A Study of Brand Loyalty in the
Business-to-Business Services Sector

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Statement of Originality

The work presented in this thesis is, to the best of my knowledge and belief, original and entirely my own work, except as otherwise acknowledged.
The material has not been submitted previously, either, in whole or in part for a degree at this or any other university.

Signed: .................................................................
(Rebekah Bennett)

Date: .................................................................
Dedication

This work is dedicated to my mentor and supervisor Associate Professor Susan Dann. Susan was my supervisor when I first ventured into the world of academic research with my honours degree in 1995 and she has been with me ever since. I thank her for the role model she has been. I would never have changed careers from marketing management to marketing academe without her support.

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Abstract

Brand related concepts in the business-to-business sector have received little attention. Nevertheless recent research has shown that brand equity exists in business-to-business markets. Thus, brand-building investments in this sector may be worthwhile. Moreover, the brand loyalty concept appears to be relevant to the business-to-business sector. But little attention has been given to examining the antecedents of brand loyalty in a business service context, although a number of researchers have isolated one or more variables that impact on brand loyalty.

This thesis attempts to address this gap in the literature. Specifically it aims to provide a comprehensive view of brand loyalty for business services by proposing and testing a model of its potential antecedents. Two separate dimensions of brand loyalty are examined: attitudinal brand loyalty and behavioural brand loyalty. Both dimensions are important to the study of brand loyalty and should be considered jointly, rather than in isolation as has occurred in past studies. The antecedents of brand loyalty are drawn from extant business and consumer marketing literature, and include trust, commitment, satisfaction, perceived risk and involvement. Trust and commitment are viewed as ‘relational’ factors. These constructs are drawn from the business-to-business marketing literature. Satisfaction is described as an ‘emotional’ construct with roots in both the consumer and business marketing fields. Finally, perceived risk and involvement can be described as ‘cognitive’ factors. Their importance to brand loyalty is illustrated in the consumer marketing literature. Thus, the model proposed here is comprehensive in scope.

The research context for this study is the business services sector. The data was collected using both field survey research and archival data. The attitudinal data was collected prior to the behavioural data, thus making this research longitudinal in its design. Moreover, the research was undertaken in three stages. The first stage was a pilot study of the survey instrument to test the reliability of the scales used, as many of the scales were adapted from a consumer context. The second stage was the main
survey that involved the collection of the cognitive and affective data (capturing the proposed antecedent constructs). The third stage comprised the collection of the behavioural data from company archives, and tested the proposed model. In all, 267 archival records were matched with key informant reports to create the data set for the hypothesis tests. The hypotheses specified in the proposed model were tested using structural equation modelling techniques. A two-stage procedure was adopted that initially involved the estimation of a congeneric model to check measure reliability and validity. The proposed model was then estimated for a test of the research hypotheses. For a stronger test, the fit of the hypothesised model was also compared to that of a more saturated rival model which contained direct effects between key antecedents and behavioural brand loyalty.

The test of the proposed model when compared to the competing model resulted in the proposed model offering better fit to the data. Thus a main conclusion of this thesis is that attitudinal brand loyalty has the strongest impact on behavioural brand loyalty. The effects of the relational constructs (commitment and trust), buyer emotions (or satisfaction), and cognitive factors (perceived risk and involvement) on behavioural brand loyalty are indirect, through their effect on attitudinal brand loyalty. Of the antecedents studied, satisfaction had the largest relative impact on attitudinal brand loyalty. These results were largely consistent with the conceptual framework. Arguably this thesis makes four contributions. First, it demonstrates the importance of brand loyalty in a business services context. Second, it suggests that attitudinal brand loyalty is a prerequisite for behavioural brand loyalty. Third, it is the first systematic study of direct and indirect antecedents of brand loyalty in a business services context. Finally, the study captures the impact of relational factors on brand loyalty, important in a business services context. To summarise, this thesis offers a comprehensive view of brand loyalty in a business services setting and an empirical test of its potential antecedents.

*Keywords:* Attitudinal brand loyalty, behavioural brand loyalty, business-to-business, services marketing, longitudinal archival/field study.
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1 Outline of the research

1.1 Introduction

Over the past thirty years brand loyalty has been debated by academics with the core issue being the dimensionality and measurement of the construct. Brand loyalty appears to be a complex multidimensional construct (Dick and Basu 1994; Ha 1998; Javalgi and Moberg 1997; Mellens, Dekimpe and Steenkamp 1996). Yet during this period, views on brand loyalty have oscillated between unidimensional and two-dimensional views.

An early view on brand loyalty defined it in attitudinal terms (Guest 1955), and measured stated brand preferences by school children in 1941 and their later preferences as adults in 1953. In the mid-50s it was defined as a behavioural construct and was measured by the share of market (Cunningham 1956). This singular approach was criticised in the late 60s by the proposition that brand loyalty was a two-dimensional construct containing both behavioural and attitudinal components (Day 1969; Jacoby 1971). This view combined both dimensions in a single measure labelled brand loyalty (Day 1969) while later research separated the two dimensions again. However, when these dimensions were separated, the attitudinal dimension was reduced to being an antecedent rather than a dimension of loyalty. Attitudes were described as an independent variable influencing loyalty, rather than giving these the label of attitudinal loyalty (Bonfield 1974; Harrell and Bennett 1974; Howard and Sheth 1969; Jacoby and Kyner 1973).

Over time researchers have generally pursued either the behavioural (see Bass 1974; Ehrenberg 1988) or attitudinal dimension (see Ajzen and Fishbein 1980; Ganesh, Arnold and Reynolds 2000; Traylor 1981), reverting back to a unidimensional construct. In recent years there has been a call again to combine both dimensions into brand loyalty research (Baldinger and Rubinson 1996; Dick and Basu 1994). However brand loyalty has been considered as a global concept with two distinct dimensions; attitudinal brand loyalty and behavioural brand loyalty (Baldinger and

Despite the awareness in the marketing community of the importance of unidimensionality as evidence of construct validity (see Anderson and Gerbing 1988), supporters of the two-dimensional approach to brand loyalty continue to combine both dimensions into a single construct (see Ganesh, Arnold and Reynolds 2000; Pritchard, Havitz and Howard 1999) citing Day’s (1960) composite measure.

As can be seen there is little consistency in the approach to the brand loyalty construct, with some researchers combining both attitudinal and behavioural measures into a single construct, others using either attitudinal or behavioural measures as a single construct, or a few using both attitudinal and behavioural measures as two separate constructs. This presents a non-uniform approach which is a poor foundation for extending the brand loyalty construct beyond debate on definition, thus limiting development of marketing theory in this field.

This thesis presents a review of the research of both attitudinal and behavioural approaches including the historical development of each approach and the measures used. This thesis then identifies the key antecedents of brand loyalty in a business-to-business services context and includes them along with attitudinal brand loyalty and behavioural brand loyalty in a confirmatory model. The overall aim of this thesis is to identify and test a model of the potential antecedents of brand loyalty in a business services context. This is demonstrated though the testing of a proposed model with paths derived from previous literature and research. The fit of the hypothesised model is contrasted with that of a rival model. The competing model differs from the proposed model in that it includes direct paths between key antecedents and behavioural brand loyalty. Thus, the competing model allows for an indirect test of the mediating role of attitudinal brand loyalty.

The purpose of this chapter is to summarise the thesis and provide a rationale for the research. It commences with the background of the research, which summarises the key research in the brand loyalty field, and the implications of the business-to-
business and services research. This is followed by a discussion of the research gaps and the specific research questions. The methodology is then outlined, followed by the structure of the thesis. Finally, the key findings and contributions are outlined.

1.2 **Background of the research**

This research focuses on developing a model that identifies those factors that influence the development of brand loyalty in the business-to-business services sector. It is the comprehensive nature of a model that combines both attitudinal and behavioural brand loyalty measures as separate constructs, along with the antecedents, that offers a substantial theoretical contribution.

1.2.1 **Attitudinal and behavioural brand loyalty**

Brand loyalty is considered to be important to businesses as loyal customers spend more money than non-loyal customers (O'Brien and Jones 1995) and act as advocates for the brand by engaging in positive word of mouth (Oliver 1999). Thus “loyal customers are at the heart of a company’s most valuable customer group” (Ganesh, Arnold and Reynolds 2000, p66).

Brand loyalty as a concept has its origins in the 1920s. Copeland's (1923) conceptual research explored the benefits of branding for convenience goods, a marketing activity that was relatively new at the time. It introduced the notion of brand identification as a pre-purchase attitude with three levels, brand recognition, preference, and insistence (Copeland 1923). However this research did not propose any measurement of this attitude or identify the concept as brand loyalty.

The lack of empirical evidence for brand preference and loyalty was identified in the early 1940s (Guest 1942). The relationship between brand preference and buying behaviour had not been established at this stage, and brand loyalty was defined in attitudinal terms as being “constancy of preference over a period of years in the life of an individual” (Guest 1944, p17). In the 1950s when empirical research into brand loyalty gained momentum, behavioural measures were proposed (Cunningham
Brand loyalty was defined as share of the market in this study and measured using the proportion of total purchases on either a sole brand or the two largest single brands (Cunningham 1956). This behavioural approach continued through the late 1950s (Pessemier 1959) and mid-1960s (Peckham 1963) until Day (1969) proposed that brand loyalty was two-dimensional, and was comprised of both attitudinal and behavioural components. This proposition was later supported by Jacoby (1971) who developed a definition of brand loyalty, still used today, which is “the biased (non-random) behavioral response (purchase) expressed over time by some decision-making unit with respect to one or more alternative brands out of a set of brands and is a function of psychological processes” (Jacoby 1971, p25).

Further support for the two-dimensional approach was offered by the Howard and Sheth model of consumer behaviour (1974). This model, however, separates attitude and behaviour from the construct of purchase intention. Purchase intention is said to be the outcome of attitudes and is a predictor of future behaviour (Ajzen and Fishbein 1980). However, the effects of norms and situational factors are proposed to moderate the effect of purchase intention on behaviour (Ajzen and Fishbein 1980). These factors offer an explanation for the disparity between purchase intention and behaviour that sometimes occurs (Kraus 1995).

Attitude in the Ajzen and Fishbein (1980) model comprises evaluative beliefs towards the brand and affect, or liking towards the brand. Thus, brand attitude is comprised of cognition and affect. The Ajzen and Fishbein (1980) model was later extended through the addition of the affective item *commitment to the brand* (Traylor 1981), thus developing a measurement model of brand attitude using items that measure beliefs, affect and commitment.

In parallel to the development of the attitudinal approach to brand loyalty was the development of the behavioural approach. As mentioned, Cunningham (1956) was one of the earliest proponents of the behavioural approach to measuring brand loyalty. Others in the field, such as Bass (1974) and McConnell (1968), continued this approach, which gained momentum with the acceptance of the stochastic view of consumer behaviour, where behaviour is characterised by randomness and not
rational thought (Bass 1974; Hoyer 1984). Thus predictive models of brand loyalty such as the Dirichlet (Ehrenberg 1988; Ehrenberg and Uncles 1997) and NBD models (see East 1997) which relied on observed measures emerged. There are many researchers today who are strong advocates of the behavioural approach and do not perceive any value in using attitudinal brand loyalty measures (see Dall'Olmo Riley, Ehrenberg, Castleberry, Barwise and Barnard 1997; East and Hammond 1996; Ehrenberg 1997a; Sharp, Sharp and Wright 1999).

During the 1990s a two-construct view of brand loyalty developed with each construct representing a single dimension; attitudinal brand loyalty and behavioural brand loyalty (Dick and Basu 1994). In this model, purchase intention was suggested as another measurement item of brand attitude (Mellens, Dekimpe and Steenkamp 1996), rather than a mediator between attitude and behaviour as proposed by Ajzen and Fishbein (1980). One of the first studies to operationalise this two-construct view of brand loyalty was Baldinger and Rubinson (1996). However, as the research was proprietary, the scales used were not identified. This dissertation is one of the first studies to operationalise both attitudinal and behavioural brand loyalty with freely available methodologies in a business-to-business services context.

1.2.2 Business-to-business services sector

Understanding the context of the study is necessary for this research as it is a key driver in identifying the antecedents that influence brand loyalty. For instance, in the sector of fast-moving-consumer-goods, the nature of the market is high frequency purchase, low involvement and low transaction value (East 1997). This contributes to purchasers engaging in little decision-making in their repeat purchasing, unless a deviance from the usual occurs such as a sales promotion or new entrant (East 1997; Hoyer 1984). Key antecedents for brand loyalty in this instance would be behavioural variables such as prior behaviour or the level of experience (Bass 1974; Ehrenberg 1988). In the business-to-business and services sector it is acknowledged that decision-making occurs as a result of high levels of perceived risk and the high involvement nature of the purchase (East 1997; Morris 1992; Ziethaml 1981). This is particularly the case for complex and customised business services. The
implications of the business-to-business and services contexts for antecedents of brand loyalty will now be discussed.

There are three categories of antecedents of brand loyalty resulting from characteristics of a business services context. These are cognitive (involvement and perceived risk), emotional (satisfaction) and relational (trust and commitment). The characteristics of the business service sector indicate a high involvement purchase that requires decision-making and thus cognitive processes (Mitchell 1994a). This is due to the large transaction value and the length of time that purchasing can take in this sector which are likely to increase the perceived risk (Morris 1992; Wind and Webster 1972). Increased levels of perceived risk and involvement are also key characteristics of the services sector given the intangibility, simultaneous consumption and inconsistency of quality levels (Lovelock 1983; Ziehtaml 1981). The high levels of risk in professional services such as legal, accounting and advertising can influence high levels of brand loyalty (Mitchell 1994a).

The high levels of risk and involvement also provide an environment where satisfaction plays an important role in the service purchasing process. Satisfaction is the emotional response to the consumption of a service or good (Giese and Cote 2000) and is used as a source of information for the next service encounter (Oliver 1989). When there are high levels of risk, satisfaction with the previous service experience is likely to play a considerable role in determining future purchase (Jones and Suh 2000; Pritchard, Havitz and Howard 1999). Thus satisfaction plays an important role in determining brand loyalty in the services sector as it is based on prior experiences. Hence satisfaction in a business-to-business services context is particularly important given the high levels of credence qualities that make evaluation difficult. This increases the buyer’s reliance on personal experience as a source of information (Patterson, Johnson and Spreng 1997). However there “has been an almost total lack of attention to the industrial or business-to-business sector. This is surprising, given the prominence of business services” (Patterson, Johnson and Spreng 1997, p4)
The relational exchange research between the business seller and business buyer has been studied in terms of the constructs of trust and commitment (Ganesan 1994; Morgan and Hunt 1994). Trust and commitment between the seller and buyer generate long-term focus and relationships that are mutually beneficial, thus reducing the perceived risk of negative purchasing experiences (Morgan and Hunt 1994). Long-term relationships where the buyer stays with the same service provider indicates loyalty. However trust and commitment, as relational constructs, have been applied to the business services in very few studies (Moorman, Deshpande and Zaltman 1993). It appears that the characteristics of the business-to-business and services sectors identify perceived risk, involvement, satisfaction, trust and commitment as key factors in influencing brand loyalty. This is discussed in more detail in the next chapter.

The characteristics of the business-to-business and services sectors also influence the ordering of attitudinal and behavioural loyalty. Given the lack of pre-purchase evaluation and thus the increased risk, the purchaser is more likely to be involved in the purchase of services and engage in decision-making (East 1997; Ganesh, Arnold and Reynolds 2000; Ziehtaml 1981). Therefore the development of an attitude is likely to precede the development of a behaviour in a business services context.

A model of brand loyalty for the business-to-business services sector consists of behavioural brand loyalty as the outcome variable of attitudinal brand loyalty. The antecedent variables, which reflect the key characteristics of the business-to-business sector and services sector, are identified as trust (Moorman, Zaltman and Deshpande 1992), commitment (Morgan and Hunt 1994), perceived risk (Mitchell 1999), involvement (Zaichowsky 1985) and satisfaction (Oliver 1996). Each of these is discussed in chapter three with a proposed model of all antecedents and attitudinal and behavioural brand loyalty presented in chapter four. Also in chapter four is a competing model, which includes several direct effects between the key antecedents of satisfaction, trust and commitment, and behavioural brand loyalty. This competing model tests the mediating role of attitudinal brand loyalty for the antecedents and behavioural brand loyalty.
1.3 Justification for the research

Each year brands generate billions of dollars around the world in corporate revenue (Lyons 1998). A great deal of corporate effort is placed on developing new brands and building or protecting existing brands to achieve “the most important of all consumer responses – brand loyalty” (Czerniawski and Maloney 1999, pxi). The inclusion of brands in a purchaser’s evoked set is stated to be a risk-reduction strategy driven by the perceived guarantee of quality and consistency that brands represent (Peter and Ryan 1976). Brands help purchasers in their decision-making by communicating values that transcend the core benefit of the product. For instance, the Petuluma wine brand communicates passion and style, while Yellow Pages is one of the world’s most trusted brands (Lyons 1998). But why does the loyalty towards these brands vary across customer groups and what causes this variance? This chapter reviews the brand loyalty literature and identifies key constructs to explain this variation.

Brand loyalty is an important concept in strategic marketing. Brand loyalty provides fewer reasons for consumers to engage in extended information search among alternatives (Uncles, Dowling, Hammond and Manaresi 1998). Soloman (1994) also indicates that purchase decisions based on loyalty may become simplified and even habitual in nature, and this may be a result of satisfaction with the current brand(s). A base of loyal customers is advantageous for an organisation as it reduces the marketing cost of doing business (Javalgi and Moberg 1997). In addition, strategies such as brand extension and market penetration can capitalise on loyalty (Dekimpe, Steenkamp, Mellens and Abeele 1997). Finally, a large number of loyal customers is an asset for a brand and has been identified as major antecedent of brand equity (Dekimpe, Steenkamp, Mellens and Abeele 1997).

While most loyalty research has focused on frequently purchased consumer goods, the loyalty concept is also important for industrial goods (vendor loyalty), services (services loyalty) and retail establishments (store loyalty). However, there has been little evidence of research in the area of brand loyalty for the business services sector (Gordon, Calantone and di Benedetto 1993; Hutton 1997; Lichtenthal, Wilson and
Long 1997). This program of research represents one of the first to investigate
brand loyalty in a business service context.

A recent development in business-to-business research is the transference of
consumer concepts such as branding into the business context (see for instance
Gordon, Calantone and di Benedetto 1993; Hutton 1997). Whereas previously there
appeared to be clear lines of demarcation between business and consumer markets,
these lines are being blurred. Indeed it is questionable as to whether these are really
mutually exclusive groups at all (Fern and Brown 1984). Recent research in
business services indicates that consumer concepts may be successfully transferred to
the business sector (Cooper and Jackson 1988; Duravasula, Lyonski and Mehta
1999). The limited research that does exist on brand loyalty has focused on goods in
consumer market, yet the business-to-business market represents a growing sector.
For example, business-to-business web revenue is estimated at $66.5 billion
compared to the consumer web revenue estimated at $7.3billion in 2000 (Evans and
King 1999).

Where there are gaps in the literature in terms of constructs, approaches and
measurement instruments, this research has drawn from related research in the
consumer literature. Given the small number of empirical studies in business
services loyalty (see Patterson, Johnson and Spreng 1997; Quelch and Ash 1981),
there are few examples of scales that can be used to measure constructs related to
brand loyalty for businesses. Thus this research follows the guidelines offered by
organisational buying researchers Wind and Webster (1972), who suggest modifying
generalised models of consumer research for the business-to-business sector.

Research into the business-to-business sector has predominantly focused on
durables (Lichtenthal, Wilson and Long 1997) classifying the sector as ‘industrial’,
with an emphasis on manufacturing organisations. Consequently, many of the
theories have a manufacturing basis. However there has been an increasing interest
in business services (Patterson, Johnson and Spreng 1997). Thus the use of the term
‘business-to-business’ rather than ‘industrial’ marketing is emerging to reflect the
importance of services in addition to goods in the business context. The term
business-to-business is also more inclusive of all businesses regardless of their size, from small-scale business to large corporations, from manufacturing to services.

Services are becoming more and more important to the Australian economy representing 77% of total employment and 70% of GNP in Australia (Lovelock, Patterson and Walker 1998). “In the next decade 90% of all new jobs in Australia and New Zealand are expected to be in the services sector” (Lovelock, Patterson and Walker 1998, p6). However, given the increasing contribution of services to the economy it has attracted little academic research in the business-to-business community. Only 8% of articles in Journal of Business and Industrial Marketing are in services marketing (Johnston and Lewin 1997). The lack of research into the purchase of services by industrial buyers, including the professional services of legal, accounting and advertising, was highlighted in the mid 90s (Mitchell 1994a), however little has been done to address this gap since. Recent papers on loyalty in the services sector have also recommended further research in this area (Javalgi and Moberg 1997; Patterson, Johnson and Spreng 1997).

Previous brand loyalty studies in the consumer sector have also focused on goods rather than services and in particular, fast moving consumer goods (Dick and Basu 1994; Javalgi and Moberg 1997; Rosenbroijer 2001). The lack of research on brand loyalty in both the services and business-to-business sector provides an opportunity for extending the brand loyalty concept into both the business sector and the services area, thus widening its applicability to new market segments.

Finally, there has been little attention given to measuring the set of antecedents of brand loyalty in a business-to-business services context. Substantial research exists regarding the relationships between many of the proposed antecedents. However, there is currently no research that combines these antecedents in a single model.

1.4 Gaps in the literature

This program of research attempts to address two key gaps in the literature. The first is the lack of studies that contain both attitudinal and behavioural constructs (Dick
and Basu 1994; Ganesh, Arnold and Reynolds 2000). While as early as the 1960s definitions of brand loyalty incorporated both attitudinal and behavioural concepts, very few studies since have incorporated both types of measures. Those that have attempted to do this contain a single composite measure rather than two measures (see Day 1969; Donthu 1994). Researchers have pursued either attitudinal research and stopped at purchase intention (see Dorsch, Grove and Darden 2000; Patterson, Johnson and Spreng 1997), or have pursued only the behavioural outcomes such as market share and actual sales (see Ehrenberg and Goodhardt 2000; Sharp and Wright 1999).

The second gap in the literature to be addressed is the lack of research into branding in the business service sector, even though business brands such as Yellow Pages and Hewlett Packard generate billions of dollars from the business-to-business sector (Lyons 1998). Additionally, the activity on branding in the business-to-business sector is increasing (Rosenbroijer 2001). Business research is primarily in the goods arena with little focus on services (Dawes, Dowling and Patterson 1993; Patterson, Johnson and Spreng 1997). This has resulted in the area of business-to-business services being poorly defined and under researched.

The justifications for not measuring both attitudinal and behavioural constructs are valid. It is readily acknowledged that it is very difficult to obtain both attitudinal and behavioural research for the same individual/organisation, the time and money required often precludes this type of research (Dekimpe, Steenkamp, Mellens and Abeele 1997). Thus the measurement of brand loyalty had digressed into two camps, with each criticising the other for their perceived weaknesses (Baldinger and Rubinson 1997; Ehrenberg 1997a). However, given the potential benefits of a comprehensive approach to brand loyalty in business-to-business services, the current program of research has sought to address this gap.

These gaps led to the development of three research questions. The first concerns the relationship between attitudinal and behavioural brand loyalty. The behavioural researchers propose that behaviour occurs first and then an attitude is developed in post-consumption (East 1997; Ehrenberg, Hammond & Goodhardt 1994). However,
attitudinal researchers propose that in the course of decision-making attitudes are formed that are followed by behaviour (Ajzen and Fishbein 1980; Baldinger and Rubinson 1996; Dick and Basu 1994; Mellens Dekimpe and Steenkamp 1996). If attitudinal brand loyalty precedes behavioural brand loyalty, and there are relationships between attitude and other factors, then it is possible that attitudinal brand loyalty mediates the effects of these factors on behavioural brand loyalty. Thus the first research question was developed:

*What is the relationship between attitudinal brand loyalty and behavioural brand loyalty?*

The conceptual framework offered by Dick and Basu (1994) proposes a model of customer loyalty that includes antecedents and consequences. This research adopts the philosophy of a broad model for the specific area of brand loyalty. The inclusion of antecedents in this model allows for an understanding of the cognitive and affective influence on brand loyalty providing a richer understanding of the construct. Additionally, given the lack of research into brand loyalty in the business-to-business services sector, an understanding of the antecedents and their effect on brand loyalty, specific to this sector, was sought. Thus, the second research question was developed:

*What are the potential antecedents of brand loyalty in the business-to-business services sector?*

The importance of relational elements for business-to-business and services was elaborated earlier in this chapter. Trust and commitment play an important role in maintaining relationships which predispose the buyer to repurchasing a brand (Morgan and Hunt 1994). However, the relationship between these relational constructs and brand loyalty has not been previously explored, therefore the third research question was developed:

*What is the role of relational constructs in influencing attitudinal brand loyalty?*
1.5 Methodology

This study is explanatory in nature; that is, it identifies a set of relationships in a model and seeks to confirm these through research and analysis. The relationships are derived from previous empirical research that provides face validity for the model. One of the complex matters in this research was the simultaneous nature of the measurement, as some of the constructs in the proposed model are both dependent and independent simultaneously. The most appropriate analysis technique to test a model of this nature is structural equation modelling (SEM) (Hair, Anderson, Tatham and Black 1998).

The research problem should drive the methodology (Green, Tull and Albaum 1988; Neuman 1997). Given that the research questions of this thesis were ‘what’ questions, according to Yin (1984) these are best answered using the survey method of data collection. A quantitative approach was used in all three stages of the research. In an attempt to understand potential ordering relationships, a longitudinal study was designed for the main study, where data was collected at two points in time. This gives temporal ordering between the attitudinal brand loyalty and behavioural brand loyalty constructs, allowing a causal relationship to be explored (Hair, Anderson, Tatham and Black 1998).

There were three stages to the research (see Table 1-1). Stage one was a pilot test to test the scales for a business context. This was mailed to 300 businesses from the same data set from which the main study sample would be drawn. It was anticipated that the scales would transfer with only minor modification required; previous studies have indicated that scales for consumer services transferred easily to the business sector (Cooper and Jackson 1988; Duravasula, Lysonski and Mehta 1999).

A response rate of 9% was obtained and some changes to the format of the survey were required to increase the response for stage two, the collection of cognitive and affective data using the main survey. The use of pre-existing scales assisted in establishing face validity and reliability for stage one. Further validity and reliability tests were conducted on the main survey data in stage two in order to refine the items
to be used. It was expected that some items would be eliminated due to their use in a new context (business).

Table 1-1 Summary of research events

<table>
<thead>
<tr>
<th>Research method</th>
<th>Sample size</th>
<th>Data</th>
<th>Objective</th>
<th>Data collection date</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage one Pilot study</td>
<td>27</td>
<td>Quantitative data (mail survey)</td>
<td>To test scales for business-to-business services context</td>
<td>September 1998</td>
<td>Cronbach alpha</td>
</tr>
<tr>
<td>Stage two Main study</td>
<td>267</td>
<td>Quantitative data (mail survey)</td>
<td>To obtain indicators of attitudinal and emotional constructs in the model and refine these scales</td>
<td>August 1999</td>
<td>Single factor congeneric models</td>
</tr>
<tr>
<td>Stage three Main study</td>
<td>267</td>
<td>Quantitative data (archival data and mail survey)</td>
<td>Collection of behavioural data from archival records. This was combined with attitudinal responses to test hypotheses</td>
<td>March 2000</td>
<td>Estimation of structural model</td>
</tr>
</tbody>
</table>

Stage two was a survey mail-out to 1472 businesses throughout the Gold Coast area of Australia. In order for brand choice to occur, there needs to be at least two viable brands (Jacoby and Chestnut 1978). Therefore this region was chosen for its highly competitive nature in the product category. The product examined in this thesis was directory advertising with the emphasis on businesses who bought advertising rather than consumers of the product who received it at no cost. Advertising is a commonly purchase service by businesses and this makes it suitable for a study of business services. Advertising services are classified as professional services due to the high level of customisation required and the high level of credence qualities (Crosby, Evans and Cowles 1990, Mitchell 1994a).

The choice of directory advertising as the product category was also chosen as it allowed for a multi-industry approach to be undertaken. A wide range of industries purchases directory advertising; the data was thus sourced from hundreds of product classifications in many different industries. The survey contained information on each of the five antecedent variables as well as attitudinal brand loyalty.

Due to the difficulty in identifying an appropriate scale for measuring attitudinal brand loyalty, two possible scales were included; brand specific and personality trait based. These were analysed to determine which was the most appropriate measure
of attitudinal brand loyalty. A response rate of 20% was obtained using follow-up phone calls after the first wave of surveys, with a second survey mailed out to those who responded positively to the phone call. This response rate is deemed to be acceptable in business research due to the difficulty in obtaining co-operation from businesses (De Vaus 1995; Baldauf, Reisinger and Moncrief 1999).

The third stage was the collection of behavioural data using archival records, combined with the data from stage two which allowed estimation of the structural model. This was obtained through company records of actual expenditure on each of three brands. This data was held by Pacific Access Pty Ltd, the distributor of Yellow Pages. The behavioural data was then matched to the survey records for each business to provide cognitive, affective and behavioural data for each respondent.

The data was then analysed using the LISREL 8.3 software. A two-step approach to structural equation modelling was used with the measurement models estimated, followed by the structural model estimation. The measurement model was estimated using congeneric single factor models for each of the constructs. This approach was used for two reasons; first to reduce the number of parameters in the model appropriate for the sample size, and second to eliminate items that did not exhibit high levels of validity or reliability (Holmes-Smith and Rowe 1994).

1.6 Structure of the thesis

Chapter two is concerned with the extant brand loyalty literature. The chapter commences with a discussion on the definition of brand loyalty, encompassing the debate between attitudinal and behavioural researchers on brand loyalty. It also summarises the research to date on brand loyalty and classifies it according to its approach. The chapter then proceeds to discuss approaches to brand loyalty and presents an original classification of the key research to date. Next it presents the various brand loyalty measures and discusses the attitude-behaviour relationship with implications for measuring brand loyalty.
Chapter three deals with the characteristics of the business-to-business and services sectors. It identifies the key antecedents in each and brings them together as key constructs for the business service sector. These antecedents have been identified as satisfaction, trust, commitment, perceived risk and involvement.

Chapter four develops these key constructs into a model of brand loyalty for the business services sector. It reviews each of the antecedents and the relevant literature before proposing a model of the relationships between these antecedents and attitudinal and behavioural brand loyalty. Each of the eleven relationships within the proposed model is then discussed in terms of the empirical evidence and logic from which they were derived. These relationships then form the eleven hypotheses in the proposed model to be tested. Finally, the fit of the hypothesised model is compared with that of a competing model.

Chapter five discusses the methodology used to test the proposed model. A justification of the research design is offered followed by a discussion of reliability and validity. Discussion of the issues of sample size and selection precede a discussion on the preparation of the data for structural equation modelling. The final section of this chapter comprises a detailed explanation of how the data will be analysed.

Chapter six presents the results of stage one; a pilot study to test the reliability of the survey scales for a business-to-business context. This chapter presents a rationale for the inclusion of scale items from previous research. Additionally, it details the modifications to the scales as a result of this testing.

Chapter seven presents the results of stage two, which was the collection of cognitive and affective data using the main survey, and a description of the sample characteristics of the main study. The results presented are the refinement of the measurement models via structural equation modelling. The single factor congeneric models for each construct are detailed with the relevant goodness-of-fit statistics. This chapter also indicates the items that were eliminated to increase the validity and reliability of the measures.
Chapter eight presents the results of stage three; the collection of the behavioural data and the estimation of the full structural model that tested the hypotheses in the proposed model and the competing model. The results of each are presented along with a multi-group analysis between high and low involvement.

Chapter nine discusses these findings in light of the three research questions and the eleven hypotheses of this thesis. It identifies five contributions and discusses the implications for marketing theory and practice in the business service context. Finally, the limitations of the research are discussed, followed by recommendations for further research. The appendices include definitions of all key terms used in the research, and a copy of the mail survey.

1.7 Key findings and contributions

The findings of this research provide support for the proposed model over the competing model as having a better fit to the data. None of the direct paths to behavioural brand loyalty were significant and a chi-square difference test found there to be a significant difference between the two models. The proposed model was revised to include support for nine of the eleven hypotheses. The two unsupported hypotheses relate to the construct of perceived risk. There was evidence for all proposed constructs as antecedents of brand loyalty and the relationship of attitudinal brand loyalty predicting behavioural brand loyalty was supported. Two unexpected relationships between constructs were found, these being the relationship between perceived risk and commitment, and trust and attitudinal brand loyalty. The key antecedent to attitudinal brand loyalty was found to be satisfaction rather than the relational constructs of commitment and trust.

There are five contributions made by this research for marketing theory and practice:

1. Combined attitudinal and behavioural study. There has been little research to date that includes both of these dimensions in a single study.

2. The research measures both attitudinal and behavioural brand loyalty in a longitudinal study. This allows discussion of the ordering of these two dimensions. It provides evidence that attitude precedes behaviour in a high-involvement context (business services).
3. Three classes of antecedents. This represents what appears to be the first major Australian study of direct and indirect antecedents of brand loyalty. There has been previous empirical research on several of the antecedents and their effect on brand loyalty, however not combined in a single model.

4. This is likely to be one of the first studies of brand loyalty in a business service setting. As mentioned, there has been little use of the brand loyalty construct in business-to-business research.

5. This thesis offers implications for theory and practice. This includes scale development, extending theory, offering diagnostic tools and marketing strategies.

1.8 Assumptions

There are two assumptions that this thesis makes that were supported by the research; each of these will be discussed. First, business-to-business and consumer marketing are not separate and distinct categories; they share some characteristics. This enables consumer constructs to be used in business-to-business research. Thus brand loyalty, as a concept, appears to be relevant to both consumer and business-to-business markets however, the approach and measurement is context specific.

Second, in the business services context, attitudinal loyalty (predisposition towards purchasing a brand) precedes behavioural loyalty (actual purchase of the brand).

Assumption one is based on Fern and Brown’s (1984) assertion that the differences between the consumer and business sectors may not be as distinct as to warrant completely separate research. Hunt’s (1991) criteria for classification assert that the differences identified to date between the business and consumer sectors may not be as distinct as previously classified. Indeed, Sheth (1979) views the two sectors as the end points on a continuum, rather than as mutually exclusive categories.

Thus the brand loyalty concept appears to be relevant to the business sector as well as the consumer sector. Research has already commenced on the application of other branding concepts such as brand equity (Gordon, Calantone and di Benedetto 1993; Hutton 1997) and brand awareness preference in business markets (Yoon and
Kijewski 1995). This research is one of the first to extend the brand loyalty concept into the business sector.

Assumption two proposes that in a business services context, the brand loyalty concept of behavioural brand loyalty is preceded by attitudinal brand loyalty. Due to the level of decision-making and the high involvement nature of most business service markets, it is appropriate to include attitudes in the model. With this ordering, this thesis assumes that attitudinal brand loyalty mediates the effects of antecedents on behavioural brand loyalty (see Dick and Basu 1994; Ajzen and Fishbein 1980). The ordering of this relationship is discussed in chapter two.

1.9 Summary

Brand loyalty is an important issue for businesses as it can result in positive word-of-mouth, increased sales and more efficient marketing programs. Brands assist purchasers to reduce perceived risk and effort (Roselius 1971). However, while brand loyalty has been extensively studied in the fast-moving-consumer-goods sector, there is little evidence of research in the business services sector.

Billions of dollars each year are spent on business brands and with the growth in both the business-to-business (Evans and King 1999) and services sector (Javalgi and Moberg 1997), there are clearly opportunities to investigate brand loyalty and its antecedents. The purpose of this research is to investigate brand loyalty in a business service context and identify the relationships between brand loyalty and its antecedents.

In summary, this chapter has outlined the purpose of the research, identified the research questions and outlined the method used to investigate the research questions. This integrated program of research was undertaken in three stages. Stage one entailed the pilot testing of the consumer scales in a business setting, stage two involved the collection of the cognitive and affective data using a survey, and stage three involved the collection of behavioural data using archival records. The
data from stage two and three were combined to allow estimation of the structural model and hypotheses testing. Finally, the structure of the thesis was outlined.
2 Brand loyalty and the attitude-behaviour relationship.

2.1 Introduction

This chapter reviews the literature relating to brand loyalty and its antecedents. A key outcome of the chapter is the proposition of an empirically testable model of brand loyalty and its antecedents. As has been highlighted in the previous chapter, there has been little evidence of any research despite the relevance and importance of brands in this sector. This chapter begins with an outline of the definitions of brand loyalty followed by a discussion on the two-dimensional nature of brand loyalty by examining the theoretical approaches to brand loyalty; attitudinal and behavioural. Attitudinal brand loyalty is concerned with the emotional and cognitive predispositions towards a brand while behavioural loyalty focuses on actual repurchase of a particular brand. Following is a discussion on the ordering relationship between attitude and behaviour and the implications this has for brand loyalty. Finally, the literature review focuses on the potential antecedents of brand loyalty in the business-to-business services sector that are identified as, trust, commitment, satisfaction, perceived risk, and involvement. Thus this chapter draws together the relevant literature on brand loyalty and its antecedents to form the conceptual foundation of the model that is tested.

2.2 Definitions of brand loyalty

The concept of brand loyalty was developed empirically in the 1940s and 1950s as a unidimensional construct and defined in attitudinal terms such as ‘brand preference’ (Guest 1944) or behavioural terms such as ‘share of the market’ (Cunningham 1956). However, Day (1969) disputed the singular nature of the construct and was the original proponent of the two-dimensional concept of brand loyalty to include attitude and behaviour. Jacoby (1971) built on this foundation and developed a definition of brand loyalty that appears to be the basis of most brand loyalty research today.
Jacoby (1973) and Day (1969) made the assertion that both behaviour and attitudes need to be considered when looking at brand loyalty, however, this is not always undertaken. Possible reasons for this are the differing background of researchers in the area (Mellens, Dekimpe and Steenkamp 1996) or logistical problems with the data collection of both behavioural and attitudinal data including ease of collection and cost (Dekimpe, Steenkamp, Mellens and Abeele 1997).

While Dick and Basu (1994) support Jacoby’s definition, particularly the involvement of a psychological process (cognition), they criticise the omission of factors impacting on repeat purchase such as situational constraints, different usage situations, lack of brand preference or variety-seeking behaviour. However, essentially there appears to be common support amongst researchers at a broad level for Jacoby’s definition.

This research adopts the Day (1960) and Jacoby (1971) two-dimensional view of brand loyalty; attitudinal and behaviour. However as attitudes consist of both cognitive and emotional elements (Kim, Lim and Bhargava 1998) this research expands Jacoby’s definition of brand loyalty to include emotions as well as psychological processes. The definitions of brand loyalty used by this research are:

**Brand loyalty** is the biased (non-random) behavioral response (purchase) expressed over time by some decision-making unit with respect to one or more alternative brands out of a set of brands and is a function of psychological processes” (Jacoby 1971, p25) and emotional response.

**Attitudinal brand loyalty** is the consumer’s predisposition towards a brand as a function of psychological processes. This includes attitudinal preference, commitment towards the brand and intention to purchase the brand (Mellens, Dekimpe and Steenkamp 1996, p510).

