	4	5	1	2	3	4	5

G.. 您的資訊

請您在合適的欄位打勾

1. 年齡：19-29 30-39 40-49 50-59 60↑

2. 性別：男性 女性

非常感激您撥出寶貴的時間填這份問卷！

Appendix 2 Publications of Related Research by Participating Researchers

The Slogan Validator is a user interface (also known as human computer interface) developed by researchers in the Department of Computer Science and Engineering of Tatung University in Taiwan. It can recognise five primary emotions, happiness, anger, sadness, boredom, and neutral (unemotional) of Mandarin Speech. The work of these researchers has been published in numerous international journals, and has been highly acclaimed in their field. The followings are some of their publications.

Jun-Heng Yeh, Tsang-Long Pao, Ching-Yi Lin, Yao-Wei Tsai, and Yu-Te Chen ,
"Segment-Based Emotion Recognition from Continuous Mandarin Chinese Speech,"
Computers in Human Behavior (revised, accepted), 2010. (SSCI)(IF: 1.767)

Tsang-Long Pao, Yu-Te Chen and Jun-Heng Yeh, "Emotion Recognition and Evaluation
from Mandarin Speech Signals," International Journal of Innovative Computing,
Information and Control (IJICIC), Vol.4, No.7, pp. 1695-1709, July 2008. (SCI
Expanded)(IF: 0.724)(57/85)

Tsang-Long Pao and Jun-Heng Yeh, "Typhoon Locating and Reconstruction from the
Infrared Satellite Cloud Image," Journal of Multimedia (JMM), Vol.3, No.2, pp.45-51,
June, 2008. (EI)

Tsang-Long Pao, Yu-Te Chen and Jun-Heng Yeh, "Comparison of classification methods
for detecting emotion from Mandarin speech," IEICE Transactions on Information and
Systems, Vol.E91-D, No.3, pp.1074-1081, Apr. 2008. (SCI)(EI)(IF: 0.312)(157/206)

Tsang-Long Pao, Yun-Maw Cheng, Yu-Te Chen and Jun-Heng Yeh, "Performance
Evaluation of Different Weighting Schemes on KNN-Based Emotion Recognition in
Mandarin Speech," International Journal of Information Acquisition, Vol. 4, No. 4, pp.
339-346, Dec. 2007.

Charles S Chien, Wan-Chen Wang, Luiz Moutinho, Yun-Maw Cheng, Tsang-Long Pao,
Yu-Te Chen, and Jun-Heng Yeh, "Applying Recognition of Emotions in Speech to Extend
the Borders of Brand Slogan Research," Portuguese Journal of Management Studies
(PJMS), Vol. XII, No. 2, pp.115-131, Sep. 2007.

Tsang-Long Pao, Yu-Te Chen, and Jun-Heng Yeh, "Combining Acoustic Features for
Improved Mandarin Emotional Speech Recognition," GESTS International Transactions on
Communication and Signal Processing, Vol. 9, No. 1, Oct. 30, 2006.

Tsang-Long Pao, Yu-Te Chen, Jun-Heng Yeh, and Wen-Yuan Liao, "Detecting Emotions
in Mandarin Speech," International Journal of Computational Linguistics and Chinese
Language Processing, Vol. 10, No. 3, pp.347-362, Sep. 2005.

Appendix 3 Explanations of Technical Terms

Technical Terms	Explanation
Corpus	A large collection of written or spoken language that is used for studying the language. In fact, we can say that a corpus is a database that was collected and managed for some specific purpose. In this paper, we used the corpus to extract the speech features and test the effectiveness of our proposed recognition method.
Confusion matrix	A confusion matrix is a visualisation tool typically used in supervised learning (in unsupervised learning it is typically called a matching matrix). Each column of the matrix represents the instances in a predicted class, while each row represents the instances in an actual class.
K-NN(K-Nearest Neighbour)	K-nearest neighbour is a supervised learning algorithm (we have known how many classifications we would like to label) where the result of new instance query is classified based on majority of K-nearest neighbour category. The purpose of this algorithm is to classify a new object based on attributes and training samples. The classifiers do not use any model to fit and are only based on memory. Given a query point, we find K number of objects or training points closest to the query point. The classification uses majority vote among the classification of the K objects. Any ties can be broken at random. K-nearest neighbour algorithm uses neighborhood classification as the prediction value of the new query instance.
High-pass filter	A high-pass filter is a filter that passes high frequencies well, but attenuates (reduces the amplitude of) frequencies lower than the cutoff frequency. The actual amount of attenuation for each frequency varies from filter to filter. It is sometimes called a low-cut filter; the terms bass-cut filter or rumble filter are also used in audio applications. A high-pass filter is the opposite of a low-pass filter, and a band-pass filter is a combination of a high-pass and a low-pass. In this paper, the purpose for which we used the high-pass filter was to filter out some noise or redundant informant (echo) from the recorded voice.
Frame	In signal processing, a frame is a fixed amount of samples or time duration that is cut off at a fixed period of time.
Hamming Window	A window is a fixed period of time or sample that has some special functions. We used a Hamming window to reduce discontinuity among the windowed frames.
A windowed frame	A windowed frame is a frame that is cut by a window.

Appendix 4 Semi-structured Interview Guide

Questions

Part A: Warm-up questions: general questions about advertising slogans

1. What are your opinions about advertising slogans in general? What are the reasons for these opinions?
2. When you hear an advertising slogan, do you feel any emotion?

Part B: Testing participants' awareness and understanding of pre-generated items associated with the cognitive appraisals of advertising slogans.

Please indicate the following appraisals, which will affect your emotions on advertising slogans?

- 1.1 Will it give me pleasant feelings?
- 1.2 Will it give me enjoyable feelings?
- 1.3 Is the advertising slogan attractive?
- 1.4 Is the advertising slogan appealing?
- 1.5 Will the advertising slogan give me feelings of desire?
- 1.6 Will the advertising slogan cause me to have increased expectation?
- 1.7 Will the advertising slogan give me feelings of worth?
- 1.8 Will the advertising slogan give me feelings of value?
- 1.9 Will it make me feel it is reliable?
- 1.10 Will it make me feel it is trustworthy?
- 1.11 It is the company who gives me such feelings.
- 1.12 It is I myself who gives me such feelings.
- 1.13 Is there anything that will affect your emotions in advertising slogans?

Part C: Validating the Consumer's Emotional Corridor Conceptual Model

Stage1. Testing the variability of consumers' emotional responses to advertising slogans and the existence of the dominant emotion.

- 1.1 Please recall an advertising slogan that you are familiar with. Would you feel different emotions when you heard the advertising slogan the first time, the second time and the third time (or after a few times)? Please give a reason for your answer.
- 1.2 Would it lead to a dominant emotion at the end?
- 1.3 Now, please say the slogan: "*McDonald's is all for you*" out loud three times. Does it make you feel different emotions when you say the advertising slogan the first time, the second time and the third time? Why?
- 1.4 Does it lead to a dominant emotion at the end?

Stage2. Testing the effects of the participants' emotional responses to advertising slogans on advertising effectiveness.

- 2.1 Will the emotions you perceived from the advertising slogan affect your attitudes toward the advertisement? Why?
- 2.2 Will the emotions you perceived from the advertising slogan affect your attitudes toward the brand? Why?
- 2.3 Will the emotions you perceived from the advertising slogan affect your purchase intention? Why?

Thank you very much for your cooperation and for the time you devoted!

Appendix 5: Descriptive Statistics of the Sample Data

Descriptive Statistics of the Sample Data : Cognitive Appraisals

	McDonald's				KFC				Lexus				Volvo			
	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation
pleasant feelings	3.80	1	5	0.856	3.17	1	5	0.867	3.66	1	5	0.823	3.33	1	5	0.937
enjoyable feelings	3.72	2	5	0.865	3.33	1	5	0.931	3.49	1	5	0.926	3.35	1	5	0.875
attractiveness	3.58	1	5	0.913	3.25	1	5	0.902	3.94	1	5	0.939	3.24	1	5	0.985
appeal	3.58	1	5	1.008	2.98	1	5	0.931	3.77	1	5	0.924	3.29	1	5	0.981
desirability	3.43	1	5	0.897	3.04	1	5	0.953	3.97	1	5	0.930	3.38	1	5	0.919
expectancy	3.40	1	5	1.017	3.15	1	5	1.022	3.91	1	5	0.937	3.36	1	5	0.931
worth	3.46	1	5	0.933	3.14	1	5	0.938	3.91	1	5	0.960	3.42	1	5	0.901
value	3.39	1	5	0.912	3.09	1	5	0.921	4.02	1	5	0.949	3.41	1	5	0.877
reliability	3.62	1	5	0.943	3.16	1	5	0.833	4.00	1	5	0.933	3.54	1	5	0.904
trustworthiness	3.63	1	5	0.944	3.11	1	5	0.816	4.00	1	5	0.901	3.55	1	5	0.909
freshness	3.24	1	5	0.837	3.23	1	5	1.097	3.22	1	5	0.926	3.23	1	5	0.924
novelty	3.21	1	5	0.857	3.25	1	5	1.095	3.13	1	5	0.900	3.19	1	5	0.924
other agency	3.69	1	5	1.075	3.53	1	5	1.055	3.79	1	5	1.002	3.51	1	5	0.999
self agency	3.05	1	5	0.975	3.09	1	5	0.964	3.27	1	5	1.012	3.34	1	5	1.068
Valid N	190				189				202				202			
Likert scales 1-5																

Descriptive Statistics of the Sample Data: Involvement

	Fast food chains				Car sales			
	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation
important	3.12	1	5	1.027	3.10	1	5	0.995
interesting	3.40	1	5	0.851	3.25	1	5	0.971
relevant	3.02	1	5	1.046	2.59	1	5	1.108
exciting	2.99	1	5	1.056	2.96	1	5	0.958
means a lot to me	3.24	1	5	0.982	3.14	1	5	1.005
appealing	3.10	1	5	0.992	3.01	1	5	0.900
fascinating	2.59	1	5	1.006	2.83	1	5	0.944
valuable	3.49	1	5	0.956	3.63	1	5	0.844
involving	2.93	1	5	0.957	2.84	1	5	0.891
needed	3.47	1	5	1.080	3.55	1	5	1.027
Valid N	191				200			
Likert scales 1-5								

Descriptive Statistics of the Sample Data: Attitude towards the Advertisement

	McDonald's				KFC				Lexus				Volvo			
	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation	Mean	Minimum	Maximum	Std. Deviation
Ad like	3.77	1	5	0.950	3.35	1	5	1.029	3.97	1	5	0.948	3.39	1	5	1.074
Ad react favourably	3.31	1	5	0.888	2.93	1	5	0.951	3.61	1	5	0.883	2.99	1	5	1.041
Ad feel positive	3.87	1	5	0.874	3.15	1	5	0.877	3.96	1	5	0.783	3.66	1	5	0.922
Ad feel good	3.79	1	5	0.929	3.31	1	5	1.045	4.11	1	5	0.843	3.55	1	5	1.102
Valid N	189				189				199				199			
Likert scales 1-5																

Descriptive Statistics of the Sample Data: Attitude towards the Brand

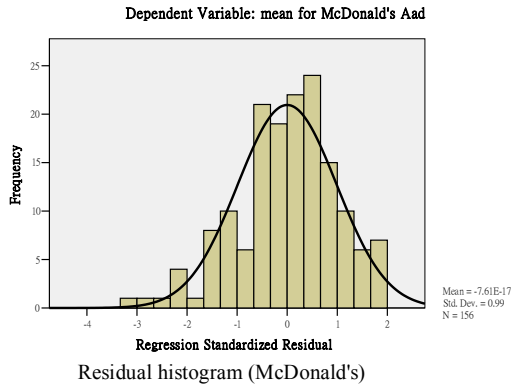
	McDonald's				KFC				Lexus				Volvo			
	Mean	Mini mum	Maxi mum	Std. Deviati on	Mean	Mini mum	Maxi mum	Std. Deviation	Mean	Mini mum	Maxi mum	Std. Deviati on	Mean	Mini mum	Maxi mum	Std. Deviation
Br like more	3.87	1	5	0.826	3.55	1	5	0.921	4.18	1	5	0.769	3.68	1	5	1.009
Br feel more positive	3.57	1	5	0.798	3.05	1	5	0.786	3.81	1	5	0.895	3.28	1	5	0.911
Br feel better	3.89	2	5	0.790	3.62	1	5	0.837	4.15	1	5	0.799	3.80	1	5	0.961
Br feel more favourable	3.15	1	5	0.803	2.87	1	5	0.864	3.56	1	5	0.935	3.03	1	5	0.948
Valid N	191				191				201				201			
Likert scales 1-5																

Descriptive Statistics of the Sample Data: Purchase Intention

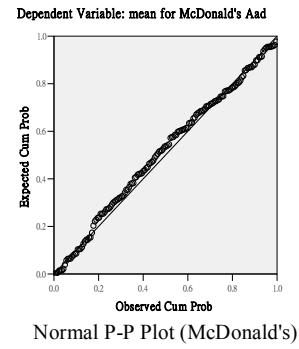
	McDonald's				KFC				Lexus				Volvo			
	Mean	Mini mum	Maxi mum	Std. Deviati on	Mean	Mini mum	Maxi mum	Std. Deviation	Mean	Mini mum	Maxi mum	Std. Deviati on	Mean	Mini mum	Maxi mum	Std. Deviation
have intention to buy	3.60	1	5	0.814	3.35	1	5	0.838	3.62	1	5	1.100	2.86	1	5	0.952
intend to buy	3.42	1	5	0.872	3.15	1	5	0.860	3.15	1	5	1.154	2.57	1	5	0.939
have high purchase interest	3.19	1	5	0.967	2.90	1	5	0.927	3.24	1	5	1.195	2.55	1	5	0.972
will buy	3.58	1	5	0.784	3.22	1	5	0.861	3.20	1	5	1.198	2.63	1	5	1.000
probably buy	3.67	1	5	0.762	3.35	1	5	0.863	3.56			1.069	2.87	1	5	1.040
Valid N	191				191				202				202			
Likert scales 1-5																

Appendix 6 Histogram of Residuals and P-P lot (McDonald's, KFC, Lexus and Volvo)

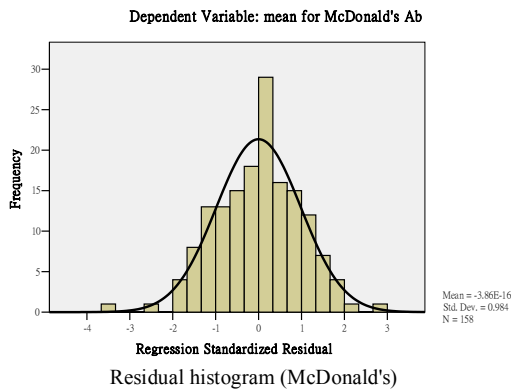
Histogram



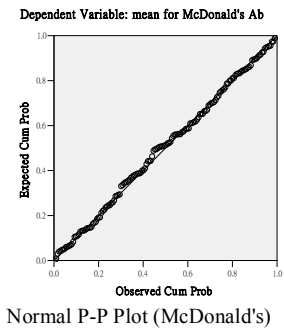
Normal P-P Plot of Regression Standardized Residual



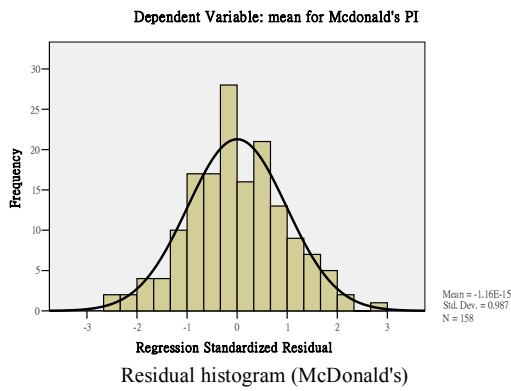
Histogram



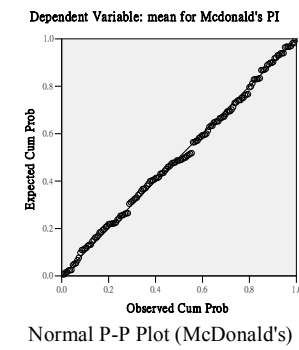
Normal P-P Plot of Regression Standardized Residual