**Behavioural brand loyalty** is the consumer’s tendency to repurchase a brand revealed through behaviour which can be measured and which impacts directly on brand sales (Hammond, East and Ehrenberg 1996).
2.3  **Theoretical approaches to brand loyalty**

2.3.1  **An overview of the dimensions of brand loyalty**

The review of the previous research in the field commences with a discussion on brand loyalty research. Although brand loyalty appears to be commonly accepted as a two-dimensional construct (Baldinger and Rubinson 1996; Day 1969; Dick and Basu 1994; Mellens, Steenkamp and Dekimpe 1996), most researchers in the field have treated it as being unidimensional. Many studies can be easily classified as attitudinal (see for instance attitudinal studies Sheth 1968; Patterson, Johnson and Spreng 1997; Ajzen, and Fishbein 1980; Caldow and Patterson 1999) or behavioural (see for instance behavioural studies Bass, Pessemier and Lehmann 1972; Hammond, East and Ehrenberg 1996; Sharp and Wright 1999). While there are several studies that have combined the two dimensions (Donthu 1994; Ganesh, Arnold and Reynolds 2000; Pritchard, Havitz and Howard 1999) they either used Day’s (1969) measure of loyalty as a composite score (proportion of purchases/mean score of attitude) or placed attitude as an antecedent to brand loyalty rather than loyalty itself. Only two have explicitly measured attitudinal and behavioural brand loyalty as separate constructs (see Baldinger and Rubinson 1996; Farr and Hollis 1997). These two studies will now be discussed.

Baldinger and Rubinson (1996) developed the **Brandbuilder model** which contains both attitudinal brand loyalty and behavioural brand loyalty. Their model is based on three premises. First, all brands can be described behaviourally (market share, penetration and repeat buying). Second, a series of survey questions can be used as probability of purchase. Third, once customers have been classified behaviourally it is possible to link attitudes towards those brands (Baldinger and Rubinson 1996).

During this research, once the respondents were classified into high, medium or low behavioural loyalty, the attitudinal survey questions were added to produce a three-by-three matrix (Baldinger and Rubinson 1996). The study demonstrated that the more attitudinal commitment to the brand the more likely customers were to remain
loyal or become loyal. In order to address the issue of whether the linkage between attitude and behaviour could be used as a predictive model, the researchers developed two main groups: prospects and vulnerables. The prospects were the group whose attitudes towards the brand were stronger than their behaviour, while the vulnerables were those whose attitudes towards the brands were weaker than their behaviour. This conclusion supports Dick and Basu (1994) who also classified loyalty on a sliding scale of attitudes rather than an absolute value. Baldinger and Rubinson’s (1996) research revealed that loyalty can be achieved at both high and low attitudinal strengths. This research illustrates the managerial implications of using a combined approach. However, while this approach appears sound, it has not been replicated due to the proprietary nature of the research.

The conclusion of the research shows that high loyal buyers who have consistent attitudes towards the brand tend to behaviourally loyal compared to those with inconsistent attitudes (Baldinger and Rubinson 1996). Therefore this research suggests that the level of attitudinal loyalty is a better indicator of retention, rather than the level of behavioural loyalty (Baldinger and Rubinson 1996).

Farr and Hollis (1997) also conducted research which supports Baldinger and Rubinson’s (1996) claim that attitudes towards a brand play a part in the brand’s success. Farr and Hollis (1997) discuss the double jeopardy effect and propose that pull and push mechanisms cause double jeopardy within categories for attitudinal as well as behavioural data. ‘Pull mechanisms’ are marketing activities that create predisposition (advertising) and ‘push mechanisms’ are those activities present at point of sale (sales promotions) (Farr and Hollis 1997). The double jeopardy effect asserts that large brands attract more loyalty than smaller brands (Donthu 1994) and is discussed in more detail under section 2.6.2 behavioural approach to brand loyalty.

The attitudinal approach views brand loyalty as the result of psychological and emotional factors (Jacoby and Kyner 1973; Sheth 1974; Martin and Goodell 1991; Mellens, Dekimpe and Steenkamp 1996). By contrast the behavioural view defines brand loyalty as a behavioural phenomena which is stated to be the result of prior
behaviour and observed market share (Bass, Pessemier and Lehmann 1972; Olshavsky and Granbois 1979; Ehrenberg and Uncles 1997).

The attitudinal approach views purchasing as a reasoned action where attitudes are formed prior to behaviour occurring (Ajzen and Fishbein 1980; Baldinger and Rubinson 1996; Sheth 1974). Conversely, the behavioural approach asserts that due to the stochastic nature of purchasing, little decision-making occurs prior to purchase, thus behaviour precedes the development of attitude (Bass, Pessemier and Lehmann 1972; Olshavsky and Granbois 1979; Ehrenberg and Uncles 1997).

The core premise of this thesis is that brand loyalty is a two-dimensional construct (Day 1969); a combination of both attitudinal and behavioural approaches. This supports the Jacoby (1971) definition of brand loyalty as being “the biased (non-random), behavioral response (purchase) expressed over time by some decision-making unit with respect to one or more alternative brands out of a set of brands and is a function of psychological processes” (Jacoby 1971, p25).

Researchers agree that loyalty is a very complex construct (Javalgi and Moberg 1997) and most use the composite definition of brand loyalty that was originally proposed by Jacoby (1971). However, there is little consensus on the approach to be taken when measuring the construct as evident by the history of brand loyalty outlined in chapter two.

This lack of agreement has seen many promote a single approach over competing approaches (see for instance Baldinger and Rubinson 1996; Baldinger and Rubinson 1997; Ehrenberg 1997b; Ehrenberg 1997a; Farr and Hollis 1997). This debate is not recent, surfacing initially in the 1970s (see Jacoby 1975; Jacoby and Kyner 1973; Tarpey 1974; Tarpey 1975).

The breadth of research into brand loyalty is summarised in Table 2-1 with each article classified in terms of the approach used; attitudinal, behavioural or combined. The articles selected are a cross-section of the research available over time. This
The table demonstrates the level of interest in brand loyalty research and the diversity of approaches that have been taken in conducting this research.

As can be seen, the attitudinal approach includes fast moving consumer goods, durables and services, compared to the behavioural approach which focuses predominantly on fast moving goods. The combined approach contains a balance between fast-moving-consumer-goods and services. This table illustrates the history

<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Attitudinal approach</th>
<th>Behavioural approach</th>
<th>Combined approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ajzen and Fishbein (1980)</td>
<td>Various – stores, automobiles</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baldinger and Rubinson (1996)</td>
<td>Variety of packaged and non-packaged consumer goods</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Bawa and Shoemaker (1987)</td>
<td>Not stated</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Bonfield (1974)</td>
<td>Soft drink</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Bucklin and Gupta (1992)</td>
<td>Liquid laundry detergent</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Caldow (1998)</td>
<td>Services</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cunningham (1956)</td>
<td>Various consumer goods</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Dall'Olmo Riley, Ehrenberg, Castleberry, Barwise, and Barnard (1997)</td>
<td>Laundry detergent</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Day (1969)</td>
<td>Convenience food products</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Dekimpe, Steenkamp, Mellens and Abeele (1997)</td>
<td>Condensed milk, dry cat food and beer</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Donthu (1994)</td>
<td>Television programs</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>East and Hammond (1996)</td>
<td>Coffee, detergent and toothpaste and crackers</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>East, Hammond Harris and Lomax (2000)</td>
<td>Supermarkets</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Author</td>
<td>Product</td>
<td>Attitudinal approach</td>
<td>Behavioural approach</td>
<td>Combined approach</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Ehrenberg and Goodhardt (1970)</td>
<td>Dog food, dentifrice, detergents, gas, coffee, margarine, cereals, toilet soap</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ehrenberg and Uncles (1997)</td>
<td>Various fast moving consumer goods</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Ehrenberg, Goodhardt and Barwise (1990)</td>
<td>Instant coffee, TV series, aviation fuel</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Ehrenberg, Hammond and Goodhardt (1994)</td>
<td>25 grocery products</td>
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<td></td>
<td>✓</td>
</tr>
<tr>
<td>Ehrenberg and Goodhardt (2000)</td>
<td>Antidepressants, cereal bars, chocolate biscuits, coffee, detergents, fruit</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Fader and Schmittlein (1993)</td>
<td>Various grocery products</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Farr and Hollis (1997)</td>
<td>Various fast moving consumer goods</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Fournier and Yao (1997)</td>
<td>Coffee</td>
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<td></td>
</tr>
<tr>
<td>Guest (1944)</td>
<td>Consumer goods</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gwinner, Gremler, and Bitner (1998)</td>
<td>Services</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Harrell and Bennett (1974)</td>
<td>Medical prescriptions</td>
<td></td>
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<td>✓</td>
</tr>
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<td>Hoyer (1984)</td>
<td>Laundry detergent</td>
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</tr>
<tr>
<td>Jacoby (1971)</td>
<td>Cake mix</td>
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<td>Jacoby and Kyner (1973)</td>
<td>Candy bars</td>
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<td>Johnson (1973)</td>
<td>20 fast moving consumer goods</td>
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<td>Kim, Lim and Bhargava (1998)</td>
<td>Pizza</td>
<td></td>
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</tr>
<tr>
<td>Lichtenstein, Netemeyer and Burton (1990)</td>
<td>Toothpaste, laundry detergent, deodorant, shampoo</td>
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<td>Massey and Frank (1991)</td>
<td>Various – types not stated</td>
<td></td>
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<td>✓</td>
</tr>
<tr>
<td>McConnell (1968)</td>
<td>Beer</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Neslin, Henderson and Quelch (1985)</td>
<td>Bathroom tissue and coffee</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Author</td>
<td>Product</td>
<td>Attitudinal approach</td>
<td>Behavioural approach</td>
<td>Combined approach</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------</td>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Papatla and Krishnamurthi (1996)</td>
<td>Liquid and powder laundry detergent</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Patterson, Johnson and Spreng (1997)</td>
<td>Consultancy (service)</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Peter and Ryan (1976)</td>
<td>Motor vehicles</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pritchard, Havitz and Howard (1999)</td>
<td>Airline travel</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Quelch and Ash (1981)</td>
<td>Professional services</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Raj (1985)</td>
<td>Various – 900 types</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Ringham, Johnson and Morton (1994)</td>
<td>Service</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Rundle-Thiele, Dawes and Sharp (1998)</td>
<td>Telecommunications</td>
<td></td>
<td></td>
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</tr>
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<td>Sheth (1968)</td>
<td>Various – soft drinks, toothpaste, food, detergents</td>
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<td>Sheth and Venkatesan (1968)</td>
<td>Hair spray</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Shimp and Dyer (1981)</td>
<td>Services (accounting)</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Smith and Swinyard (1983)</td>
<td>Snack food items</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sproles and Kendall (1986)</td>
<td>Retail – various</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Tucker (1964)</td>
<td>Bread</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Westbrook and Oliver (1981)</td>
<td>Products and services</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Wright, Sharp and Sharp (1998)</td>
<td>Retail fuel, supermarket and department store purchases</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Note: None of these studies incorporated an affective construct although this may be implicit in their measurement of attitude.
of brand loyalty research commencing in the early 1940s and continuing with the key focus on consumer goods.

2.4 Attitudinal approach to brand loyalty

2.4.1 Introduction

This section outlines the attitudinal approach to brand loyalty by examining key research in the area (Ajzen and Fishbein 1980; Baldinger and Rubinson 1996; Dick and Basu 1994). In particular this section highlights the importance of emotions to attitude formation (Dick and Basu 1994; Kim, Lim and Bhargava 1998) and examines the implications of the expectancy-value model of attitude (Ajzen and Fishbein 1980). Finally, it outlines measures of attitudinal brand loyalty.

2.4.2 Definition of attitudinal approach

The attitudinal approach takes a deterministic view of purchase behaviour and seeks to explain it in terms of attitudes, values and beliefs. Essentially, it is concerned with the underlying attitudinal process and evaluation criteria of a given purchase (Mellens, Dekimpe and Steenkamp 1996). Deterministic theory consists of logical relationships between variables (Hunt 1991), thus attitudinal researchers posit an ordering relationship between attitude and behaviour and these researchers are concerned with identifying the variables that influence purchase behaviour, including attitudes.

The attitudinal approach to brand loyalty stresses the importance of understanding the antecedents of the purchase and incorporates measures of attitude towards the brand such as brand preference or a liking for a brand (Pellemans 1974; Ajzen and Fishbein 1980; Mellens, Dekimpe and Steenkamp 1996), commitment to the brand (Traylor 1981; Foxall 1987; Martin and Goodell 1991; Mellens, Dekimpe and Steenkamp 1996), and intention to purchase the brand (Ajzen and Fishbein 1980; Oliver 1980; Shimp and Dyer 1981; Westbrook and Oliver 1981; Patterson, Johnson and Spreng 1997; Gremler and Brown 1998). It appears to be commonly accepted
amongst attitudinal researchers that attitude precedes behaviour in the context of repurchasing a product and is important because brand attitudes determine brand choice (Day 1969; Foxall 1987; Gremler and Brown 1998; Jacoby 1971; Keller 1993; Martin and Goodell 1991; Traylor 1981).

2.4.3 Role of emotion

Traditionally attitudes were viewed as the result of beliefs (Ajzen and Fishbein 1980), however, recent research (Kim, Lim and Bhargava 1998) suggests that attitudes can be formed by a combination of the attitudinal construct of beliefs and by emotional reaction. Their research found that as the level of exposure to an object increases, the influence of beliefs on attitude formation is greater than the influence of emotion (Kim, Lim and Bhargava 1998). This illustrates that in the absence of cognitive information, emotions are responsible for attitude development. The implications of this research for attitudinal brand loyalty suggest that the lower the level of experience (exposure) with a product category then the more likely it is that emotions would contribute to attitudinal brand loyalty in comparison to cognitive information or beliefs. As the purchaser becomes more experienced it would be expected that the role of emotions would diminish.

Measuring emotional response is a recent development in the field of marketing (Darley and Lim 1992) and while there is some disagreement of the nature of emotion there is general consensus on six emotional categories. These are: sadness, happiness, surprise, fear, disgust and anger (Darley and Lim 1992). The inclusion of the affective domain has long been posited (Bennett and Kassarjian 1972; Tucker 1964) but has not been addressed in the area of brand loyalty until recently when it was proposed that loyalty has affective antecedents (Dick and Basu 1994), these being; emotion, feeling state/mood, primary affect and satisfaction.

Emotions are particularly influential on brand loyalty if the purchasing process is habitual with little cognitive appraisal. Mood states are lighter than emotions and are stated to affect behavioural loyalty through accessing of memory (Dick and Basu 1994). Primary affect is a physiological response and is believed to be stimulated.
through the senses; therefore, a perfume in a store may stimulate a positive memory and render a favourable attitudinal predisposition towards the brand (Dick and Basu 1994). Finally, satisfaction is an emotional antecedent to brand loyalty (Dick and Basu 1994).

The implications of emotion on brand loyalty suggest that if brand loyalty has an attitudinal component and there are both cognitive and affective antecedents of attitudes, it follows that brand loyalty is impacted on by both cognitive and affective constructs. This creates an alternative perspective on brand loyalty and allows for the incorporation of the affective constructs, such as satisfaction, in a model of brand loyalty.

2.4.4 Models of attitudinal brand loyalty

There have been many criticisms of the attitudinal approach. Traditionally this approach, being concerned with the decision-making process, does not measure the result of the decision-making, that is, actual purchase. It has tended to be intention and past behaviour focused (Ajzen and Fishbein 1980; Mellens, Dekimpe and Steenkamp 1996). Because it does not look outside the human brain, it does not take into account the constraints or situation-specific variables at time-of-purchase which may lead the purchaser to buy an alternative brand to that which they had intended (East 1997).

**Expectancy–value model**

Attitudes are central to the attitudinal model of brand loyalty and are defined as “a function of a person’s salient beliefs that the object has certain attributes and his/her evaluations of these attributes” (Ajzen and Fishbein 1980, p153). This is the expectancy-value theory of attitude and incorporates the constructs of salient attributes, beliefs and outcome evaluations. The outcome evaluations are measured by bipolar differential scales and the strength of the belief is measured by the likelihood of an outcome occurring (using a scale 0 to 100%) (Ajzen and Fishbein 1980).
Marketing researchers have adopted this expectancy-value model and measure attitudes towards a brand in the form of a multi-attribute model (Keller 1993). The multi-attribute model requires the respondent to indicate the belief strength and attribute evaluation towards particular brands. The level of attitude is obtained by multiplying the level of importance of the attribute by the subject’s evaluation of the attribute.

While this method is well regarded by many marketing researchers (Keller 1993), it is criticised by Ajzen and Fishbein (1980) as not being an appropriate measurement instrument for brand attitudes and “extraneous to an expectancy-value model” (Ajzen and Fishbein 1980, p155) due to its reliance on evaluative criteria rather than salient beliefs. Evaluative criteria cannot provide the information which determine consumers attitudes as they are not salient beliefs, which are the underlying antecedent of attitudes (Ajzen and Fishbein 1980). A salient belief may be relevant to one brand only, rather than to all brands, whereas evaluative criteria are the small number of attributes that can differentiate the consumer’s preference for a particular brand or product over another (Ajzen and Fishbein 1980).

Interestingly, recent research to discredit the use of attitudinal loyalty used evaluative and descriptive criteria on which to measure attitudes (Dall'Olmo Riley, Ehrenberg, Castleberry, Barwise and Barnard 1997). This research used statements such as ‘value for money’ as the basis for their attitudinal measure. According to Ajzen and Fishbein (1980) this type of statement is not a salient belief, but an evaluative criteria, therefore the brand attitude measure in this research appears to conflict with Ajzen and Fishbein’s (1980) recommendations for measuring brand attitude. Thus this study (Dall'Olmo Riley, Ehrenberg, Castleberry, Barwise and Barnard 1997) appears not to have used an appropriate method of measuring attitudes and their conclusion that attribute beliefs are variable or stochastic in nature should be questioned.

Ajzen and Fishbein (1980) also comment on the inclusion of importance ratings on the multi-attribute model. Their research suggests that this construct should not be
included as it reduces the predictive power of an expectancy-value model and thus reduces the validity of the attitude score (Ajzen and Fishbein 1980).

Hence the appropriate use of the expectancy-value model relate to three constructs that determine purchase of a brand or product: intention to purchase, brand attitude towards purchase, and subjective norms (Ajzen and Fishbein 1980) rather than a multi-attribute model. Of these three, intention to purchase is posed as the best single predictor of actual buying behaviour according to Fishbein and Ajzen (1980). This is supported by East (1997) who offers buying intention as the only attitudinal predictor of purchase behaviour.

**Howard-Sheth model of buyer behaviour**

The Howard and Sheth (1969) model of brand attitude formed the framework of the Howard-Sheth theory of buyer behaviour and offered an early model of purchasing behaviour. Essentially, this model includes attitude towards the brand (affective evaluation of the brand) and intention to purchase (cognitive) as independent constructs. The attitude construct is expressed in terms of the affective evaluation of the brand combined with evaluative beliefs about the brand and is positioned as an antecedent to intention to purchase the brand. The brand attitude construct was then expanded in the 1980s (Traylor 1981) to include commitment to the brand as well as the evaluation of the brand as measures of brand attitude.

**Theory of reasoned action**

Ajzen and Fishbein (1980) proposed the theory of reasoned action, where attitude towards purchasing is said to influence purchasing behaviour. This relationship is proposed to be moderated by the effect of social norms and situational factors. Ajzen and Fishbein (1980) found that measuring brand attitudes or attitudes towards the brand was not a reliable measure of whether a purchaser was psychologically predisposed towards a brand. They recommended that researchers should measure the attitude towards purchasing the brand thus linking intention to purchase with attitudes (Ajzen and Fishbein 1980).
The combination of the previously separate constructs, attitude and intention, into a single construct, defined as attitudinal brand loyalty occurred in the 1990s (Dick and Basu 1994; Baldinger and Rubinson 1996; Mellens, Dekimpe and Steenkamp 1996). Rather than viewing intention as a related yet distinct construct to attitude, they were viewed as the same construct and operationalised using intention and commitment measures. Thus attitudinal brand loyalty is currently measured using attitudes towards intention to purchase, and brand commitment.

2.5 **Behavioural approach to brand loyalty**

2.5.1 Introduction

This section outlines the behavioural approach to brand loyalty by examining key research in the area (Bass 1974; Cunningham 1956; Ehrenberg 1988; Olshavsky and Granbois 1979). This section discusses the reinforcement (Rothschild and Gaidis 1981) and stochastic approaches to consumer behaviour (Olshavsky and Granbois 1979) and examines the Dirichlet model of consumer behaviour as a measure of behavioural brand loyalty (Ehrenberg and Uncles 1997).

One of the earliest empirical studies in the area of behavioural brand loyalty was Cunningham (1956). This research identified three methods of measuring brand loyalty, all of which were behavioural in nature. The first was the number of customers lost and gained over time. The second was time sequences of purchases and the third was share of market. It is the third method that Cunningham (1956) used in his research and which is prevalent today in behavioural brand loyalty research (see Ehrenberg, Hammond and Goodhardt 1994; Ehrenberg and Uncles 1997; Sharp, Sharp and Wright 1999).

2.5.2 Definition of behavioural approach

The behavioural approach, building on Cunningham’s (1956) work, does not deny the presence of internal processes; it merely states that because they cannot be directly measured they have no place in research (Bass 1974). Additionally, while attitudinal researchers place great emphasis on the role of attitudes there are other
possible antecedents of loyalty such as market share, promotional activity and distribution (East 1997).

Behavioural loyalty has been defined by other researchers as “the tending of a customer to stick with a supplier (not switch) and can be thought of as the degree to which a customer prefers a supplier over the competition” (Ringham, Johnson and Morton 1994, p44). There are two elements incorporated in behavioural brand loyalty; brand preference and brand allegiance (East 1997). **Brand preference** is the brand on which the purchaser spends a high proportion of their category expenditure and **brand allegiance** is the propensity to purchase that same brand over time (East 1997).

Where the attitudinal approach defines purchasing as an outcome of internal processes (Jacoby 1971), the behavioural approach focuses on external factors that influence behaviour (Cunningham 1956). Within the behavioural approach there are two views on how behaviour is influenced: reinforcement and stochastic. Each will now be discussed.

### 2.5.3 Models of behavioural brand loyalty

**Reinforcement approach**

The reinforcement approach holds that behaviour is modified through external reinforcers (Rothschild and Gaidis 1981). In a marketing context, these reinforcers are in the form of sales promotions items such as samples or discount coupons. This view reflects the operant conditioning philosophy of learning whereby individuals learn as the result of a reward or punishment (Rothschild and Gaidis 1981). The reinforcement view of loyalty is that individuals purchase brands where incentives are offered, thus their behaviour is shaped. However, extinction also occurs when these incentives disappear and the reinforcement is not continued (Rothschild and Gaidis 1981). The lack of long-term effect of sales promotions on sales reflects the extinction of the desired behaviour when the reinforcer (sales promotion) is discontinued (Ehrenberg, Hammond and Goodhardt 1994).
**Stochastic approach**

The stochastic approach suggests that brand loyalty is a constant rather than the result of change, and is the result of random behaviour that has little to do with involvement or attitudinal processing (Bass 1974; Olshavsky and Granbois 1979). Behavioural researchers holding this view question the traditional consumer behaviour models that include decision-making as part of the purchasing process. There are many situations proposed by behavioural researchers where purchases are made without decisions, sometimes not even on the first purchase (Bass, Pessemier and Lehmann 1972; Olshavsky and Granbois 1979). These include purchases; made out of necessity, derived from culturally-mandated lifestyles, those reflecting preferences acquired in childhood, conforming to group norms, based on recommendations/referrals, surrogates or made on a random basis (Olshavsky and Granbois 1979). An example of this would be the purchase of fuel from BP because it is the only available petrol station at a time when the purchaser is running low on fuel rather than attitudinal predisposition towards BP.

East (1997) agrees with Olshavsky and Granbois (1979) that there is little decision-making in repeat purchase behaviour; however, he states that full decision-making does occur on the first purchase. Subsequent purchases are then a result of external reinforcers such as a price promotion or habit, rather than decision-making (East 1997).

Bass (1974) asserts that there is substantial randomness in consumer behaviour that was being overlooked by the deterministic models of behaviour. This randomness has been classified as stochastic and forms the foundation for the Dirichlet model of consumer behaviour, a key model in current brand loyalty research (Ehrenberg 1988; Ehrenberg and Uncles 1997).

The **Dirichlet model** is built on the premise that consumer purchase behaviour is basically stochastic. It proposes that as loyalty is a result of having large market share, to build loyalty you only need to increase the market share or penetration (Ehrenberg, Goodhardt and Barwise 1990). The measures of market share or penetration are obtainable without requiring self-report of consumers thus increasing
the reliability and minimising error. There are four types of observed information required as input data for the model; penetration, frequency of purchase, number of brands, and market share of each brand (Ehrenberg and Uncles 1997). The data is input into mathematical models which then predict future market share and purchase frequency (Ehrenberg and Uncles 1997). While these models seem to have high predicability for fast-moving consumer goods, their applicability to the business-to-business services sector appears to be untested.

The Dirichlet model incorporates the double jeopardy effect (Donthu 1994), a concept first described by the sociologist McPhee in 1963 (East 1997) who attributes it to broadcaster Jack Landis. McPhee explains the phenomena as occurring because consumers who are aware of less popular brands are also aware of more popular brands and thus this awareness may lead to split purchase of the brands. In contrast, consumers who buy the popular brand are less aware of the smaller brand and their viability as an alternative (East 1997).

Less popular or smaller brands are thus doubly hampered by lack of market share and less loyalty amongst their consumers. The lower the popularity of a brand the lower the number of repeat purchases relative to more popular or larger brands (Donthu 1994). In effect, this would mean that it would be harder to make a loyal customer switch brands from a larger brand than it would be for a loyal customer of a small brand. Additionally, the customers of smaller brands do not rate their preferred brand as highly thus resulting in low volume purchases (Donthu 1994).

Double jeopardy is said to occur in the areas of consumption of TV programs, consumer goods, business-to-business goods and newspapers (Ehrenberg, Goodhardt and Barwise 1990). It is not stated whether it occurs in the services area.

**Measures of behavioural brand loyalty**

The Dirichlet model incorporates the behavioural brand loyalty measures of brand preference and brand allegiance. **Brand preference** is the number of brands purchased and is divided into four types: single, multiple, brand-switchers and no loyalty (East 1997). For example, consumers who always buy a Holden motor
vehicle would be single brand purchasers and consumers who purchase two brands of toothpaste on a regular basis would be classified as multiple brand purchasers. Consumers who switch from using one brand to another are switchers and those who do not buy any particular brand are deemed to have no loyalty. Ehrenberg (1988) supports previous research that demonstrates multi-brand purchasing is more common than sole brand purchasing in households.

**Brand allegiance** appears to be particularly relevant to the services and business-to-business sector. This is because most purchasers are likely to buy a single brand at a time in these product categories and switch over time (East 1997). In the consumer sector, brand loyalty is seen as a proportion of expenditure or market share; in the business-to-business and services sector, where customers do not usually buy more than one brand in a category, loyalty is discussed in terms of brand allegiance (East 1997).

Brand allegiance is defined as changes in the brands bought over time. This means that researchers are interested in the proportion of customers who leave the brand over a period of time (brand erosion). There is little research on allegiance, although East and Hammond (1996), who researched brand loyalty erosion using panel data from five grocery brands in nine product areas, found that in a stable market a typical brand was losing and gaining 15% of its buyers. They also found that leading brands had less erosion than other brands (double jeopardy effect). The overall result was that for mature fast-moving consumer goods markets there is a high level of allegiance with 85% still loyal after 12 months (East and Hammond 1996).

The behavioural approach is only concerned with observable measures. However a criticism of this approach is that it does not distinguish between repeat buying and loyalty (Mellens, Dekimpe and Steenkamp 1996). The behavioural approach assumes a stable market, with little change in environmental factors that would influence change in behaviour. Another criticism is that the behavioural theories do not explain how brand loyalty is developed or modified (Dick and Basu 1994).
Finally, the behavioural approach does not distinguish between true loyalty and spurious loyalty (Day 1969). A customer may purchase a brand thus exhibiting high loyalty (as defined by the behavioural approach) but may be ready to switch at any time. This type of loyalty is classified as spurious loyalty (Dick and Basu 1994). True loyalty is said to have both high attitudinal and behavioural components, while spurious loyalty has only high behavioural loyalty (Dick and Basu 1994).

Behavioural loyalty measures cannot differentiate between intentional loyalty and purchase that occurs because no other brands are available or because there is a sales promotion on offer. They also cannot highlight customers who may exhibit high levels of behavioural loyalty but are at risk of switching to other brands as they have low levels of attitudinal loyalty (Baldinger and Rubinson 1996).

Therefore it is recommended that research into brand loyalty combines the measures of both attitudinal brand loyalty and behavioural brand loyalty approaches to address the two-dimensional nature of the construct thus providing a richer insight into the brand loyalty construct. Whilst there is general consensus that there is a relationship between attitudes and behaviour, less is understood about the ordering of these dimensions. The ordering relationship between these two dimensions will now be discussed.

### 2.6 Ordering relationship of attitude and behaviour

This section addresses the continuing debate of the ordering relationship between attitude and behaviour. The implications of the ordering are both managerial and theoretical. The managerial implications are that if behaviour precedes attitude then marketing efforts need to more focused on obtaining product trial, rather than on liking or interest. The theoretical implications are that the type of antecedents and the measurement approach are different for each order. The ordering between the two constructs for the behavioural and attitudinal approaches will now be discussed followed by the role of involvement in influencing the attitude-behaviour relationship. This is expanded into a discussion of the hierarchy of effects models for different ordering.
2.6.1 Behaviour precedes attitudes

Whilst there is general consensus that a relationship exists between attitudes and behaviour, there is less agreement regarding the ordering of these constructs. Behavioural researchers acknowledge that there is a relationship between attitude and behaviour (East 1997; Ehrenberg 1988); however, they question the position that attitude is a predictor of behaviour. Ehrenberg (1988) asserts that attitudes follow behaviour that is, consumers try a brand then they decide if they like it and subsequently repurchase.

The behavioural approach puts aside the notion of attitudes preceding behaviour on the basis that consumers are deemed not to conduct extensive information search or problem solving with purchases, due to low involvement levels (Nord and Peter 1990; Olshavsky and Granbois 1979). This position is applied to all consumer purchases ranging from fast-moving consumer goods, to high transaction value items such as houses and cars (Nord and Peter 1990). This emphasis on the low-involvement nature of consumer purchases leads the behavioural researcher to the conclusion that behaviour often, if not always, precedes attitudes. However, it is interesting to note that services that are high in credence qualities which prevent extensive information search are considered to be high involvement (McColl-Kennedy and Fetter 2001).

2.6.2 Attitudes precede behaviour

The question of causality between attitudes and behaviour, however, remains. Baldinger and Rubinson (1996) demonstrated that attitudes can precede behaviour at individual and brand levels. However there are situations that are the exceptions to the rule, this could be as a result of a sales promotion which induces brand switching possibly resulting in changed attitudes. Baldinger and Rubinson (1996) found the type of attitudes held by high behavioural loyals determined whether they would switch to another brand. While larger brands have a high proportion of customers classified as high loyals (double jeopardy) they did not necessarily retain them at a higher rate over time. Their research led to the conclusion that attitudes follow
behaviour as well as precede it while at the same time acknowledging that the double jeopardy effect has a strong impact.

The attitudinal approach, which proposes that attitudes precede behaviour, seems to be better supported by non-fast-moving-consumer-goods area such as durables and services (East 1997). The reason is that it is more difficult for customers in these areas to try the product/service before purchase. Therefore the opportunity to first experience and then develop attitudes is minimal.

Traditional attitude theory asserts that attitudes form the basis of behaviour, however, attitudes are not always reliable predictors of behaviour (Ajzen and Fishbein 1980; East 1997; Kraus 1995). A meta-analysis of 88 empirical attitude-behaviour studies found that attitude explains 69% of variance in a person’s behaviour (Athiyaman 1999; Kraus 1995). While the study found that attitude significantly predicts behaviour, there remained 31% of unexplained variance.

A key problem made in attitude research is the lack of understanding of the concept of compatibility. Compatibility is the alignment between the attitude and the behaviour, “the more compatible the attitude and behaviour measures, the higher their correlation” (East 1997). This means that if the attitude is to be used to predict purchase, then it is important that the attitude towards purchasing the brand and not the attitude towards the brand is measured (Ajzen and Fishbein 1980; East 1997). In general, brand attitudes are not as able a predictor of purchase intentions as are attitudes towards the act of purchasing.

2.6.3 Factors influencing the attitude-behaviour relationship

As summarised in Table 2-2, the attitudinal researchers assert that the relationship between attitude and behaviour is influenced by, norms and social factors, prior experience, individual personality traits, level of involvement, purpose of the purchase and inertia.
### Table 2-2 Explanations for inconsistency between attitude and behaviour

<table>
<thead>
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<th>Author</th>
<th>Explanation</th>
<th>Attitudinal Orientation</th>
<th>Behavioural Orientation</th>
</tr>
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<tbody>
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<td>Ajzen and Fishbein (1980)</td>
<td>Norms and social factor</td>
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<td></td>
</tr>
<tr>
<td>Bonfield (1974)</td>
<td>Norms and social factors</td>
<td>✓</td>
<td></td>
</tr>
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<td>Fazio and Zanna (1978)</td>
<td>Type of prior experience</td>
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<td></td>
</tr>
<tr>
<td>Darley and Lim (1992)</td>
<td>Individual and personality traits</td>
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<td></td>
</tr>
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<td>Purpose of purchase</td>
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<tr>
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<tr>
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<td>Fader and Schmittklein (1993)</td>
<td>Market share of the brand</td>
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<td>East (1997)</td>
<td>Situational factors</td>
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<td>Marketing efforts</td>
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<td></td>
</tr>
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<td>Currim and Schneider (1991)</td>
<td>Variety-seeking behaviour</td>
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### Attitudinal explanation

The **theory of reasoned action** states a person’s attitudes and norms lead to intention, which then results in behaviour (Ajzen and Fishbein 1980). In this model, attitudes and norms are the filtering variable for all other variables on intention; intention then mediates the effects of attitudes and norms on behaviour. The contribution this theory makes to the relationship between attitudes and behaviour is the inclusion of normative influences in the model. These norms explain the variation between attitude and intention to purchase (Ha 1998).

The relevance of these variables for loyalty issues has been acknowledged by the inclusion of norms and situational variables in the customer loyalty framework proposed by Dick and Basu (1994). However, these variables have not been included in this research as the model constructs were derived from previous
empirical evidence and to date there is little empirical support for norms and situational influence constructs for brand loyalty. Again, this is an area for further research.

Research conducted on this theory has suggested “the effects of attitudes on behaviour vary with attitudinal, intentional and behavioral qualities” (Bagozzi Baumgartner and Yi 1992, p505). Bagozzi et al. (1992) highlight areas that the theory of reasoned action does not address, such as the impact of personality, previous behaviour and self-regulation. They state that the theory of reasoned action assumes that favourable attitudes and norms will automatically lead to intention. However, this does not take into account self-regulatory processes such as the ability to plan and execute.

**Action control** refers to the self-regulatory mechanisms that help transform intention into behaviour (Bagozzi, Baumgartner and Yi, 1992). Consumers with a low action control are said to be state-oriented, while consumers with high action control are said to be action-oriented (Bagozzi, Baumgartner and Yi, 1992). Consumers with high locus of control or action-oriented are more likely to implement their intentions than those who are state-oriented (Bagozzi, Baumgartner and Yi 1992). Thus the attitude-behaviour link is expected to be stronger for those with a high internal locus of control.

The implication of reasoned action and action control for brand loyalty appears to be that attitudes should be included as part of the purchase process. This model suggests that consumers repurchase a brand because it fits with their opinions and value system. Attitudes and subjective norms mediate the effect of variables on intention to purchase. Therefore to have attitudinal brand loyalty, a consumer would need to have favourable attitudes towards the product, as well as believe that it fits the social/family/cultural norms.

**Norms and social factors** moderate the relationship between attitude and behaviour by appealing to the need of the purchaser to be accepted in their reference group (Ajzen and Fishbein 1980; Bonfield 1974). An example of this would be a young
individual who intends to purchase a Volvo motor vehicle, however, when they state their intention to their friends, the friends advise that Volvos are only driven by older consumers, thus the individual does not follow through with purchasing a Volvo.

The **type of experience** with the brand can also influence the consistency between attitude and behaviour (Fazio and Zanna 1978). The more direct the experience, the more consistent the relationship. Direct experiences include prior product use, direct tests and sampling, whereas indirect experiences include exposure to advertising, sales presentations, word of mouth, point-of-purchase displays.

**Individual and personality traits** such as the level of self-monitoring affect the translation of intention into behaviour. Correlation between attitudes and behavioural intention tend to favour the high over the low self-monitoring individuals (Darley and Lim 1992). The level of confidence affects the strength of an attitude, which affects the likelihood of purchase (Smith and Swinyard 1983). The more confidence the person has in the attitude, the stronger the attitude. The more direct an experience with a brand the more confident the person and therefore the stronger the attitude. When an attitude is strong, there is likely to be more consistency between the attitude and behaviour (Smith and Swinyard 1983).

**The level of involvement** affects how attitudes are translated into behaviour (Ray 1973). Lower levels of involvement reduce the consistency between attitude and behaviour. Finally, variation can be explained by situational factors such as purchasing a product for a different purpose or different outcome e.g. buying a product for some-one else instead of yourself (Harrell and Bennett 1974).

**Behavioural explanation**

Behavioural researchers, in contrast, assert that the explanation for the lack of predictive reliability of attitudes are; the influence of the market share of the brand norms and social factors, and the stochastic nature of purchases as summarised in Table 2-2.
The nature of the purchasing process as being **stochastic** is proposed as an explanation for the inconsistency between attitude and behaviour. This theory states that there are substantial random elements in the purchasing process enough to make the process stochastic rather than deterministic (Bass, Pessemier and Lehmann 1972). Situational factors such as lack of brand availability may prevent a person from purchasing an intended brand (East 1997). Purchasers may have a positive attitude towards a brand and intend to purchase, however, if the brand is not available at the time of purchase, they may select another brand that is deemed an acceptable substitute.

**Sales promotions** are stated to be one of the most common marketing tactics that may lead to purchase behaviour that is incongruent with attitude towards the brand (Blattberg and Neslin 1989). Sales promotions are known to have an immediate effect on sales of brands and encourage trial of another brand. Finally, there are individuals who switch brands simply to obtain variety in purchase even though they may possess a positive attitude towards the brand (Currim and Schneider 1991).

Finally, **inertia** may be responsible for individuals with favourable attitudes not purchasing that brand (Colgate and Dunleavy 1998; East 1997). In the banking industry in Australia, the level of dissatisfaction is widely known however only 4% of Australians switch banks. This indicates low levels of attitudinal loyalty and high levels of behavioural loyalty (Colgate and Dunleavy 1998).

These variables may moderate the attitude-behaviour relationship and offer an explanation for the 31% of unexplained variance between attitude and behaviour. However, it still remains that attitude accounts for 69% of variance in behaviour across studies (Kraus 1995).