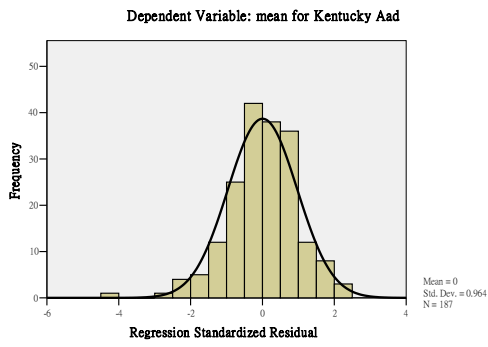
Histogram



Normal P-P Plot of Regression Standardized Residual

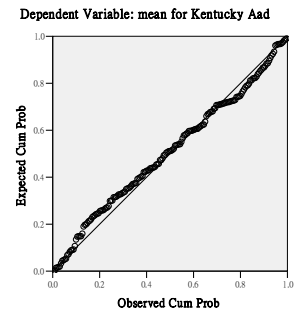


Histogram



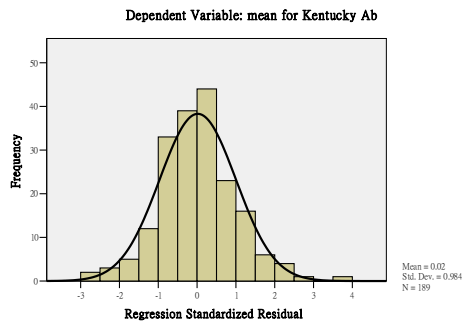
Residual histogram (Kentucky)

Normal P-P Plot of Regression Standardized Residual



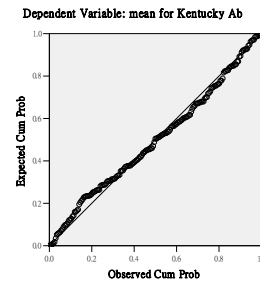
Normal P-P Plot (Kentucky)

Histogram



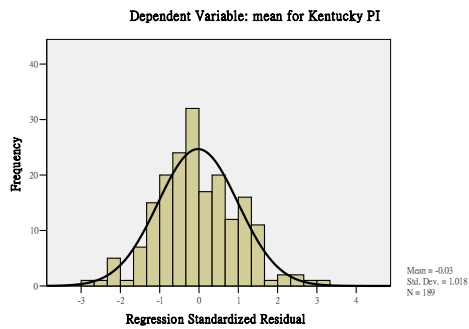
Residual histogram (Kentucky)

Normal P-P Plot of Regression Standardized Residual



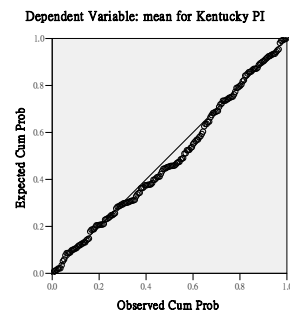
Normal P-P Plot (Kentucky)

Histogram



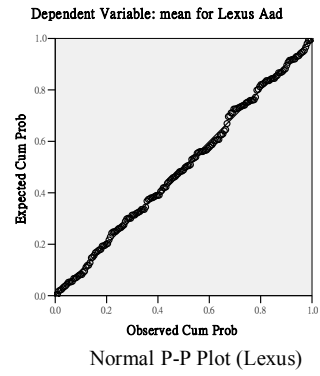
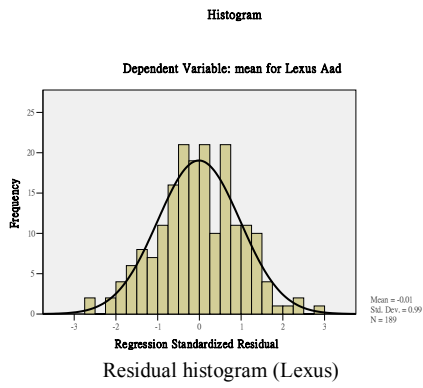
Residual histogram (Kentucky)

Normal P-P Plot of Regression Standardized Residual

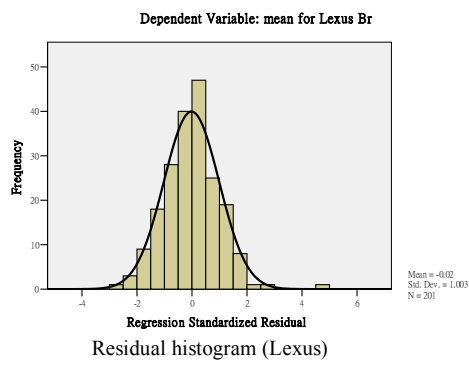


Normal P-P Plot (Kentucky)

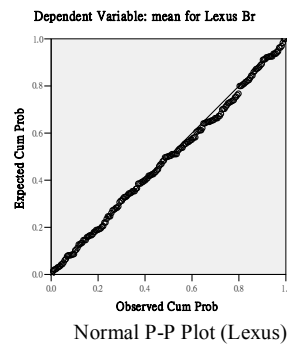
Normal P-P Plot of Regression Standardized Residual



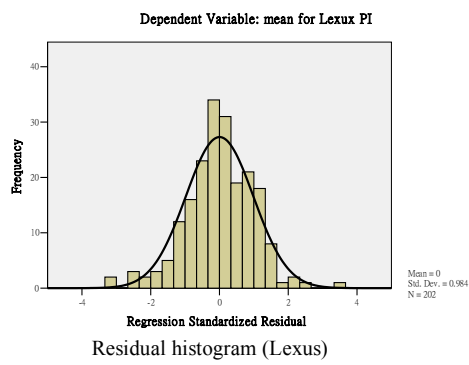
Histogram



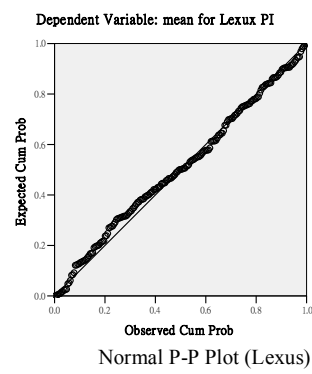
Normal P-P Plot of Regression Standardized Residual



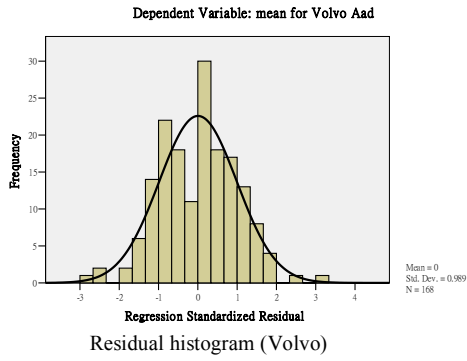
Histogram



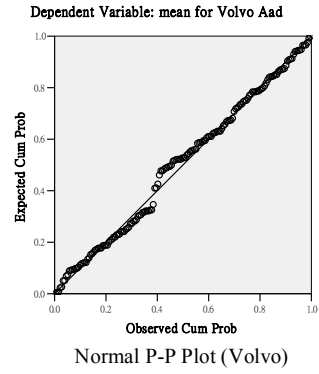
Normal P-P Plot of Regression Standardized Residual



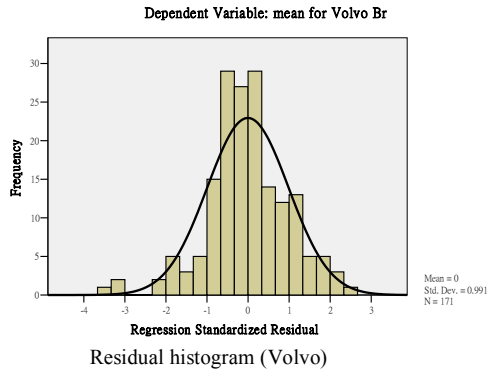
Histogram



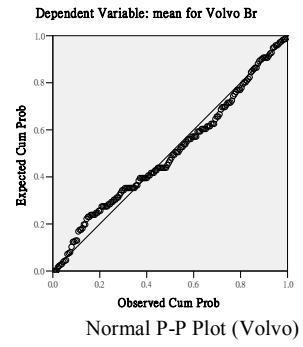
Normal P-P Plot of Regression Standardized Residual