A key explanation behind the attitude-behaviour debate appears to be the notion of involvement. Essentially, behavioural researchers assert that there is little decision-making undertaken by consumers in repeat purchasing, that is, there is low involvement (East 1997). Consequently repeat purchases are the result of habit rather than a conscious decision or attitudinal predisposition towards a brand.
Conversely, attitudinal researchers assert that repeat purchasing is the result of a conscious decision to purchase a particular brand towards which the purchaser is committed and intends to purchase (Mellens, Dekimpe and Steenkamp 1996). Involvement has been suggested as a key influence on the relationship between attitude and behaviour (East 1997; Ray 1973). The next section discusses the role of involvement in this debate.

2.6.4 Role of involvement

This classification of consumer decision into high and low-involvement situations provides a foundation to form a perspective on the attitude-behaviour relationship. Products that are classified as low-involvement such as fast-moving-consumer-goods (FMCGs) are measured and thought of in terms of the behavioural perception, that is, behaviour (purchase) occurs that subsequently influences attitude formation (brand attitude/choice). Conversely, high-involvement products are measured using attitudinal/affective approaches where attitudes are believed to develop behaviour.

Involvement affects the level of consumer motivation to process information and the decision-making process (Bloch and Richins 1983; Bonfield 1974; Celsi and Olson 1988; Krugman 1965). This means that the more involved a purchaser is with the product, the more likely they are to undertake the attitudinal activity of processing information in which case the purchase process becomes deterministic in nature rather than stochastic.

Involvement and its related construct, perceived risk, are highest in the early experiences of a product or brand (Sheth and Venkatesan 1968). As the purchaser becomes more familiar and gains experience, the level of information-seeking and decision-making diminishes. According to this view, the more routine the purchase, the less likely there is to be involvement and the more likely the purchaser is to buy as a result of habit. Thus perhaps the attitude-behaviour relationship is dependent on the level of purchasing experience as well as the product category. The role of involvement and perceived risk as antecedents of brand loyalty are discussed in chapter three.
2.6.5 Hierarchy of effects

The ordering of attitude and behaviour are clearly outlined in hierarchy of effects models: standard learning, dissonance attribution and low involvement. The difference between these three models is the order that the components of cognition, affect and behaviour appear. A fourth hierarchy has been proposed as being relevant for the service sector (Young 1981). These hierarchies are not opposing theories but are relevant for different situations depending on level of involvement, differentiation of alternatives and communication source (Ray 1973). Thus the behavioural perspective on the attitude-behaviour relationship appears to be either standard dissonance attribution theory or low-involvement theory where behaviour precedes attitude. Each of the four hierarchy of effects models will now be presented in light of the behavioural/attitudinal perspectives on brand loyalty.

**Standard learning model**

The standard learning model establishes a step-by-step process amongst the various attitude components. The respondent receives the message and develops knowledge, then develops feelings towards the advertised product followed by an intention to act/not act. This hierarchy is deemed to be appropriate when “buyers are involved, alternative products are clearly differentiated, mass media promotion is important and the product is in the early stages of the product life cycle” (Ray 1973, pi).

This model places the development of knowledge about the product before the development of feelings and emotions. Because of the intangibility, and inseparability of production and the consumption nature of services, it is often easier to feel something before understanding the nature of a service. Young (1981) proposes that this model is not relevant for services in that purchasers are personally involved with the service and this lends itself to an emotional response.

**Dissonance attribution model**

The dissonance attribution model places learning as the end result of the process and is more behavioural in its approach in that it does not presuppose any attitudinal processing prior to purchase. This view indicates little perceived risk as customers
can act without thinking, which may not be the case in the services sector. This model is likely to be more appropriate in situations where there is little perceived difference between the brands/products on offer (Ray 1973). Where products are similar, personal selling is more likely to be important when the product is in the early maturity stage of the product life cycle (Ray 1973).

**Low involvement model**

The low involvement hierarchy, initially proposed by Krugman (1965) puts forward the view that advertising prior to purchase results in little attitudinal movement; however, after the purchase there is post-purchase cognition and feelings develop. The most appropriate situation for this model is proposed to be where products are similar, broadcast media is used and the product is in late maturity (Ray 1973). This model also assumes low-involvement levels, which may not be particularly relevant for services where high-perceived risk also indicates high involvement (Ray 1973).

**Services model**

The hierarchy of effects model developed by Young (1981) proposes that buyers in the services sector commence with the affective domain of feeling, progress to the actual purchase and then develop knowledge about the service. Services are highly emotive experiences regardless of the involvement level; anger and frustration can develop while waiting for a hamburger at McDonalds as well as waiting in the casualty section of a hospital. Young (1981) has placed the emphasis on the intangible aspect of services and puts forward that consumers anticipate the emotional outcome of the service in advance. When searching for information as part of the pre-evaluation process, individuals are interested in the emotional impact the service has had on others.

Each of these models includes all three domains (attitudinal, affective and behavioural); however, it appears to be the order that differentiates the approaches. The implications this has for brand loyalty is that all three domains are important and

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need to be incorporated into a model of brand loyalty. Most models of brand loyalty incorporate one or two of the domains rather than all three.

Even the dissonance attribution theory, which is behavioural in philosophy, clearly has a role for attitudes in between the elements of affect and behaviour. If the purchasing process is viewed as cyclical in nature, then the learnings developed from the previous purchase contribute towards the subsequent purchase experience. Prior experience, attitudes and cognition all contribute to the decision-making process in determining which brand to buy. Thus, regardless of the order that the elements appear in, they all contribute to the next purchase experience of that product category or brand selection.

2.6.6 Implications of the attitude-behaviour debate for brand loyalty

Purchasing in a business-to-business services context is considered to be high involvement due to the complexity of business-to-business purchasing (Morris 1992) and the high-perceived risk associated with services (Ziethaml 1981). When these are present, decision-making occurs before purchase (East 1997). This means that any model of brand loyalty for business-to-business services should include attitudinal brand loyalty as an antecedent of behavioural brand loyalty.

Therefore this thesis supports the view that decision-making occurs in the business-to-business services context, and rejects the perspective that purchasing in the business-to-business services sector is stochastic in nature. Involvement and perceived risk as antecedents of brand loyalty will be discussed in the next section along with the other potential antecedents of trust, commitment, satisfaction.

2.7 Summary

This chapter has reviewed the literature and identified the main issues relating to the understanding and measurement of the brand loyalty concept. Essentially brand loyalty is comprised of attitudinal and behavioural dimensions. Therefore any
research that is undertaken on brand loyalty needs to incorporate both these dimensions into a combined approach. As discussed, attitudes are comprised of emotional and cognitive elements, therefore when operationalising attitudinal loyalty, the items need to incorporate emotion and cognition. Indeed, this chapter has highlighted the importance of combining attitudinal and behavioural measures of brand loyalty and the need to acknowledge the contribution of emotions. It has also identified the gaps in the business-to-business services literature for brand loyalty study.
3 Potential antecedents of brand loyalty

3.1 Introduction

The purpose of this section is to review the literature on potential antecedents of brand loyalty for business services. Studies into branding have found it to be a relevant concept for business-to-business services, as the brand helps increase the sense of confidence and security for the buyer (Gordon, Calantone and di Benedetto 1993; Hutton 1997). Recent research into brand sensitivity demonstrated that business buyers exhibit brand sensitivity, particularly in circumstances where there was high risk, when service requirements are high and the purchaser is under time/resource constraint (Hutton 1997). Brand loyalty, while not a commonly used term in business-to-business or services context, is also proposed to be relevant to the business-to-business sector.

The concepts of trust, commitment, satisfaction, perceived risk and involvement appear to be five potential antecedents of brand loyalty. Trust, commitment and satisfaction are affective with perceived risk and involvement being cognitive. These antecedents are proposed to directly relate to attitudinal brand loyalty, which is proposed to be comprised of emotional and cognitive components (Kim, Lim and Bhargava 1998). The importance of emotions as a contributor to attitude formation has been outlined in previous sections. This theme of including emotion extends to this section on the antecedents of brand loyalty, as recommended by Dick and Basu (1994).

To be considered for inclusion in the proposed model, empirical evidence of a construct’s relationship to brand loyalty in the business services sector was required. The dominant relationships between these constructs form the basis of the model. The proposed model is fully discussed including the empirical evidence for the relationship in the next chapter.
3.1.1 Trust

The intangibility of services and the associated high perceived risk, appears to place emphasis on the relationship between the service provider and purchaser. The purchaser needs to trust the service provider to provide them with the desired quality service. Thus trust plays an important role in developing the relationship (Gwinner, Gremler and Bitner 1998). Trust is proposed as one of the two key variables of the relationship marketing field (Morgan and Hunt 1994) and thus relationship marketing in the business-to-business and services will be discussed first in this section. While being a new field, there are two debates regarding the conceptualisation of the two key variables trust and commitment. The first is the definition of the construct and the second is the object or focus, each debate will be discussed and implications for this study drawn. This section deals with the first relationship marketing construct of trust followed by commitment in the next section.

Relationship Marketing

The research into relationship marketing is relatively new in the field of marketing with the majority of research occurring in the past ten years (Morgan and Hunt 1994).

The nature of business purchasing, being complex and usually of higher transaction value than consumer purchasing (Morris 1992), encourages the development of exchange relationships. Relational exchanges start to develop when “dependence is prolonged, performance is less obvious and uncertainty is present…..” (Dwyer 1987), factors which characterise both business-to-business and services purchasing.

Relationships are a critical part of business-to-business transactions due to their heavy reliance on services (Garver and Flint 1995). This may also be due to the business-to-business characteristics of increased purchase quantity, concentrated customer markets and personal selling promotional methods. Purchase quantity for a business-to-business customer is stated to be higher than for consumers, and the customer markets of the business-to-business sector are usually concentrated into a few groups such as government or a particular industry (Morris 1992). Finally, there appears to be reliance on personal selling as the dominant promotional method, possibly due to the expenditure levels or complexity of business transactions (Morris
Each of these factors encourages the supplier to develop a relationship with the customer for the benefit of future transactions.

A key issue in the development of a relationship with a service provider is trust (Gwinner, Gremler and Bitner 1998). Trust, as defined by Morgan and Hunt (1994) is confidence in the partner and said to be a “mediating variable in relational exchanges” (Gwinner, Gremler and Bitner 1998, p102). In many service relationships the cost of switching includes the learning costs (Gwinner, Gremler and Bitner 1998), this includes learning whether the service provider is credible and trustworthy.

Another key feature of services is the lack of pre-purchase information regarding quality, thus reducing the purchaser’s ability to evaluate the service and increasing the level of perceived risk (Ziethaml 1981). Trust is therefore a risk-reduction strategy for a purchaser of a service. Previous research has demonstrated that the trustworthiness of the service provider and reduced perceptions of risk are important to consumers of services (Gwinner, Gremler and Bitner 1998).

Therefore any study of long-term relationships and loyalty in the business-to-business services should take into account relational constructs. These have been defined as trust and commitment (Morgan and Hunt 1994) and are the two key constructs in the field of relationship marketing (Morgan and Hunt 1994).

Relationship marketing theory has its origins in social exchange or relationship exchange theory in the social science field (Doney and Cannon 1997; Ganesan 1994; Iacobucci and Ostrom 1996; Morgan and Hunt 1994) and is defined as “building long-lasting relationships between suppliers and buyers…and an asymmetric process dependent on the seller and personalized marketing process” (Perrien and Ricard 1995, p38). Thus the key issue in relationship marketing appears to be long-term orientation (Doney and Cannon 1997) through the notions of trust and commitment.
Trust

Trust has been defined as a unidimensional construct of credibility (Crosby, Evans and Cowles 1990; Moorman, Zaltman and Deshpande 1992; Moorman, Deshpande and Zaltman 1993; Morgan and Hunt 1994), or multidimensional construct of credibility and benevolence (Doney and Cannon 1997; Ganesan 1994). The two conflicting seminal articles on trust were published by Morgan and Hunt and Ganesan in 1994. However the Morgan and Hunt definition appears to have gained more widespread acceptance in the literature (see Brock-Smith and Barclay 1997; Crosby, Evans and Cowles 1990; Gwinner, Gremler and Bitner 1998). This is possibly due to preferences by researchers to use unidimensional rather than multidimensional measures (Anderson and Gerbing 1988). The two key issues for trust relate to its definition and the object of focus. A cross-section of the literature on trust is summarised in Table 2.3.

Trust as credibility has been defined as “one party’s confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt 1994, p23). This confidence is based on the belief that the other party is reliable and has integrity, an important issue for the purchaser of a service. The Morgan and Hunt (1994) definition came on the heels of a similar definition “trust is the willingness to rely on an exchange partner in whom one has confidence” (Moorman, Deshpande and Zaltman 1993, p82).

Where Morgan and Hunt’s definition has a single dimension, Ganesan’s two-dimensional approach includes both credibility and benevolence. A key difference between the two definitions appears to be that Ganesan’s definition includes behavioural intention or willingness, where Morgan and Hunt’s does not. The implication is that if a person has confidence in their partner, they would also be willing to trust, thus any definition of trust implicitly includes willingness and it is not necessary as an explicit dimension (Morgan and Hunt 1994). The unidimensionality of the Morgan and Hunt (1994) definition based on credibility has led to its acceptance in the research.
The second area of debate has been the object of trust, which also has measurement implications. There are three potential objects of study for trust in a business service setting; the organisation, the service provider, and the brand. The type of product under investigation has influenced the choice of object. Research on goods has

<table>
<thead>
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<th>Scale</th>
<th>Object</th>
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<tr>
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<td>Organisation</td>
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<td>“based on your past experience, how would you characterize the level of trust…”</td>
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<td>“my agent is trustworthy”</td>
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<td>Business service (market research)</td>
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<td>Service provider</td>
<td>Credibility Willingness</td>
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<td>“I trust my researcher to do things…”</td>
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<td>“I trust my X to ….”</td>
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<td>13 item, Likert scale</td>
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<td>durables</td>
<td>“Promises made by X are reliable”</td>
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<td>Automobile tyres</td>
<td>“In our relationship, my major supplier: …has high integrity”</td>
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<td>(Morgan &amp; Hunt)</td>
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<td>(computers)</td>
<td>“she/he is very reliable”</td>
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<td></td>
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<td>“the sales consultant has been frank with me”</td>
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<td>(theatre-goers)</td>
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largely been organisation focused (Anderson and Narus 1990; Gabarino and Johnson 1999; Morgan and Hunt 1994) with services focusing on the relational aspects with the service provider (Crosby, Evans and Cowles 1990; Moorman, Zaltman and Deshpande 1992; Moorman, Deshpande and Zaltman 1993; Ganesan 1994; Gwinner, Gremler and Bitner 1998). Combination approaches have been used where the level of trust in the organisation and its sales consultant are studied (Brock-Smith and Barclay 1997; Doney and Cannon 1997; Smeltzer 1997).

More recently the focus of trust in a brand has emerged (Shocker, Srivastava and Ruekert 1994; Martin 1998) with the proposition that brands can develop personalities and thus be engaged with, through a relationship. These ties are usually emotion-based and thus can be quite intense (Martin 1998). For instance, the level of trust in the Coca Cola brand and the emotion it represents led to extraordinary public reactions when new Coke was introduced, greater than what would be anticipated for a low transaction item such as soft drink.

In summary, this study adopts Morgan and Hunt’s (1994) definition of trust as a unidimensional construct, that is, trust is “one party’s confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt 1994, p23). As this study is focused on business services, the object that is the focus of trust is the service provider, which is in accordance with prior research approaches in the services sector (Crosby, Evans and Cowles 1990; Doney and Cannon 1997; Gwinner, Gremler and Bitner 1998; Moorman, Deshpande and Zaltman 1993).

3.1.2 Commitment

As discussed in the previous section, relationship marketing is a relevant theory for both business-to-business and the services sector. Commitment is the second variable that operationalises relationship marketing (Morgan and Hunt 1994) and will now be discussed.

The notion of commitment has been well researched by academics. However the incorporation of commitment became evident as a relationship marketing construct
only recently (Ganesan 1994; Moorman, Deshpande and Zaltman 1993; Morgan and Hunt 1994). Commitment has long been part of employee commitment in the organisational behaviour literature (Morgan and Hunt 1994). Employee commitment is defined as a psychological bond or emotional attachment (Porter, Steers, Mowday and Boulian 1974; O'Reilly and Chatman 1986; Hunt, Wood and Chonko 1989) or a calculation of the perceived utility of associating with an organisation (Hrebiniak and Alutto 1972). However, of these two conceptualisations, the dominant perspective appears to be the affective definition, which focuses on the link between the employees and organisation’s values and goals.

This notion of employee commitment has been adapted by marketing researchers for use in studying relational exchanges (Morgan and Hunt 1994; Gundlach, Achrol and Mentzer 1995). A long-term relationship is promoted as the factor that should influence the buyer’s choice of seller (Doney and Cannon 1997; Ganesan 1994). Commitment and trust are two key concepts when discussing the notion of relationships because they work at preserving the relationship to the mutual benefit of the parties involved (Morgan and Hunt 1994). It is theorised that commitment and trust are likely to produce efficiency, productivity and effectiveness, all of which are essential for any long-term project (Garver and Flint 1995).

As in the case of trust, there are two key issues in the commitment literature relating to the definition of the construct and the object of focus. There appears to be three views on the definition of commitment; affective, instrumental or temporal. And as with trust, there are various objects in research on business-to-business and services: the company, the service provider and the brand itself. The debates in each of these two key areas will now be examined, the literature is summarised in table 2.4

The affective definition of relationship commitment in the literature is “an enduring desire to maintain a valued relationship” (Morgan and Hunt 1994 p23). Although the concept of commitment is new to business-to-business research, it is well accepted as being part of employee behaviour and social exchange literature, the key
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<th>Scale</th>
<th>Object</th>
<th>Dimensions of Commitment</th>
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</tr>
<tr>
<td>Gabarino and Johnson (1999)</td>
<td>Theatre performances</td>
<td>3 item Likert scale “I am proud to belong to this theatre”</td>
<td>Organisation</td>
<td>Attitudinal</td>
</tr>
<tr>
<td>Gundlach, Achrol and Mentzer (1995)</td>
<td>Micro-computers</td>
<td>Likert scale “Plan to commit more decisions to…”</td>
<td>Organisation</td>
<td>Tri-dimensional input, attitudinal, temporal</td>
</tr>
<tr>
<td>Hrebiniak and Alutto (1972)</td>
<td>Hospitals and schools</td>
<td>12 item 3 point Likert scale “Would you leave your present organization under the following conditions?…” based on Porter scale</td>
<td>Organisation</td>
<td>Calculated: perceived utility of participation with organisation</td>
</tr>
<tr>
<td>Hunt, Wood and Chonko (1989)</td>
<td>Ad agency</td>
<td>4 item 7 point Likert scale “I would be willing to change companies if the new job offered…”</td>
<td>Organisation</td>
<td>Attitudinal psychological attachment</td>
</tr>
<tr>
<td>Leong, Randall and Cote (1994)</td>
<td>Life Insurance company</td>
<td>7 item Likert scale</td>
<td>Organisation</td>
<td>Psychological attachment (Porter et al)</td>
</tr>
<tr>
<td>Mathieu and Zajac (1990)</td>
<td>Various organisations</td>
<td>Meta-analysis</td>
<td>Organisation</td>
<td>(Porter et al scale)</td>
</tr>
<tr>
<td>Morgan and Hunt (1994)</td>
<td>Automobile Tyre retailers</td>
<td>3 Item Likert scale “The relationship my firm has with the major supplier is something we are very committed to”</td>
<td>Organisation</td>
<td>Attitudinal psychological attachment</td>
</tr>
<tr>
<td>O'Reilly and Chatman (1986)</td>
<td>University</td>
<td>7 item Likert scale “I talk up XYZ to my friends as a great organization to work for…”</td>
<td>Organisation</td>
<td>Psychological attachment</td>
</tr>
<tr>
<td>Pritchard, Havitz and Howard (1999)</td>
<td>Airlines</td>
<td>Likert scale “ I would resist changing my preference to use brand X”</td>
<td>Brand</td>
<td>Attitudinal</td>
</tr>
<tr>
<td>Steers (1977)</td>
<td>Various organisations</td>
<td>Multi-item 7 point Likert scale Based on Porter scale</td>
<td>Organisation</td>
<td>Attitudinal - Identification and involvement with an organisation</td>
</tr>
</tbody>
</table>
Focus of which is relational exchange (Morgan and Hunt 1994). This definition is therefore based on the employee commitment literature where partners in a business relationship have a strong link between their values and goals (Steers 1977).

The second conceptualisation of commitment in the marketing literature is **instrumental commitment**. This view appears to be the same as the calculation view posited by employee commitment research (Hrebiniak and Alutto 1972) and states that there is a cost-benefit analysis occurring by the employee (Gundlach, Achrol and Mentzer 1995). The termination cost of the relationship becomes important in considering the level of commitment. For example, if a business has made a large investment in equipment in order to transact with another business, the termination cost of the relationship would be high if the equipment became redundant and not applicable to a replacement organisation. These inputs can be viewed as ‘tying the hands’ of the partners and leads to commitment (Gundlach, Achrol and Mentzer 1995).

The third type of commitment is **temporal commitment** where commitment occurs as a result of an expectation of continuity. Long-term relationships lead to a reduction in the learning curve, require simpler structures and consume less time (Heide and John 1990; Gundlach, Achrol and Mentzer 1995). Thus relationships that are deemed to be short-time are expected to have lower levels of commitment.

There are three foci for a study on commitment in a business-to-business service context; the organisation, the service-provider, and the brand. The dominant approach, similar to the trust construct, is the **commitment to organisation** (Morgan and Hunt 1994; Gundlach, Achrol and Mentzer 1995). This is possibly due to the focus on goods rather than services in the business-to-business literature which looks at the businesses commitment to the relationship with their organisation. However this view does not take into account the relationship that a business may have with a particular person in the supplier organisation.

The second focus is **commitment to the service-provider**. This is important for the service sector where the person is inseparable from the product in the course of
service delivery (Lovelock 1983). For instance, a business may have a long-term relationship with a lawyer, and therefore have commitment to the organisation that employs this lawyer. If the lawyer left the firm to start their own organisation, the decision to switch would be based on whether the level of commitment to the lawyer exceeded the level of commitment to the organisation. Thus in businesses that are service-providers it is important to consider the role of the person in the commitment relationship.

Finally, there is commitment towards the brand or product (Traylor 1981; Pritchard, Havitz and Howard 1999). However, this is an examination of the attitudinal attachment to a brand which is defined in this study as attitudinal brand loyalty rather than a relational notion. This linking of commitment and loyalty emerged as brand attitude became involved with the concept of repurchase moving from a purely behavioural perception of loyalty to attitudinal approach.

In summary, while these three types of commitment appear to exist, the definition that appears to hold across different products and industries, and which is supported by the historical employee commitment research, is that of affective or psychological attachment. It is for this reason that the Morgan and Hunt (1974) definition is adopted in this study. Additionally, given the services’ nature of this context, the role of the service-provider is seen as pivotal and thus the object of commitment is the same as the object of the trust construct; the service-provider.

3.1.3 Satisfaction

The previous sections discussed trust and commitment as key antecedents of brand loyalty in a business-to-business services context and both of these constructs are affective in nature. Another affective antecedent of brand loyalty is satisfaction, this will now be discussed.

The literature reveals substantial debate around the definition and measurement of satisfaction (Babin and Griffin 1998; Bloemer and de Ruyter 1999; Giese and Cote 2000; Jones and Suh 2000) (see Table 3-3). The research can be divided into two
groups, those studies that are essentially process oriented and those that are outcome oriented. **Process-oriented theories** reflect the traditional view of satisfaction and posit that satisfaction is the result of the comparison between expectations and actual performance (Spreng, Mackenzie and Olshavsky 1996).

**Outcome oriented theories** are a newer paradigm which assert that satisfaction is an end-state that does not always rely on expectations being met (Spreng, Mackenzie and Olshavsky 1996). A driver for the emergence of this theory was the results that indicated high levels of satisfaction in cases where expectations had not been met (Spreng, Mackenzie and Olshavsky 1996). Each of these two major perspectives will now be examined and discussed.

The **disconfirmation-of-expectations model** (Oliver 1980) is one of the earliest and probably the most well known marketing model of satisfaction. This model asserts that satisfaction occurs when the performance of a product or service meets the expectations of the purchaser. However, if performance is less than the expectations, negative disconfirmation occurs, resulting in dissatisfaction. Satisfaction then, results from a comparison between expectations and actual performance; positive disconfirmation occurs when actual performance exceeds expectations; negative disconfirmation occurs when actual performance does not meet expectations (Richins and Bloch 1991). This theory has been widely used and has substantial empirical support (Oliver 1980; Richins and Bloch 1991; Spreng, Mackenzie and Olshavsky 1996; Jones and Suh 2000; Vanhamme 2000).

Research using this paradigm uses items such as “my choice to purchase this product was a wise one…” and “I think I did the right thing when purchasing this product” are related to the fulfilment of expectations and are process focused. A respondent reading these items would need to compare their expectations with the actual performance in order to respond to this item. If the performance matched or exceeded the expectations, then it is likely they would agree with these statements.

### Table 3-3 Summary of satisfaction literature

<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Scale</th>
<th>End-state or Expectation-disconfirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babin and Babin</td>
<td>Restaurant</td>
<td>Combination of scales – Likert,</td>
<td>Expectation</td>
</tr>
<tr>
<td>Author</td>
<td>Product</td>
<td>Scale</td>
<td>End-state or Expectation-disconfirmation</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>-------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>(1994)</td>
<td>100-point, “I was satisfied with my experience at the restaurant”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Babin and Griffin (1998)</td>
<td>Hairstyling, restaurant and supermarket</td>
<td>5 point multipoint and 100 point scale. “Which of the following best describes the level of satisfaction…” I feel satisfied with my experience at …”</td>
<td>Combination</td>
</tr>
<tr>
<td>Bloemer and de Ruyter (1999)</td>
<td>1 item Likert “I am very satisfied with the service of XXX”</td>
<td>End-state (affective)</td>
<td></td>
</tr>
<tr>
<td>Bolton (1998)</td>
<td>Mobile Phones</td>
<td>1 item x 5 point multipoint scale “overall, how satisfied are you with the services you receive from the company?” very satisfied, somewhat satisfied, neither satisfied or dissatisfied …”</td>
<td>Expectation</td>
</tr>
<tr>
<td>Eriksson and Lofmarck Vaghult (2000)</td>
<td>Professional services</td>
<td>Single item, 5 point Likert scale High total satisfaction with the co-operation with organisation</td>
<td>Not stated</td>
</tr>
<tr>
<td>Fournier and Mick (1999)</td>
<td>Retail stores</td>
<td>Interviews</td>
<td>Combination</td>
</tr>
<tr>
<td>Giese and Cote (2000)</td>
<td>Various durables and services</td>
<td>Interviews</td>
<td>Combination</td>
</tr>
<tr>
<td>Jones and Suh (2000)</td>
<td>hairstylists</td>
<td>3 semantic differential items satisfied/dissatisfied (Oliver &amp; Swan 1989)</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliva, Oliver and Macmillan (1992)</td>
<td>Electricity</td>
<td>Westbrook &amp; Oliver 1981 5 item 5 point Likert scale “delivered materials arrived undamaged”</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliver (1981)</td>
<td>Conceptual</td>
<td>Likert scale “my choice to patronize this store was a wise one.”</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliver and Linda (1981)</td>
<td>Clothing</td>
<td>3 item semantic differential happy/unhappy, pleasant/unpleasant, satisfied/dissatisfied</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliver and Bearden (1983)</td>
<td>Diet-suppressant</td>
<td>Used Westbrook &amp; Oliver 1981 scale</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliver and DeSarbo (1988)</td>
<td>Stock market</td>
<td>Satisfaction inferred</td>
<td>Expectation</td>
</tr>
<tr>
<td>Oliver (1989)</td>
<td>Conceptual</td>
<td>Conceptual</td>
<td>Combination</td>
</tr>
<tr>
<td>Oliver (1993)</td>
<td>Conceptual</td>
<td>Conceptual</td>
<td>Combination</td>
</tr>
<tr>
<td>Oliver (1996)</td>
<td>Conceptual</td>
<td>Conceptual</td>
<td>End-state (affective)</td>
</tr>
<tr>
<td>Olson and Dover (1979)</td>
<td>Coffee</td>
<td>Not stated</td>
<td>Expectation</td>
</tr>
</tbody>
</table>
Table 3-3 (con’t)

<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Scale</th>
<th>End-state or Expectation-disconfirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ostrom and Iacobucci (1995)</td>
<td>16 service types</td>
<td>Not stated</td>
<td>Expectation</td>
</tr>
<tr>
<td>Page and Eddy (1999)</td>
<td>Communicati on, transport</td>
<td>Likert, “The service I receive from from xxx is excellent”</td>
<td>Expectation</td>
</tr>
<tr>
<td>Patterson, Johnson and Spreng (1997)</td>
<td>Professional consulting services</td>
<td>3 items, 1 Likert, I am very satisfied with our decision…</td>
<td>Expectation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 semantic differential very dissatisfied/satisfied</td>
<td></td>
</tr>
<tr>
<td>Richins and Bloch (1991)</td>
<td>Automobiles</td>
<td>1 item 11 point scale of magnitude “considering all the things you are satisfied with and all the things you are dissatisfied with about your car, where would you rate yourself on the scale below?</td>
<td>Expectation</td>
</tr>
<tr>
<td>Ringham, Johnson and Morton (1994)</td>
<td>Unspecified Service</td>
<td>Single item Semantic differential, Satisfied/dissatisfied</td>
<td>Expectation</td>
</tr>
<tr>
<td>Singh (1991)</td>
<td>Healthcare</td>
<td>5 item x 6 point semantic differential scale “very satisfied/very dissatisfied”</td>
<td>Expectation</td>
</tr>
<tr>
<td>Spreng and Olshavsky (1993)</td>
<td>Camera</td>
<td>2 item semantic differential dissatisfied/satisfied, terrible/delighted</td>
<td>End-state</td>
</tr>
<tr>
<td>Spreng, Mackenzie and Olshavsky (1996)</td>
<td>Camcorder</td>
<td>4 semantic differential items very satisfied/dissatisfied, very pleased/very displeased, contented/frustrated and delighted/terrible</td>
<td>Combination</td>
</tr>
<tr>
<td>Tikkanen, Alajoutsijarvi and Tahtinen (2000)</td>
<td>Software</td>
<td>In depth interviews</td>
<td>Expectation</td>
</tr>
<tr>
<td>Tse and Wilton (1988)</td>
<td>Mini record player</td>
<td>1 x 5 point bipolar “considering everything, how satisfied are you with the product” dissatisfied/satisfied</td>
<td>Expectation</td>
</tr>
<tr>
<td>Vanhamme (2000)</td>
<td>Holiday</td>
<td>6 item Likert scale I am satisfied with my decision to purchase XXXX (Oliver 1980)</td>
<td>Expectation</td>
</tr>
<tr>
<td>Westbrook and Oliver (1981)</td>
<td>Cars and calculators</td>
<td>Semantic differential, graphic, verbal and multi-item Likert scale strongly agree to strongly disagree</td>
<td>Expectation</td>
</tr>
<tr>
<td>Westbrook and Oliver (1991)</td>
<td>Cars</td>
<td>12 item Likert scale based on Oliver (1980).</td>
<td>Expectation</td>
</tr>
</tbody>
</table>

An alternative conceptualisation of satisfaction is outcome-type definitions. The outcome focused view looks at satisfaction as an outcome (Spreng, Mackenzie and Olshavsky 1996) and offers end-states such as satisfaction-as-contentment, satisfaction-as-pleasure, satisfaction-as-relief, satisfaction-as-novelty and
satisfaction-as-surprise (Oliver 1989; Oliver 1996). This theory offers an explanation for inconsistencies that occur between poor performance and high satisfaction levels (Spreng, Mackenzie and Olshavsky 1996).

The **outcome model** indicates that the disconfirmation of expectations may not be present in all situations. It suggests that expectation processing is only present when the satisfaction mode is pleasure, relief or surprise (Oliver 1989). It is important to note that this theory is not a competing model, rather it is complementary “outcomes have both a direct influence on satisfaction and an indirect influence through disconfirmation” (Oliver 1993, p74). This complementary approach has been utilised in studies that explicitly identify the use of both outcomes and disconfirmation paradigms (Spreng, Mackenzie and Olshavsky 1996; Patterson, Johnson and Spreng 1997).

In the context of business services, it would be anticipated that the satisfaction mode is likely to be either pleasure (indicated by happiness) or relief (indicated by avoiding a negative state such as low sales). The former mode is based on positive reinforcement with the latter being negative reinforcement. The implications of this assumption is that the expectation disconfirmation model would be appropriate for business services as post-purchase comparison processes would be engaged.

While there is debate on the definition of satisfaction, there is general agreement amongst researchers that satisfaction is an affective construct (Ganesan 1994; Oliver 1996; Spreng, Mackenzie and Olshavsky 1996; Giese and Cote 2000). While early satisfaction research classified satisfaction as a cognitive construct in terms of an evaluative experience (Olson and Dover 1979), later research combined the cognitive and affective dimensions (Day 1984; Howard and Sheth 1969; Oliver and Linda 1981; Westbrook and Oliver 1981). However, recent research has moved away from a cognitive base and identified a more emotional base to the construct which is evident in the use of emotive laden terms such as ‘love’, ‘thrilled’, ‘delighted’, and ‘pleasantly surprised’ (Babin and Griffin 1998; Giese and Cote 2000; Rust and Oliver 2000).
A recent study that applied satisfaction to a business-to-business professional services context used the dominant paradigm of disconfirmation-of-expectations (Patterson, Johnson and Spreng 1997). The high credence nature of business services results in customers being more likely to rely on prior expectations. This means that “perceived performance has a direct influence on customer satisfaction and dissatisfaction” (Patterson, Johnson & Spreng 1997, p14).

Oliver’s early definition of satisfaction has developed from defining satisfaction as a function of expectation and expectancy disconfirmation (Oliver 1980), to an end-state rather than a process, “the consumer’s fulfilment response” (Oliver 1996, p13). However, while Oliver (1996) has reviewed his earlier stance on satisfaction, he acknowledges that the disconfirmation model “has been shown to adequately account for one major mechanism by which consumers form satisfaction judgements” (Oliver 1996, p126).

A recent study of the antecedents of satisfaction (Giese and Cote 2000) found that 50% of respondents indicated satisfaction was the result of disconfirmation of expectations, with the remaining 50% indicated outcomes and other antecedents. Therefore, given the conflict in evidence amongst satisfaction research and that disconfirmation has a significant impact on satisfaction when the product is a non-durable and where there is reliance on another’s opinions such as a sales consultant (Patterson Johnson and Spreng 1997; Ringham Johnson and Morton 1994; Spreng and Olshavsky 1993), this study included the disconfirmation approach.

Hence, this study combines the outcomes paradigm with disconfirmation, which, as mentioned, is used commonly in satisfaction research and has extensive empirical support (Fournier and Mick 1999; Jones and Suh 2000; Oliver 1980; Richins and Bloch 1991; Vanhamme 2000). Satisfaction is defined as an affective response, which is an affective end-state as the result of appraisals including disconfirmation and perceived performance (Babin and Babin 1994; Giese and Cote 2000).

3.1.4 Perceived risk
As mentioned in earlier sections, high perceived risk is associated with the purchasing of services (Mitchell 1994a; Ziethaml 1981). This is particularly the case for professional services such as advertising where credence qualities are high (McColl-Kennedy and Fetter 1999b). Thus this construct will be discussed as an antecedent of brand loyalty in the business-to-business services sector. The construct of perceived risk has a well researched history in marketing for some 30 years (Mitchell 1999). Originally proposed by Bauer (1960), risk is a two-dimensional construct containing uncertainty and adverse consequences (Dowling 1986). The amount of perceived risk is the outcome of the level of uncertainty and the consequences of the outcome (Cunningham 1967).

The actual operationalisation of adverse consequences has varied amongst researchers with some measuring amount at stake (Cox and Rich 1967), severity of outcome (Oglethorpe and Monroe 1994) and seriousness of outcome (Stone and Mason 1995). This multidimensionality raises the question of construct validity, how related are the dimensions of uncertainty and consequences? Dowling (1985) indicates that there are few studies which examine this issue thus resulting in the construct being somewhat undefined (Dowling 1986; Mattila 2001).

There appears to be three main types of models of perceived risk in the literature: multiplicative models (Cox and Rich 1967; Cunningham 1967; Jacoby and Kaplan 1972; Peter and Ryan 1976), additive (Bettman 1973; Oglethorpe and Monroe 1994) and unidimensional (Stone and Mason 1995). Table 3-4 summarises the literature into these categories.

The multiplicative model consists of two components; uncertainty and negative consequences (Cunningham 1967), the scores of which are multiplied to gain an overall rating of perceived risk (Peter and Ryan 1976). Thus perceived risk is the probability of negative consequences occurring multiplied by the importance of those consequences.

<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Scale</th>
<th>Dimensionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batra and</td>
<td>Various consumer</td>
<td>2 item 7 point Likert scale,</td>
<td>Multiplicative</td>
</tr>
</tbody>
</table>

Table 3-4 Summary of perceived risk literature
<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Scale</th>
<th>Dimensionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinha (2000)</td>
<td>products</td>
<td>“When I choose a brand it is not a big deal if I make a mistake”</td>
<td>1. probability of mistake &lt;br&gt; 2. Consequences of making a mistake</td>
</tr>
<tr>
<td>Bettman (1973)</td>
<td>Various consumer products</td>
<td>10 point scale “How risky”</td>
<td>Additive &lt;br&gt; Inherent Risk &lt;br&gt; (=importance of loss) handled risk &lt;br&gt; 9=probability of loss</td>
</tr>
<tr>
<td>Jacoby and Kaplan (1972)</td>
<td>Health, recreational and hygienic products</td>
<td>Single Item for each component, 9 point Likert scale &lt;br&gt; 1. Financial &lt;br&gt; 2. performance &lt;br&gt; 3. physical &lt;br&gt; 4. psychological &lt;br&gt; 5. social &lt;br&gt; 6. overall risk</td>
<td>Multiplicative &lt;br&gt; (uncertainty x consequences)</td>
</tr>
<tr>
<td>Mattila (2001)</td>
<td>Hotels (business service)</td>
<td>3 item, 7 point, bipolar scale &lt;br&gt; 1. whether it is easy to choose a business hotel &lt;br&gt; 2. whether a business hotel is risky product &lt;br&gt; 3. whether it is easy to ‘go wrong’ with a business hotel (Based on Zaichowsky involvement scale)</td>
<td>Cumulative</td>
</tr>
<tr>
<td>Mitchell (1994a)</td>
<td>Consultancy services</td>
<td>Conceptual</td>
<td>Not stated</td>
</tr>
<tr>
<td>Weber and Milliman (1997)</td>
<td>Commuting</td>
<td>Not stated</td>
<td>Multiplicative</td>
</tr>
<tr>
<td>Boze (1998)</td>
<td>Legal services</td>
<td>Cunningham scale</td>
<td>Multiplicative</td>
</tr>
<tr>
<td>Cox and Rich (1967)</td>
<td>Telephone shopping</td>
<td>Not stated</td>
<td>Multiplicative &lt;br&gt; 1. amount at stake &lt;br&gt; 2. uncertainty</td>
</tr>
<tr>
<td>Cunningham (1967)</td>
<td>Various consumer products</td>
<td>Multipoint scale &lt;br&gt; ‘would you say that you very certain, certain not very certain that a brand of X you haven’t tried will work as well as your present brand?’ &lt;br&gt; ‘we all know that not all products work as well as others.’</td>
<td>Multiplicative &lt;br&gt; 1. perceived certainty &lt;br&gt; 2. consequences involved</td>
</tr>
<tr>
<td>Dowling (1986)</td>
<td>Conceptual</td>
<td>Conceptual</td>
<td>Bi-dimensional</td>
</tr>
<tr>
<td>Guseman (1981)</td>
<td>Various consumer goods and services</td>
<td>Cunningham’s scale</td>
<td>Multiplicative &lt;br&gt; 1. uncertainty &lt;br&gt; 2. consequences</td>
</tr>
<tr>
<td>Mitra, Reiss and Capella (1999)</td>
<td>Various services</td>
<td>Jacoby and Kaplan scale</td>
<td>6 risk types</td>
</tr>
</tbody>
</table>

Page 67
Table 3-4 (cont)

<table>
<thead>
<tr>
<th>Author</th>
<th>Product</th>
<th>Scale</th>
<th>Dimensionality</th>
</tr>
</thead>
</table>
| Oglethorpe and Monroe (1994) | Hazardous products | 8 item scale (including scale of magnitude and Likert) | Additive
                                                             2. Probability of outcome
                                                             3. severity of outcome |
| Peter and Ryan (1976)      | Automobiles   | Semantic differential scales | Multiplicative
                                                             1. Probability of loss
                                                             2. Importance of loss |
| Sheth and Venkatesan (1968) | Hair spray    | Not stated                                                           | N/a                                                                 |
| Stone and Mason (1995)     | Computer      | 7 point Likert scale
                                                             ‘I think I would be making a mistake if I bought a X in the next 12 months’ | Unidimensional
                                                             Probability of loss |

Bettman (1973) followed Cunningham’s work (1967) however classified risk into two types; **inherent and handled risk**. Inherent risk is the level of risk associated with the product class and handled risk is the level of risk associated with a particular brand (Bettman 1973). Thus, if a person is buying a legal service which is a high-risk product, then the level of inherent risk is high. However, if this legal firm is one in which they trust and have used before, the level of handled risk would be low. This research also used a linear (or additive) model rather than Cunningham’s multiplicative model to obtain a summated score for perceived risk. Jacoby and Kaplan (1972) also built on Cunningham’s model, however, they identified five components of perceived risk; financial, performance, physical, psychological, and social. A score for the uncertainty and consequences of each component was identified and multiplied. The component scores were then added to give a final overall perceived risk score.