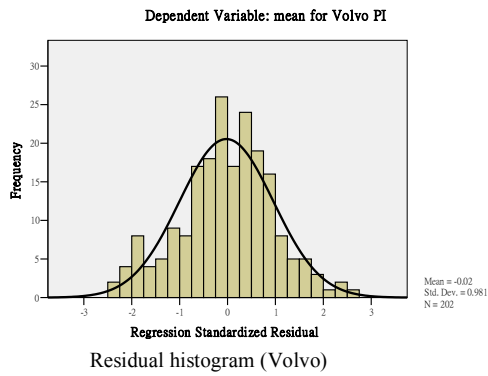
Histogram



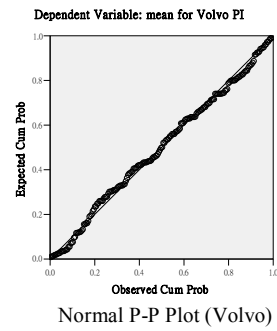
Normal P-P Plot of Regression Standardized Residual



Histogram

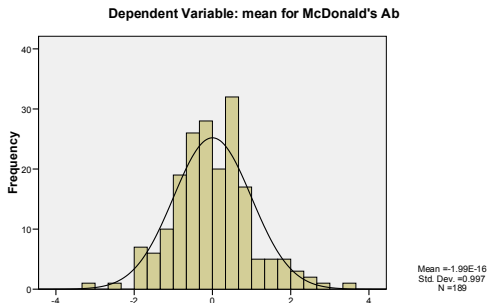


Normal P-P Plot of Regression Standardized Residual



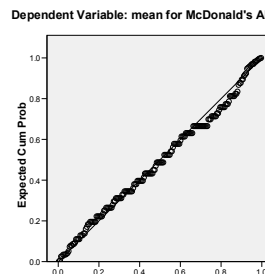
Appendix 7 Histogram of Residuals and P-P lot (Relationships between Dependent Variables)

Histogram



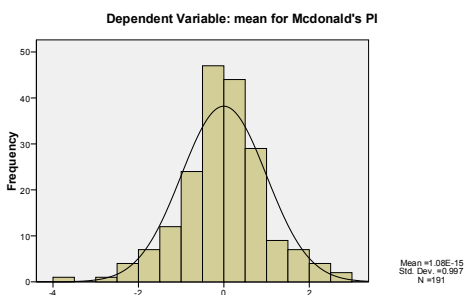
Residual histogram (McDonald's)

Normal P-P Plot of Regression Standardized Residual



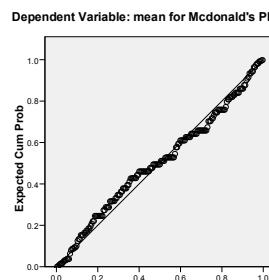
Normal P-P Plot (McDonald's)

Histogram



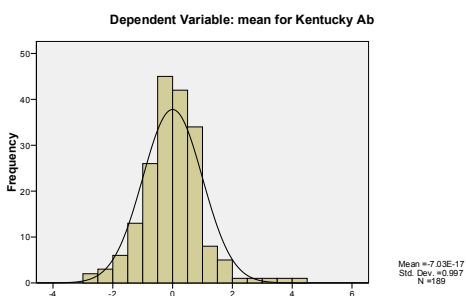
Residual histogram (McDonald's)

Normal P-P Plot of Regression Standardized Residual



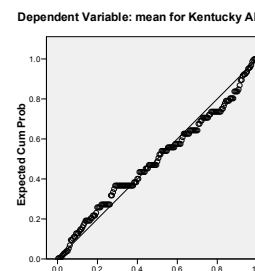
Normal P-P Plot (McDonald's)

Histogram



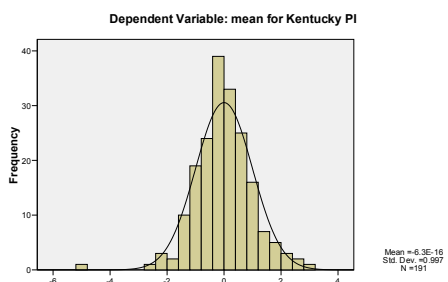
Residual histogram (Kentucky)

Normal P-P Plot of Regression Standardized Residual



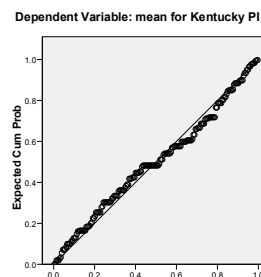
Normal P-P Plot (Kentucky)

Histogram



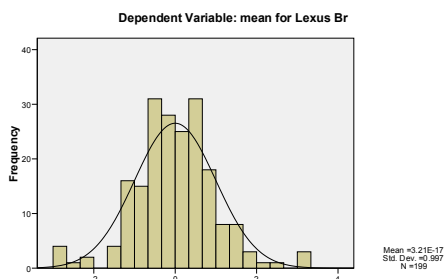
Residual histogram (Kentucky)

Normal P-P Plot of Regression Standardized Residual



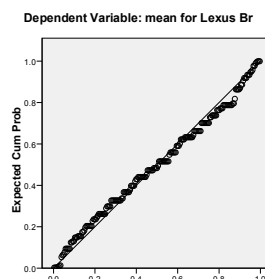
Normal P-P Plot (Kentucky)

Histogram



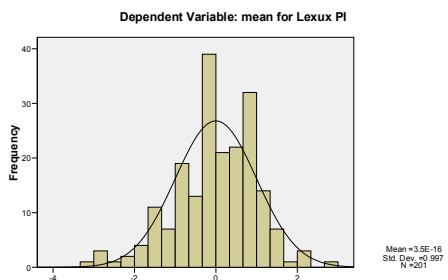
Residual histogram (Lexus)

Normal P-P Plot of Regression Standardized Residual



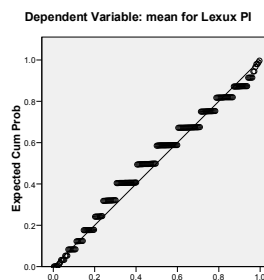
Normal P-P Plot (Lexus)

Histogram



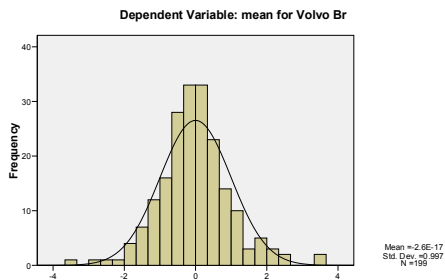
Residual histogram (Lexus)

Normal P-P Plot of Regression Standardized Residual



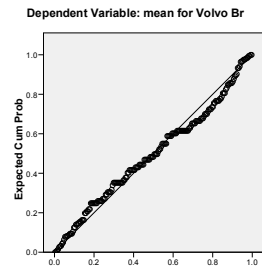
Normal P-P Plot (Lexus)

Histogram



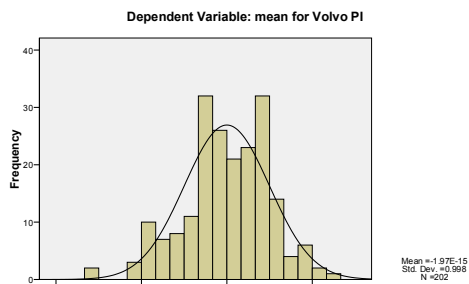
Residual histogram (Volvo)

Normal P-P Plot of Regression Standardized Residual



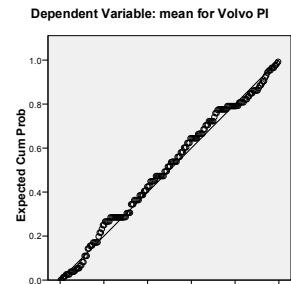
Normal P-P Plot (Volvo)