Oglethorpe and Monroe (1994) also follow Cunningham’s two-component approach but instead of multiplying the scores they are added, giving rise to a classification of additive (Mitchell 1999). Risk is defined by Oglethorpe and Monroe (1994) as being driven by probability of a negative outcome and the severity of that outcome. The underlying constructs involved in perceived risk are defined as; availability, catastrophic potential, reversability, controllability, dreadedness, severity, probability and overall perceived risk (Oglethorpe and Monroe 1994).
In contrast Stone and Mason (1995) take a more **unidimensional approach** conceptualising risk as the certainty of loss. Operationalising this view consist of classifying the loss into six types; performance, financial, physical, psychological, social and convenience.

Although the multiplicative models have been used for over 30 years, there is some evidence that the additive models provide a better fit (Bettman 1973; Boze 1998). However, the consistency between these two approaches has been the incorporation of the two components of uncertainty and consequences.

Risk is a key factor in the purchase of services and for brand loyalty. Customers use brand loyalty to minimise risk and uncertainty in their purchasing (Lovelock, Patterson and Walker 1998). A familiar brand overcomes the issues resulting from intangibility, inseparability and heterogeneity because the customer has already experienced the purchasing outcome. The assumption is that any subsequent purchase of that brand will provide a similar purchase experience.

Perceived risk is a distinguishing feature of the services sector in terms of attitudes. When comparing the products types of convenience products, shopping goods and services, services are the riskiest (Mitchell 1994b). Due to services being; intangible, perishable, and heterogeneous, customers perceive them to be higher risk than physical goods in terms of customer satisfaction (Guseman 1981; Lovelock 1993). After all, a customer cannot exchange or return services that do not meet their expectations. The delivery of services involves time, and time that is spent on the service encounter cannot be recovered (Lovelock 1993), therefore increasing perceived risk.

There is a great deal of uncertainty in the purchasing of services. There is little pre-purchase information available. Judging quality is very difficult, particularly with little or no physical attributes as indicators, and no guarantee of receiving the same value/quality each time the service is purchased. However, the level of evaluation difficulty varies with the level of experience and credence qualities (Ziethaml 1981). This uncertainty combined with the possible effects of the service failing (e.g. a
medical procedure that goes wrong) produces a high level of perceived risk (Guseman 1981; Ziethaml 1981).

Risk is also an important factor in the business-to-business sector, in fact, it is also proposed that business-to-business buying behaviour is strongly driven by risk minimisation (Gordon, Calantone and di Benedetto 1993). A strategy used by business-to-business buyers to minimise the uncertainty associated with risk is the selection of familiar products, brands or companies as part of the screen criteria (Gordon, Calantone and di Benedetto 1993).

Business services such as advertising are higher in credence qualities than experience qualities. Even after the business has purchased advertising they are still unsure if it is effective as they are not trained to evaluate this service. Therefore this increases the level of perceived risk as credence services are considered riskier than experiential services (McColl-Kennedy and Fetter 2001).

Customers use varying methods in their bid to reduce the uncertainty involved in purchasing services. Brand loyalty, reference groups and store loyalty are the most commonly used methods of risk-reduction used by purchases of services (Roselius 1971). As the level of perceived risk increases, so does the preference for brand loyalty, reference groups and store loyalty. Interestingly, Guseman’s paper (1981) indicates that consumers are more likely to use a brand they have previously bought than the best-known brand when purchasing services (this is also the case for goods). This contradicts the behavioural assertion that the double jeopardy effect is responsible for brand loyalty. Additionally, as there is likely to be more perceived risk in brand switching, consumers may be more brand loyal to services than goods (Lovelock 1983).

Consumers prefer to use previously bought brands as a risk reduction method over free trials and seeking information. This reinforces the consumer evaluation process model proposed by Ziethaml (1981) that purchasers of services use previous purchase experience in order to reduce risk and therefore reduce post-purchase
dissonance. Therefore any research into brand loyalty for business services needs to incorporate the construct of risk.

In summary, this research follows the commonly adopted bi-dimensional definition of perceived risk as being the result of defining risk as the probability and severity of a negative outcome (Oglethorpe and Monroe 1994). Therefore perceived risk should be measured using an additive approach as recommended by Oglethorpe and Monroe (1994) and Mitchell (1998).

3.1.5 Involvement

The construct of involvement has been well researched and is seen as a central construct in the consumer behaviour literature with more than 225 articles since 1960 (O'Cass 1998). In the mid 1960s, Krugman diverged from the accepted definition of involvement at the time. Instead of defining involvement in relation to the topic (i.e. the important or relevance of a topic), he was more oriented to the stimulus material such as advertising (Krugman 1965). His definition required “conscious connections occurring between the persuasive stimulus and something in the respondent’s life” (Krugman 1966, p587).

The construct of involvement has since evolved from Krugman’s (1966) trait based definition to a state based definition such as “the general level of interest in the object or the centrality of the object to the person’s ego structure” (Day 1970, p5). This definition basically implies a motivational state influenced by the level of personal relevance or importance by a product or brand (Bloch and Richins 1983; Day, Stafford and Camacho 1995; Mittal 1995; Shaffer and Sherrell 1997). If a product or brand is classified as low-involvement this suggests that the respondent does not care about the product as it may be unimportant to them.

The level of involvement a customer has for a particular purchase explains the different amounts of attitudinal activity that are generated by advertising and purchase situations. Where involvement is low, advertising can modify behaviour through reinforcement as the purchasing process becomes habitual (Krugman 1965).
Conversely, where involvement is high, there is more likely to be decision-making and problem-solving (Sheth, Mittall and Newman 1999). Therefore, the level of involvement determines the level of decision-making in the purchasing process.

Professional services are classified as high involvement situations by many (Bessom 1973; Bloom 1981; Mitchell 1994a; Ziethaml 1981). Buyers of professional services such as advertising, health services or legal advice perceive the process to be high-involvement (Mitchell 1994a). The high levels of uncertainty prior to the purchase and after the purchase process are due to the credence qualities of the process (Darby and Karni 1973). These credence qualities reduce the confidence a purchaser has in their ability to judge the quality of the service and thus increases the level of involvement (McColl-Kennedy and Fetter 2001).

The two areas of debate for involvement are the nature of the construct (affective or cognitive) and the type of involvement (enduring and situational). Table 3-5 summarises the involvement literature relating to the nature of the construct.

**Nature of involvement**

The nature of the involvement construct has generated substantial debate in the literature. Early research proposed involvement to be unidimensional and of an affective nature (Mittal 1989) while others include both cognitive and affective items in a multidimensional construct (Kapferer and Laurent 1985; Zaichowsky 1985). This multidimensional approach of Bloch (1981) Kapferer and Laurent (1985), and Zaichowsky (1985) reflects the agreement amongst involvement researchers that involvement is not a single-factor construct.

Kapferer and Laurent (1985), Bloch (1981) and Zaichowsky (1985) have adopted multidimensional scales of involvement. However, Zaichowsky (1985) and Bloch’s (1981) scales measure involvement itself while the Kapferer and Laurent (1985) scale measures the antecedents of involvement rather than involvement. Each of their items reflects the antecedents of involvement (Kapferer and Laurent 1993) which
<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Product</th>
<th>Scale</th>
<th>Dimensionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beatty, Kahle and Homer (1988)</td>
<td>Soft-drink</td>
<td>3 item 9 point Likert scale ‘I am very concerned about what brands of soft drinks I purchase’</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Bloch (1981)</td>
<td>Automobiles</td>
<td>17 item Likert scale ‘I have little or no interest in car races’</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Bloch and Bruce (1984)</td>
<td>Leisure</td>
<td>Conceptual</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Celsi and Olson (1988)</td>
<td>Tennis</td>
<td>Zaichowsky PII 1985</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Goldsmith and Emmert (1991)</td>
<td>Clothing and physical fitness</td>
<td>3 scales; Zaichowsky PII, Mittal 1989, Laurent &amp; Kapferer CIP 1985</td>
<td>N/A</td>
</tr>
<tr>
<td>Havitz and Howard (1995)</td>
<td>Outdoor activities</td>
<td>Laurent &amp; Kapferer CIP 1985</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Kapferer and Laurent (1985)</td>
<td>20 consumable and durable items</td>
<td>10 item Likert scale reflecting 5 antecedents of involvement ‘I have strong interest in XYZ’</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Ratchford (1987)</td>
<td>60 consumer products</td>
<td>3 item semantic differential ‘unimportant – important’ ‘lot to lose – lot to gain’ ‘little thought - lot of thought’</td>
<td>Combination Multidimensional</td>
</tr>
<tr>
<td>Ray (1979)</td>
<td>Conceptual</td>
<td>Conceptual</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Slama and Taschian (1985)</td>
<td>Various consumer goods</td>
<td>33 item Likert scale ‘I have little or no interest in shopping’</td>
<td>Multidimensional</td>
</tr>
<tr>
<td>Zaichowsky (1985)</td>
<td>13 consumable and durable items</td>
<td>20 item 7 point bipolar semantic differential scale ‘important…..not important’</td>
<td>Combination Multidimensional construct</td>
</tr>
</tbody>
</table>
while related, are different factors and thus not an appropriate measure of involvement (Ratchford 1987). Thus the Zaichowsky and Bloch scales have greater face validity as a scale for involvement because it is not measuring antecedents but the construct itself.

In contrast, the unidimensional approach to involvement is proposed by Mittal (1995) who supports the view of Anderson and Gebring (1988) that construct validity requires unidimensionality. Mittall reduced Zaichowsky’s scale to five items which reflected a single cognitive factor of importance/significance for testing of the scale.

**Types of Involvement**
The involvement construct is then broken into types; enduring involvement and situational involvement (Bloch and Richins 1983; Shaffer and Sherrell 1997).

**Enduring involvement** is ongoing concern that a buyer has for a product (Richins, Bloch and McQuarrie 1992) and is usually as a result of previous experience (Bloch and Richins 1983; Wellman, Roggenbuck and Smith 1982). **Situational involvement** is a temporary involvement that occurs in a particular purchase situation and usually results from perceived risk (Bloch and Richins 1983). Situational involvement is directed towards the use of a product in a specific situation whereas enduring involvement is directed towards the relationship between the product and the person’s core values (Warrington and Shim 2000).

The temporal nature of involvement is the key factor in determining whether it is enduring or situational (Havitz and Howard 1995; Richins and Bloch 1986). Involvement that is stable over time is classified as enduring and does not change in relation to the moment in time the data is collected. An example of enduring involvement in a business services context may be involvement with a lawyer with whom a regular level of interaction exists. Alternatively, if a business consults a lawyer for taxation returns only, then it is likely that the level of involvement will be highest when approaching tax time and just after, and is situational. Thus situational involvement fluctuates based on the change in interest in the product or brand (Havitz and Howard 1995; Richins and Bloch 1986).
A key issue in the measurement of involvement is that no scale exists for situational involvement, although several researchers claim scales that can be used for both enduring and situational (Kapferer and Laurent 1985; Zaichowsky 1985). While there is some evidence that “both types of involvement combine to influence responses, the manner in which they combine has been the source of some conflict” (Richins, Bloch and McQuarrie 1992 p144). The only studies to date that measure each type separately used a post-hoc approach for situational involvement inferred from behavioural variables rather than a specific scale (Richins and Bloch 1986; Richins, Bloch and McQuarrie 1992). Hence there is an identified need for further research to develop scales for both enduring and situational involvement and to identify how they combine to form overall involvement (Day, Stafford and Camacho 1995; Havitz and Howard 1995).

In summary, this study views involvement in a business services context as a construct which represents the perceived importance of and the interest in the service (Bloch and Richins 1983; Mittal 1995). The utilitarian nature of business needs provide cognitive motives for involvement (McGuire 1974) thus involvement in a business services context is assumed to be unidimensional in nature with a single factor of cognitive interest and importance.

### 3.2 Summary

This chapter has identified five key antecedents of brand loyalty in the business-to-business services sector; trust, commitment, perceived risk, involvement and satisfaction. Each of these key constructs has been discussed in terms of debates and current issues in the literature with a statement of the application of each in the context of this business services study. The relationships between these antecedents and brand loyalty will be discussed in the next chapter along with the specific hypotheses.
4 Model development

4.1 Introduction

This chapter outlines the conceptual model, the relationships between the constructs, and the respective hypotheses, which have been derived from the literature review. Additionally, it contains a competing model that contains paths indicating a direct effect between several of the antecedents and behavioral brand loyalty. The literature review identified five constructs as antecedents of brand loyalty in a business services context: commitment, trust, satisfaction, involvement, and perceived risk. Brand loyalty is composed of two constructs: attitudinal brand loyalty, and behavioral brand loyalty, totalling seven constructs in the proposed model (see Figure 3.1). Prior research on attitude indicates that it mediates the effects on other factors on behavior (Ajzen and Fishbein 1980; Baldinger and Rubinson 1996; Dick and Basu 1994). In this model, attitudinal brand loyalty is proposed as the only construct to have a direct effect on behavioral brand loyalty.

The factors that are proposed to directly effect attitudinal brand loyalty are commitment (Gundlach, Achrol and Mentzer 1995; Pritchard, Havitz and Howard 1999), perceived risk (Bearden and Mason 1978), involvement (Traylor 1981; Oliva, Oliver and Macmillan 1992), satisfaction (Shimp and Dyer 1981; Ringham, Johnson and Morton 1994; Patterson, Johnson and Spreng 1997).

Each of these constructs also has relationships with other constructs within the model. Trust is strongly linked to commitment (Ganesan 1994; Morgan and Hunt 1994), as is satisfaction (Gabarino and Johnson 1999). Satisfaction is affected by the level of involvement (Oliver and Bearden 1983) and the level of perceived risk (Kapferer and Laurent 1993; Patterson, Johnson and Spreng 1997). Risk affects satisfaction in a negative relationship, the higher the perceived risk, the lower the level of satisfaction (Bloch and Richins 1983). Thus, the proposed model of potential antecedents of brand loyalty contains eleven hypothesized relationships (see figure 4-1). These hypotheses related directly to the three research questions outlined earlier and are summarized in Table 4.1 below.
Table 4-1 Relationship between research questions and hypotheses

<table>
<thead>
<tr>
<th>Research question</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. What is the relationship between attitudinal brand loyalty and behavioural brand loyalty?</strong></td>
<td><strong>H₁</strong> Attitudinal loyalty towards the preferred brand will be positively associated with behavioural brand loyalty.</td>
</tr>
<tr>
<td><strong>2. What are the potential antecedents of brand loyalty in the business-to-business services sector?</strong></td>
<td><strong>H₂</strong> Involvement with directory advertising will be positively associated with attitudinal loyalty towards the preferred brand.</td>
</tr>
<tr>
<td></td>
<td><strong>H₃</strong> Perceived risk of the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand.</td>
</tr>
<tr>
<td></td>
<td><strong>H₄</strong> Satisfaction with the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand.</td>
</tr>
<tr>
<td></td>
<td><strong>H₅</strong> Trust in the sales consultant will be positively associated with commitment to the sales consultant.</td>
</tr>
<tr>
<td></td>
<td><strong>H₆</strong> Involvement with directory advertising will be positively associated with satisfaction with the preferred brand.</td>
</tr>
<tr>
<td></td>
<td><strong>H₇</strong> Perceived risk of the preferred brand will be positively associated with involvement with directory advertising.</td>
</tr>
<tr>
<td></td>
<td><strong>H₈</strong> Perceived risk of the preferred brand will be negatively associated with satisfaction with the preferred brand.</td>
</tr>
<tr>
<td></td>
<td><strong>H₉</strong> Satisfaction with the preferred brand will be positively associated with commitment to the sales consultant.</td>
</tr>
<tr>
<td></td>
<td><strong>H₁₀</strong> Satisfaction with the preferred brand will be positively associated with trust of the sales consultant.</td>
</tr>
<tr>
<td></td>
<td><strong>H₁₁</strong> Satisfaction with the preferred brand will be positively associated with trust of the sales consultant.</td>
</tr>
<tr>
<td><strong>2. What is the role of relational constructs in influencing attitudinal brand loyalty?</strong></td>
<td><strong>H₃</strong> Commitment to the sales consultant will be positively associated with attitudinal loyalty towards the preferred brand.</td>
</tr>
</tbody>
</table>
Figure 4-1 Proposed model
4.2 **Rationale for the constructs and relationships within the model**

4.2.1 Attitudinal brand loyalty influences behavioural brand loyalty

It has long been suggested that there is a link between attitude and behaviour with attitude leading to behaviour (Baldinger and Rubinson 1996; O'Brien 1971; (Ajzen and Fishbein 1980; Sheth 1968). However while this relationship has been posited, it is not unconditional. Attitude does not always predict behaviour (Kraus 1995). There are other variables that can intervene such as variety-seeking behaviour, norms and situational factors (Ajzen, Timko and White 1982).

An early study comparing deterministic and stochastic choice models found that while attitudinal loyalty provided significant prediction for behavioural loyalty, this was not constant (Bass, Pessemier and Lehmann 1972). An explanation provided for this result was that variety-seeking behaviour also influences the choice of brand selected. However, if brand switching results as a means to achieve variety, it tends to be a brand with similar attributes, for instance if a person values the attribute of high personal contact in a legal firm, they are more likely to switch to a firm that also has high personal contact.

A meta-analysis study of 88 attitude-behaviour studies found that while attitude significantly predicts behaviour, the relationship occurs in only 62% of cases (Kraus 1995). One explanation of this inconsistency is the influence of situational factors and uncontrollable factors in the environment (Ajzen and Fishbein 1980). Another explanation is the manner in which attitudes are formed. The way an attitude is formed has a crucial impact on the link between attitude and behaviour (Fazio and Zanna 1978). Attitude is a better predictor in situations where customers form attitudes through direct experience with the attitude object compared with situations involving indirect experience (Fazio and Zanna 1978). The subjects in this study have had direct behavioural experience with purchasing directory advertising, therefore it is expected that the attitude towards future purchase of the brand should be a predictor of actual purchase of the brand.
Despite mixed evidence amongst the attitude-behaviour studies, it is expected that there will be a significant relationship between attitudinal loyalty and behavioural loyalty. Thus the relationship between attitudinal brand loyalty and behavioural brand loyalty was hypothesised in this research as:

**H1: Attitudinal loyalty towards the preferred brand will be positively associated with behavioural brand loyalty**

### 4.2.2 Commitment influences attitudinal brand loyalty

Commitment is a key component of relationships, which are part of the business-to-business purchasing transaction (Morgan and Hunt 1994). This construct measures the level of commitment that the buyer has towards the sales consultant of the supplier. A recent study of the commitment-loyalty link found that increased levels of commitment lead to increase levels of loyalty (Pritchard, Havitz and Howard 1999). In this research, increased levels of commitment to the service provider (sales consultant) are likely to be positively associated with the level of business liking and intention to purchase the brand sold by that sales consultant.

Commitment to the sales consultant has been defined as an affective commitment and a psychological attachment (Gundlach, Achrol and Mentzer 1995), and a “desire to maintain a valued relationship” (Morgan and Hunt 1994, p23). This attachment to the sales consultant can translate into a behavioural intention, that is, the intention to continue the relationship in the future (Gundlach, Achrol and Mentzer 1995). One of the outcomes of high commitment is an increase in acquiescence and a decrease in the propensity to leave (Morgan and Hunt 1994).

In this model there are two antecedents of commitment proposed; satisfaction and trust (Morgan and Hunt 1994). Both of these are expected to be present before commitment is experienced. When there is a high level of commitment, it is expected that this will influence the level of brand loyalty with the customer being unlikely to explore alternative suppliers or products.
One of the issues when a sales consultant leaves an organisation is the dilemma posed for the customer. If a business has high commitment to the sales consultant, the business would need to weigh up their attachment to the sales consultant with their attachment to the original organisation or brand. They would need to consider whether to follow the sales consultant to their new organisation and thus buy the new brand or sever their relationship with the sales consultant in order to continue purchasing the brand.

The dimension of purchase intention is captured by the construct of attitudinal loyalty, which is psychological predisposition towards a particular brand. When a business is committed to the sales consultant, they are more likely to continue purchasing the brand sold by that person in order to continue their relationship.

While there is some debate as to whether relationship commitment and loyalty are the same construct (Pritchard, Havitz and Howard 1999), there is empirical evidence that they are distinctly different constructs that are, however, related (Beatty, Kahle and Homer 1988; Pritchard, Havitz and Howard 1999).

It is therefore hypothesised that when a business has high levels of commitment towards the sales consultant of their preferred brand they will continue to purchase the brand sold by that sales consultant. This intention contributes towards positive attitudinal loyalty of the preferred brand through the relationship with the sales consultant. Thus the relationship between commitment and attitudinal brand loyalty is hypothesised as:

**H2: Commitment to the sales consultant will be positively associated with attitudinal loyalty towards the preferred brand**

### 4.2.3 Involvement influences attitudinal brand loyalty

The link between involvement and attitudinal loyalty has been demonstrated in prior research (see for instance Traylor 1981; Beatty, Kahle and Homer 1988). East (1997) asserts that involvement has an impact on whether the purchase process involves planning or is more habitual. Low-involvement purchasing tends to be habitual
whereas high-involvement purchasing requires planning (East 1997; Ray 1973). Therefore, as the purchase of a professional service such as advertising is viewed as high risk (Javalgi and Moberg 1997; Mitchell 1994a) and high risk is usually associated with high involvement (Dowling 1986), professional services are classified as high involvement (McColl-Kennedy and Fetter 1999a).

High involvement is thought to have an impact on satisfaction levels such that the higher the level of involvement, the higher the satisfaction levels (Oliver and Bearden 1983; Richins and Bloch 1991). This may be as a result of extensive information search and pre-purchase evaluation that occurs with high involvement, thus reducing purchase error. Consequently the likelihood of satisfaction with the purchase is increased.

In general, the more involved a business is in the purchase, the more likely they are to be loyal to that brand. Even if dissatisfaction with the brand arises, if the business has invested a great deal in the process and is hence highly involved, they are likely to resist brand switching (Oliva, Oliver and Macmillan 1992). The less involved the purchaser is in the buying process the more likely they are to think of the purchase as being trivial or of little importance. This implies that they are likely to brand switch as the risks of this are perceived as low. The more involved the purchaser, the more likely it is the purchaser has identified a particular brand as the “best” choice for their situation (Oliver and Bearden 1983). This identification is then likely to lead to commitment to the brand.

Advertising can be classified as a high-involvement product (Javalgi and Moberg 1997). Buyers experience uncertainty prior to purchase (Bloom 1981; Lovelock, Patterson and Walker 1998) and in the case of directory advertising, spend a large amount of time deliberating the purchase. It is a major decision for the many businesses that select directory advertising as part of their promotional mix. In some cases, directory advertising is the only advertising done by the business. High levels of importance of directory advertising means that if a business selects a brand that
does not generate sales, they could be out of business in the next year (Open Mind Research Group 1997).

Therefore, the choice of the brand is important to the success of the business. Once a business has identified the brand that is deemed the most appropriate for its needs through high-involvement activities, it is likely that the business will be committed to this brand and the attitudinal loyalty will be high. Thus the relationship between involvement and attitudinal brand loyalty is hypothesised to be:

**H₃: Involvement with directory advertising will be positively associated with attitudinal loyalty towards the preferred brand**

### 4.2.4 Perceived risk influences attitudinal brand loyalty

Research demonstrates that there is a strong positive correlation between perceived risk and brand loyalty (Cunningham 1967; Roselius 1971; Sheth and Venkatesan 1968; Stone and Mason 1995) with brand loyalty being used as risk-reduction strategy (Sheth and Venkatesan 1968). The implications of high-perceived risk on brand loyalty are that purchasers of services tend to be less likely to brand-switch in order to minimise the perceived risk. Brands assist the customer in the decision-making process by reducing time and effort (Ziethaml 1981) and this is particularly important in situations where there is minimal pre-purchase information on which to base the purchase decision. Thus buyers exhibit great loyalty to professional service providers due to the perceived risk associated with switching providers (Bloom 1981) and the high levels of credence qualities present (McColl-Kennedy and Fetter 1999a; Mitchell 1994a).

Perceived risk is a key construct in the purchasing of services. The key characteristics of services as being intangible, inseparable, heterogeneous and perishable creates a higher level of perceived risk in comparison to consumer goods (Ziethaml 1981). A contributing factor of these characteristics to the level of perceived risk is the lack of information available when the purchaser is evaluating the service. This is due to the intangibility aspect of services and in the case of professional services, the high level of credence qualities present (Mitchell 1994a).
Thus purchasers use loyalty as a risk-reduction activity when evaluating and purchasing services (Roselius 1971).

A purchaser may suffer any of five different types of risk from an unsatisfactory purchase. These include; financial, performance, physical, psychological and social losses. The level of importance of these has a bearing on the amount perceived to be at stake by the purchase (Bloch and Richins 1983). The greater the amount perceived to be at risk, the higher the likelihood of the purchaser remaining brand-loyal (Stone and Mason 1995).

Risk has therefore been posed as a key antecedent for brand loyalty with brand loyalty part of a purchaser’s risk-reduction strategy (Sheth and Venkatesan 1968). This means that to reduce risk, a consistent preference for a particular brand is useful. By definition, attitudinal brand loyalty is a predisposition towards a particular brand over other brands (Jacoby and Chestnut 1978). This implies that alternative brands did not meet the needs of the purchaser as satisfactorily as the preferred brand. To prefer an alternative brand is likely to elevate the perceived risk. If a brand of directory advertising is purchased because it generates income for the business, then to select an alternative brand would be to risk financial well-being if the decision to change turns out to be wrong.

Thus the relationship between perceived risk and attitudinal brand loyalty is hypothesised as being:

**H4: Perceived risk of the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand.**

4.2.5 Satisfaction influences attitudinal brand loyalty

Many empirical studies have shown that satisfaction is a antecedent of brand attitude and brand intention, (Howard 1974; Oliver and Linda 1981; Shimp and Dyer 1981; Oliva, Oliver and Macmillan. 1992; Patterson, Johnson and Spreng 1997; Page and
Satisfaction is an emotional response to a purchase situation (Babin and Griffin 1998), which results in the formation of attitude or brand loyalty (Ringham, Johnson and Morton 1994). Research on satisfaction and loyalty has revealed that not meeting expectations has a much larger effect on loyalty than on satisfaction (Ringham Johnson and Morton 1994). Therefore it is important that loyalty be factored into any research on satisfaction as this is the pivotal criteria in brand choice for a service (Oliver 1999).

Satisfaction is a positive affective reaction to an outcome of a prior experience (Ganesan 1994; Giese and Cote 2000) and has been shown to be an important factor in determining the next purchase of a product (Richins and Bloch 1991; Patterson, Johnson and Spreng 1997). In the services sector, in particular, actual experience is often relied upon as an indicator of product quality. The lack of pre-purchase information and the nature of services place an emphasis on the purchaser developing a post-evaluation derived from actual experience.

This post-purchase evaluation can lead to the formation of an attitude which is embodied in the construct of attitudinal brand loyalty. The satisfaction derived and attitude formed as part of a prior experience (Ganesan 1994) then impacts on subsequent purchases (Oliver 1980) thus completing the cyclical pattern of repeat purchases.

Two characteristics of business services appear to be the high risk associated with switching service providers (Ziethaml 1981), and trust and commitment (Morgan and Hunt 1994). It is suggested that one of the reasons that businesses tend to remain with the same service provider is if they are satisfied (Patterson, Johnson and Spreng 1997). If a business is satisfied with the performance of the brand they have selected to use, then their attitudinal loyalty is expected to be high (Jones and Suh 2000).
Thus the relationship between satisfaction and attitudinal brand loyalty is hypothesised as being:

**H5: Satisfaction with the preferred brand will be positively associated with attitudinal loyalty to the preferred brand**

### 4.2.6 Trust influences commitment

Trust is said to be an antecedent of relationship quality (Moorman, Zaltman and Deshpande 1992) in that the level of honesty, believability and integrity influence how the relationship with the service provider is perceived. The perceived quality of the relationship is then anticipated to influence the level of commitment extended towards the service provider (Moorman, Zaltman and Deshpande 1992).

Trust is defined as “perceived credibility and benevolence of a target of trust” (Doney and Cannon 1997, p36) and is the key antecedent of relationship commitment. Relationships with trust are highly valued and therefore participants are willing to commit themselves (Morgan and Hunt 1994). Organisations use trust as a risk-reduction mechanism in that if they believe the supplier to be credible (able to perform effectively and reliably) and benevolent (interested in the customer), and thus the perceived risk is likely to be lower (Doney and Cannon 1997).

A purchaser who experiences satisfaction with outcomes is more likely to trust their supplier in the future (Ganesan 1994) An organisation that perceived inequity in the relationship is likely to become dissatisfied and may view the supplier as exploitative (Ganesan 1994). Thus their commitment levels are likely to be lowered.

The more experience an organisation has with a supplier, the more likely they are to trust that supplier (Moorman, Zaltman and Deshpande 1992; Ganesan 1994) thus increasing the level of commitment. This is because as the relationship proceeds through time, any inconsistencies are likely to be resolved in order for the relationship to continue.
In the context of this research, if the sales consultant is perceived to be honest and reliable, indicating trustworthiness, then the outcome is likely to be a high perception of quality. Conversely, if there is little trust in the sales consultant then the relationship would be perceived as flawed or unsatisfactory (Morgan and Hunt 1994).

When the perceived quality of the relationship is high then there is likely to be high levels of commitment to continuing the relationship, or enduring commitment. Hence, high levels of trust are likely to lead to high levels of commitment to the relationship (Moorman, Zaltman and Deshpande 1992; Morgan and Hunt 1994).

Thus the relationship between trust and commitment is hypothesised as:

**H6:** Trust in the sales consultant will be positively associated with commitment to the sales consultant

### 4.2.7 Involvement influences satisfaction

Consumers with high-enduring involvement are motivated to experience higher satisfaction because of the stakes being high and the subsequent embarrassment of being wrong (Oliver and Bearden 1983; Richins and Bloch 1991). Consumers with high involvement usually have a high level of knowledge about the product/service and this may lead to better purchase choice thus increasing the level of satisfaction experienced (Shaffer and Sherrell 1997).

The factors that influence a change in satisfaction are both the level of involvement and the difference between problems expected and actual occurrence (Oliver and Bearden 1983). Consumers with high enduring involvement tend to report lower satisfaction over time than just after they make the purchase (Richins and Bloch 1991). The reasons given for this are that the high level of knowledge these consumers have about the product may lead them to identify problems more easily than for those with less knowledge.
Because a great deal of time is invested in information search and the identification of suppliers, the motivation to be satisfied at the end of the process is strong (Oliver and Bearden 1983; Richins and Bloch 1991). This result can be identified as being the result of the ‘embarrassment’ factor. Imagine a purchasing officer in an organisation spending months on a purchase only to find that they are dissatisfied when the product arrives.

Additionally, it can be assumed that with more time spent on investigating the product, more information upon which to evaluate both the product and the supplier, can be obtained. The more information obtained the lower the perceived risk and the higher the probability of satisfaction with the purchase (Oliver and Bearden 1983; Shaffer and Sherrell 1997).

The more a business is involved in the purchase process, the more information they are likely to receive on the alternative brands and the more time they are likely to spend (Oliver and Bearden 1983). Ultimately, this should lead them to select a brand which closely suits their needs and thus their satisfaction levels are likely to be high.

Therefore the relationship between involvement and satisfaction has been hypothesised as:

**H7: Involvement with directory advertising will be positively associated with satisfaction with the preferred brand**

4.2.8 Perceived risk influences involvement

While there is some debate in the literature about the relationship between perceived risk and involvement, this study follows the view that perceived risk is an antecedent of involvement (Bettman 1973; Bloch and Richins 1983; Mitchell 1999). Some studies have shown that risk has little impact on involvement (Kapferer and Laurent 1993) and these studies suggest that the dimension of risk affects involvement indirectly. This is achieved through the mediation of activities such as time spent on information search, and reliance on personal sources of advice, rather than a direct
relationship with involvement (Kapferer and Laurent 1993). Others, however, argue that perceived risk is an antecedent to involvement and is related to both of the two components of risk; amount at stake (Bettman 1973; Bloch and Richins 1983) and the level of uncertainty (Mitchell 1999).

The purchase of services is generally associated with more perceived risk than the purchase of goods (Ziethaml 1981) with buyers of services experiencing uncertainty about their purchase both before and after the purchase (Bloom 1981). Therefore the buyer is likely to be more highly involved with the purchase of a service due to its risk component (Patterson, Johnson and Spreng 1997). The high uncertainty levels indicate high levels of perceived risk. This leads to more extensive information search and thus higher levels of involvement (Sheth and Venkatesan 1968).

When a customer feels that a service purchase does not satisfy them, they tend to attribute the reason for this to the producer, retailer or themselves (Ziethaml 1981). Because customers are usually highly involved in the purchase of a service, they tend to feel more responsible for dissatisfaction than if they had purchased a product (Ziethaml 1981). This is due to the inseparability of the consumer with the service and co-production (Lovelock 1983). Typically, if a woman is unhappy with a hairstyle, she may credit some of the blame to the hairdresser but usually she will accept most of the blame herself: “I guess I didn’t explain what I wanted clearly enough”. This involvement of the customer also means that they are less likely to complain about the service if they hold themselves responsible for the lack of satisfaction (Ziethaml 1981).

For business services, the buyer does not know in advance if the purchase will yield the expected results, thus they become highly involved as a result of the perceived risk (Dowling 1986). Once the advertisement has been bought and paid for, there is no refund or replacement if the advertisement is not satisfactory, hence the risks are likely to be high. If a business purchases directory advertising in a brand that they perceive to be high risk, then they are likely to spend a great deal of time and effort in the purchase process.
Therefore the relationship between perceived risk and involvement has been hypothesised as:

**H8: Perceived risk of the preferred brand will be positively associated with involvement with directory advertising**

### 4.2.9 Risk influences satisfaction

The relationship between perceived risk and satisfaction is hypothesised to be negative, that is the higher the perceived risk the lower the satisfaction levels reported. This is particularly the case for a service (Bloch and Richins 1983). Due to the intangible nature of services, they are perceived as inherently high risk (Ziethaml 1981). This risk includes the removal of the option of returning an unsuitable purchase, and may decrease satisfaction with the overall purchase. Hence, an unsatisfactory outcome is often the result of high risk (Bloch and Richins 1983).

This research posits that perceived risk of purchasing advertising in a brand is negatively related to satisfaction with that brand. If a business purchases advertising in a brand of directory that is perceived to be high perceived risk, then it is probable that the items of perceived risk that are feared to occur, may indeed occur. If this happens then it is likely that the business may not be satisfied with the outcome achieved. Thus under situations of higher perceived risk, expectations of that brand are high and it may be that the expected performance levels are not able to reached. This in turn may result in low satisfaction.

For example if a brand of directory is considered high risk due to a lack of proven track record of generating sales, then it is more likely that this lack of sales will occur. If a business chooses to advertise in this directory then the lack of sales is likely to occur and dissatisfaction may result.

Therefore the relationship between perceived risk and satisfaction has been hypothesised as:
H₉: Perceived risk of advertising in preferred brand will be negatively associated with satisfaction with the preferred brand.

4.2.10 Satisfaction influences commitment

While the effect of satisfaction on commitment can be mediated by trust, satisfaction has also been found to have a direct relationship with commitment to the service provider (Gabarino and Johnson 1999).

The relational constructs of trust and commitment are a consequence of satisfaction in certain situations (Gabarino and Johnson 1999). Trust and commitment mediate the relationship between satisfaction and attitude in situations where there is regular usage of the service. In situations where the purchase is infrequent or occasional, trust and commitment are often bypassed for satisfaction as a major antecedent of attitude (Gabarino and Johnson 1999).

In this context, with only three choices of brand for directory advertising, once a business identified a brand they found acceptable and satisfying, they would be expected to continue to use that brand. The continued usage provides an opportunity for a relationship to develop between the business and sales consultant, thus highlighting the role of trust and commitment as relational elements. It would be expected then, relationship with the sales consultant is the result of satisfaction.

Thus the relationship between satisfaction and commitment is hypothesised as:

\[ H_{10} \text{ Satisfaction with the preferred brand will be positively associated with commitment to the sales consultant} \]

4.2.11 Satisfaction influences trust
This has been demonstrated in previous empirical research (Gabarino and Johnson 1999). Satisfaction is thought to be an affective response which is an evaluation of a particular person or event. In a business-to-business context, satisfaction is said to be a manifestation of the sales consultant’s ability to deliver an outcome consistent with their behaviour in the relationship (Selnes 1995). If the buyer is dissatisfied with an outcome, they are likely to view the seller in a negative manner (Ganesan 1994). In other words, the level of satisfaction affects the level of trust the business has in the sales consultant for future transactions.