Histogram



Residual histogram (Volvo)

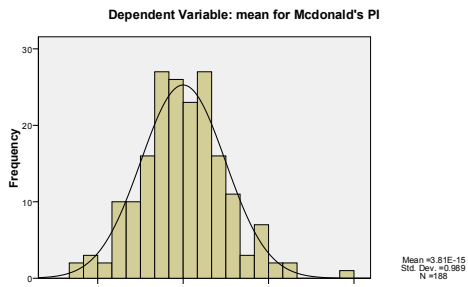
Normal P-P Plot of Regression Standardized Residual



Normal P-P Plot (Volvo)

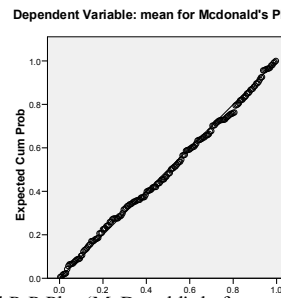
Appendix 8 Histogram of Residuals and P-P lot (Final Models before and after Transformation)

Histogram



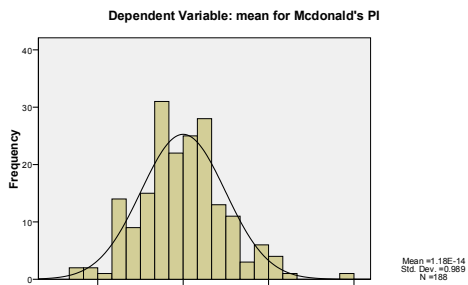
Residual histogram (McDonald's before any transformation)

Normal P-P Plot of Regression Standardized Residual



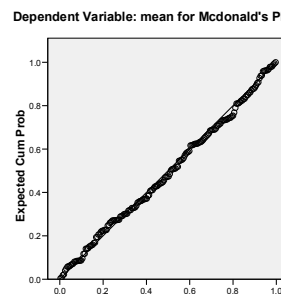
Normal P-P Plot (McDonald's before any transformation)

Histogram



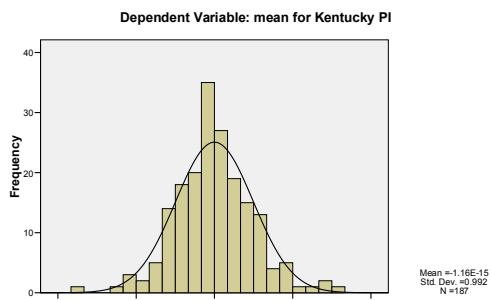
Residual histogram (McDonald's after transformation)

Normal P-P Plot of Regression Standardized Residual



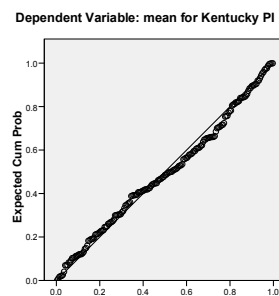
Normal P-P Plot (McDonald's after transformation)

Histogram



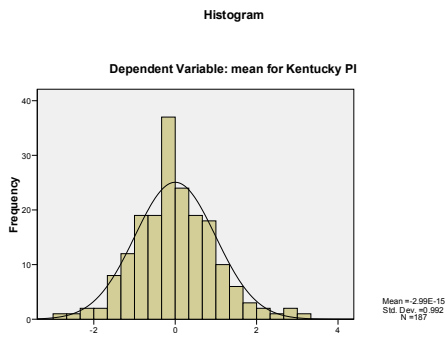
Residual histogram (Kentucky before any transformation)

Normal P-P Plot of Regression Standardized Residual

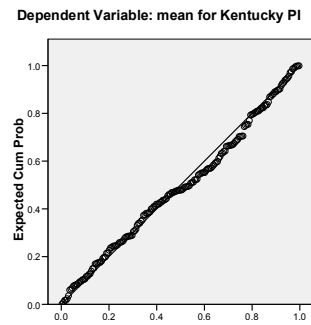


Normal P-P Plot (Kentucky before any transformation)

Normal P-P Plot of Regression Standardized Residual

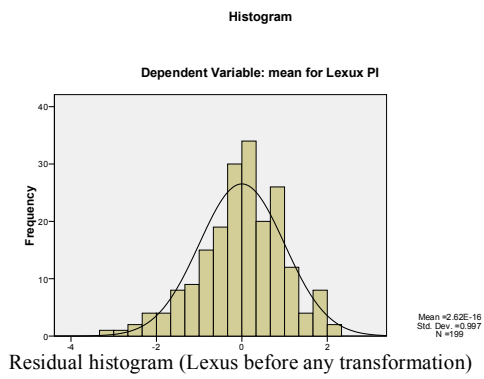


Residual histogram (Kentucky after transformation)

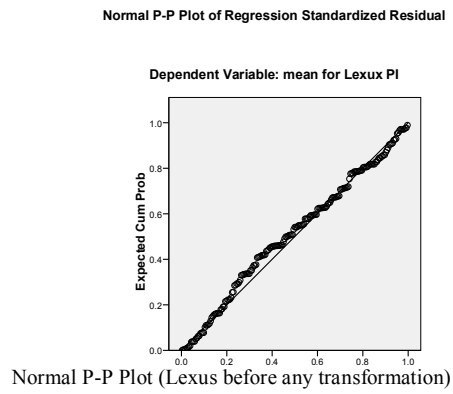


Normal P-P Plot (Kentucky after transformation)

Normal P-P Plot of Regression Standardized Residual

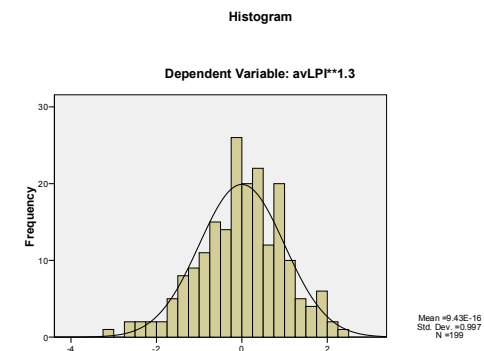


Residual histogram (Lexus before any transformation)

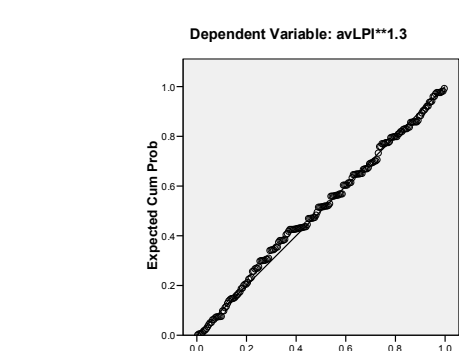


Normal P-P Plot (Lexus before any transformation)

Normal P-P Plot of Regression Standardized Residual

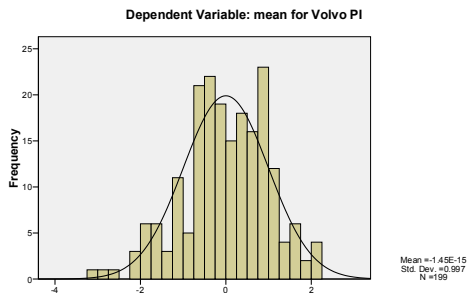


Residual histogram (Lexus after transformation)



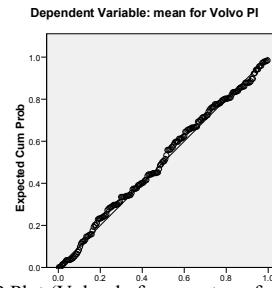
Normal P-P Plot (Lexus after transformation)

Histogram



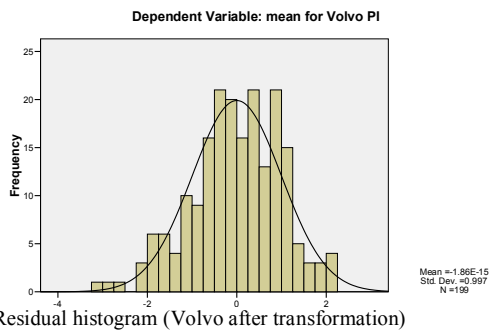
Residual histogram (Volvo before any transformation)