In this research, satisfaction with the brand is hypothesised to affect the level of trust with the sales consultant of that brand. The respondent has made at least one purchase of the brand therefore they have had an experience that can be evaluated. This experience involved the purchase of advertising in a particular brand from a sales consultant representing that brand. If the business is not satisfied with the brand they have purchased, it is possible that they will attribute some of that dissatisfaction to the sales consultant. This is despite the fact that purchasers of services tend to accept a portion of blame for a dissatisfactory service encounter (Ziethaml 1981).

Once the business has become dissatisfied they may identify the sales consultant as being responsible for providing incorrect information, being unreliable or only focused on the sale rather than the needs of the customer. If this occurs then the trust levels decrease. Conversely if the business is satisfied with its previous experience with the brand then they are more likely to trust the sales consultant who sold them the brand (Gabarino and Johnson 1999).

Thus the relationship between satisfaction and trust is hypothesised as:

\[ H_{11}: \text{Satisfaction with the preferred brand will be positively associated with trust of the sales consultant.} \]

4.3 Competing model

Rather than simply test the fit of the hypothesised model to the sample data, this thesis also tests the fit of a competing model. Comparing the fit of the hypothesised
model to a rival model provides a stronger test of the hypothesised model. Finding a pattern of correlations that fit the data provides support for a theory but does not preclude other theories which might be plausible (Kelloway 1998). Thus providing evidence of adequate model fit to the sample data does not eliminate the possibility that other models exist that fit the sample data equally well or better. Therefore, this thesis is guided by a competing models strategy (Hair, Anderson, Tatham and Black 1998). The hypothesised model and its rationale have already been presented. The competing model is presented in Figure 4-2. Its rationale is discussed subsequently.

A basic premise of the hypothesised model is that attitudinal brand loyalty mediates the impact of the antecedents on behavioural brand loyalty. Relaxing this strict assumption provides the basis for the development of the competing model. As shown in Figure 4-2, the competing model allows direct effects from several of the antecedents (satisfaction, trust and commitment) to behavioural brand loyalty. Because behavioural brand loyalty and attitudinal brand loyalty are highly related concepts. Thus, it seems reasonable to expect that the factors that impact directly on attitudinal brand loyalty could also impact directly on behavioural brand loyalty. The possibility of direct effects to behavioural brand loyalty is made explicit in the competing model. In a general sense, the competing model tests the implicit assumption that attitude mediates the effects of the other antecedents on behaviour. In other ways, the competing model largely resembles the hypothesised model.
Figure 4-2 Competing model

Perceived risk \( \eta_6 \)

Satisfaction \( \eta_5 \)

Involvement \( \eta_7 \)

Trust \( \eta_4 \)

Commitment \( \eta_3 \)

Behavioural Loyalty \( \eta_1 \)

Attitudinal Loyalty \( \eta_2 \)

Brand Loyalty
4.4 Summary

In summary, each of the constructs in the proposed model have been discussed as well as their inter-relationships. All eleven relationships have an empirical basis for their inclusion in this model, which was derived from the literature review of chapter two and summarised in this chapter. As such there is face validity to the proposed model. A competing model has been proposed that contains direct paths to behavioural brand loyalty and assumes that attitudinal brand loyalty does not mediate all effects of the antecedents. Each of these inter-relationships will be explored further in chapter eight which presents the measurement of the models. The following chapter discusses the methodology used in the three stages of the research program.
5 Methodology of data collection and analysis

5.1 Introduction

The research design reflects the philosophy of science held by the researcher and is determined by the type of research question (Neuman 1997; Nunnally and Bernstein 1994). All aspects of the methodology including the philosophy of science paradigm, of quantitative or qualitative methodology, the data collection method and the analysis method, are derived from the research questions.

This chapter will discuss the research design including justifications for the use of quantitative methods, a mail survey data collection method and structural equation modelling. It will also discuss the issues of validity and reliability and the steps taken to minimise any related errors. The sampling issues of selection and size will be discussed along with response rates. Measure development issues are discussed and finally the steps involved in structural equation modelling to confirm the hypothesised model will be outlined.

The research design was a quantitative study, reflecting the scientific realism paradigm, using a mail questionnaire to obtain data on the seven constructs in the proposed model. There were three stages in the research. The first was the testing of the survey instrument for a business context using a pilot test. The second stage was part one of the main study, which obtained the cognitive and affective constructs in the model. The measurement items from this were refined using congeneric single factor models in structural equation modelling. The third stage was part two of the main study that involved obtaining archival records of the behaviour of the respondents to the survey. Both the survey and archival data from stages one and two were analysed using structural equation modelling to estimate the proposed and competing models.
5.2 Justification of scientific realism

The positivist paradigm appears to dominate the marketing discipline with most of the articles in the leading journals using a quantitative approach. Indeed the use of the scientific classification schemata for many marketing theories provides evidence of the positivist paradigm. These classifications include schemata for different types of products (convenience, shopping, unsought), decision-making (routine, limited and extensive), pricing policies (above the market, at the market and below the market) and many others (Hunt 1991). Positivist theories are used in marketing as they “provide systemized structures capable of explaining and predicting phenomena” (Hunt 1991, p191).

However the marketing discipline does not hold purely to the original positivist approach that there is a clear distinction between empirically observable concepts and theoretical concepts (Hunt 1991). Hunt (1991) proposes that purely observable concepts do not exist, and that all concepts have some element of theoretical content. Given that marketing focuses a great deal of attention on unobservable constructs such as attitude, and uses measurable phenomena as indicators of a construct, it would appear to contradict positivism.

Scientific realism is the name given to the field that contains the assumptions of positivism, however it seeks approximate truth rather than actual truth. Scientific realism adopts the positivist principles of independence of a world beyond the researcher and the searching for laws (Hunt 1991). Scientific realism also asserts that “the statements in a theory are true or false, and that many of the entities referred to in a theory do exist” (Harre 1986, p90). However, scientific realism diverges from positivism in that it seeks the approximate truth, and thus acknowledges that a pure truth may not exist (Weston 1992).

Supporters of scientific realism advocate that theoretical constructs need not always have observable referents in order for them to exist (Hunt 1991); thus constructs such as attitudes can exist even though they do not have direct observable referents. This
perspective is particularly relevant for the use of structural equation modelling as an analytical tool. Typically, this technique tests hypotheses between latent constructs which are non-observable constructs. According to Hunt (1991, p397), “researchers that estimate structural equation models are committed to scientific realism”.

In summary, this research adopts the scientific realism paradigm, that reflects aspects of the positivist approach. Essentially, the philosophical approach of a researcher can influence the research question that is developed and the methodology that is selected for the research. This research, therefore, adopts the quantitative methodology associated with the positivist approach. This is discussed in more detail in the next section.

5.3 Justification of archival research

Archival data is classified as non-reactive data, where participants are not aware that they are being studied when they provide the data and thus are a more accurate reflection of the construct being studied (Neuman 1997). However existing statistics do not allow the researcher to specify the measurement items so there can be some limitation to their application. Despite the high level of accuracy, existing statistics are not error-free (Neuman 1997). Data entry mistakes can be made, data can be missing and the definitions can be inappropriate (Neuman 1997). These errors are discussed in more detail in the limitations section of the final chapter.

To answer the ‘what’ research questions of this study, this research uses both the primary method of surveys (Wind and Webster 1972) and secondary data source of archival records (Yin 1984). The archival records were expenditure data incurred by businesses in the three competitive brands; Yellow Pages, BIG Colour Pages and Phone Directory Company (PDC). The organisation that markets the Yellow Pages, Pacific Access Pty Ltd, was the source of all archival records.

The transaction history records of Pacific Access Pty Ltd contained information on expenditure on the Yellow Pages brand. As part of their competitive intelligence system, Pacific Access Pty. Ltd. obtained copies of all competing brands’ directories
along with the prices. They then manually calculated the advertising expenditure using the observed advertisement in each directory multiplied by the published price for the advertisement size. Therefore, if a business had a full page advertisement in the PDC the expenditure was calculated from the published rates of PDC for a full page advertisement.

The expenditure for each business that advertised in the PDC and Big Colour pages was data entered into a spreadsheet and then the computer was used to match that business with Yellow Pages records to obtain the total expenditure for each business in each of the three directories. This then enabled the behavioural measure of share-of-category to be calculated by dividing the expenditure on the preferred brand by the total expenditure on the product category. Archival records are a common source of data for behavioural studies, although in most consumer research this is obtained through scanner panel data (Bucklin and Gupta 1992; Dekimpe et al. 1997; East, Hammond and Lomax 2000; Ehrenberg and Goodhardt 2000).

5.4 Justification of survey research

The literature review identified five constructs as proposed antecedents of brand loyalty and chapter three explained the relationships between these constructs. The constructs in this model are latent variables that cannot be directly observed and must be inferred from a group of indicators (Schumacker and Lomax 1996). In this model, the indicators for these constructs are self-reported measures.

The data collection method used was surveys, as self-reported beliefs and behaviours are best measured through a survey instrument (Neuman 1997). There are three survey types; mail questionnaires, telephone interviews and face-to-face interviews (Neuman 1997).

A mail questionnaire was chosen over other methods as this technique provides convenience for the businessperson. The use of mail-surveys has been used a great deal in the business-to-business sector and is one of the most effective ways of gathering business-to-business data (Baldauf, Reisinger and Moncrief 1999). A mail
survey does not interrupt the business person in their daily duties and allows them to complete the survey when convenient. This convenience factor is deemed to be important in gaining accurate answers to a detailed questionnaire and to overcome the problems of low response rates in business research (Baldauf, Reisinger and Moncrief 1999).

The survey was lengthy as it contained questions necessary for a test of the proposed model, and telephone interviews are not the most appropriate method for gaining large amounts of information (Neuman 1997). Additionally there are cost advantages as mail surveys do not require the researcher to be present and are thus not time dependent. The mail questionnaire has the highest level of ease of implementation, it is time effective and moderately costed (De Vaus 1995). A final advantage of the mail survey over telephone and face-to-face interviews is a potential reduction in bias. Social desirability and interviewer bias is not present when using this technique (Green, Tull and Albaum 1988; De Vaus 1995; Neuman 1997).

There are disadvantages to the use of a mail questionnaire over other forms of surveys. These include a reduced level of research control, the fact that probing and visual observation cannot be conducted, that there can be reduced success with questions that are complex or sensitive, and there is a reliance on the reading skill of the respondent (Dillman 1978; Neuman 1997). However, despite these, mail surveys were considered appropriate for this program of research.

The next section will discuss the use of structural equation modelling as the selected analytical technique for this research.

5.5 Justification of the analytical technique

Structural equation modelling (SEM) is a technique for analysing data that is confirmatory in nature and where the variables interact simultaneously with each other (Kelloway 1998). It is a popular tool in management research, particularly in the marketing discipline where explanations of consumer behaviour are sought.
Structural equation modelling is an appropriate technique for analysing the data in this program of research for four reasons (Hair, Anderson Tatham and Black 1998; Kelloway 1998). The simultaneous interactive nature of the theoretical model, the confirmatory nature of the research questions and hypotheses in the theoretical model, the use of latent constructs in the theoretical model and the use of surveys as the data collection method (Hair, Anderson Tatham and Black 1998).

Survey data is best analysed using multivariate statistical techniques. These include correlation, regression, factor analysis, classification analysis and structural equation modelling (Wind and Webster 1972; Hair, Anderson, Tatham and Black 1998; Baldauf, Reisinger and Moncrief 1999). Factor analysis is a technique where all the variables are simultaneously analysed. Each variable is deemed to be inter-related and inter-dependent on each other, thus there are no defined independent and dependent variables (Hair, Anderson, Tatham & Black 1998). A limitation of factor analysis is that while the variables are simultaneously measured, the relationship between these variables are not.

A limitation of most multivariate statistical techniques is that they can only measure one dependent relationship at a time. This creates difficulty in addressing multiple dependent relationships. A technique that overcomes this limitation is SEM which “is an extension of several multivariate techniques, most notably multiple regression and factor analysis” (Hair, Anderson, Tatham and Black 1998, p578). Structural equation modelling is most appropriate for this research as it enables testing of theoretical models particularly those that contain latent constructs (Anderson and Gerbing 1988). Additionally the confirmatory nature of the research question and the simultaneous nature of the multiple relationships between the key constructs is best analysed using structural equation modelling (Hair, Anderson, Tatham & Black 1998).

The multi-scale nature of the data and the use of ordinal scales requires the use of polychoric correlation matrices (Hair Anderson, Tatham and Black 1998). Of the available software programs (LISREL and AMOS), LISREL uses polychoric correlation matrices whereas AMOS uses the Pearson product-moment correlation.
The use of Pearson correlation matrix underestimates the correlation when using non-metric scales such as ordinal scales (Anderson and Gerbing 1988), therefore using AMOS to analyse this data may result in significant paths appearing as insignificant. In this event, the null hypotheses may be accepted when it should be rejected (a type 2 error). Therefore the LISREL software was used.

The next section examines the validity and reliability issues as it is important to maximise both validity and reliability to ensure consistency and accuracy of the results.

5.6 Validity and reliability

Reliability and validity are measures of the data’s consistency and accuracy. Results that are low in reliability and validity are questionable and contain high levels of error. This section also demonstrates how these issues were addressed through the design and implementation of the mail questionnaire.

5.6.1 Reliability

While validity testing can minimise measurement error arising from aggregation of scores from multiple items, measurement error can arise due to random or systematic bias (Nunnally and Bernstein 1994). Reliability is a measure of how well these measurement errors are minimised over time or how well a scale will accurately reflect the constructs intended over time.

Reliability for multi-item measures can be calculated by correlating each item with others measuring the same construct, thus generating a reliability coefficient (Nunnally and Bernstein 1994). A coefficient greater than 0.60 indicates that there is reliability between items in a scale. It is important that these reliability tests are conducted between one item and several other items in the scale rather than just between two items (Nunnally and Bernstein 1994).
This can be done using a domain-sampling model or a parallel test sampling model. The domain-sampling model, which involves random parallel test was used as it is a simpler method of measuring reliability, has a high degree of internal consistency and it avoids the problem of estimating the reliability index ($r_{xy}$) (Nunnally and Bernstein 1994).

Reliability was tested using the domain-sampling model to test internal consistency in the constructs of perceived risk, involvement, satisfaction, trust, commitment and attitudinal brand loyalty. To perform reliability checks, at least two, preferably three indicators for each construct is required (Hair, Anderson, Tatham & Black 1998). Each construct in the instrument had multiple items with between 4 and 10 items for each construct, thus satisfying this criteria. Reliability measurement was performed in the pilot study by analysing the correlation between items measuring the same construct. Items scoring greater than 0.60 at a significance level of $p<0.05$ were retained as this indicated that there was sufficient reliability between the items (Nunnally and Bernstein 1994).

**Measurement error** that is introduced non-randomly is deemed to be systematic. Measurement error can be classified into four areas; sample, transmittal, response, or analysis error (Green, Tull and Albaum 1988). These are controlled by the research design and the measurement process. **Sample error** is the non-correspondence of the sample to the population (Green, Tull and Albaum 1988). This was reduced by randomly selecting from a business population that uses three brands and where rivalry between competitors is high.

**Transmittal error** involves the content of the instrument, the role of the researcher and the reception by the respondent (Green, Tull and Albaum 1988). Transmittal error was minimised through formatting the instrument to; achieve a logical order of questions, identifying the evoked set, and using words and phrases that reduce confusion or intimidation.
Response error was minimised through the use of a mail survey that removed the interviewer bias that can be introduced using other methods. The responses came directly from the respondent and were not interpreted or altered in any way.

The analysis process can introduce error through inaccurate data entry and coding and through the analysis techniques selected (Green, Tull and Albaum 1988). The survey was pre-coded to avoid any ambiguities for data entry and all answers were from a range of options rather than open-ended. The analysis technique of SEM is appropriate for the type of research question and has been used in previous research in this area.

5.6.2 Validity

Validity is a measure of how well a particular scale measures the construct for which it is intended (Green, Tull and Albaum 1988). Validity is an important measure in determining the accuracy of research, thus when research is highly valid, the results are deemed to have occurred by the means reported in the study and not by chance or error. There are three types of validity; content, construct and criterion validity (Neuman 1997).

Most scales contain a sample of the possible items that could be asked which reflect the attributes of the construct. Content validity is concerned with how well this sample represents the population of total items of the construct (Nunnally and Bernstein 1994). Content validity for the scales in this research was established through the use of previously existing scales, that were based on the key dimensions of the construct.

Construct validity is concerned with the relationship between items in the measurement scale, for a scale to have content validity there must be high correlation between all high items in the scale (Green, Tull and Albaum 1988). If the measures are not correlated it is probable that they are not measuring the same construct and thus the ability of the results to be generalisable is in jeopardy (Nunnally and Bernstein 1994). There are two assessments of construct validity (McColl-Kennedy and Fetter 1999b); convergent- measuring the same construct using multiple
methods and **discriminant** – the uniqueness of the measure (Neuman 1997; Nunnally and Bernstein 1994).

**Convergent validity** was established through the use of confirmatory factor analysis to identify the relationship between each item for the constructs of risk, involvement, satisfaction, trust, commitment and attitudinal brand loyalty. **Divergent validity,** where the items are negatively associated (Neuman 1997), was established through the use of correlation to identify measures that were not associated with each other. This was particularly the case for the attitudinal brand loyalty measure where two measures were used and testing was done to identify whether they exhibited convergent validity and could be added together.

The measurement instruments in the survey are derived from pre-existing scales for each construct. The scales used are drawn from the consumer research where there is no existing scales in the business-to-business context. The use of pre-existing scale maintains the content validity, however, as these were adapted to a new context, construct validity tests were run on the pilot data and also on the full data set using congeneric models. The number of cases required to conduct validity testing is 10 x the maximum number of items in any construct (Neuman 1997). In the pilot study the construct with the highest number of items was attitudinal brand loyalty with 10 items. Thus a minimum of 100 responses was necessary for the data to be tested for validity.

**Criterion validity** is when the results of a scale are compared against an external measure of the same construct (Neuman 1997). However in the field of social science, where constructs are predominantly abstract, it is difficult to find a suitable external measure (Nunnally and Bernstein 1994). This type of validity was therefore not tested for as the latent constructs of risk, involvement, satisfaction, trust, commitment and attitudinal brand loyalty are highly abstract.

5.6.3 Constructing reliable and valid mail questionnaires
To construct an instrument that maximises content validity, a researcher needs to address six issues; the actual scale items, the scale and instrument length, item selection and analysis, and sample (Nunnally and Bernstein 1994). To maximize construct validity, a researcher should have homogenous items in a construct and heterogeneity in the methodology, and select and analyse appropriate items.

Reliability is achieved through minimizing the systematic bias using methods illustrated in the previous section and random bias. Reducing random bias can be achieved through; clarity of writing and instructions, consistency of data collection process and removal of subjective scoring.

The items in the scale need to be “well phrased, relate to the domain and indicate what is demanded from the respondent” (Nunnally and Bernstein 1994, p301). This was done through the use of simple terms. This was especially important as the sample was predominantly small business with varying levels of education. A high level of complexity is likely to not only reduce response rates but also bias the sample towards those with a higher level of education. Explanations were contained throughout the survey for each type of question to indicate what action was needed from the respondent, examples were used to assist this.

The length of the instrument needs to contain enough items to ensure validity yet not too many as to result in respondent fatigue. The number of items required depends in part on the scales’ level of internal consistency and validity. If the scales have been used before, and are deemed high in internal consistency, then fewer items are required (Nunnally and Bernstein 1994).

The length of the instrument also needs to be considered. The more objects in an item, the fewer the number of items are required to obtain a high degree of reliability. Additionally, the more heterogeneous the population, the fewer the number of items required (Nunnally and Bernstein 1994). Overall, however, the higher the number of items, the greater the reliability (De Vaus 1995; Nunnally and Bernstein 1994).
While it is not necessary to perform empirical testing on items to achieve content validity, it is necessary for achieving construct validity (Nunnally and Bernstein 1994).

A common approach to achieving heterogeneity involves introducing differences in item keying direction to reduce respondent acquiescence (Nunnally and Bernstein 1994). Reverse-scoring can achieve this purpose. However, recent research (Herche and Engelland 1996) suggest that reverse-scoring to avoid agreement-bias degrades the unidimensionality of the scale. This is deemed a far more serious problem for validity than agreement bias (Schriesheim and Eisenbach 1995). Unidimensionality is a “necessary condition of assigning meaning to estimated constructs” (Anderson & Gerbing 1998, p414). Without unidimensionality amongst items of a construct, the items cannot be said to be valid measures of the latent construct.

The instrument should be issued via a pilot study to test for validity and reliability (Neuman 1997). The sample needs to be similar to the proposed sample for the main study (Nunnally and Bernstein 1994). This was done by sending the pilot survey to members of the same population from which the main sample was drawn.

5.7 Sampling methodology

The rationale for the selection of the product category called for a commonly purchased service by businesses where there are well-known brands. One of the criteria for brand loyalty to exist is that there must be “…one or more alternative brands out of a set of brands….” (Jacoby and Kyner 1973, p2), therefore a geographic area needed to be selected where there were high levels of competition between brands. Advertising in directories was selected as the product category as it meets the criterion of a commonly purchased business service. A regional area was selected as this is where most of the competition is located for directory advertising.

The usage of the product by consumers and businesses as a directory product is of great importance to the business users who purchase advertising space. A business purchaser desires to advertise in a medium that is well-used by consumers and thus
increases the possibility of a sale. As the research question is centred on the business services context, the relationship between these brands and the business buyers is the focus.

Businesses to be included in the samples of stages one and two had a minimum of one year’s previous experience with advertising in any directory brand on the Gold Coast. This research focused on repeat purchases rather than first time purchases thus first time buyers were excluded from the population.

The research in stage one used systematic random sampling to identify the 300 businesses to receive the pilot survey. These businesses were removed from the population before the sample was drawn for stage two to ensure they did not participate in both stages. The research conducted in stage two, used a combination of non-probability and probability sampling techniques. The initial strategy was a quota method of sampling to ensure that each brand would be represented according to its market share. For each brand the sample was then selected using the probability sampling method of random selection. Each of these two methods will now be discussed.

Quota sampling methods are used to ensure that key population characteristics are represented (Neuman 1997). This form of sampling is classified as non-probability sampling and is used to ensure that each brand is not under or over represented in the sample (Zikmund 1985). If the selection process was left to chance, it is likely that most of the sample would be loyal Yellow Pages users, as this is the brand with high market share. This would make it difficult to compare loyalty levels between the brands and identify differences.

For each brand the systematic random sampling technique was used to select the required number of people to receive the survey. This method is defined as probability sampling, where all members of the population have an equal chance of being selected in the sample (Zikmund 1985).

There was no requirement for sampling in stage three as this stage involved obtaining the behavioural responses for the sample identified in stage two.
5.7.1 Sample size

There are two issues affecting the determination of sample size; the type of data analysis and sampling error (de Vaus 1995). The impact of the data analysis method of structural equation modelling will be discussed first. Structural equation modelling has four factors that impact on sample size; model misspecification, model size, departures from normality and estimation procedures (Hair, Anderson, Tatham & Black 1998). Each of these factors impact the sample size required. The sample size that satisfies all four criteria and agrees with the general consensus amongst SEM researchers for minimum sample size is 200 responses (Holmes-Smith and Rowe 1994; Arbuckle 1996; Schumacker and Lomax 1996; Hair, Anderson, Tatham and Black 1998). This is supported by Nunnally and Bernstein (1994) who state that while it is difficult to determine the minimum number of required responses for analysis, a good rule of thumb to achieve stability in analysis is 200 subjects (Nunnally and Bernstein 1994).

The second issue that impacts on sample size is the sampling error (De Vaus 1995). Sampling error depends on the degree of accuracy and the variation in the population. A sample of 600 generates a potential sampling error of between 3.5% and 4.0% at 95% confidence level (de Vaus 1995). This is an acceptable sampling error for homogeneous sample groups of 225 respondents where either 10% or 90% of respondents are expected to give the same answer (de Vaus 1995).

5.8 Data collection procedures

This section discusses the data collection procedures and the efforts made to reduce non-response bias and the expected response rates. Additionally it outlines the demographic characteristics of the sample.
5.8.1 Selection of sample

The research hypotheses were tested using a sample of businesses located on the Gold Coast in a range of different industries. This sample was appropriate for a meaningful test of the hypotheses in the proposed model. A key issue for selection, as mentioned in the previous section, was the presence of competition for a business service amongst brands. Restricting the sample to the Gold Coast region allowed this research to tap into the most competitive area in Australia for the purchase of directory advertising.

Small business in Australia makes up 95% of the total private sector businesses (Australian Bureau of Statistics 1999). Any study of business in Australia needs to include small business in its sample to be considered indicative of businesses in Australia. This sample contained 89.4% who were classified as small business. The definition of a small business as defined by the Australian Bureau of Statistics is one that is independently owned and operated, the owner controls the operating capital and is responsible for the principle decision-making processes.

5.8.2 Unit of analysis

The unit of analysis selected for this research was the business. This is consistent with business-to-business research. In business-to-business purchasing, there are usually multiple people who input into the purchase decision, therefore identifying the decision-maker(s) is crucial to avoiding respondents guessing because they don’t know the answer (Wind and Webster 1972). To overcome this issue, the surveys were sent to the person who has the signing authority for the advertising. This person was identified through access to company records held by Pacific Access Pty. Ltd. Additionally, the instructions for the survey requested that the person responsible for the final decision complete the survey. Questions were also included to identify the number of people involved in the decision and their role in the organisation.
5.8.3 Pre-testing

Pre-testing is an important part of survey construction (Dillman 1978; Hunt, Sparkman and Wilcox 1982). This was done by issuing the survey to six small business owners and conducting interviews to obtain feedback. Small business owners were selected as they are assumed to have similar purchasing needs to the small business owners intended as the sample. These individuals were encouraged to identify ambiguous questions, errors and suggest improvements to the survey. At this stage no major problems were identified.

5.8.4 Non-response bias

The acceptable response rate for a consumer mail survey is between 20% and 40% (Green, Tull and Albaum 1988). However it was expected that the response rates would be lower than those of consumer studies due to the prevalence of the business-to-business sector to refuse participation (Baldauf, Reisinger and Moncrief 1999).

A high non-response rate is an important issue and in particular is the most serious problem with mail surveys (Green, Tull and Albaum 1988) especially for business-to-business mail surveys. It creates unacceptable reductions of sample size and increases bias (De Vaus 1995) which may result in misleading information. There are two suggestions for dealing with this non-response; make allowances for non-response bias or carefully design the research (Baldauf, Reisinger and Moncrief 1999). Both these suggestions were followed.

Non-response is one of many respondent variables that can affect the reliability and validity of results (Nunnally and Bernstein 1994). Non-response bias may have occurred in this research through refusal of the receiver to complete the survey. Respondents who do not care about the topic, or have other priorities, are unlikely to respond. Additionally, those who deem the survey too complex or uninteresting may not respond.
A key factor in designing business-to-business research to minimise non-response bias is understanding the reasons behind the refusals and developing strategies to overcome these. These are suggested to be, inconvenience, fear of divulging commercial-in-confidence material, ease of completion, level of interest in the survey and fear of a sales pitch (Baldauf, Reisinger and Moncrief 1999). However even a rigorous research design may not substantially increase response rates by the business-to-business sector (Baldauf, Reisinger and Moncrief 1999).

Drawing on social exchange theory, Dillman (1978) suggests three strategies for increasing response rates; reward the respondents, reduce the costs to the respondent, and establish trust. As there were little physical or financial rewards available for this research, the rewards offered to the respondent were in the form of the satisfaction gained from completing the survey and an offer of a summary of the results. The covering letter was designed to increase response rates using the recommendations of Dillman (1978). These recommendations included the reward value of positive recognition, establishing credibility through the use of university letterhead, and a consultative tone which is expressed through the use of signatures, personalised letter and the wording.

The costs to the respondent were reduced by making the task appear simple by reducing 8 A4 pages into a double-sided 2 x A4 page booklet which required only three page turns to complete, thus reducing perceived complexity and respondent fatigue. Additionally the questions included were worded to reduce any chance of embarrassment. Finally a reply paid envelope was included thus removing the financial expense of a stamp for the respondent and increasing convenience.

Trust was established by using a known organisation that has credibility and standing in the community. This was done through the use of university letterhead. Sponsorship of the research by a university is known to have a high positive effect on establishing trust and increasing response rates (Turley 1999).

To reduce **respondent fatigue**, all scales were five point and contained no more than ten items for the construct. All scales had been used in previous research for the
particular construct with good success rates. These items will be discussed in the next section.

5.9 Measurement development

The scales in the mail-survey were derived from existing research into that construct. However, as previous research has used these scales in a consumer context they required testing to ensure they were appropriate for use in a business-to-business context. Previous research has indicated that consumer scales can be transferred into a business context successfully (Cooper and Jackson 1988; Duravasula, Lysonski and Mehta 1999).

Two scales were used; semantic differential and Likert-type scales. These were selected as they were the scales used in previous research on that construct. Both scales have been criticised on two grounds; they do not indicate the distance between each object, and they aggregate the scores thus concealing any extreme differences between scores (Green, Tull and Albaum 1988; Nunnally and Bernstein 1994).

The Likert-type scale is an ordinal scale, which contains a set of objects ordered from least to most of a particular attribute (Nunnally and Bernstein 1994). In the Likert scales used in this research, these objects are strongly disagree, disagree, neutral, agree, strongly agree. The semantic differential is also an ordinal scale which instead of labelling objects, has bipolar dimensions ranging from negative to positive attributes of a construct with the objects unlabelled, thus leaving the distance between each to be evaluated by the respondent.

The inability of ordinal scales to indicate how far apart the objects are, is not an issue for concern (Nunnally and Bernstein 1994). Most of the analysis of results from ordinal scales such as the Likert scale use correlation or mean differences. Correlations are minimally affected by the issues that arise from not knowing the distance between objects in a scale (Nunnally and Bernstein 1994). This can be enabled by establishing the probability statements for a particular correlation result.
as these are not affected in any way by the distance between the objects (Nunnally and Bernstein 1994).

Measurement error due to aggregation can be minimised through removing those items that do not discriminate well between high and low total scorers of the item. This was done using single factor congeneric models for each construct. The Likert scale is deemed statistically sound on the basis that it is able to reflect individual differences of an attribute (Nunnally & Bernstein 1994).

The technique for the design of the survey was derived from Dillman’s Total Design Method (1978). Dillman’s approach provide a framework for designing mail questionnaires that reduced bias, increased validity and reliability, and increase response rates. The implementation of this technique will be discussed in the section on validity and reliability.

The object of the constructs measured was at either a low or medium level of abstraction (depending on the common approach in the literature for that construct). There are three levels of abstraction, low (focus on a product/brand/organisation), medium (focus on a product category level or across categories) and high (personality traits) (Dowling 1986). Low levels of abstraction increase the predictive power of the construct as they reduce the number of intervening variables between the construct and behaviour (Dowling 1986).

5.9.1 Behavioural brand loyalty towards preferred brand

The most frequently used behavioural measures of brand loyalty in empirical studies measure the two key dimensions of behavioural loyalty; brand preference (loyalty in relation to competing brands) and allegiance (loyalty over time). Commonly used measures are share of category requirements (SOC) and repeat purchase rates (Engel, Warshaw and Kinnear 1987; Ehrenberg 1988; Ehrenberg and Uncles 1997). Share of category requirements (SOC), which is also referred to as the proportion of purchase or market share loyalty, is concerned with what other brands are bought (Dall'Olmo Riley, Ehrenberg and Uncles 1997). Loyalty measures can be computed using a
simple ratio: the buyer’s spending on the focal brand over their spending on all other brands. Sometimes, researchers then arbitrarily label consumers as loyal or non-loyal based on where this ratio exceeds 50% (Jacoby and Chestnut 1978).

In this thesis, the behavioural brand loyalty scores were derived using a share of category measure. The buyers’ expenditure on their preferred brands was divided by their total spending on all brands within the product category. This data was captured at one moment in time, subsequent to the collection of the attitudinal data. The resulting measure was a ratio that ranged in value from 0 to 1, with higher scores representing higher levels of behavioural brand loyalty. The data for this measure was obtained from archival sources. The expenditure for the Yellow Pages brand was obtained directly from company records. The expenditure for the other two brands was obtained indirectly, by matching each printed advertisement printed with the published prices. A total expenditure for the product category could then be obtained for each business in the sample. Thus, the behavioural brand loyalty measure is a simple ratio of spending on the focal brand over total spending on all brands.

5.9.2 Attitudinal brand loyalty towards preferred brand

Attitudinal loyalty has been operationalised as a personality trait (Raju 1980) as well as brand specific (Martin 1998; Martin and Goodell 1991; Traylor 1981) which suggests two main ways to operationalise brand loyalty; brand-specific and individual. Mellens, Dekimpe and Steenkamp (1996) suggest that both measures should be used together as indicators of the attitudinal brand loyalty construct. The assumption of Mellens et al (1996) is that they measure the same construct. The personality trait scale used seven items on a five point Likert scale. The brand-specific scale used seven bipolar items on a five-point semantic differential scale and three items on a five point Likert scale. The overall score for this measure is calculated by averaging the score for both the semantic differential scale and the Likert scale items. The higher the score, the higher the level of attitudinal brand loyalty.
Figure 5-1 Propensity to be brand loyal scale

1. I would rather stick with a brand I usually buy than try something I am not very sure of.
2. If I like a brand I rarely switch from it just to try something different.
3. I rarely introduce new brands and products to my colleagues.
4. I rarely take chances by buying unfamiliar brands even if it means sacrificing variety.
5. I usually buy the same brands even if they are only average.
6. I would rather wait for others to try a new brand than try it myself.
7. I would rather stick to well-known brands when purchasing directory advertising.

Figure 5-2 Attitudinal brand loyalty scale – brand specific

Purchasing advertising with my preferred brand of directory in the next issue would be:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Unpleasant</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Unfavourable</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Negative</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Undesirable</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Foolish</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Unlikely</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>Pleasant</td>
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<tr>
<td>Wise</td>
<td></td>
</tr>
<tr>
<td>Likely</td>
<td></td>
</tr>
</tbody>
</table>

I would recommend my main brand to other people

I am concerned with long-term outcomes in dealing with my main brand

Using a scale from 1 – 5, please tell me how committed you are to purchasing your preferred brand of directory advertising.

5.9.3 Trust of the sales consultant

The measurement of trust has been done in conjunction with the measurement of commitment as these constructs, while being separate, are related (Ganesan 1994; Morgan and Hunt 1994). The statements are derived from relationship research by Morgan and Hunt (1994) and Ganesan (1994), which contained items with “strongly agree/strongly disagree” as anchors. The overall score for trust is calculated by averaging the score for all items. The higher the score, the higher the level of trust.

Figure 5-3 Trust of the sales consultant scale
1. The sales consultant of my preferred brand is honest and truthful.
2. Promises made by the sales consultant of my preferred brand are reliable.
3. The sales consultant of my preferred brand is always true to his or her word.
4. The sales consultant of my preferred brand can be trusted to do what is right.
5. The sales consultant of my preferred brand has a high degree of integrity.
6. The sales consultant of my preferred brand is open in dealing with me.
7. I have great confidence in the sales consultant of my preferred brand.

5.9.4 Commitment to the sales consultant

Commitment to the sales consultant was measured by using a previously validated scale in the business-to-business sector (Coote 1999). This scale consisted of seven Likert-style items derived from relationship research on commitment by Morgan & Hunt (1994) and Ganesan (1994). The overall score for commitment to the sales consultant is calculated by averaging the score for all items. The higher the score, the higher the level of commitment.

Figure 5-4 Commitment to the sales consultant scale

1. I expect to continue working with the sales consultant of my preferred brand for a long time.
2. I am concerned with long-term outcomes in dealing with the sales consultant for my preferred brand.
3. I am very committed to the relationship with the sales consultant of my preferred brand.
4. Maintaining my relationship with the sales consultant of my preferred brand deserves my utmost efforts.
5. I focus on long-term goals in my relationship with the sales consultant of my preferred brand.
6. My relationship with the sales consultant of my preferred brand is something I intend to maintain.
7. Maintaining a long-term relationship with sales consultant of my preferred brand is important to me.

5.9.5 Satisfaction with the preferred brand
The format of the satisfaction scale was a five-point Likert scale which has been used extensively in satisfaction research (Oliver 1980; Westbrook and Oliver 1981; Patterson, Johnson and Spreng 1997; Shaffer and Sherrell 1997). Bipolar semantic differential scales were not used as it has been argued that bipolarity can increase the method bias when measuring affective constructs (Green, Goldman and Salovey 1993). The overall score for satisfaction is calculated by averaging the score for all items. The higher the score, the higher the level of satisfaction.

Figure 5-5 Satisfaction scale

1. I am satisfied with my decision to advertise in my preferred brand.
2. My choice to purchase advertising in my preferred brand was a wise one.
3. I feel good about my decision concerning my preferred brand.
4. I think that I did the right thing when I decided to advertise in my preferred brand.
5. If I had to do it all over again, I would feel the same about advertising in my preferred brand.
6. I am happy that I did what I did about advertising in my preferred brand.

5.9.6 Perceived risk of the preferred brand

The measurement instrument of Oglethorpe and Monroe (1994) was selected for the pilot study as it has been found to be applicable across product classes in a general sense, however it recognises that perceived risk varies according to product class. The instrument also incorporates the qualitative variables that have been omitted in previous research. The scale contained statements which had different endpoints e.g. “not at all easy”, “somewhat easy”, “very easy”; “right away”, “in the distant future”; “not at all emotional”, “somewhat emotional”, “very emotional”. The overall score for perceived risk is calculated by averaging the score for all items. The higher the score, the higher the level of perceived risk.
Please indicate your agreement with the following statements on your preferred choice of directory

1. The chances are great that advertising in this directory will result in the associated negative consequence
2. How easy is it for you to imagine the negative consequences associated with advertising in this directory?
3. How soon after a business advertises in this directory would you expect them to suffer the negative consequence, if it occurred?
4. Is this negative consequence one that you react to emotionally, that is, with dread or fear?
5. How severe is the negative consequence associated with advertising in this directory?
6. To what extent is a business which advertises in this directory taking a risk?
7. How permanent is the negative consequence associated with advertising in this directory?
8. Given that businesses advertise in this directory, to what extent can they control or influence the likelihood of suffering the associated negative consequence?

5.9.7 Involvement with the product category

The involvement construct was measured using Zaichowsky’s PII scale, a 10 item, 5-point semantic differential scale. The items in this scale were reduced to exclude those of a hedonic nature. Hedonic measures are not appropriate to the purchase of business services due to the perceived objectivity of the business-to-business purchasing process (Morris 1992). Therefore, an involvement scale that had less hedonic emphasis and more utilitarian emphasis was used. The Zaichowsky scale was used as it has demonstrated the highest internal consistency in comparison to other scales (Goldsmith and Emmert 1991), high reliability and validity (Bearden and Mason 1978). The overall score for involvement is calculated by averaging the score for all items. The higher the score the higher the level of involvement.
How would you describe the purchase of directory advertising?
Place an X on the :____: which best reflects your opinion for each row. Please complete each row.