Normal P-P Plot of Regression Standardized Residual



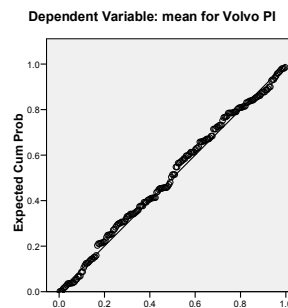
Normal P-P Plot (Volvo before any transformation)

Histogram



Residual histogram (Volvo after transformation)

Normal P-P Plot of Regression Standardized Residual

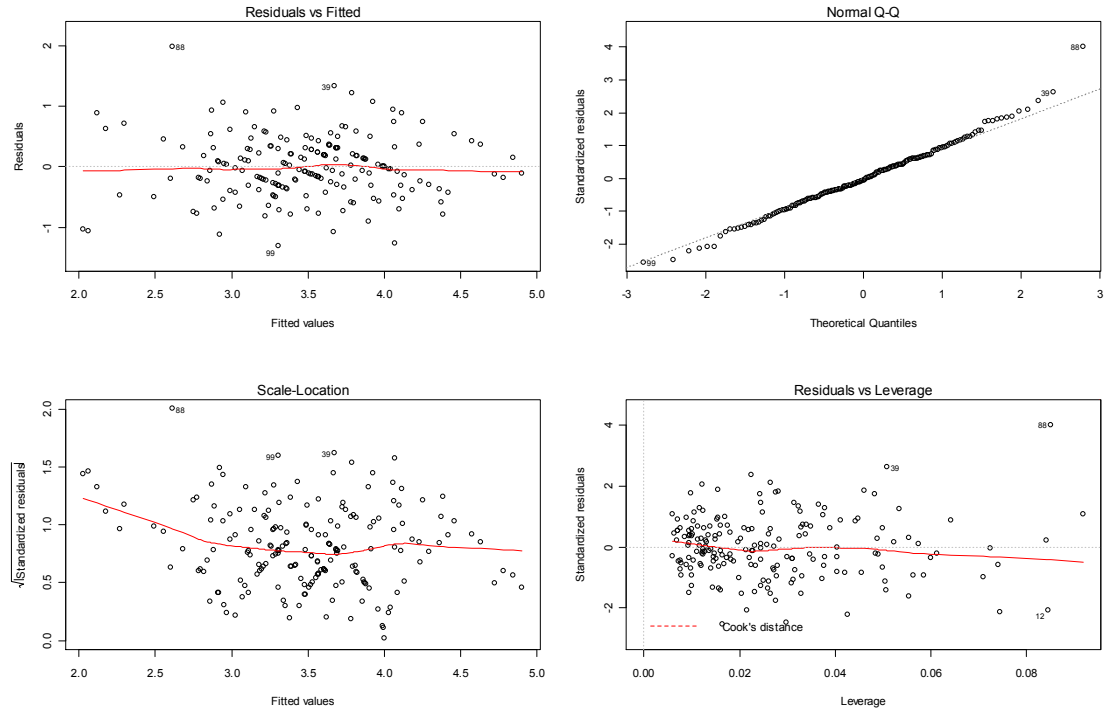


Normal P-P Plot (Volvo after transformation)

Appendix 9 Final Model Diagnostic

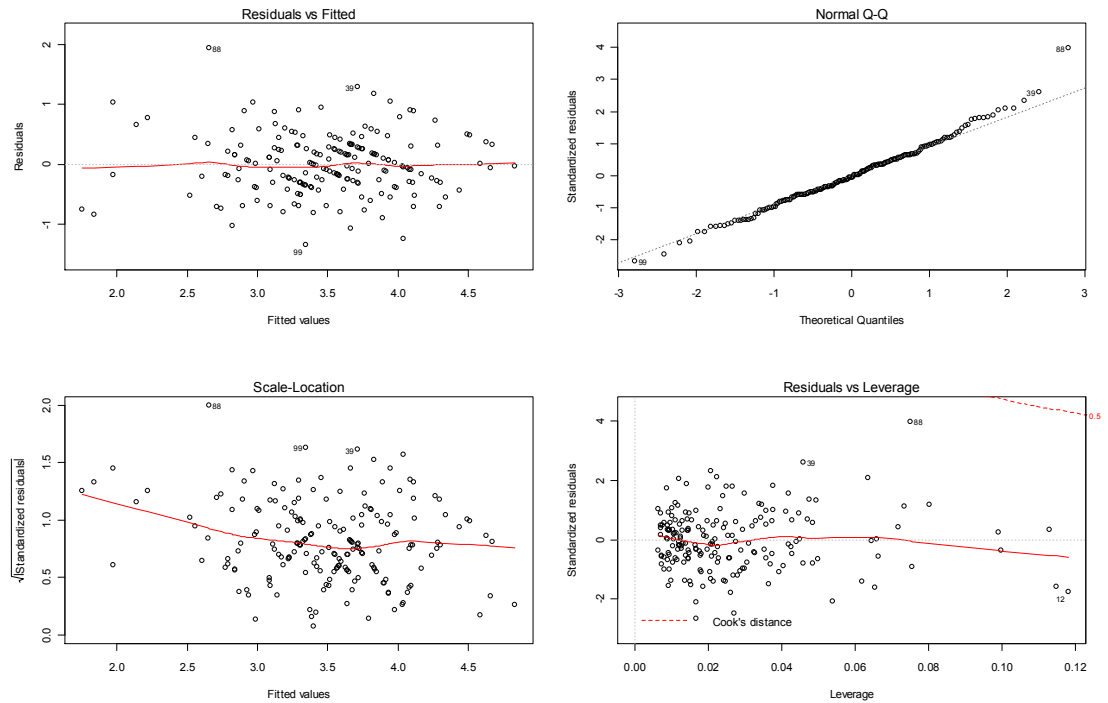
McDonald's Final Model before any Transformation

$\text{lm}(\text{avMPI} \sim \text{AffectiveINV} + \text{CognitiveINV} + \text{MOutcome_Desirability} + \text{avMAvAdMBr} \dots)$



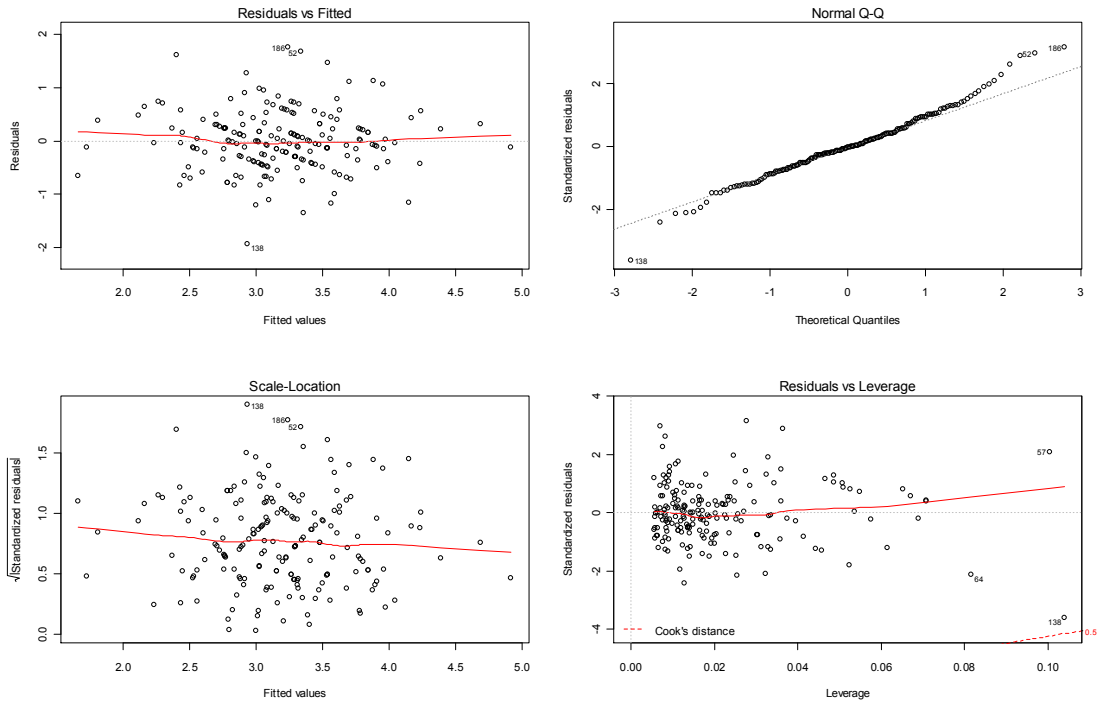
McDonald's Final Model after Transforming Explanatory Variables

$\text{lm}(\text{avMPI} \sim \text{McAffectInv}0.28 + \text{McAvAdABr} + \text{McCogInv}0.20 + \text{MOutcome}1.54)$



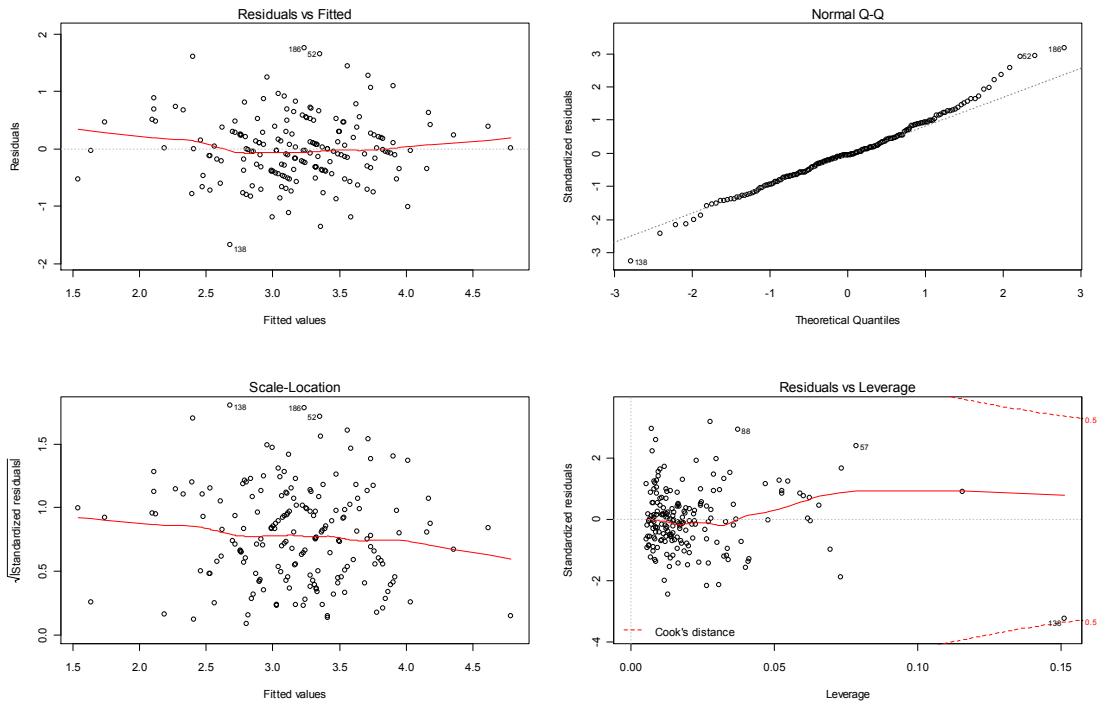
KFC Final Model before any Transformation

$$\text{lm}(\text{avKPI} \sim \text{avKAdavKBr} + \text{KOutcome_Desirability} + \text{AffectiveINV})$$



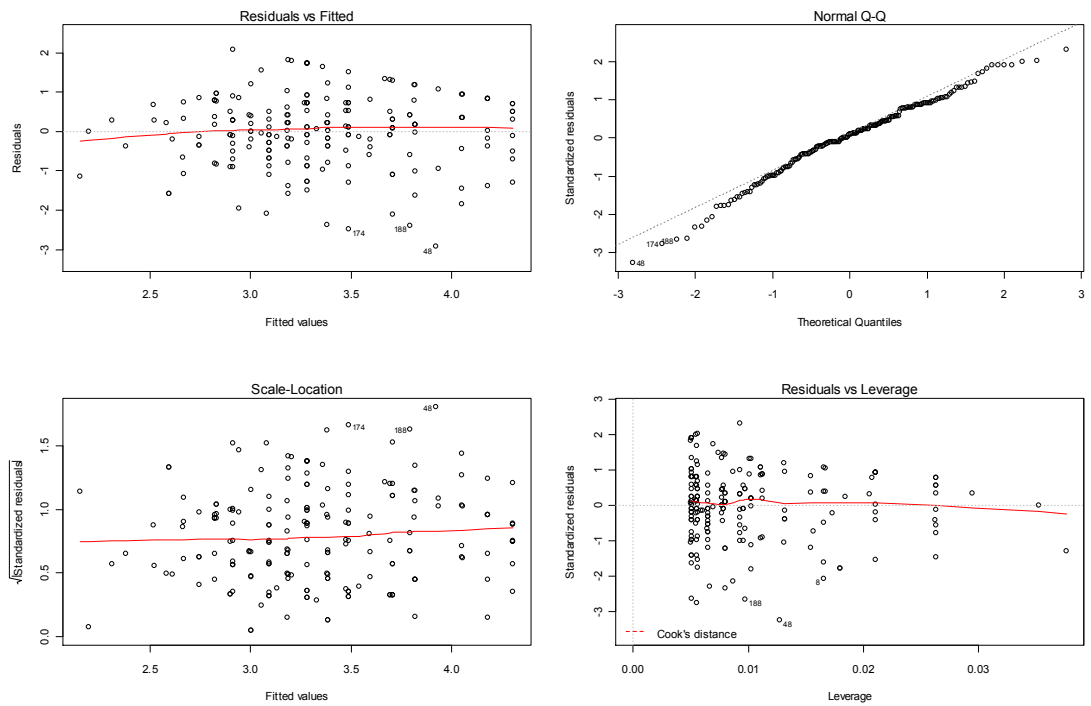
KFC Final Model after Transforming Explanatory Variables

$$\text{lm}(\text{avKPI} \sim \text{KTAfflnv0.93} + \text{KTavKAdKBr0.89} + \text{KTKOut0.24})$$



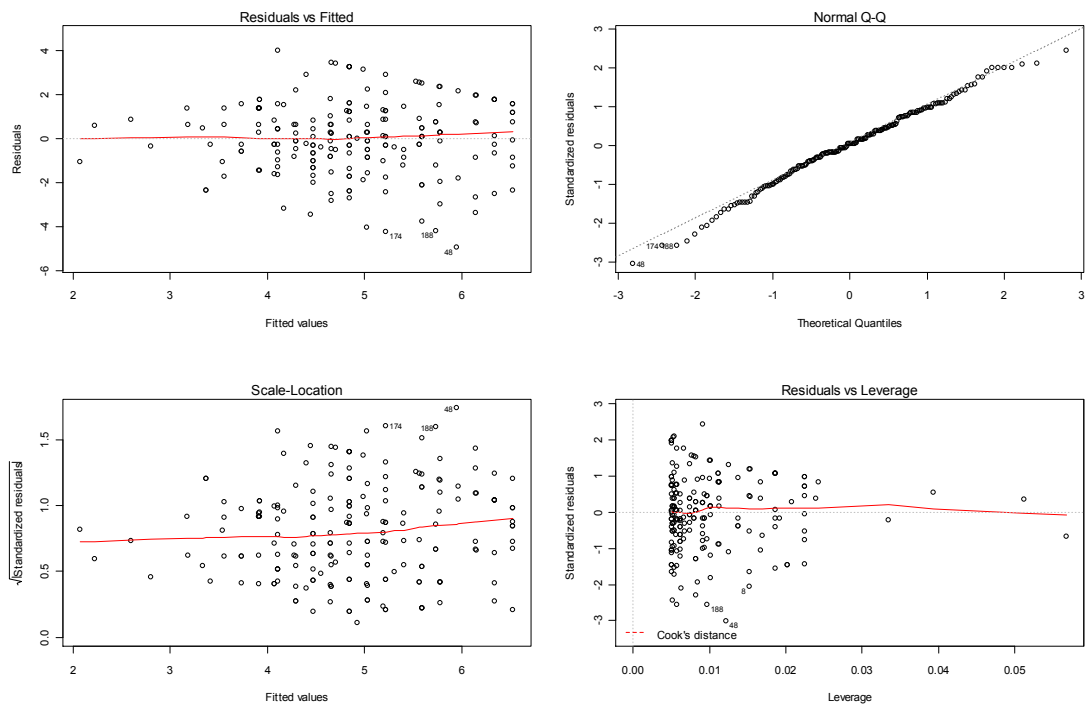
Lexus Final Model before Any Transformation

lm(avLPI ~ avLAdavLBr)