Unimportant ___ : ___ :  ___ :  ___ :  ___ Important
Boring ___ : ___ :  ___ :  ___ :  ___ Interesting
Irrelevant ___ : ___ :  ___ :  ___ :  ___ Relevant
Unexciting ___ : ___ :  ___ :  ___ :  ___ Exciting
Means nothing to me ___ : ___ :  ___ :  ___ :  ___ Means a lot to me
Unappealing ___ : ___ :  ___ :  ___ :  ___ Appealing
Mundane ___ : ___ :  ___ :  ___ :  ___ Fascinating
Worthless ___ : ___ :  ___ :  ___ :  ___ Valuable
Uninvolving ___ : ___ :  ___ :  ___ :  ___ Involving
Not needed ___ : ___ :  ___ :  ___ :  ___ Needed

5.10 Preparing the data

5.10.1 Coding and editing
The survey was designed to provide ease of use when coding and editing the data. Each question allows for a numerical value to be allocated to the response. A standard code was used of 0 for non-response, 1 for ‘yes’ and 2 for ‘no’. All codes were mutually exclusive and independent.

Occasionally the editor needs to reconstruct the data where there are inconsistencies between responses to inter-related questions (Zikmund 1985). However, this was not required. Frequencies were run in SPSS to detect abnormal and potential data entry errors. The purpose of this activity was to highlight numbers that have been incorrectly entered.

5.10.2 Missing values
The data was analysed using descriptive analysis in SPSS to identify the level of missing data. The construct with the highest missing data was risk. Comments on the survey indicated that the respondents did not perceive there to be any risk associated with advertising in telephone directories and so did not complete this section. Additional comments indicated that the respondents were unable to think of any negative consequences and perceived the questions to not make sense on this basis.

The construct of involvement contained the next highest amount of missing data. Some respondents appeared to not understand the instructions for completion of the semantic differential scale and only placed a cross on the first measure rather than placing a cross on each measure.

Some of the commonly used methods for dealing with missing data include; mean substitution, pairwise deletion, listwise deletion, and expectation maximisation (EM) using maximum likelihood (ML) (Shumacker & Lomax 1996). There appears to be minimal benefit in deleting cases due to the reduced sample size and therefore “some form of imputation is needed to maintain an adequate sample size for any multivariate analysis” (Hair, Anderson, Tatham & Black 1998, p63).

There are three reasons for missing data occurring; missing-completely-at-random (MCAR), missing at random (MAR) and biased. Missing-completely-at-random is where the missing data has nothing to do with the data, it is some random event (Arbuckle 1996). Listwise and pairwise deletion methods treat missing data as being MCAR, if the data is MAR or biased then the estimates may be biased (Arbuckle 1996). It is dangerous to treat data as MCAR if there is no evidence for true randomness in the missing data. The EM method treats the reason for the missing data as being MAR.

The EM method for ML estimation was used for the estimation of the structural model as this is an appropriate method for treating missing data when using the Satorra-Bentler chi-square correction for sample sizes less than 5000 (West, Finch and Curran 1995). Additionally, with the inclusion of the behavioural brand loyalty
data, where there was a high level of missing data, using listwise deletion would have resulted in an effective sample size less than 200. As stated earlier, a sample size greater than 200 is required to perform effective structural equation modelling.

To summarise, the EM method for ML was used for two reasons; primarily to reduce bias in the estimated missing data and second as a necessary correction for the small sample size.

5.11 Structural equation modelling

This section will discuss the method used to analyse the data. SEM was used as the most appropriate method for confirmatory research questions in a quantitative approach. In particular, SEM is appropriate for measuring latent constructs, that is constructs that cannot be directly measured (Schumacker and Lomax 1996). There are seven stages in structural equation modelling (Hair, Anderson, Tatham and Black 1998), each of which will now be explained.

Stage 1. Developing a theoretical model

Structural equation modelling is a technique for measuring associations between variables that explain changes or variations in other variables. A single variable can both effect and be affected by other variables simultaneously. These relationships are derived from existing theory and prior research. Thus, before a model can be measured it must first be specified as a theoretical model.

While it has been stated that the relationships in SEM are based on ‘causal relationships’ (Hair, Anderson, Tatham and Black 1998), a causal assertion between two variables can be made only if there are four criteria satisfied. The first is a significant association; second, temporal antecedence of the cause and affect variables; third, lack of alternative variables; and fourth, a theoretical basis for the relationship (Hair, Anderson, Tatham and Black 1998).
An important issue in developing a theoretical model to be measured in SEM is specification error. This type of error occurs when a key predictive variable is not included in the model (Kelloway 1998). This omission can lead to assumptions regarding the relationship of two variables. For instance, if attitudinal brand loyalty was not included in the model, the relationship between satisfaction and behavioural brand loyalty may be significant through a direct relationship. This would lead to the inference that satisfaction is a direct predictor of behavioural brand loyalty. Leaving attitudinal brand loyalty out of the model would change the correlation coefficient between satisfaction and behavioural brand loyalty, thus the proportion of the variance in behavioural brand loyalty explained by satisfaction would be biased (Schumacker and Lomax 1996).

Therefore, misspecification of a model is a serious error and emphasises the need for a sound theoretical base for an effective model. It is for this reason that the key variables should be searched out through the literature to minimise the risk of this error occurring. However, while there is no limit to the number of variables included in a model, there are practical reasons for not including a high number. First, it may not be practical to collect data on a high number of variables; second the larger the number of variables, the larger the samples size that is required (refer previous section on sample size). Large sample sizes increase the likelihood of significance of the parameters, so that in a very large sample all parameters can be significant (Hair, Anderson, Tatham and Black 1998). Finally models with more than 20 concepts become difficult to interpret (Hair, Anderson, Tatham and Black 1998).

Stage 2. Constructing a path diagram

A path diagram is a method of graphically illustrating the relationships between the variables in the theoretical model. It is similar to SEM in that it is presents graphically the relationship between variables but is not “a method for discovering causes” (Kelloway 1998; Schumacker and Lomax 1996, p39). Path analysis permits direct and indirect relationships between variables to be calculated and allows for correlation between the independent and dependent variables. This is an
improvement on multiple regression which uses additive equations, that is it adds the effect of the independent variables on a single dependent variable. If there are any relationships between the independent variables, multiple regression does not recognise these. Additionally, multiple regression does not allow for variables being both dependent and independent at the same time. For this reason, multiple regression is not an appropriate technique to analyse the data in this research.

Structural equation modelling uses path diagrams as a method of depicting the relationships in the theoretical model. They are also used to represent a correlated path, a direct path or an indirect effect. The symbols to illustrate these are a curved arrow for a correlated path, straight arrow for a direct effect, a mediated path or an indirect effect using straight arrows from one construct to a second and finally from the second to the third (Hair, Anderson, Tatham and Black 1998). These paths are derived from a theoretical base and an assumption of the model is that all theoretical paths are specified. In the model for this research, 11 paths were identified from theory as discussed at the beginning of this chapter.

Stage 3. Converting the path diagram to a set of structural equations.

The next step after drawing the path diagram is to convert it into a set of structural models and a measurement model (Hair, Anderson, Tatham and Black 1998). The structural model shows each endogenous construct as the dependent variable in a separate equation predicted by other endogenous or exogenous variables in the model. Each equation has a structural coefficient and an error term estimated.

In specifying the measurement model, the construct is defined by indicators derived from theory. Each of the constructs; attitudinal brand loyalty, commitment, trust, involvement, risk and satisfaction, had multiple indicators while behavioural brand loyalty, being the behavioural construct, had a single indicator. At least four indicators were used for each of the non-behavioural constructs to form the composite score for the construct. It is recommended that at least three indicators are necessary for each construct to prevent under-specification of the model (Hair,
Anderson, Tatham and Black 1998). However for the behavioural construct of
behavioural brand loyalty a single observed indicator was used.

The reliability of indicators was determined by the use of congeneric single factor
models. As recommended by Anderson and Gerbing (1988), items that had residuals
higher than 2.54 were eliminated and the composite reliability and variance extracted
for each model calculated. Reliability scores greater than 0.70 with a variance
extracted greater than 0.50 indicate acceptable levels of reliability (Anderson and
Gerbing 1988).

It is not possible to estimate the reliability of single-item measures. In this situation,
there are two options that are followed in practice; fix the lambda to 1.0 (thus
indicating no error variance) or estimate the error using judgement. This issue is a
hotly debated topic amongst users of SEM for which no solution has been proposed.
Given that there is likely to be some error variance in both measures, the option of
fixing the lambda to a value of 1.0 was not used and estimating error is preferred.
The actual method used in this study is discussed in chapter seven.

A two-step method is posited as appropriate in situations where the measures may
not be highly reliable or the theory may be tentative (Anderson and Gerbing 1988).
The two-step approach requires the measurement model to be estimated prior to the
estimation of the structural model. Separating the steps rather than doing them
simultaneously reduces the difficulties in assigning meaning to theoretical
constructs. Congeneric single factor models can assist in generating meaning for the
model by reducing the items to a single construct where construct validity is
achieved (Anderson and Gerbing 1988).

There are three criticisms of the two-step approach (Anderson and Gerbing 1988).
First, the separation of the measurement and structural models assumes the
independence of theory and data. Second, the measurement model can be
generalised to all possible structural models, and third statistical tests associated with
the measurement models cannot be treated as independent from later models.
However despite these criticisms, the two-step approach is still an effective method of dealing with data (Anderson and Gerbing 1988).

The first step of the two-step process involves the estimation of the measurement model (Anderson and Gerbing 1988). For this research, this consisted of estimating the congeneric models for each of the multi-item constructs in the model; satisfaction, risk, involvement, trust, commitment and attitudinal brand loyalty.

**Stage 4. Choosing the input matrix**

This stage involves the issues of inputting the data in the appropriate form and choosing an estimation procedure. There are two options for the format of the input data; correlation and covariance matrix. Each of these is developed in the early stage of the LISREL software. Structural equation modelling does not require raw data to perform the analysis; if a correlation or covariance matrix is available then this can be input directly into structural equation modelling software as the analysis is not concerned with individual observations. Rather it is concerned with the patterns or relationships between constructs across all respondents (Hair, Anderson, Tatham and Black 1998).

The data must be analysed and evaluated prior to being put into the SEM software as outliers, non-normal data and missing data can severely distort the results. Non-normal data increases the chi-square statistic and a parameter may be reported as non-significant (a type I error). Small sample sizes are more likely to be non-normal thus increasing the risk of a type I error (Schumacker and Lomax 1996). To minimise this, the Satorra-Bentler chi-square adjustment was used as recommended for small sample sizes (Arbuckle 1996). In line with the use of this adjustment, the maximum likelihood (ML) estimation was selected and the EM for maximum likelihood method for treating missing data used (Arbuckle 1996; Schumacker and Lomax 1996). The treatment of missing data was discussed earlier in more detail.
It is recommended that a covariance matrix other than a correlation matrix be used for analysis of data in SEM as the use of correlation matrices may lead to incorrect estimations of the standard errors. (Schumacker and Lomax 1996; Hair, Anderson, Tatham and Black 1998). LISREL was used as the software to analyse the models over AMOS as it can analyse polychoric correlations and asymptotic variances rather than just product moment correlations (Holmes-Smith 2000). This is appropriate for ordinal data as product moment correlations underestimate correlations for ordinal data (Hair, Anderson, Tatham and Black 1998).

When selecting how the proposed model will be estimated the options for estimation techniques and the computer program need to be considered. The maximum likelihood estimation is the most commonly used method, particularly for normal data. If the data is not normal (particularly in small sample sizes) an asymptotic distribution free (ADF) estimation before weighted least squares (WLS) is appropriate (Hair, Anderson, Tatham and Black 1998). For this research, WLS was used to estimate the model.

There are four estimation processes that can be selected; direct estimation, bootstrapping, simulation and jack-knifing (Hair, Anderson, Tatham and Black 1998). This research used direct estimation, where the parameter estimate and the standard error are estimated from a single data source. The options of bootstrapping, simulation and jack-knifing, were inappropriate given the purpose of this study (Kelloway 1998).

Stage 5. Assessing the identification of the structural model

A common problem with SEM is the lack of identification of the structural model. If this occurs, the analysis cannot be performed (Kelloway 1998). An under-identified model is one where there is too much unknown information for the equations to be solved (Holmes-Smith 2000). One of the reasons for this occurring is that there are too many parameters to be estimated without sufficient input data about the variables
in the model. The t-rule is a method of diagnosing the number of excess parameters to be estimated (Kelloway 1995).

The t-rule states that t (t = number of parameters to be estimated) should be less than or equal to \((1/2 \text{ number of observed variables}) \times (\text{number of observed variables} + 1)\) (Holmes-Smith 2000). If t is greater than the number of observed variables + 1, then the model is considered to be under-identified. To correct the problem, the number of estimated parameters needs to be reduced through deleting paths from the path until the problem is fixed. This error was not present in the analysis of this data and thus did not require correction.

Stage 6. Evaluating the goodness-of-fit

Assessing goodness-of-fit is a major part of the analysis in SEM; that is, assessing the fit between the estimated model and the data. A necessary precaution is to not over-fit the model at the expense of theory. A path that, if freed, may increase the GFI of the model may have no theoretical or logical basis. It is important to achieve “the number of estimated coefficients required to achieve a specific level of fit” (Schumacker and Lomax 1996, p127). Parsimony can be achieved by removing non-significant parameters from the model.

There are three types of goodness-of-fit measure; absolute, incremental and parsimonious (Kelloway 1998). The absolute fit measures report on the overall model fit, the incremental measure compares the model to a null model and the parsimonious measures compare the fit of the model with the number of degrees of freedom to achieve the fit (Hair, Anderson, Tatham and Black 1998).

Measures of absolute fit assess the overall effectiveness of the model in fitting the sample data (Bollen 1989). That is they indicate whether the paths identified in the model reflect the observed data. A poor measure of absolute fit indicates that the paths specified in the model do not accurately reflect the paths present in the sample data. Additional or different paths would need to be specified to increase the absolute fit of the model. A common measure of absolute fit is the chi-square
statistic, which is reported for each model in this study. However this statistic can be affected by extremes in sample size (Kelloway 1998), significant differences in sample sizes less than 100 may not be identified. Sample sizes greater than 1000 may find significant findings for minor differences between predicted and actual covariance matrices (Anderson and Gerbing 1988).

Other measures of absolute fit are root mean square residual (RMR), root mean square error of approximation (RMSEA), and the goodness-of-fit (GFI) index. The RMR is an average of magnitude of fitted residuals (Hair, Anderson, Tatham and Black 1998) and is reported for each model in this study. A limitation of using the RMR is that it does not identify which component of the model is not correctly specified. The RMSEA is a related measure to the RMR and is linked to the degrees of freedom (Hair, Anderson, Tatham and Black 1998). The GFI measure reflects the level of variance between the sample covariance matrix and the specified covariance matrix (Bollen 1989) and is also a common measure reported. A limitation of this measure, similar to chi-square is that it can be influenced by large sample sizes and can be inflated simply by specifying more parameters (Holmes-Smith 2000). Given the limitations of each of these measures of fit, it is useful to include a number of fit measures to identify absolute fit, rather than rely on a single one.

The second type are incremental measures (Hair, Anderson, Tatham and Black 1998). These measures compare the fitted model with a baseline model, where the baseline model is usually a null model (covariances are zero) (Bollen 1989; Kelloway 1995). Incremental measures include adjusted-goodness-of-fit (AGFI) and comparative fit index (CFI). The AGFI is the GFI adjusted by the degrees of freedom (similar to the relationship between the RMR and RMSEA) and is commonly reported. A limitation of this measure is that it can have a negative index if the degrees of freedom in the model are small. The CFI estimates the difference in non-centrality between the specified and baseline model and is not affected by sample size (Holmes-Smith 2000).

A third type are parsimonious fit measures (Hair, Anderson, Tatham and Black 1998). These measures compare the number of estimated parameters to the degrees
of freedom in the sample data (Holmes-Smith 2000). Parsimonious measures include parsiminoous goodness-of-fit index (PGFI), normed chi-square and Akaike information criterion (AIC). This measure identifies whether goodness-of-fit has been achieved by simplying increasing the number of parameters in the model. There are no recommended acceptable levels for these measures as the level depends on the specific data being tested. To find the acceptable level, a researcher can alter the number of parameters and note the point where the parsimony measure stops decreasing and begins increasing (Holmes-Smith 2000).

A sample of these goodness-of-fit measures is reported in this study including chi-square, RMR, GFI and AGFI. A summary of acceptable levels for each of these fit indices has been taken from Holmes-Smith (2000) and is detailed in Table 5-1. Models with high chi-square statistics are likely to be non-significant, however when evaluating a model fit, there should not be reliance on a single measure. For instance a significant chi-square indicates model fit but it the GFI is less than 0.95 it is possible that a better fit exists.

Table 5-1 Summary of fit indices

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Abbrev.</th>
<th>Type</th>
<th>Acceptable Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>$\chi^2$</td>
<td>Model fit</td>
<td>p&gt;0.05 (at the $\alpha=0.05$ level)</td>
</tr>
<tr>
<td>Goodness-of-fit and Adjusted</td>
<td>GFI</td>
<td>Absolute fit</td>
<td>GFI and AGFI&gt;0.95</td>
</tr>
<tr>
<td>Goodness-of-fit</td>
<td>AGFI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root Mean-square Residual</td>
<td>RMR</td>
<td>Absolute Fit</td>
<td>RMR&lt;0.05</td>
</tr>
</tbody>
</table>

Source: (Holmes-Smith 2000)

Stage 7. Interpreting and modifying the model

After the modifications have been made and a parsimonious and well-fitting model has been identified, the researcher needs to interpret the findings in light of theory. The principal relationships in the theoretical model are discussed in chapter six in light of the results along with a discussion of unexpected findings. A key issue in the interpretation of findings is the use of standardised versus unstandardised solutions (Hair, Anderson, Tatham and Black 1998). In this research, the raw data was standardised to allow comparison between the regression coefficients. Additionally, standardised results allow implications to be drawn regarding the relative effect of each construct, particularly between those constructs with different
scales. Additionally, the use of standardised solutions allows for comparison between samples.

A second issue in the interpretation is model respecification. Removing or adding parameters is a method of increasing model fit; these modifications are classified as theoretically and empirically based (Hair, Anderson, Tatham and Black 1998). Theoretical relationships that represent the underlying theory should not be modified however empirical relationships can be.

Step two of the two-step model involves evaluating the model’s goodness-of-fit and making the appropriate modifications. At this stage the hypotheses in the proposed model can be tested (Anderson and Gerbing 1988). The lambda and theta values are fixed to those estimated in the congeneric models, and the proposed paths are freed. Additional paths are then fixed or freed depending on the level of standardised residuals to increase the GFI and obtain parsimony. Paths with standardised residuals greater than 2.54 were fixed as the error levels were too high.

5.12 Ethical considerations

The collection of data from human subjects raises important ethical considerations. These range from legitimacy to moral issues and usually involves trade-offs between competing pressures in a given situation (Neuman 1997). A researcher needs to be mindful of the damage that can occur to themselves, the academic community and to the respondents when undertaking research. The key issues of concern are; physical or legal harm, deception, informed consent and privacy (Neuman 1997). Each of these will now be discussed.

Social research rarely involves physical harm as there is little intervention that occurs. However, the researcher needs to identify areas of potential harm such as unsafe equipment or facilities to be used in the researcher (Neuman 1997). The use of mail surveys in this research removed the possibility of physical harm occurring. Psychological harm is much more likely to occur depending on the type of questions being asked, topics that cause embarrassment or stress may result in psychological
trauma to the respondent (Neuman 1997). The topic under consideration for this reason was not of a personal nature and involved willing participants. Non-respondents, while being encouraged to complete the survey were not coerced in any way. Legal harm can occur if an activity of illegal nature is observed during the research procedure (Neuman 1997). This was minimised through the use of mail surveys where no physical contact was made with the respondent and their place of business.

Deception involves misleading the respondents either for the purpose of the research or the items. If deception is used this increases the level of mistrust and may contaminate the results. (Neuman 1997). The survey was open in terms of the purpose of the research, the identity of the researcher and invited voluntary participation.

Informed consent is a primary principle of social research. Participants must never be forced into participating and must make their decision based on relevant information (Neuman 1997). The covering letter that accompanied the survey stated the purpose of the research and the use of the data. This was repeated on the front page of the survey as well.

Privacy and confidentiality are important issues to respondents. It is important that respondents are aware they are being observed and that their responses will be kept private (Neuman 1997). Additionally, if subjects do not feel the results will be confidential, this may reduce the reliability of their responses. The use of a mail survey provided privacy to the respondents. Confidentiality was guaranteed to each respondent and the identity of each respondent was not disclosed. This is particularly important when obtaining information from company sources where the company may have a vested interest in individual respondents.

5.13 Summary

This chapter has therefore discussed and justified the research design approach employed in this research. A quantitative approach using a mail survey was used to
confirm a theoretical model of brand loyalty in the business-to-business services sector. The model and its correlates and relationships were derived from previous research.

This chapter has outlined the procedures followed in collecting the data with consideration given to maximising reliability and validity. The following three chapters outline the analysis resulting from these procedures.
6 Results of stage one – pilot study and measure development

6.1 Introduction

This chapter outlines the reliability analysis of consumer scales in a business context. A pilot study was used to test the scales of attitudinal brand loyalty, trust, commitment, satisfaction, involvement and perceived risk in the context of business services. The discussion on each of these includes sources of previous empirical use and the reliability tests performed on the pilot data.

The aim of the pilot study was to test the measurement instruments in the survey for reliability and validity and recommend any modifications required for the main survey in stage two. Many of the scales being used are adapted from consumer literature as there has been little research on brand loyalty in the business services sector. It is important that when scales are adapted to a new context they are tested for their appropriateness (Green, Tull and Albaum 1988; Nunnally and Bernstein 1994). The statistics of Cronbach alpha, item-to-total correlation and squared multiple correlations are reported for the initial and final measures. The Cronbach alpha is a model of internal consistency, based on the average inter-item correlation. The item-to-total correlation compares the items with all other items and can also be used to indicate the convergent validity of the items. The squared multiple correlations indicates the level of variance in the item that is explained by the other items (Nunnally and Bernstein 1994). The thresholds for each statistics are 0.60 for Cronbach alpha, 0.30 for item-to-total correlation and 0.50 for squared multiple correlations (Nunnally and Bernstein 1994). Results greater than these thresholds indicate reasonable levels of reliability present.

The pilot study was conducted on businesses drawn from the sample set for the main and yielded a 9% response rate. A total of 27 usable surveys were received which is an acceptable sample size for a pilot study, the minimum size recommended is between 10 and 20 (Hunt, Sparkman and Wilcox 1982).
6.2 Attitudinal brand loyalty towards preferred brand

Attitudinal brand loyalty reflects a psychological predisposition towards a brand and includes intention to purchase and brand commitment. There have been two types of measures proposed for this construct; personality trait and brand-specific (Mellens, Dekimpe and Steenkamp 1996). The brand-specific scale used seven bipolar items on a five-point semantic differential scale and three items on a five-point Likert scale. The results revealed three item-to-total correlations for the personality trait measures below the threshold with three others slightly over but substantially lower than the results for the brand-specific items (see Table 6-1). Additionally the items for brand specific measures were not significantly correlated with the personality trait measures. This combined with the recommendation that personality is not a reliable predictor of behaviour (Sheth, Mittall and Newman 1999) resulted in the personality trait measures being eliminated for further inclusion.

Of the remaining ten brand-specific measures, all but one item was above the 0.30 threshold for item-to-total correlation. Inter-item correlations supported this and so item nine was removed (see Table 6-2). The final reliability coefficient for the remaining nine items was 0.97. These figures suggest that these items are reliable measures of attitudinal brand loyalty.

Table 6-1 Reliability analysis of all attitudinal brand loyalty measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final Item-to-total correlation</th>
<th>Squared multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand1</td>
<td>0.74</td>
<td>0.97</td>
</tr>
<tr>
<td>Brand2</td>
<td>0.64</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand3</td>
<td>0.75</td>
<td>0.98</td>
</tr>
<tr>
<td>Brand4</td>
<td>0.71</td>
<td>0.98</td>
</tr>
<tr>
<td>Brand5</td>
<td>0.82</td>
<td>0.97</td>
</tr>
<tr>
<td>Brand6</td>
<td>0.80</td>
<td>0.99</td>
</tr>
<tr>
<td>Brand7</td>
<td>0.63</td>
<td>0.98</td>
</tr>
<tr>
<td>Brand8</td>
<td>0.82</td>
<td>0.97</td>
</tr>
<tr>
<td>Brand9</td>
<td>0.26</td>
<td>0.97</td>
</tr>
<tr>
<td>Brand10</td>
<td>0.84</td>
<td>0.99</td>
</tr>
</tbody>
</table>
Table 6-1 (cont)

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Item-to-total correlation</th>
<th>Squared multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propensity1</td>
<td></td>
<td>0.21</td>
<td>0.85</td>
</tr>
<tr>
<td>Propensity2</td>
<td></td>
<td>0.20</td>
<td>0.97</td>
</tr>
<tr>
<td>Propensity3</td>
<td></td>
<td>0.27</td>
<td>0.97</td>
</tr>
<tr>
<td>Propensity4</td>
<td></td>
<td>0.44</td>
<td>0.84</td>
</tr>
<tr>
<td>Propensity5</td>
<td></td>
<td>0.41</td>
<td>0.90</td>
</tr>
<tr>
<td>Propensity6</td>
<td></td>
<td>0.44</td>
<td>0.96</td>
</tr>
<tr>
<td>Propensity7</td>
<td></td>
<td>0.67</td>
<td>0.95</td>
</tr>
</tbody>
</table>

Table 6-2 Reliability analysis of brand-specific measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
<th>Item-to-total correlation</th>
<th>Squared multiple correlation</th>
<th>Item-to-total correlation</th>
<th>Squared multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand1</td>
<td></td>
<td></td>
<td>0.85</td>
<td>0.84</td>
<td>0.87</td>
<td>0.95</td>
</tr>
<tr>
<td>Brand2</td>
<td></td>
<td></td>
<td>0.73</td>
<td>0.82</td>
<td>0.80</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand3</td>
<td></td>
<td></td>
<td>0.86</td>
<td>0.93</td>
<td>0.90</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand4</td>
<td></td>
<td></td>
<td>0.87</td>
<td>0.95</td>
<td>0.92</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand5</td>
<td></td>
<td></td>
<td>0.93</td>
<td>0.96</td>
<td>0.95</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand6</td>
<td></td>
<td></td>
<td>0.90</td>
<td>0.96</td>
<td>0.95</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand7</td>
<td></td>
<td></td>
<td>0.76</td>
<td>0.89</td>
<td>0.88</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand8</td>
<td></td>
<td></td>
<td>0.85</td>
<td>0.93</td>
<td>0.92</td>
<td>0.96</td>
</tr>
<tr>
<td>Brand9</td>
<td></td>
<td></td>
<td>0.07</td>
<td>0.59</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Brand10</td>
<td></td>
<td></td>
<td>0.91</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
</tbody>
</table>

6.3 Trust of the sales consultant

Trust is defined as confidence in the object’s reliability and integrity (Morgan and Hunt 1994) where the object in this research is the sales consultant. All items, as shown in Table 6-3, have item-to-total correlations greater than the threshold of 0.30 and squared multiple correlations greater than 0.50. Additionally, all seven items were significantly correlated at either a 0.01 or 0.05 level, with a reliability coefficient of 0.91. This indicates that this scale was a reliable indicator of measuring trust towards a sales consultant. This is comparable with an alpha score
of 0.93 for this scale from other research (Coote 1999). All items were retained for the main survey.

Table 6-3 Reliability analysis of trust measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total correlation</td>
<td>Squared Multiple correlation</td>
</tr>
<tr>
<td>Trust1</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Trust2</td>
<td>0.75</td>
<td>0.76</td>
</tr>
<tr>
<td>Trust3</td>
<td>0.75</td>
<td>0.80</td>
</tr>
<tr>
<td>Trust4</td>
<td>0.76</td>
<td>0.71</td>
</tr>
<tr>
<td>Trust5</td>
<td>0.84</td>
<td>0.77</td>
</tr>
<tr>
<td>Trust6</td>
<td>0.82</td>
<td>0.79</td>
</tr>
<tr>
<td>Trust7</td>
<td>0.75</td>
<td>0.68</td>
</tr>
</tbody>
</table>

6.4 Commitment to the sales consultant

Commitment is an enduring desire to maintain a valued relationship (Morgan and Hunt 1994), and in this research the object of commitment is the sales consultant of the preferred brand. The item-to-total correlations were all above the threshold of 0.30 with only one item (item 6) below the threshold of 0.50 for the squared multiple correlation (see Table 6-4). When this item was removed, the Cronbach alpha level decreased as did the item-to-total correlations and square multiple correlation, therefore the item was retained.

The reliability coefficient for this scale was 0.76, with significant correlation at a 0.01 level amongst most items. This is less than an alpha score of 0.93 obtained for this scale in other research (Coote 1999) however, it is still higher than the recommended 0.60. All six items can be said to be reliable indicators of commitment towards the sales consultant.
Table 6-4 Reliability analysis of commitment measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total</td>
<td>Squared</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>multiple</td>
</tr>
<tr>
<td>Commitment 1</td>
<td>0.19</td>
<td>0.50</td>
</tr>
<tr>
<td>Commitment 2</td>
<td>0.30</td>
<td>0.53</td>
</tr>
<tr>
<td>Commitment 3</td>
<td>0.69</td>
<td>0.67</td>
</tr>
<tr>
<td>Commitment 4</td>
<td>0.84</td>
<td>0.76</td>
</tr>
<tr>
<td>Commitment 5</td>
<td>0.62</td>
<td>0.63</td>
</tr>
<tr>
<td>Commitment 6</td>
<td>0.39</td>
<td>0.39</td>
</tr>
<tr>
<td>Commitment 7</td>
<td>0.40</td>
<td>0.56</td>
</tr>
</tbody>
</table>

6.5 Satisfaction with the preferred brand

Satisfaction is defined as a positive affective reaction towards the preferred brand and an outcome of a prior experience (Ganesan 1994; Giese and Cote 2000). All six items had item-to-total correlations greater than the threshold of 0.30 and only one item with a threshold below 0.50 for squared multiple correlations (item 5). When this item was removed, as in the case of commitment, the overall reliability decreased as well as the item-to-total correlations and squared multiple correlations. Therefore the item was retained.

The reliability coefficient for satisfaction was quite high at 0.88, with all items significantly correlated at a 0.01 level or 0.05 level. Thus all six items remained in the survey for stage two, where they were further tested for validity and reliability. The benchmark reliability alpha coefficient for this scale was 0.82 (Oliver 1980) thus this sample demonstrated higher reliability than the benchmark.

Table 6-5 Reliability analysis of satisfaction

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total</td>
<td>Squared</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>multiple</td>
</tr>
<tr>
<td>Satisfy 1</td>
<td>0.56</td>
<td>0.72</td>
</tr>
<tr>
<td>Satisfy 2</td>
<td>0.80</td>
<td>0.92</td>
</tr>
</tbody>
</table>
Satisfy3 | 0.68 | 0.78 | 0.68 | 0.78

Table 6-5 (cont)

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total correlation</td>
<td>Squared multiple correlation</td>
</tr>
<tr>
<td>Satisfy4</td>
<td>0.80</td>
<td>0.91</td>
</tr>
<tr>
<td>Satisfy5</td>
<td>0.59</td>
<td>0.49</td>
</tr>
<tr>
<td>Satisfy6</td>
<td>0.79</td>
<td>0.79</td>
</tr>
</tbody>
</table>

6.6 Perceived risk of the preferred brand

Perceived risk reflects the probability and importance of loss associated with the object of focus i.e. product, brand, organisation or service-provider (Oglethorpe and Monroe 1994). The item-to-total correlation and the squared multiple correlation results indicate that item 2 and item 8 are not reliable indicators as they are both below the thresholds as shown in Table 6-6. When these two items are removed the reliability coefficient increased to 0.87 and the item-to-total correlations and squared multiple correlations increased as well. Thus six items were used in the main study. The reliability coefficient for this scale was greater than the alpha coefficient of 0.69 in previous risk research (Stone and Mason 1995). Thus the six retained items are reliable measures of perceived risk.

Table 6-6 Reliability analysis of perceived risk

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total correlation</td>
<td>Squared multiple correlation</td>
</tr>
<tr>
<td>Risk1</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>Risk2</td>
<td>0.32</td>
<td>0.29</td>
</tr>
<tr>
<td>Risk3</td>
<td>0.68</td>
<td>0.60</td>
</tr>
<tr>
<td>Risk4</td>
<td>0.75</td>
<td>0.69</td>
</tr>
<tr>
<td>Risk5</td>
<td>0.97</td>
<td>0.63</td>
</tr>
<tr>
<td>Risk6</td>
<td>0.57</td>
<td>0.62</td>
</tr>
<tr>
<td>Risk7</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>Risk8</td>
<td>0.26</td>
<td>0.23</td>
</tr>
</tbody>
</table>
6.7 **Involvement with the product category**

Involvement is the personal relevance or importance of the product category (Bloch and Richins 1983). As shown in Table 6-7 all the items display an item-to-total correlation greater than the threshold value of 0.30 and all squared multiple correlations are greater than the threshold of 0.50. However, the inter-item correlations suggested that the scale could be refined. In particular, two of the items were not correlated at a significance level of either 0.01 or 0.05. Item nine was not significant with two other items, and item ten was not significantly correlated with seven of the items, when these two items were removed, the reliability level increased to 0.95.

Thus the remaining eight items were included in the main survey in stage two. These results indicate that the items are reliable measures of involvement. This was consistent with the reliability coefficient alpha range for this scale of 0.91 to 0.96 in the *Handbook of Marketing Scales* (Bearden, Netemeyer and Mobley 1993).

*Table 6-7 Reliability analysis of involvement measures*

<table>
<thead>
<tr>
<th>Item</th>
<th>Initial/final</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-to-total correlation</td>
<td>Squared multiple correlation</td>
</tr>
<tr>
<td>Involvement1</td>
<td>0.77</td>
<td>0.82</td>
</tr>
<tr>
<td>Involvement2</td>
<td>0.82</td>
<td>0.89</td>
</tr>
<tr>
<td>Involvement3</td>
<td>0.82</td>
<td>0.90</td>
</tr>
<tr>
<td>Involvement4</td>
<td>0.75</td>
<td>0.85</td>
</tr>
<tr>
<td>Involvement5</td>
<td>0.84</td>
<td>0.85</td>
</tr>
<tr>
<td>Involvement6</td>
<td>0.85</td>
<td>0.87</td>
</tr>
<tr>
<td>Involvement7</td>
<td>0.82</td>
<td>0.91</td>
</tr>
<tr>
<td>Involvement8</td>
<td>0.84</td>
<td>0.91</td>
</tr>
<tr>
<td>Involvement9</td>
<td>0.68</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Involvement10 | 0.55 | 0.86 | - | -

6.8 Summary

In summary, the scales appeared to be suitable in a business services context with reliability levels similar to, or exceeding those, reported in previous research with minor modifications. The reliability coefficient, item-to-total correlation and squared multiple correlation statistic reported indicates that these items are reliable measures of the constructs they reflect. The refined scales were used in stage two, the results of which are reported in the next chapter.
7 Results of stage two – main survey

7.1 Introduction

The purpose of this chapter is to outline the results of stage two. The aim of this stage was to obtain indicators of attitudinal and emotional constructs in the model and refine these scales for the final analysis, which tests the hypotheses contained in the proposed and competing models.

This chapter outlines the response rate and sample characteristics of the data. It then presents a confirmatory factor analysis of each of the cognitive and affective constructs in the model to develop a composite score of reliability. This section reports on the congeneric model for each of the six cognitive and affective latent constructs in the model; attitudinal brand loyalty, trust, commitment, perceived risk, involvement, and satisfaction. These congeneric measurement models will be used to test the proposed structural model.

The parameter estimates for each construct are detailed and discussed, followed by the goodness-of-fit statistics, a diagram of each construct and the final measurement items of each construct. A complete list of all items, eliminated and retained for each construct is detailed in Appendix 2.

Estimating the model of each construct required examination of the indicators to remove those that did not closely reflect the construct. This was done by identifying the indicators with standardised residuals greater than 2.54 as recommended by Anderson and Gebring (1988). These high residuals mean that the indicator is not a good estimate of the observed data and thus will reduce the goodness-of-fit of the model.

Each of the final six measurement models have standardised residuals less than 2.54 and lambda coefficients greater than 0.70. The goodness-of-fit statistics all indicated that the models fit the sample data well (see Table 5-1 for a summary of acceptable ranges for each statistic). The composite reliability of the models ranged from 0.89
to 0.98 with the level of explained variance ranging from 0.59 to 0.96 indicating acceptable levels of reliability and validity.

### 7.2 Response rate

The survey was mailed to 1472 businesses on the Gold Coast. Of these, 6 were refused and 135 were returned due to incorrect or changed address (total 141). This resulted in an available sample of 1331 (refer Table 7-1). The calculation of the final response rate is derived from Dillman (1978, p50).

\[
\text{Response rate of main} = \frac{\text{number returned}}{\text{number in sample} - (\text{noneligible} + \text{nonreachable}) \times 100}
\]

\[
\frac{267}{1472 - (141)} \times 100 = 20.07\%
\]

The response to the initial mail out was 202 surveys or 15.17% of the available sample. A follow-up phone call was made to 950 businesses, which resulted in 332 business’ agreeing to participate. However, only 65 of these actually returned the survey, which was a 6.8% response rate to the phone contact. Given this low response rate and the costs associated with conducting the telephone follow-up, no further telephone follow-up was made to the remaining businesses. A total sample of 267 was obtained which was a 20.07% response rate. This response rate meets the minimum requirement of 20% required to be able to generalise to the population (Dillman 1978).

**Table 7-1 Response rates**

<table>
<thead>
<tr>
<th>Response Type</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total surveys issued</td>
<td>1472</td>
<td></td>
</tr>
<tr>
<td>Refusals</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Returned mail</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Available sample</td>
<td>1331</td>
<td></td>
</tr>
<tr>
<td>Responses unprompted</td>
<td>202</td>
<td>15.17%</td>
</tr>
<tr>
<td>Responses prompted</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Total response</td>
<td>267</td>
<td>20.07%</td>
</tr>
<tr>
<td>Total sample contacted by phone prompt</td>
<td>950</td>
<td></td>
</tr>
<tr>
<td>Number contacted who agreed to participate</td>
<td>332</td>
<td>34.9%</td>
</tr>
<tr>
<td>Number of actually responded</td>
<td>65</td>
<td>6.8%</td>
</tr>
</tbody>
</table>
This response rate is consistent with responses for other business-to-business studies where “15% is sometimes considered as an acceptable level” (Baldauf, Reisinger and Moncrief 1999, p345). The response rate for business-to-business research into brand equity was 25% (Hutton 1997) which was deemed to be acceptable, and there were no significant differences between unprompted and prompted respondents who completed and returned the survey. Refusal to participate in business-to-business studies is quite common and more prevalent than consumer studies.

There are three variables dependent on the relationship with response rate: sponsorship, subject matter and sample population (Turley 1999). It is posited that response rates should be increased through sponsorship by an academic institution, the subject being of general appeal and the respondents being predisposed to completion of surveys. In this research there was academic sponsorship; however, it is not known if the sample found the topic of brand loyalty to be intrinsically interesting or if they were predisposed to responding. The results would indicate the negative.

The likelihood of non-response bias was assessed using an extrapolation method. This compared waves of early and late respondents on the business demographic dimensions: the number of years the business had been operating, total budget for directory advertising, and the number of full-time employees. No significant differences between the groups were found, which suggests that non-response bias is unlikely to exist and therefore does not present a serious concern.