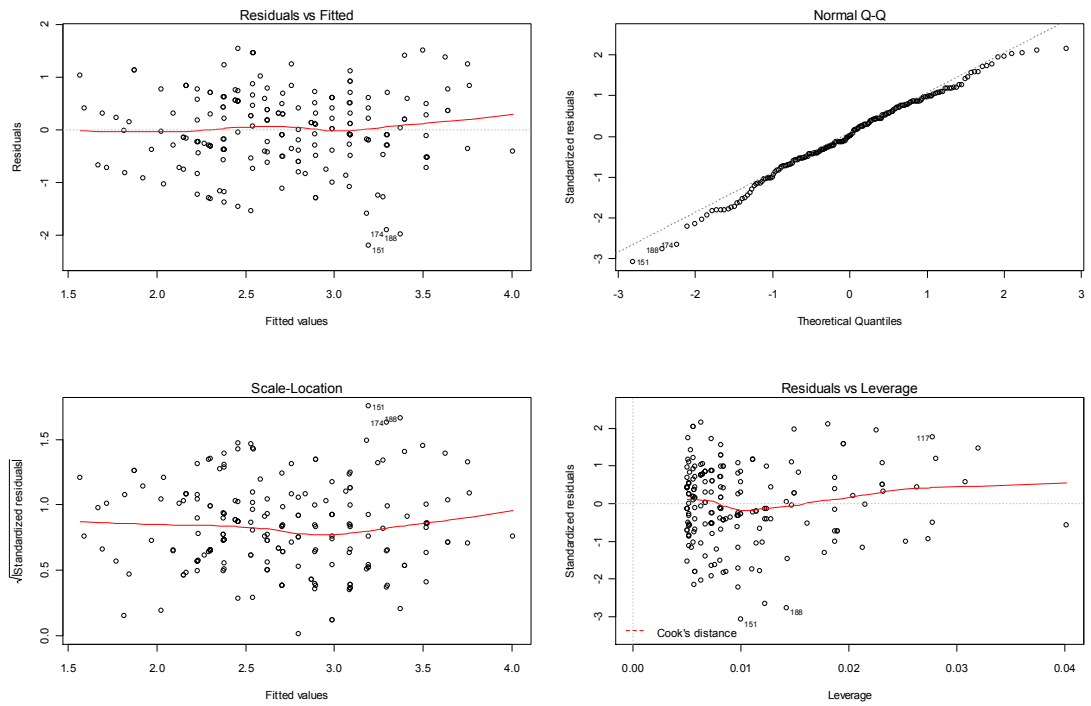
Lexus Final Model after Transforming Response and Explanatory Variables

lm(LXLexusLPI1.3 ~ LXLexusAB0.52)



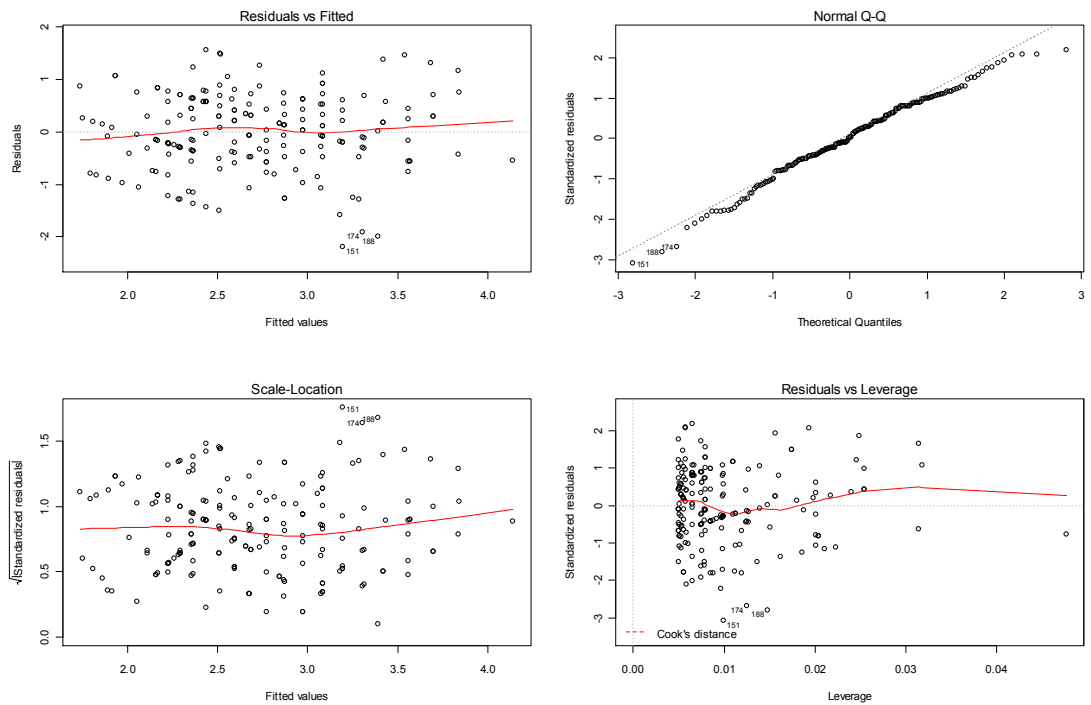
Volvo Final Model before any Transformation

$\text{lm}(\text{avWPI} \sim \text{avVAdavVBr})$



Volvo Final Model after Transforming Explanatory Variables

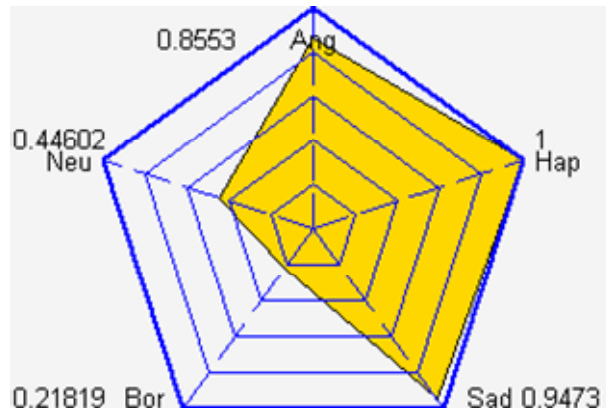
$\text{lm}(\text{avWPI} \sim \text{VOWAB1.27})$



Appendix 10 Examples of Results: Slogan Validator Displays

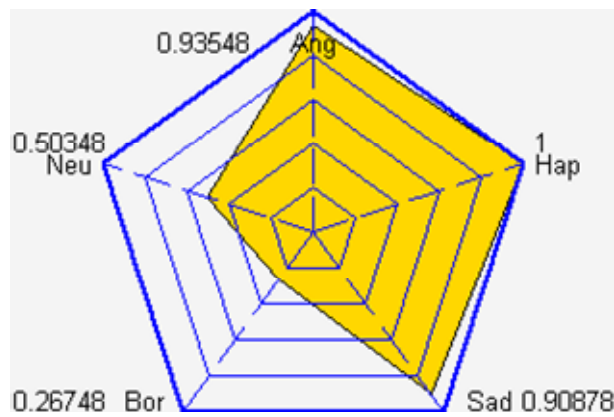
04010201

01 Happy



Ang : 0.86
Hap : 1.00
Neu : 0.45
Bor : 0.22
Sad : 0.95

02 Happy



Ang : 0.94
Hap : 1.00
Neu : 0.50
Bor : 0.27
Sad : 0.90

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