### 7.3 Sample characteristics

The sample is predominantly small business with 89.4% of the sample meeting the definition requirements. The mean business experience of the sample was 14.05 years with 60% having more than the mean level of experience. This high level of experience is due to the non-inclusion of business with less than 1 year’s experience in the data set (brand loyalty requires at least one prior purchase and therefore new businesses were not included).
The mean number of employees were 13 part/time employees and 16 full/time employees and 82.3% of respondents were the owners. The size of the business and job position is consistent with the sample classification as being small business. The dominant business structure was that of a company with 48% of the sample, followed by 29% being in partnership and 23% being sole-traders. The businesses were drawn predominantly from the personal and other services, and retail trading industries reflecting the nature of the regional setting.

7.4 Congeneric model of attitudinal brand loyalty

The congeneric model of attitudinal brand loyalty commenced with nine indicators. This was reduced to five by eliminating the indicators with standardised residuals greater than 2.54. The resulting statistics were a RMR less than 0.05, GFI and AGFI greater than 0.90 and a chi-square with 5 df of 6.68 thus indicating that the model fits the sample data well.

The parameter estimates and explained variance is presented in Table 7-2. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.76. The indicator with the smallest error variance is \( x_2 \) and the indicator with the largest error variance is \( x_9 \).

The latent construct explains at least 58% of the indicator’s variance, which suggests that the indicators are very good measures of attitudinal loyalty and have convergent validity (Nunnally and Bernstein 1994). The indicators also appear to have high reliability as evidenced by the composite reliability of 0.94 and variance extracted estimate of 0.75. Finally, the measures appear to be unidimensional as there was no correlation allowed between the indicators.

Table 7-2 Parameter estimates for attitudinal brand loyalty.

<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda</th>
<th>Error variance</th>
<th>Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7-3 presents the final measurement items and the factor score regressions for attitudinal brand loyalty. The largest contribution to the latent construct of attitudinal brand loyalty, with a factor score of 0.69, appears to be the item which reflects extent to which the business thinks that advertising in the next issue of their preferred brand would be good.

7.5 Congeneric model of trust

The congeneric model of trust commenced with seven indicators. This was reduced to five by eliminating the indicators with standardised residuals greater than 2.54. The resulting goodness-of-fit statistics were a RMR less than 0.05, GFI and AGFI greater than 0.90 and chi-square with 5 df of 6.61 thus indicating that the model fits the sample data well.
The parameter estimates and explained variance is presented in Table 7-4. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.80. The indicator with the smallest error variance is $x_3$ and the indicator with the largest error variance is $x_7$.

The latent construct explains at least 67% of the indicator’s variance suggesting that the indicators are very good measures of satisfaction and have convergent validity (Nunnally and Bernstein 1994). The indicators also appear to have high reliability as evidenced by the composite reliability of 0.89 and variance extracted estimate of 0.67. Finally, the measures appear to be unidimensional as there was no correlation allowed between the indicators.

Table 7-4 Parameter estimates for trust

<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda coefficient</th>
<th>Error variance (theta-delta)</th>
<th>Explained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$</td>
<td>0.85(^a) (0.03)(^b)</td>
<td>0.28(^a) (0.10)(^b)</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>32.06(^c)</td>
<td>2.72(^c)</td>
<td></td>
</tr>
<tr>
<td>$x_3$</td>
<td>0.93 (0.02)</td>
<td>0.14 (0.10)</td>
<td>0.86</td>
</tr>
<tr>
<td></td>
<td>47.80</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td>$x_4$</td>
<td>0.89 (0.04)</td>
<td>0.21 (0.12)</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>19.59</td>
<td>1.72</td>
<td></td>
</tr>
<tr>
<td>$x_6$</td>
<td>0.93 (0.02)</td>
<td>0.14 (0.10)</td>
<td>0.86</td>
</tr>
<tr>
<td></td>
<td>47.45</td>
<td>1.49</td>
<td></td>
</tr>
<tr>
<td>$x_7$</td>
<td>0.82 (0.05)</td>
<td>0.33 (0.12)</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>17.26</td>
<td>2.75</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) parameter estimate  \(^b\) standard error  \(^c\) T-Value

Table 7-5 presents the final measurement items and the factor score regressions for trust. The largest contribution to the latent construct of trust with a factor score of 0.29 appears to be the item that reflects the extent to which the sales consultant is true to their word.
Table 7-5 Final measurement items and factor score regressions for trust

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$ The sales consultant is honest and truthful</td>
<td>0.13</td>
</tr>
<tr>
<td>$x_3$ The sales consultant is always true to his or her word</td>
<td>0.29</td>
</tr>
<tr>
<td>$x_4$ The sales consultant can be trusted to do what is right</td>
<td>0.18</td>
</tr>
<tr>
<td>$x_6$ The sales consultant is open with dealing with you</td>
<td>0.28</td>
</tr>
<tr>
<td>$x_7$ I have great confidence in the sales consultant of my preferred brand</td>
<td>0.11</td>
</tr>
</tbody>
</table>

7.6 Congeneric model of commitment

The congeneric model of commitment commenced with seven indicators. This was reduced to four by eliminating the indicators with standardised residuals greater than 2.54. Indicator $x_7$ would usually be removed as it has standardised residuals higher than 2.54, however a minimum of four indicators is required to perform congeneric modelling, therefore it was retained. The resulting statistics were a RMR less than 0.05 and GFI and AGFI greater than 0.90 and chi-square with 2 df 5.981 thus indicating that the model fits the sample data well.

The parameter estimates and explained variance is presented in Table 7-6. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.80. The indicator with the smallest error variance is $x_5$ and the indicator with the largest error variance is $x_7$.

The latent construct explains at least 41% of the indicator’s variance that suggests that the indicators are good measures of commitment and have convergent validity (Nunnally and Bernstein 1994). The indicators also appear to have high reliability as evidenced by the composite reliability of 0.95 and variance extracted estimate of 0.79. Finally the measures appear to be unidimensional as there was no correlation allowed between the indicators.

Table 7-6 Parameter estimates for commitment

<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda</th>
<th>Error variance</th>
<th>Explained</th>
</tr>
</thead>
</table>

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Table 7-7 presents the final measurement items and the factor score regressions for commitment. The largest contribution to the latent construct of commitment with a factor score of 0.38, appears to be the item which reflects extent to which the business-person intends to maintain their relationship with the sales consultant.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$ I expect to continue working with the sales consultant for a long time</td>
<td>0.15</td>
</tr>
<tr>
<td>$x_2$ I am very committed to the relationship with the sales consultant</td>
<td>0.24</td>
</tr>
<tr>
<td>$x_3$ My relationship with my sales consultant is something I intend to maintain</td>
<td>0.38</td>
</tr>
<tr>
<td>$x_7$ I am concerned with long-term outcomes in dealing with the sales consultant</td>
<td>0.22</td>
</tr>
</tbody>
</table>

### 7.7 Congeneric model of satisfaction

The congeneric model of satisfaction commenced with six indicators. This was reduced to five by eliminating the indicator with standardised residuals greater than 2.54. The resulting goodness-of-fit statistics were a RMR of 0.05, GFI and AGFI greater than 0.90 and a chi-square with 5 df of 4.22. Even though the RMR is slightly higher than 0.05, it is still within an acceptable range. Therefore the statistics indicate that the model fits the sample data well.
The parameter estimates and explained variance is presented in Table 7-8. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.95. The indicator with the smallest error variance is $x_4$ and the indicator with the largest error variance is $x_1$.

The latent construct explains at least 90% of the indicator’s variance, which suggests that the indicators are very good measures of satisfaction and have convergent validity. The indicators also appear to have high reliability as evidenced by the composite reliability of 0.98 and variance extracted estimate of 0.93. Finally, the measures appear to be unidimensional as there was no correlation allowed between the indicators.

<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda coefficient</th>
<th>Error variance (theta-delta)</th>
<th>Explained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$</td>
<td>0.95$^a$ (0.07)$^b$</td>
<td>0.10$^a$ (0.09)$^b$</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>59.36$^c$</td>
<td>1.04$^c$</td>
<td></td>
</tr>
<tr>
<td>$x_2$</td>
<td>0.97 (0.01)</td>
<td>0.07 (0.09)</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>65.99</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>$x_3$</td>
<td>0.98 (0.01)</td>
<td>0.04 (0.09)</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>71.50</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>$x_4$</td>
<td>0.98 (0.01)</td>
<td>0.04 (0.09)</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>103.85</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>$x_5$</td>
<td>0.95 (0.02)</td>
<td>0.09 (0.10)</td>
<td>0.91</td>
</tr>
<tr>
<td></td>
<td>47.94</td>
<td>0.96</td>
<td></td>
</tr>
</tbody>
</table>

a parameter estimate  b standard error  c T-Value

Table 7-9 presents the final measurement items and the factor score regressions for satisfaction. The largest contribution to the latent construct of satisfaction with a factor score of 0.30 appears to be the item that reflects the extent to which the business thinks that advertising in telephone directories was the right thing to do.
Table 7-9 Final measurement items and factor score regressions for satisfaction

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$ I am satisfied with my decision to advertise in my preferred directory</td>
<td>0.12</td>
</tr>
<tr>
<td>$x_2$ My choice to advertise in my preferred directory was a wise one</td>
<td>0.18</td>
</tr>
<tr>
<td>$x_3$ I feel good about my decision concerning my preferred directory</td>
<td>0.28</td>
</tr>
<tr>
<td>$x_4$ I think I did the right thing when I decided to advertise in my preferred directory</td>
<td>0.30</td>
</tr>
<tr>
<td>$x_5$ If I had to do it all over again, I would feel the same about advertising in my preferred directory</td>
<td>0.13</td>
</tr>
</tbody>
</table>

7.8 Congeneric model of perceived risk

The congeneric model of risk commenced with eight indicators. This was reduced to five by eliminating the indicator with standardised residuals greater than 2.54. The resulting statistics were a RMR less than 0.05 and GFI and AGFI greater than 0.90 and chi-square with 5 df of 5.56, thus indicating that the model fits the sample data well.

The parameter estimates and explained variance is presented in Table 7-10. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.68. The indicators with the smallest error variance are $x_5$ and $x_6$ and the indicator with the largest error variance is $x_1$. The latent construct explains at least 46% of the indicator’s variance, which suggests that the indicators are very good measures of perceived risk and have convergent validity (Nunnally and Bernstein 1994). The indicators also appear to have high reliability as evidenced by the composite reliability of 0.90 and variance extracted estimate of 0.64. Finally, the measures appear to be unidimensional as there was no correlation allowed between the indicators.
<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda coefficient</th>
<th>Error variance (theta-delta)</th>
<th>Explained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$</td>
<td>0.68$^a$ (0.06)$^b$</td>
<td>0.54$^c$ (0.13)$^b$</td>
<td>0.46</td>
</tr>
<tr>
<td></td>
<td>10.68$^c$</td>
<td>4.11$^c$</td>
<td></td>
</tr>
<tr>
<td>$x_4$</td>
<td>0.73 (0.06)</td>
<td>0.47 (0.14)</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>11.11</td>
<td>3.42</td>
<td></td>
</tr>
<tr>
<td>$x_5$</td>
<td>0.87 (0.05)</td>
<td>0.24 (0.13)</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>16.02</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>$x_6$</td>
<td>0.87 (0.05)</td>
<td>0.24 (0.13)</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>16.44</td>
<td>1.76</td>
<td></td>
</tr>
<tr>
<td>$x_7$</td>
<td>0.82 (0.05)</td>
<td>0.32 (0.13)</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td>15.00</td>
<td>2.394</td>
<td></td>
</tr>
</tbody>
</table>

* a parameter estimate  b standard error  c T-Value

Table 7-11 presents the final measurement items and the factor score regressions for perceived risk. The largest contribution to the latent construct of perceived risk, with a proportional factor score of 0.29, appears to be the item which reflects the perceived extent of risk associated with advertising in the preferred brand.

**Table 7-11 Final measurement items and factor score regressions for perceived risk**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$</td>
<td>The chances are great that advertising in my preferred directory will result in the associated negative consequence</td>
</tr>
<tr>
<td>$x_4$</td>
<td>Is this negative consequence one that you react to emotionally, that is, with dread or fear?</td>
</tr>
<tr>
<td>$x_5$</td>
<td>How severe is the negative consequence associated with advertising in this directory?</td>
</tr>
<tr>
<td>$x_6$</td>
<td>To what extent is a business which advertises in this directory taking a risk?</td>
</tr>
<tr>
<td>$x_7$</td>
<td>How permanent is the negative consequence associated with advertising in this directory?</td>
</tr>
</tbody>
</table>

### 7.9 Congeneric model of involvement

The congeneric model of involvement commenced with eight indicators. This was initially reduced to five by eliminating the indicators with standardised residuals greater than 2.54. Another indicator ($x_2$) was eliminated as it had a lambda coefficient less than 0.70 and a very low factor loading of 0.04. When this indicator
was removed, the chi-square was reduced from 11.63 to 1.12 and the goodness-of-fit statistics increased. Indicator $x_2$ had a lambda coefficient of 0.62 and more error variance than explained variance. Therefore, while the standardised residuals were under 2.54, this indicator was eliminated on the basis of the error/explained variance ratio. The result was a decrease in chi-square to 1.12, and an increase in the GFI from 0.97 to 0.99 indicating a better-fitting model.

The resulting statistics were a RMR less than 0.05, GFI and AGFI greater than 0.90 and chi-square with 2 df of 1.12 thus indicating that the model fits the sample data well.

The parameter estimates and explained variance is presented in Table 7-12. The lambda coefficient and error variance columns present the parameter estimate, standard errors in parentheses and t-values. The lambda coefficients are above 0.85. The indicator with the smallest error variance is $x_8$ and the indicator with the largest error variance is $x_5$. The latent construct explains at least 82% of the indicator’s variance, which suggests that the indicators are good measures of involvement and have convergent validity (Nunnally and Bernstein 1994). The indicators also appear to have high reliability as evidenced by the composite reliability of 0.94 and variance extracted estimate of 0.80. Finally the measures appear to be unidimensional as there was no correlation allowed between the indicators.

### Table 7-12 Parameter estimates for involvement

<table>
<thead>
<tr>
<th>Item</th>
<th>Lambda coefficient</th>
<th>Error variance (theta-delta)</th>
<th>Explained variance</th>
</tr>
</thead>
</table>
| $x_1$ | 0.91<sup>a</sup>   
(0.02)<sup>b</sup>  
37.96<sup>c</sup>  | 0.18<sup>a</sup>   
(0.10)<sup>b</sup>  
1.68<sup>c</sup>  | 0.82 |
| $x_3$ | 0.92   
(0.02)  
38.95 | 0.15   
(0.10)  
1.43 | 0.85 |
| $x_5$ | 0.86   
(0.03)  
32.03 | 0.26   
(0.11)  
2.47 | 0.74 |
| $x_8$ | 0.93   
(0.02)  
38.56 | 0.14   
(0.11)  
1.30 | 0.86 |

<sup>a</sup> parameter estimate  
<sup>b</sup> standard error  
<sup>c</sup> T-Value

Table 7-13 presents the final measurement items and the factor score regressions for involvement. The largest contribution to the latent construct of involvement with a
factor score of 0.32 appears to be the item that reflects the perceived value of advertising in telephone directories.

Table 7-13 Final measurement items and factor score regressions for involvement

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$ Important</td>
<td>0.25</td>
</tr>
<tr>
<td>$x_3$ Relevant</td>
<td>0.29</td>
</tr>
<tr>
<td>$x_5$ Means a lot to me</td>
<td>0.15</td>
</tr>
<tr>
<td>$x_8$ Valuable</td>
<td>0.32</td>
</tr>
</tbody>
</table>

7.10 Summary

Overall, these measures reflect high levels of reliability and convergent validity and have good fit with the data. The next chapter demonstrates how these composite scales were used in the full estimation of the proposed model.
8 Results of stage three - estimation of the structural model

8.1 Introduction

This chapter reports on the results of stage three, the estimation of the proposed and competing structural models. These models contain the composite scales for all constructs developed in stage two, a summary of which is contained in Table 8-2. Using composite scales reduces the number of parameters in the model, which increases the parsimony of the model (Holmes-Smith and Rowe 1994). The composite scales based on a single factor model have known measurement properties, that is, the lambda and theta values can be calculated from the single factor model and fixed, and the estimation of the full model is then done. As the structural model contains behavioural data, which has a single indicator, composite scales cannot be calculated. However, the lambda and theta values were fixed to be consistent with the other constructs in allowing the estimation of the full structural model.

8.2 Estimating the proposed model

After the composite scales were calculated, the full structural model was estimated using a covariance matrix that analysed the normalised scores. This standardised covariance matrix is shown in Table 8-1. The expectation maximisation method (EM) was used to treat missing values to maximise the effective sample size (Arbuckle 1996).

The listwise method of treating missing data used when developing the composite measures could not be used in estimating the structural model. When the behavioural brand loyalty data was added to the data set, there was a high level of missing data for this measure. Thus using listwise deletion resulted in an effective sample size less than the suggested minimum of 200 to perform structural equation modelling. The EM method was therefore a more appropriate way to deal with the missing data in this situation (Arbuckle 1996).
Table 8-1 Standardised covariance matrix

<table>
<thead>
<tr>
<th>Construct</th>
<th>η1</th>
<th>η2</th>
<th>η3</th>
<th>η4</th>
<th>η5</th>
<th>η6</th>
<th>η7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural loyalty</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>η1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>0.43</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>η2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>0.26</td>
<td>0.48</td>
<td>0.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>η3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>0.15</td>
<td>0.44</td>
<td>0.64</td>
<td>0.97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>η4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.30</td>
<td>0.66</td>
<td>0.40</td>
<td>0.34</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>η5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td>0.29</td>
<td>0.58</td>
<td>0.30</td>
<td>0.25</td>
<td>0.44</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>η6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>-0.05</td>
<td>-0.12</td>
<td>0.02</td>
<td>-0.05</td>
<td>-0.25</td>
<td>0.01</td>
<td>0.87</td>
</tr>
<tr>
<td>η7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The composite scale parameters for each measure were then calculated based on the output from the congeneric model estimation as shown in Table 8-2. These parameters were then fixed in the full estimation of the proposed and competing models.

Table 8-2 Composite scale parameters for the cognitive and affective constructs

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Reliability coefficient</th>
<th>Lambda</th>
<th>Theta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural Loyalty</td>
<td>0.85</td>
<td>0.43</td>
<td>*</td>
<td>0.97</td>
<td>0.05</td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>3.90</td>
<td>0.89</td>
<td>0.95</td>
<td>0.87</td>
<td>0.04</td>
</tr>
<tr>
<td>Commitment</td>
<td>2.82</td>
<td>0.89</td>
<td>0.91</td>
<td>0.85</td>
<td>0.07</td>
</tr>
<tr>
<td>Trust</td>
<td>3.32</td>
<td>0.86</td>
<td>0.95</td>
<td>0.84</td>
<td>0.03</td>
</tr>
<tr>
<td>Involvement</td>
<td>4.05</td>
<td>0.99</td>
<td>0.95</td>
<td>0.97</td>
<td>0.05</td>
</tr>
<tr>
<td>Risk</td>
<td>3.44</td>
<td>1.02</td>
<td>0.90</td>
<td>0.97</td>
<td>0.10</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>3.89</td>
<td>0.88</td>
<td>0.99</td>
<td>0.88</td>
<td>0.01</td>
</tr>
</tbody>
</table>

* Reliability not calculated as only a single indicator present

Note that the behavioural loyalty measure was derived from actual purchase behaviour in T2. The measure was computed by dividing the buyers’ expenditure on their preferred brand by their total expenditure on all brands within the category. The resulting measures can be described as a share-of-category measure (i.e., a simple ratio). For identification purposes, it was necessary to constrain the error variance of the behavioural brand loyalty measure to a small positive value. The practical impact of doing so was limited, however, as this behavioural indicator is assumed to be measured with little error. The lambda and theta values for behavioural brand loyalty were arbitrarily set at 0.97 and 0.05 respectively.
8.2.1 The proposed model

The proposed structural model in Figure 8-1 shows the latent constructs of behavioural loyalty, attitudinal loyalty, commitment, trust, satisfaction, involvement and perceived risk labeled as \(\eta_1\) to \(\eta_7\) respectively. All constructs are endogenous to allow for relationships with other constructs. The lambda and theta-epsilon values were fixed to the composite scales scores and only the beta matrices estimated. The goodness-of-fit statistics for the initial model indicated the model fitted the data well with the indices above the acceptable thresholds (see Table 8-3).

Table 8-3 Summary of goodness-of-fit statistics for proposed model

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satorra-Bentler Chi-square</td>
<td>20.10 with 10 df</td>
</tr>
<tr>
<td>RMR</td>
<td>0.04</td>
</tr>
<tr>
<td>GFI</td>
<td>0.98</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.94</td>
</tr>
</tbody>
</table>

Estimating the model revealed that nine of the eleven paths were significant. These results are shown in Table 8-4. As can be seen, two paths were not significant (and had t-values that were less than plus or minus 2.0). These paths were perceived risk to attitudinal brand loyalty, and perceived risk to involvement. The modification indices indicated that an additional two paths would improve the model fit, these were the paths between perceived risk and commitment, and between trust and attitudinal brand loyalty. Thus, the model was respecified by removing the two

Table 8-4 Significance of the path estimates for the proposed model

<table>
<thead>
<tr>
<th>Beta</th>
<th>Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\beta_{12}^*)</td>
<td>Attitudinal brand loyalty (\rightarrow) Behavioural brand loyalty</td>
</tr>
<tr>
<td>(\beta_{23}^*)</td>
<td>Commitment (\rightarrow) Attitudinal brand loyalty</td>
</tr>
<tr>
<td>(\beta_{34}^*)</td>
<td>Trust (\rightarrow) Commitment</td>
</tr>
<tr>
<td>(\beta_{45}^*)</td>
<td>Satisfaction (\rightarrow) Trust</td>
</tr>
<tr>
<td>(\beta_{35}^*)</td>
<td>Satisfaction (\rightarrow) Commitment</td>
</tr>
<tr>
<td>(\beta_{25}^*)</td>
<td>Satisfaction (\rightarrow) Attitudinal brand loyalty</td>
</tr>
<tr>
<td>(\beta_{57}^*)</td>
<td>Involvement (\rightarrow) Satisfaction</td>
</tr>
<tr>
<td>(\beta_{27}^*)</td>
<td>Involvement (\rightarrow) Attitudinal brand loyalty</td>
</tr>
<tr>
<td>(\beta_{56}^*)</td>
<td>Risk (\rightarrow) Satisfaction</td>
</tr>
<tr>
<td>(\beta_{26})</td>
<td>Risk (\rightarrow) Attitudinal brand loyalty</td>
</tr>
<tr>
<td>(\beta_{76})</td>
<td>Risk (\rightarrow) Involvement</td>
</tr>
</tbody>
</table>

* Significant paths
Figure 8-1 Proposed model

- **Perceived Risk** $\eta_6$
  - $H_8(+)\rightarrow H_6(-)\rightarrow H_3(+)\rightarrow H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Involvement** $\eta_7$
  - $H_8(+)\rightarrow H_5(+)\rightarrow H_11(+)\rightarrow H_6(+)\rightarrow H_3(+)\rightarrow H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Satisfaction** $\eta_5$
  - $H_3(+)\rightarrow H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Commitment** $\eta_3$
  - $H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Trust** $\eta_4$
  - $H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Attitudinal Loyalty** $\eta_2$
  - $H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$

- **Behavioural Loyalty** $\eta_1$
  - $H_5(+)\rightarrow H_1(+)\rightarrow \text{Brand loyalty}$
Figure 8-2 Revised model

Key:

- Retained paths
- Additional path
- Eliminated paths

Perceived Risk $\eta_6$:
- $\beta_{56} = -0.29$
- $\beta_{35} = 0.30$

Satisfaction $\eta_5$:
- $\beta_{25} = 0.52$
- $\beta_{45} = 0.43$
- $\beta_{36} = 0.15$

Commitment $\eta_3$:
- $\beta_{23} = 0.12$

Trust $\eta_4$:
- $\beta_{27} = 0.34$
- $\beta_{43} = 0.60$

Involvement $\eta_7$:
- $\beta_{57} = 0.50$

Attitudinal loyalty $\eta_2$:
- $\beta_{56} = -0.29$
- $\beta_{45} = 0.43$
- $\beta_{35} = 0.30$
- $\beta_{57} = 0.50$

Behavioural loyalty $\eta_1$:
- $\beta_{12} = 0.48$

Brand loyalty

$\beta_{25} = 0.12$
$\beta_{56} = -0.29$
$\beta_{35} = 0.30$
$\beta_{45} = 0.43$
$\beta_{36} = 0.15$
$\beta_{27} = 0.34$
$\beta_{57} = 0.50$
$\beta_{23} = 0.12$
$\beta_{43} = 0.60$
$\beta_{25} = 0.12$
non-significant paths and including the two new paths suggested by the modification indices (see Figure 8-2). Furthermore, these changes seemed to make theoretical sense, but are discussed in more detail in the next chapter.

8.2.2 The revised model

When respecified, the final result was a model with goodness-of-fit statistics that represented an improvement on the proposed model and all the path estimates were significant. This indicates that the model fits the data well as shown in Table 8-5.

Table 8-5 Summary of goodness-of-fit statistics for revised model

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satorra-Bentler Chi-square</td>
<td>6.86 with 10 df</td>
</tr>
<tr>
<td>RMR</td>
<td>0.02</td>
</tr>
<tr>
<td>GFI</td>
<td>0.99</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.98</td>
</tr>
</tbody>
</table>

The following nine hypotheses were supported by the revised model. All the inter-construct relationships are positive, except for the link between risk and satisfaction (H9), which is negative as predicted.

H1 Attitudinal loyalty towards the preferred brand will be positively associated with behavioural brand loyalty.

H2 Commitment to the sales consultant will be positively associated with attitudinal loyalty towards the preferred brand.

H3 Involvement with directory advertising will be positively associated with attitudinal loyalty towards the preferred brand.

H5 Satisfaction with the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand.

H6 Trust in the sales consultant will be positively associated with commitment to the sales consultant.

H7 Involvement with directory advertising will be positively associated with satisfaction with the preferred brand.

H9 Perceived risk of the preferred brand will be negatively associated with satisfaction with the preferred brand.
H_{10} Satisfaction with the preferred brand will be positively associated with commitment to the sales consultant.

H_{11} Satisfaction with the preferred brand will be positively associated with trust of the sales consultant.

The following two hypotheses were rejected.

H_{4} Perceived risk of the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand

H_{8} Perceived risk of the preferred brand will be positively associated with involvement with directory advertising

The parameter estimates for the revised model are summarised in Table 8-6. While the direct effects in the model are shown in this table, Table 8-7 shows the indirect effects between the constructs in the model.

<table>
<thead>
<tr>
<th>Beta</th>
<th>Path</th>
<th>Direct Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>β12</td>
<td>Attitudinal loyalty → Behavioural brand loyalty</td>
<td>0.48&lt;sup&gt;a&lt;/sup&gt; (0.05)&lt;sup&gt;b&lt;/sup&gt; 9.49&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>β23</td>
<td>Commitment → Attitudinal brand loyalty</td>
<td>0.12 (0.06) 2.00</td>
</tr>
<tr>
<td>β27</td>
<td>Involvement → Attitudinal brand loyalty</td>
<td>0.34 (0.05) 6.55</td>
</tr>
<tr>
<td>β25</td>
<td>Satisfaction → Attitudinal brand loyalty</td>
<td>0.52 (0.07) 7.83</td>
</tr>
<tr>
<td>β24</td>
<td>Trust → Attitudinal brand loyalty</td>
<td>0.12 (0.05) 2.25</td>
</tr>
<tr>
<td>β43</td>
<td>Trust → Commitment</td>
<td>0.60 (0.06) 9.58</td>
</tr>
<tr>
<td>β57</td>
<td>Involvement → Satisfaction</td>
<td>0.50 (0.05) 9.52</td>
</tr>
<tr>
<td>β56</td>
<td>Risk → Satisfaction</td>
<td>-0.29 (0.06) -4.79</td>
</tr>
<tr>
<td>β35</td>
<td>Satisfaction → Commitment</td>
<td>0.30 (0.06) 4.69</td>
</tr>
</tbody>
</table>
**Table 8-6 (cont’d)**

<table>
<thead>
<tr>
<th>Beta</th>
<th>Path</th>
<th>Direct Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>β45</td>
<td>Satisfaction → Trust</td>
<td>0.43 (0.07)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.91</td>
</tr>
<tr>
<td>β36</td>
<td>Risk → Commitment</td>
<td>0.15 (0.05)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.93</td>
</tr>
</tbody>
</table>

a parameter estimate  b standard errors  c T-Value

**Table 8-7 Indirect effects between constructs**

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Indirect effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>Behavioural brand loyalty</td>
<td>0.05a (0.03)b</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.72c</td>
</tr>
<tr>
<td>Trust</td>
<td>Attitudinal brand loyalty</td>
<td>0.06 (0.03)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.82</td>
</tr>
<tr>
<td>Trust</td>
<td>Behavioural brand loyalty</td>
<td>0.09 (0.02)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.56</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Commitment</td>
<td>0.25 (0.05)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.68</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Attitudinal brand loyalty</td>
<td>0.11 (0.03)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.48</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Behavioural brand loyalty</td>
<td>0.30 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.40</td>
</tr>
<tr>
<td>Involvement</td>
<td>Attitudinal brand loyalty</td>
<td>0.32 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.17</td>
</tr>
<tr>
<td>Involvement</td>
<td>Behavioural brand loyalty</td>
<td>0.22 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.30</td>
</tr>
<tr>
<td>Involvement</td>
<td>Commitment</td>
<td>0.28 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.74</td>
</tr>
<tr>
<td>Involvement</td>
<td>Trust</td>
<td>0.21 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.30</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Commitment</td>
<td>-0.16 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-4.09</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Attitudinal brand loyalty</td>
<td>-0.17 (0.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-4.33</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Behavioural brand loyalty</td>
<td>-0.08 (0.02)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-3.94</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Trust</td>
<td>-0.12 (0.03)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-3.80</td>
</tr>
</tbody>
</table>

a parameter estimate  b standard error  c T-Value
The total effects of the antecedent constructs on attitudinal brand loyalty are show in Table 8-8. Involvement as a cognitive construct has the greatest total impact on attitudinal brand loyalty, however much of this impact is mediated by satisfaction, trust and commitment. Satisfaction has the next largest total effect on attitudinal brand loyalty. Most of the impact of satisfaction on attitudinal brand loyalty is direct rather than mediated by trust and commitment. Trust and commitment have relatively smaller total effects on attitudinal brand loyalty, however they are key mediating constructs between cognitive and emotional factors on attitudinal brand loyalty. Note also that the total effect of risk is small, but negative.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Total effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational Factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>Attitudinal brand loyalty</td>
<td>0.12a (0.06)b 2.00c</td>
</tr>
<tr>
<td>Trust</td>
<td>Attitudinal brand loyalty</td>
<td>0.18 (0.05) 3.77</td>
</tr>
<tr>
<td>Emotional Factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Attitudinal brand loyalty</td>
<td>0.63 (0.06) 11.04</td>
</tr>
<tr>
<td>Cognitive factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td>Attitudinal brand loyalty</td>
<td>0.66 (0.05) 13.19</td>
</tr>
<tr>
<td>Risk</td>
<td>Attitudinal brand loyalty</td>
<td>-0.17 (0.04) -4.33</td>
</tr>
</tbody>
</table>

The explained variance (squared multiple correlations) and the unexplained variance for each of the constructs in the revised model are shown in Table 8-9. Involvement and perceived risk were specified as endogenous constructs in the revised model, however, they have no paths leading into them. The construct that is best explained by the model is attitudinal brand loyalty with 71% of its variance explained. Trust has the lowest explained variance (only 15% of its variance was explained by the model).
Table 8-9 Explained variance for each construct – revised model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Explained variance</th>
<th>Unexplained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural loyalty</td>
<td>η1</td>
<td>0.23</td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>η2</td>
<td>0.71</td>
</tr>
<tr>
<td>Commitment</td>
<td>η3</td>
<td>0.53</td>
</tr>
<tr>
<td>Trust</td>
<td>η4</td>
<td>0.15</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>η5</td>
<td>0.37</td>
</tr>
<tr>
<td>Involvement</td>
<td>η6</td>
<td>-</td>
</tr>
<tr>
<td>Risk</td>
<td>η7</td>
<td>-</td>
</tr>
</tbody>
</table>

### 8.3 Estimating the competing model

After revising the proposed model, the competing model was estimated. Note that the competing model uses the same input matrix as the proposed and revised models. That is, the models contain the same variables and use the same data. All that differs across the models is the conceptualisation of the construct interrelationships. The competing model is presented in diagrammatic form in Figure 8-3. As can be seen from the diagram, the competing model is a more saturated model that contains direct effects from satisfaction, trust and commitment to behavioural brand loyalty. This provides for an implicit test of attitudinal brand loyalty’s mediating role.

The goodness-of-fit statistics for the competing model are detailed in Table 8-10. As can be seen, the chi-square is large (and significant) and the AGFI exceeds the desired threshold. This indicates that the model has only reasonable fit to the sample data.

Table 8-10 Summary of goodness-of-fit statistics for competing model

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satorra-Bentler Chi-square</td>
<td>41.12 with 6 df</td>
</tr>
<tr>
<td>RMR</td>
<td>0.05</td>
</tr>
<tr>
<td>GFI</td>
<td>0.95</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.75</td>
</tr>
</tbody>
</table>

The significance of the path estimate is displayed in Table 8-11. Five of the paths in the competing model were not significant. These were: the path from commitment to behavioural brand loyalty, the path from trust to behavioural brand loyalty, the path
Figure 8-3 Competing model

- **Perceived risk** $\eta_6$
  - $\beta_{36} = 0.15$
  - $\beta_{56} = -0.29$

- **Involvement** $\eta_7$
  - $\beta_{57} = 0.51$
  - $\beta_{47} = 0.34$

- **Satisfaction** $\eta_5$
  - $\beta_{35} = 0.30$
  - $\beta_{45} = 0.37$
  - $\beta_{43} = 0.60$
  - $\beta_{25} = 0.69$

- **Commitment** $\eta_3$
  - $\beta_{23} = 0.14$

- **Trust** $\eta_4$
  - $\beta_{24} = 0.13$

- **Behavioural Loyalty** $\eta_1$
  - $\beta_{12} = 0.52$

- **Attitudinal Loyalty** $\eta_2$
  - Non-significant paths

- **Brand Loyalty**
from satisfaction to behavioural brand loyalty, the path from involvement to trust, and the path from risk to involvement.

**Table 8-11 Significance of beta matrix of competing model**

<table>
<thead>
<tr>
<th>Beta</th>
<th>Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta_{12}^*$</td>
<td>Attitudinal brand loyalty $\rightarrow$ Behavioural brand loyalty</td>
</tr>
<tr>
<td>$\beta_{13}$</td>
<td>Commitment $\rightarrow$ Behavioural brand loyalty</td>
</tr>
<tr>
<td>$\beta_{14}$</td>
<td>Trust $\rightarrow$ Behavioural brand loyalty</td>
</tr>
<tr>
<td>$\beta_{15}$</td>
<td>Satisfaction $\rightarrow$ Behavioural brand loyalty</td>
</tr>
<tr>
<td>$\beta_{23}^*$</td>
<td>Commitment $\rightarrow$ Attitudinal brand loyalty</td>
</tr>
<tr>
<td>$\beta_{24}^*$</td>
<td>Trust $\rightarrow$ Attitudinal brand loyalty</td>
</tr>
<tr>
<td>$\beta_{25}^*$</td>
<td>Satisfaction $\rightarrow$ Attitudinal brand loyalty</td>
</tr>
<tr>
<td>$\beta_{35}^*$</td>
<td>Satisfaction $\rightarrow$ Commitment</td>
</tr>
<tr>
<td>$\beta_{36}^*$</td>
<td>Trust $\rightarrow$ Commitment</td>
</tr>
<tr>
<td>$\beta_{34}^*$</td>
<td>Perceived risk $\rightarrow$ Commitment</td>
</tr>
<tr>
<td>$\beta_{45}^*$</td>
<td>Satisfaction $\rightarrow$ Trust</td>
</tr>
<tr>
<td>$\beta_{36}$</td>
<td>Involvement $\rightarrow$ Trust</td>
</tr>
<tr>
<td>$\beta_{76}$</td>
<td>Perceived risk $\rightarrow$ Involvement</td>
</tr>
<tr>
<td>$\beta_{57}^*$</td>
<td>Involvement $\rightarrow$ Satisfaction</td>
</tr>
<tr>
<td>$\beta_{56}^*$</td>
<td>Perceived risk $\rightarrow$ Satisfaction</td>
</tr>
</tbody>
</table>

* Significant paths

The construct inter-relationships for the competing model are outlined in the following tables. Direct effects are detailed in Table 8-12, and indirect effects in Table 8-13.

**Table 8-12 Standardised beta coefficients for competing model**

<table>
<thead>
<tr>
<th>Beta</th>
<th>Path</th>
<th>Direct Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta_{12}^*$</td>
<td>Attitudinal brand loyalty $\rightarrow$ Behavioural brand loyalty</td>
<td>0.52a (0.09)b 5.68c</td>
</tr>
<tr>
<td>$\beta_{13}$</td>
<td>Commitment $\rightarrow$ Behavioural brand loyalty</td>
<td>0.13 (0.09) 1.54</td>
</tr>
<tr>
<td>$\beta_{14}$</td>
<td>Trust $\rightarrow$ Behavioural brand loyalty</td>
<td>-0.15 (0.08) -1.95</td>
</tr>
<tr>
<td>$\beta_{15}$</td>
<td>Satisfaction $\rightarrow$ Behavioural brand loyalty</td>
<td>-0.05 (0.09) -0.51</td>
</tr>
<tr>
<td>$\beta_{23}^*$</td>
<td>Commitment $\rightarrow$ Attitudinal brand loyalty</td>
<td>0.14 (0.06) 2.22</td>
</tr>
<tr>
<td>$\beta_{24}^*$</td>
<td>Trust $\rightarrow$ Attitudinal brand loyalty</td>
<td>0.13 (0.06) 2.11</td>
</tr>
</tbody>
</table>

a parameter estimate  b standard errors  c T-Value
Table 8-12 (cont’d)

<table>
<thead>
<tr>
<th>Beta</th>
<th>Path</th>
<th>Direct Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>β25*</td>
<td>Satisfaction → Attitudinal brand loyalty</td>
<td>0.69 (0.06) 12.08</td>
</tr>
<tr>
<td>β35*</td>
<td>Satisfaction → Commitment</td>
<td>0.30 (0.07) 4.66</td>
</tr>
<tr>
<td>β34*</td>
<td>Trust → Commitment</td>
<td>0.60 (0.06) 9.58</td>
</tr>
<tr>
<td>β36*</td>
<td>Perceived risk → Commitment</td>
<td>0.15 (0.05) 2.94</td>
</tr>
<tr>
<td>β45*</td>
<td>Satisfaction → Trust</td>
<td>0.37 (0.08) 4.33</td>
</tr>
<tr>
<td>β36</td>
<td>Involvement → Trust</td>
<td>0.10 (0.08) 1.32</td>
</tr>
<tr>
<td>β76</td>
<td>Perceived risk → Involvement</td>
<td>0.00 (0.06) 0.04</td>
</tr>
<tr>
<td>β57*</td>
<td>Involvement → Satisfaction</td>
<td>0.51 (0.05) 9.62</td>
</tr>
<tr>
<td>β56*</td>
<td>Perceived risk → Satisfaction</td>
<td>-0.29 (0.06) 0.04</td>
</tr>
</tbody>
</table>

Table 8-13 Indirect effects between constructs

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Indirect effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment → Behavioural brand loyalty</td>
<td>0.07 (0.03) 2.15</td>
<td></td>
</tr>
<tr>
<td>Trust → Behavioural brand loyalty</td>
<td>0.19 (0.06) 3.01</td>
<td></td>
</tr>
<tr>
<td>Satisfaction → Behavioural brand loyalty</td>
<td>0.43 (0.08) 5.58</td>
<td></td>
</tr>
<tr>
<td>Involvement → Behavioural brand loyalty</td>
<td>0.20 (0.04) 4.96</td>
<td></td>
</tr>
<tr>
<td>Perceived risk → Behavioural brand loyalty</td>
<td>-0.08 (0.03) -2.28</td>
<td></td>
</tr>
<tr>
<td>Trust → Attitudinal brand loyalty</td>
<td>0.08 (0.04) 2.24</td>
<td></td>
</tr>
<tr>
<td>Satisfaction → Attitudinal brand loyalty</td>
<td>0.12 (0.03) 3.93</td>
<td></td>
</tr>
<tr>
<td>Involvement → Attitudinal brand loyalty</td>
<td>0.43 (0.06) 7.35</td>
<td></td>
</tr>
<tr>
<td>Independent variable</td>
<td>Dependent variable</td>
<td>Indirect effects</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Attitudinal brand loyalty</td>
<td>-0.21 (0.05) -3.96</td>
</tr>
<tr>
<td>Involvement</td>
<td>Commitment</td>
<td>0.33 (0.05) 6.50</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Commitment</td>
<td>0.22 (0.06) 3.70</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Commitment</td>
<td>-0.15 (0.04) -3.52</td>
</tr>
<tr>
<td>Involvement</td>
<td>Trust</td>
<td>0.19 (0.04) 4.26</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Trust</td>
<td>-0.11 (0.04) -2.96</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>Satisfaction</td>
<td>0.00 (0.03) 0.04</td>
</tr>
</tbody>
</table>

Table 8-13 (cont’d)

The explained variance (squared multiple correlations) and the unexplained variance for each of the constructs in the revised model are shown in Table 8-14. Note that perceived risk has no paths leading into it. The construct that is best explained by the model is attitudinal brand loyalty with 64% of its variance explained. Trust, again, has the least explained variance, approximately 16%.

Table 8-14 Explained variance for each construct – competing model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Explained variance</th>
<th>Unexplained variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural loyalty $\eta_1$</td>
<td>0.25</td>
<td>0.75</td>
</tr>
<tr>
<td>Attitudinal Loyalty $\eta_2$</td>
<td>0.64</td>
<td>0.36</td>
</tr>
<tr>
<td>Commitment $\eta_3$</td>
<td>0.54</td>
<td>0.46</td>
</tr>
<tr>
<td>Trust $\eta_4$</td>
<td>0.16</td>
<td>0.84</td>
</tr>
<tr>
<td>Satisfaction $\eta_5$</td>
<td>0.37</td>
<td>0.63</td>
</tr>
<tr>
<td>Involvement $\eta_6$</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Risk $\eta_7$</td>
<td>-</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Finally, the fit of the competing model to the data was compared with the revised model’s fit to the sample data. This comparison was achieved by constructing a chi-square difference test. The test statistic is computed by subtracting the chi-square of the revised model from the chi-square of the competing model. The degrees of
freedom for the test are given by the difference in degrees of freedom for the two models. It is assumed that the chi-square difference statistic follows a chi-square distribution. As shown in Table 8-15, the chi-square difference is 34.26 with 4 degrees of freedom. This exceeds the critical value, which for 4 degrees of freedom is 9.48. This result indicates that the revised model has significantly better fit to the sample data than the competing model. The implications of this result and the conclusions drawn from these results are detailed in the next chapter.

<table>
<thead>
<tr>
<th>Model</th>
<th>Chi-square</th>
<th>Df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competing model</td>
<td>41.12</td>
<td>6</td>
</tr>
<tr>
<td>Revised model</td>
<td>6.86</td>
<td>10</td>
</tr>
<tr>
<td>Chi-square difference</td>
<td>34.26</td>
<td>4</td>
</tr>
</tbody>
</table>

### 8.4 An extension: multiple sample analysis

As discussed in chapter two, involvement is a key issue in the attitude-behaviour debate and it is assumed that high-involvement purchasing increases the level of impact of attitudinal and emotional antecedents to brand loyalty. To test the influence of involvement on the competing model, the data was split into two groups, those with higher involvement and those with lower involvement. The mean score of 4.05 for involvement was the dividing point between the two groups. The mean was selected as the cut-off to ensure that the two groups were different from each other and reflected each end of the involvement score spectrum. There were 134 respondents with a score higher than the mean of 4.05 and 133 with a score of 4.05 or lower. The mean score for involvement in each of the two groups was 3.2 for low involvement and 4.7 for high involvement, indicating that the mean score cut-off discriminated effectively between the two groups.

The groups were then tested for differences to identify the paths significantly moderated by involvement using a chi square difference test. This was done by constraining a path coefficient in both groups to be equal. The chi-square statistic from the unconstrained model (26.14) was then compared to the chi-square statistic of the constrained model to identify if it was significantly different.
The difference in the chi-square of each group was then tested for significance at 1 df using the chi-square tables with scores greater than 3.84 being significant (Holmes-Smith 2000). While the beta coefficients of many of the paths looked to be quite different as shown in Table 8-16, only one was significantly different, this was involvement and satisfaction. This indicates that involvement has a moderating influence on this path in the model. Implications of this are discussed in the next chapter.

Table 8-16 Beta coefficients for paths in high and low involvement groups

<table>
<thead>
<tr>
<th>Beta</th>
<th>Path</th>
<th>Low</th>
<th>High</th>
<th>Chi-square diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>β12</td>
<td>Attitudinal loyalty → Behavioural brand loyalty</td>
<td>0.48</td>
<td>0.49</td>
<td>0.02</td>
</tr>
<tr>
<td>β23</td>
<td>Commitment → Attitudinal brand loyalty</td>
<td>0.15</td>
<td>0.04</td>
<td>1.00</td>
</tr>
<tr>
<td>β34</td>
<td>Trust → Commitment</td>
<td>0.58</td>
<td>0.62</td>
<td>0.21</td>
</tr>
<tr>
<td>β24</td>
<td>Trust → Attitudinal brand loyalty</td>
<td>0.14</td>
<td>0.13</td>
<td>0.01</td>
</tr>
<tr>
<td>β45</td>
<td>Satisfaction → Trust</td>
<td>0.33</td>
<td>0.40</td>
<td>0.16</td>
</tr>
<tr>
<td>β35</td>
<td>Satisfaction → Commitment</td>
<td>0.42</td>
<td>0.24</td>
<td>1.94</td>
</tr>
<tr>
<td>β25</td>
<td>Satisfaction → Attitudinal brand loyalty</td>
<td>0.52</td>
<td>0.51</td>
<td>0.02</td>
</tr>
<tr>
<td>β57*</td>
<td>Involvement → Satisfaction</td>
<td>0.67</td>
<td>0.17</td>
<td>6.08</td>
</tr>
<tr>
<td>β27</td>
<td>Involvement → Attitudinal brand loyalty</td>
<td>0.45</td>
<td>0.28</td>
<td>1.26</td>
</tr>
<tr>
<td>β56</td>
<td>Risk → Satisfaction</td>
<td>-0.36</td>
<td>-0.24</td>
<td>1.22</td>
</tr>
<tr>
<td>β36</td>
<td>Risk → Commitment</td>
<td>0.25</td>
<td>0.10</td>
<td>1.99</td>
</tr>
</tbody>
</table>

* Significant

8.5 Summary

This research followed a two-step modelling approach (Anderson and Gerbing 1998). The first stage was the estimation of the measurement model to assess reliability and validity of the indicators with the results shown in chapter six. With evidence of these present, the analysis proceeded to the next stage of estimation of the structural model for a direct test of the research hypotheses as presented the proposed model. The final stage of the modelling was the testing of the competing model, which contained the hypothesised paths and direct paths to behavioural brand
loyalty and comparing the results to the proposed model. It was the finding of this research that the proposed model was the best fitting model for the data.

The results are thus generally supportive of the conceptual framework of this thesis with the exogenous factors influencing the relational factors, attitudinal loyalty and behavioural loyalty. A key finding of the results is the mediating role of attitudinal brand loyalty between the antecedents and behavioural brand loyalty. The implications of this are discussed in the next chapter.
9 Conclusions and discussion

9.1 Introduction

Chapter one of this thesis outlined the background to the research and proposed three research problems to be investigated in this program of research, (1) what is the relationship between attitudinal brand loyalty and behavioural brand loyalty? (2) what are the antecedents of brand loyalty? and (3) what is the role of relational constructs in influencing attitudinal brand loyalty?

Chapters two and three reviewed the literature on brand loyalty, and business-to-business and services marketing. Chapter two discussed the debate between the behavioural and attitudinal approach to brand loyalty as well as the ordering relationship of these dimensions. Chapter three, outlined the antecedents to brand loyalty which reflected the characteristics of the business-to-business and services fields.

The literature review in the preceding chapters led to the development of the conceptual model in chapter four, which contained eleven hypotheses related to the three research questions. In chapter four, attitudinal brand loyalty was hypothesised to increase behavioural brand loyalty and mediate the influence of the five antecedents on behavioural brand loyalty. Increases in the antecedents of commitment, involvement, perceived risk and satisfaction were hypothesised to increase the level of attitudinal brand loyalty. Additionally, an increase in trust was hypothesised to increase levels of commitment, and an increase in involvement was hypothesised to increase the levels of satisfaction. An increase in perceived risk was hypothesised to increase the level of involvement yet decrease the level of satisfaction, and an increase in satisfaction was hypothesised to increase commitment and trust. The final section of chapter four contained a competing model, which included direct paths between several of the antecedents and behavioural brand loyalty.

Chapter five demonstrated the methodology for investigating the hypotheses. This included the treatment of missing data, justification of the sample, the selection of
the data collection method of surveys and the analysis technique of structural equation modelling. It also contained the response rates and sample characteristics.

Chapter six demonstrates the results of stage one, which tested the scales for business-to-business services context using a survey technique. The scales in general, were found to be reliable and only minor modification was required. The results of the main study were outlined in chapter seven.

The purpose of the second stage, outlined in chapter seven, was to obtain indicators of attitudinal and emotional constructs in the model and refine these scales. Chapter six presented the congeneric models for six of the latent constructs in the model; attitudinal loyalty, trust, commitment, satisfaction, perceived risk and involvement.

Chapter eight presented the results of stage three, estimation of the proposed and competing structural models using the congeneric measurement models from chapter six. These models were used to test the proposed model. The composite scale parameters for these six constructs, and the single item measure of behavioural brand loyalty were calculated and the structural model estimated. The measurement model provided evidence of scale reliability and validity and the revised model indicated a good fit with the data, which was better than of the competing model.

This chapter, chapter nine, discusses the conclusion for each of the eleven hypotheses developed for this research and discusses the revised model, see Figure 9-1. Support was found for nine hypotheses. The data analysis introduced two new relationships that have not been identified in previous empirical research; trust and attitudinal brand loyalty, and risk and commitment. Additionally this chapter reflects on the competing model as a rival to the proposed model. The results of this thesis suggest that attitudes play a significant role in the development of behavioural brand loyalty in that they mediate the impact of all cognitive and affective constructs.

This chapter also outlines the contributions of the research, the implications for marketing theory and practice, the limitations, and further research directions.
Figure 9-1 Revised model

Key:
- Retained paths
- Additional paths
- Eliminated paths

 hypothesized paths:

- Attitudinal loyalty $\eta_2$
- Behavioural loyalty $\eta_1$
- Trust $\eta_4$
- Commitment $\eta_3$
- Satisfaction $\eta_8$
- Involvement $\eta_7$
- Perceived risk $\eta_6$

Path coefficients:
- $\beta_{36} = 0.15$
- $\beta_{35} = 0.30$
- $\beta_{25} = 0.52$
- $\beta_{45} = 0.43$
- $\beta_{43} = 0.60$
- $\beta_{24} = 0.12$
- $\beta_{56} = 0.29$
- $\beta_{57} = 0.50$
- $\beta_{27} = 0.34$
In addition to drawing conclusions regarding the model and discussing the implications of the findings for theory and practice, this chapter identifies the limitations of the research, contributions of the research and discusses potential for future research. The limitations of the research relate to the difficulty in obtaining behavioural data and the level of missing data for behaviour. The contributions have implications for both theory and practice. They address the inclusion of all three domains in the research, scale development and a new application of brand loyalty; business-to-business services.

9.2 Conclusions about the model of brand loyalty

This program of research addressed all three research questions. This section will discuss each of the hypotheses in the proposed model, the unexpected findings, the comparison with the competing model and finally the three research questions.

9.2.1 Attitudinal brand loyalty and behavioural brand loyalty

The data analysis provides support for H₁, which predicted that attitudinal loyalty towards the preferred brand be positively associated with behavioural brand loyalty. This provides support for the importance of including attitudinal loyalty in a model of brand loyalty. While in recent times researchers have questioned the value of including attitudinal measures in brand loyalty research (Dekimpe, Steenkamp, Mellens and Abeele 1997; Ehrenberg 1997a), this research indicates that while attitudinal brand loyalty is not the strongest predictor of behavioural brand loyalty, it is an important predictor of behavioural brand loyalty.

The five cognitive/affective constructs have indirect effects on behavioural loyalty mediated by attitudinal brand loyalty. These are: commitment, trust, satisfaction, perceived risk and involvement. The effects of each will now be discussed commencing with trust and commitment.
9.2.2 Commitment and attitudinal brand loyalty

The relationship between the sales consultant and attitudinal brand loyalty is significant. Trust also mediates some of the effects of satisfaction and commitment mediates some of the effects of risk, involvement and satisfaction. It was expected that trust would influence commitment (Moorman, Zaltman and Deshpande 1992; Morgan and Hunt 1994) which in turn would influence attitudinal brand loyalty (Morgan and Hunt 1994; Gundlach, Achrol and Mentzer 1995). Thus H2, which predicted that commitment to the sales consultant will be positively associated with attitudinal loyalty towards the preferred brand was supported.

The mediating relationship of commitment between trust and attitudinal brand loyalty has implications for management of a sales force. The level of commitment a business has for the sales consultant of a brand affects their predisposition towards the brand and ultimately their purchase likelihood. Thus when developing strategies for the sales-force to increase brand loyalty, it is important to focus on increasing commitment levels.

9.2.3 Trust and attitudinal brand loyalty

While the effect of trust on attitudinal brand loyalty was mediated by commitment, a weak direct link was found between trust and attitudinal brand loyalty. This is not surprising given that trust is an antecedent of commitment and there has been no evidence in prior research of a relationship between trust and attitudinal brand loyalty (Morgan and Hunt 1994; Gundlach, Achrol and Mentzer 1995). However, if a person has high levels of trust in their sales consultant, it is likely that they will be attitudinally predisposed to the brand sold by that consultant. This is particularly the case in a service environment where there is little physical evidence of quality and the service-provider often conveys quality images (Ziethaml 1981).
9.2.4 Involvement and attitudinal brand loyalty

As expected, involvement has a direct relationship with attitudinal brand loyalty. The result supports H3, which predicted that involvement with the directory advertising will be positively associated with attitudinal loyalty towards the preferred brand. This result is particularly relevant to both services and business-to-business purchasing as these are both classified as high-involvement (Bloom 1981; Lovelock, Patterson and Walker 1998). Involvement also has an indirect effect on attitudinal brand loyalty, trust, and commitment that is mediated by satisfaction. The relationship between involvement and attitudinal brand loyalty is of moderate strength in the model and has the second greatest influence on attitudinal brand loyalty after satisfaction. This means that in cases of high product involvement there is increased likelihood for high attitudinal brand loyalty.

A recent study offers managerial implications for high and low levels of involvement and brand commitment (Warrington and Shim 2000). When there is high involvement and high brand commitment (a measure of attitudinal brand loyalty) then the consumer is “less concerned with functional product attributes and more influenced by sources of brand information and less price sensitive” (Warrington and Shim 2000, p766). Thus, the marketing program can be designed around these elements.

An additional implication of the relationship between involvement and attitudinal brand loyalty is that it is important to identify the involvement level buyers have with a product category. If it is high, then encouraging brand switching to your brand may be difficult as their attitudinal brand loyalty to their current brand is likely to be high. This increases the likelihood of keeping your current customers but increases the difficulty in attracting prospects. As satisfaction has a high impact on attitudinal brand loyalty, a marketing manager of a high-involvement product needs to be seeking prospects who are currently dissatisfied and have low trust with their existing provider in order to encourage brand trial and switching.
9.2.5 Perceived risk and attitudinal brand loyalty

An interesting finding was that risk did not directly affect attitudinal brand loyalty. This finding is inconsistent with previous research including Sheth and Venkatesan (1968) and Stone and Mason (1995) studies. H4, which predicted that perceived risk of the preferred brand will be positively associated with attitudinal loyalty towards the preferred brand was not supported by the data. A possible explanation for this is the importance of satisfaction and commitment in influencing attitudinal brand loyalty. Perhaps in the services and business settings, these constructs mediate the effects of risk due to importance of relational and emotional factors compared to goods.

Previous studies on risk and attitudinal brand loyalty may have measured indirect effects which appear as a direct effect in the absence of a mediating variable in the research (Roselius 1971; Stone and Mason 1995). Additionally, it may be that the scale needs further development. In terms of reliability, this construct performed the ‘poorest’ in comparison to the other constructs. While the scale was comparable with previous research there is scope for improvement.

Finally, a key piece of research which measured the relationship between risk and attitude investigated personal computers which is a durable item (Stone and Mason 1995), durables being lower risk than services. This would mean that for low-risk situations, satisfaction should be higher and so too would attitudinal brand loyalty. If a buyer perceives a brand to be high risk, such as a service, then their satisfaction levels are likely to be lower. This is then likely to reduce their attitudinal brand loyalty to that brand.

9.2.6 Satisfaction and attitudinal brand loyalty

Next, satisfaction has the strongest effect on attitudinal brand loyalty in this model. This may be due to a service’s reliance on post-purchase evaluation measures such as satisfaction to determine quality (Ziethaml 1981). Thus, H5, which predicts that an satisfaction with the preferred brand will be positively associated with attitudinal
loyalty to the preferred brand is supported. Satisfaction also has an indirect affect on attitudinal brand loyalty mediated by trust and commitment.

At this point it is important to consider the relevance of satisfaction as an affective variable. The strong influence of satisfaction on attitudinal brand loyalty indicates that emotion appears to play a very important role in the development of brand loyalty. When the effects are then compared with cognitive variables of perceived risk and involvement, it is clear that emotion plays a very important role. Satisfaction, as the key emotional antecedent, had the strongest impact on attitudinal brand loyalty when compared with perceived risk and involvement. It also played a mediating role on the effects of both cognitive constructs on attitudinal brand loyalty.

Involvement is a cognitive construct and as such contributes to the cognitive component of brand attitudes, which measure attitudinal brand loyalty. Emotions are also a component of attitudes. The emotional variables in this research that impact on attitudinal brand loyalty are trust, commitment and satisfaction. Thus it is expected that when the impact of the cognitive variables are low the impact of the emotional, or affective variables would be high.

9.2.7 Trust and commitment

The relationship between the two relational constructs, trust and commitment is the strongest in the model, thus supporting H6, which predicted that trust in the sales consultant will be positively associated with commitment to the sales consultant. High trust indicates a quality relationship and it was expected that businesses would be more committed to a high quality relationship (Moorman, Zaltman and Deshpande 1992).

The perceived quality of the relationship then in turn influences the level of commitment extended towards the service provider (Moorman, Zaltman and Deshpande 1992). If the sales consultant is perceived to be honest and reliable, then the outcome is a perception of high quality in the relationship. Conversely, if there is little trust in the sales consultant then the relationship may be perceived as
unsatisfactory and little commitment to the sales consultant is expected. When the perceived quality of the relationship is high then there is likely to be high levels of commitment to continuing the relationship. Hence, high levels of trust lead to high levels of commitment to the relationship (Moorman, Zaltman and Deshpande 1992; Morgan and Hunt 1994).

9.2.8 Involvement and satisfaction

Another path that was expected in the proposed model was the relationship between satisfaction and involvement. The results indicate a strong significant relationship thus supporting H7, which predicted that involvement with the directory advertising will be positively associated with satisfaction with the preferred brand. This provides support for the literature that indicates that highly involved purchasers spend time on the decision process and are thus more likely to be satisfied with the outcome (Oliver and Bearden 1983; Richins and Bloch 1991; Shaffer and Sherrell 1997). This was also supported by the multi-group analysis which found that when involvement levels were higher, they had a stronger impact on satisfaction. Perceived risk and involvement

Another path related to perceived risk that was not supported by the data was the relationship between perceived risk and involvement H8, which predicted that perceived risk of the preferred brand will be positively associated with involvement with directory advertising. This path was not supported by the data. Therefore, the level of perceived risk associated with the preferred brand does not affect the level of involvement with the product category. A possible explanation for this finding may be derived from the professional nature of the service studied. Lower levels of involvement are associated with professional services compared to non-professional services (McColl-Kennedy and Fetter 1999a). While professional services are high in credence qualities and thus riskier (McColl-Kennedy and Fetter 2001), this perceived risk does not translate into higher involvement levels (McColl-Kennedy and Fetter 1999a). This may be due to a sense of being overwhelmed and thus disengaging from the process (McColl-Kennedy and Fetter 1999a).
It is likely that the respondents in this sample felt overwhelmed when faced with their largest marketing expenditure in an area in which they have no expertise. Only 25% of small business operators in Australia have any form of business management training (Australian Bureau of Statistics 1999). Most of the respondents were classified as small business operators, therefore it would be reasonable to expect that their experience would be related to the nature of the business, e.g. plumbing or concrete construction rather than business management skills. Therefore it would be expected that these respondents did not have any comprehensive knowledge of marketing and advertising. Even if they perceived the purchase to be risky, they are less likely to become involved. Further research is required in this area.

9.2.9 Perceived risk and satisfaction

Another characteristic of both services and business-to-business in addition to high involvement is a high level of perceived risk (Gordon, Calantone and di Benedetto 1993; Lovelock, Patterson and Walker 1998). The results here support H9, which predicted that *perceived risk of the preferred brand will be negatively associated with satisfaction with the preferred brand.* This path indicates that there is a negative relationship between risk and satisfaction, thus showing the importance of risk in affecting attitudinal brand loyalty (albeit indirectly). Satisfaction has the greatest impact on attitudinal brand loyalty. Therefore, if satisfaction is low in high perceived risk situations, then attitudinal brand loyalty is likely to also be affected.

As perceived risk tends to be higher for services than for durables (Ziethaml 1981), it is important that marketing managers reduce the perceived risk of their brand. This assists them in increasing the satisfaction levels of customers and thus retain their attitudinal brand loyalty. Conversely, if marketing managers are aiming at increasing brand switching, they need to increase the perceived risk of staying with those brands.
9.2.10 Perceived risk and commitment

It was expected that perceived risk would only affect commitment indirectly, being mediated by satisfaction and trust. While the indirect effects were supported by the findings, based on prior studies, a direct relationship between perceived risk and commitment to the sales consultant was not anticipated in the proposed model. This direct relationship between risk and commitment highlights the importance of commitment in a high perceived risk context such as services. Moreover, this finding contrasts with the business-to-business literature that indicates that trust as the key antecedent of commitment tends to mediate the affects of other constructs such as satisfaction and risk (Ganesan 1994).

9.2.11 Satisfaction and commitment

Satisfaction directly affects commitment to the sales consultant. Although this relationship is not as strong as the relationship between satisfaction and trust, it is nonetheless significant. This indicates that while satisfaction does directly affect commitment, it also indirectly affects commitment through the mediation of trust. Thus H10, which predicted that satisfaction with the preferred brand will be positively associated with commitment to the sales consultant is supported. This finding is consistent with previous research looking at the relationship between trust, commitment and satisfaction (Gabarino and Johnson 1999) which found that the relationship between satisfaction and trust was stronger than that between satisfaction and commitment.

The data suggests that trust mediates the effect of satisfaction on commitment. However, the path between satisfaction and trust was not significantly different. Therefore, trust does not mediate as much of the impact of satisfaction on commitment under lower involvement conditions.

9.2.12 Satisfaction and trust

Finally, it was demonstrated that satisfaction is the antecedent of trust with a significant and strong relationship. Increased levels of satisfaction resulted in
increased levels of trust with the sales consultant. This supports $H_{11}$, which predicted *satisfaction with the preferred brand will be positively associated with trust of the sales consultant*. This finding is consistent with the marketing literature that states that an unsatisfactory experience leads to a negative perception of the sales consultant (Ganesan 1994; Selnes 1995).

Based on the data analysis, satisfaction appears to be a key construct in determining attitudinal and behavioural brand loyalty. Satisfaction has previously been linked to attitudinal brand loyalty but this study is one of the first to identify its relationship to behavioural brand loyalty (East and Hammond 1999). Satisfied businesses are more likely to be predisposed to that brand and are thus more likely to purchase the brand in the next purchasing cycle.

Marketing efforts aimed at increasing satisfaction levels should result in increased levels of trust and commitment towards the sales consultant and increased attitudinal brand loyalty. Therefore business service organisations need to be carefully monitoring their customer satisfaction levels and in particular the relationship between the sales consultant and the customer.

The level of involvement is also an important factor through its direct effect on attitudinal brand loyalty and its indirect effect through satisfaction. High levels of involvement are likely to lead to high levels of satisfaction with the experience. While risk appears to have no direct relationship with attitudinal or behavioural brand loyalty, it nonetheless contributes through its direct relationship with satisfaction and commitment. The higher the perceived risk the lower the satisfaction levels of the brand and the higher the commitment to the sales consultant.

**9.2.13 Reflections on the competing model**

The results outlined in chapter eight indicate that the revised model has a better fit to the sample data than the competing model, at least in terms of overall fit to the data. Furthermore, all of the paths in the revised model were significant, whereas five of
the paths in the competing model were non-significant. This result provides more evidence to support the revised model. In addition, the only significant direct effect on behavioural brand loyalty in the either of the models is the path from attitudinal brand loyalty. This finding tends to support the view that attitudinal brand loyalty mediates the impact of the other antecedents on behavioural brand loyalty. Also note that this interpretation is consistent with the conceptual framework developed by Dick and Basu (1994).

However, presenting and testing the competing model has several potential benefits. Firstly, testing the competing model provides for a stronger test of the revised model. Simply demonstrating that the revised model has good fit to the sample data is insufficient. Any conclusions drawn about the revised model are greatly strengthened through the explicit comparison with the competing model. Secondly, the competing model relaxes the strict assumption about the mediating role of attitudinal brand loyalty. By allowing direct effects from the other antecedents to behavioural brand loyalty, the competing model implies a quite different explanation for the patterns in the data.

Though not supported in this study, it is possible that the other antecedents have direct effects on behavioural brand loyalty. For instance, the context may moderate the extent to which direct effects from the other antecedent constructs are observed. This is an important avenue for further research and highlights a third potential benefit of testing the competing model. That is, specifying models that have different patterns of construct inter-relationships has the potential to reveal new insights; insights that may extend marketing theory and practice.

In addition to the competing model presented in chapter eight, two additional rival models were tested (but not reported). These rival models were based on the revised model and the competing model. A key attribute of these models, however, was that the link between attitudinal and behavioural brand loyalty was represented as a correlation, rather than a direct path. This change has important, substantive implications. It implies that attitudinal and behavioural brand loyalty are highly related concepts, but are not related in a dependence or “causal” relationship. It
seemed reasonable to model attitudinal brand loyalty as a predictor of behavioural brand loyalty. From a conceptual perspective, it was thought that consumer attitudes would influence their subsequent behaviour. From a measurement perspective, the data for attitudinal brand loyalty was captured before the data for the behavioural measure. This research design is clearly biased towards the conceptual framework introduced in this thesis.

Testing rival model formulations that specified the link between attitudinal and behavioural brand loyalty as a correlation, rather than a dependence relationship, produced some interesting results. The reformulated revised model produced poor fit to the sample data and was rejected. However, the reformulated competing model produced equivalent fit statistics (to the competing model). Because the competing model and reformulated competing model have the same antecedents, they are in fact “equivalent” models (Kelloway 1998). Thus, it is impossible to differentiate between the competing model with a direct path from attitudinal brand loyalty to behavioural brand loyalty, and one with a correlation between these constructs. The models can only be differentiated on the basis of logic.

Thus, in reflecting upon the competing model (and the further series of rival models) several important conclusions can be drawn. Estimating the competing model provided a stronger test of the revised model, than if no such comparison had been made explicit.Specifying a competing model also forces the researcher to think about other potential explanations for the patterns in the data, as well as identifying opportunities for further research. Finally, in the use of correlational techniques, like multiple regression and structural equation modelling, it is the researcher’s logic, their reading of the literature and past research which determines the extent to which conclusions can be drawn about the “causal” ordering of variables. The empirical evidence can be used to support these conclusions, but other rival explanations cannot be ruled out entirely.
9.2.14 Research questions summary

As expected, there was one direct antecedent of behavioural brand loyalty, attitudinal brand loyalty. This demonstrates the importance of the role of attitudinal brand loyalty in developing behavioural brand loyalty for business services.

In summary, the three research questions have been addressed through this integrated program of research. Specifically the first research question investigated the relationship between attitudinal brand loyalty and behavioural brand loyalty. This research question was addressed by testing hypothesis 1. Attitudinal brand loyalty has the strongest direct effect on behavioural brand loyalty and mediates the influence of cognitive and affective constructs on behavioural brand loyalty.

The second research question was concerned with identifying the antecedents of brand loyalty. It was addressed by hypotheses 3 to 11. It has been demonstrated that attitudinal brand loyalty plays a crucial role in mediating the effects of cognitive and affective antecedents on behavioural brand loyalty.

The third and final research question investigated the role of relational constructs in influencing attitudinal brand loyalty. This research question was addressed through hypothesis 2. The relationship between the sales consultant, operationalised as trust and commitment, and attitudinal brand loyalty is significant with the relationship mediating the effects of satisfaction and risk on attitudinal brand loyalty.

The initial model proposed five potential antecedents of brand loyalty in the business service context. The data analysis suggests that trust, commitment, satisfaction, perceived risk, and involvement are direct and indirect antecedents of consumer loyalty. The final model explicitly confirmed nine of the eleven paths and investigated two previously unmentioned relationships. The research findings emphasise the importance of satisfaction, involvement, commitment, and trust as key antecedents of attitudinal brand loyalty. The findings also support the proposed relationship between behavioural brand loyalty and attitudinal brand loyalty with
attitude as the key antecedent of behaviour in the business-to-business services setting. The implications of these findings are discussed in the next two sections.

9.3 Contributions of the research

This research makes several identifiable contributions to both marketing theory and practice in the field of brand management. These are that the study combines attitudinal and behavioural components of brand loyalty and it examines this relationship over time (longitudinal design). This thesis studies the impact of three classes of antecedents, and the business services context is an under-researched area for brand loyalty. This thesis offers a practical contribution as a diagnostic tool for marketing managers to monitor the brand loyalty level of its customers. It offers suggestions for promotional campaigns to increase brand loyalty and it outlines the issues for sales force management. Finally the implications for theory and practice, and research directions offer contributions to the field.

9.3.1 Combined attitudinal and behavioural study

This paper offers an empirically tested model of brand loyalty which includes measurement of both attitudinal brand loyalty and behavioural brand loyalty. There are several studies that have either recommended brand loyalty research should include both attitudinal and behavioural measures of brand loyalty (Mellens, Dekimpe and Steenkamp 1996) or have used both (Baldinger and Rubinson 1996). However the Mellens et al (1996) is a conceptual paper whose suggestions of operationalising brand loyalty had not been tested. The Baldinger and Rubinson (1996) research uses proprietary methods and therefore is not replicable. Therefore this thesis contributes to the knowledge of measurement of brand loyalty constructs, thus encouraging replication and further development of the construct.

There are few studies of brand loyalty in the services sector that extend beyond attitudinal brand loyalty measures of commitment and intention and incorporate behavioural measures (Traylor 1981; Patterson, Johnson and Spreng 1997). It is important to measure both attitudinal and behavioural aspects of loyalty in any
context, be they services or physical products due to the potential discrepancies between attitude and behaviour. Even when there is significant predictive power between attitudes and behaviour it is not high (Kraus 1995; Sharp, Sharp and Wright 1999) and thus it is dangerous to base theory on a construct that may not have high levels of explanatory power on behaviour.

The inclusion of both attitudinal and behavioural measures contributes to attitude-behaviour relationship debate. The results indicate that in a business service brand loyalty context, attitudes lead to behaviour. This means that brand loyalty in this setting involves decision-making rather than habitual behaviour.

9.3.2 Longitudinal design

A criticism made of brand loyalty research is that it has a narrow focus. Research has been dominated by collecting attitudinal brand loyalty data (see Jacoby 1971; Ajzen and Fishbein 1980; Westbrook and Oliver 1981) or behavioural brand loyalty data (see Cunningham 1956; Bass 1974; Ehrenberg and Goodhardt 2000). One of the reasons for the narrow focus is the logistical difficulty in matching attitudinal data with archival behavioural data. Another is that time and cost considerations impact on the research design, one study that used a behavioural approach stated that "behavioral measures are easier and less costly to collect" (Dekimpe Steenkamp, Mellens and Abeele 1997, p406. However this is recognised as a limitation of the study with the recommendation that it would be preferable to also have attitudinal measures. Thus this study contributes by combining both approaches.

This study uses a longitudinal design to examine the relationship between attitudinal and behavioural brand loyalty. A key reason for this design is that it establishes temporal antecedence of attitudinal brand loyalty. This relationship is an important issue in the attitude-behaviour debate that has concerned researchers in the area of consumer behaviour. The temporal ordering of attitudinal and behavioural brand loyalty has generated substantial debate in the marketing literature. Temporal antecedence has been proposed for attitudinal brand loyalty by cognitive researchers (see Dick and Basu 1994; Baldinger and Rubinson 1996) and behavioural brand
loyalty by behavioural researchers (Olshavsky and Granbois 1979; Ehrenberg 1988). The longitudinal design of this study allows the temporal antecedence of attitudinal brand loyalty to be tested empirically. The results show support for this.

9.3.3 Three classes of antecedents

This is one of the first systematic studies of direct and indirect antecedents of behavioural brand loyalty. These antecedents are classified as behavioural, relational and cognitive/affective factors. There have been many empirical studies that have identified the relationships between these antecedents (Miniard, Bhatla and Rose 1990; Ganesan 1994; Stone and Mason 1995; Patterson, Johnson and Spreng 1997; Shaffer and Sherrrell 1997). However, it appears that no previous study has combined these relationships into a comprehensive model of brand loyalty. Therefore, this thesis offers an eclectic view of brand loyalty by incorporating behavioural, relational and cognitive/affective factors. This three-domain approach to brand loyalty builds on the two-dimensional approach to brand loyalty of cognitive and behavioural aspects that is dominant (Day 1969).

9.3.4 Business services context

In addition, this research is also the first known study of brand loyalty in the business-to-business sector. There is an emerging interest amongst business-to-business researchers of brand loyalty. Relationship marketing has been the dominant ‘loyalty’ construct studied in business marketing with little emphasis placed on brand loyalty. However with the billions of dollars that are spent on brands in the business sector each year by companies such as Hewlett Packard, 3M, Yellow Pages and Canon, it makes substantive sense to investigate this area. The areas of branding that have been studied to date are brand equity (Gordon, Calantone and di Benedetto, 1993; Hutton 1997), brand awareness and preference (Yoon and Kijewski 1995), with none studying attitudinal brand loyalty and behavioural brand loyalty.

An additional contribution this research makes is the expansion of the brand loyalty concept from business-to-business durables and consumables to services. The
above-mentioned studies investigate brand-related concepts using business durables such as PCs, manufacturing components copiers and fax machines and consumables such as floppy disks (Hutton 1997; Yoon and Kijewski 1995). This research program investigates business service which due to their intangible nature has different implications for brand loyalty.

As mentioned earlier, the concept of relationship marketing is important when studying business-to-business purchasing. The two key constructs in operationalising relationship marketing are; trust and commitment (Ganesan 1994; Morgan and Hunt 1994) and these were included in this research. The theoretical contribution this program of research makes concerns the relationship between these constructs and brand loyalty. The findings indicate that while trust has a direct relationship with attitudinal brand loyalty, commitment does not. The practical contribution that this makes is illustrated if businesses seek to increase the level of attitudinal brand loyalty through relationship marketing, they should concentrate on developing trust of their sales consultant.

9.3.5 Contributions to theory and practice

The thesis has expanded the body of knowledge on brand loyalty by taking it into the previously untested sector of business services and developed scales accordingly. It also has implications for the consumer sector in that it tests both attitudinal brand loyalty and behavioural brand loyalty and offers methods of operationalisation which can be tested in a consumer setting. The conceptual model of operationalisation of brand loyalty proposed that brand loyalty measures need to be adapted for each product/market segment.

When researching scales for measuring the constructs in the proposed model, it became evident that the constructs of involvement and attitudinal brand loyalty had not been tested in a business context previously, thus consumer scales were used and adapted. The result was modified scales that have high validity and reliability for a business context. In particular, the development of the attitudinal brand loyalty
scale involved comparing results for a brand trait scale against a brand-specific scale indicating that attitudinal brand loyalty was not a personality trait.

The construct of involvement contained items that were both affective and cognitive in nature. However, as a result of the congeneric single factor model process, the items that were eliminated to increase the fit of the model were the affective ones. The remaining items were cognitive in nature thus indicating that in this context, involvement is a cognitive construct. This implies that the underlying needs and motives are utilitarian in nature (McGuire 1976). This has implications for the items used to measure involvement in a business setting in that ‘thinking’ type items should be used compared to a consumer situation where some degree of pleasure and emotion may be involved and affective items may be more applicable.

The final model has direct relevance for marketing management of business brands. The identification of the indirect and direct effects on brand loyalty assists practitioners in identifying the areas to modify in order to alter attitudinal and behavioural brand loyalty levels. For instance, the final model demonstrates that satisfaction has the highest impact on the development of attitudinal brand loyalty. Thus if a business wishes to increase its attitudinal brand loyalty levels, it should initially direct its efforts towards increasing satisfaction levels. This is particularly helpful where there are limited resources and priorities need to be established.

9.4 Implications for marketing theory and practice

These contributions have important implications for marketing theory. There are four areas of marketing theory that have been extended by this research: brand loyalty, relationship marketing, involvement theory, and emotions. Marketing practice can be enhanced through the establishment of a diagnostic tool for brand loyalty; suggestions for sales force management and recommendations for differentiated promotional campaigns. Each of these will now be discussed.
9.4.1 Brand loyalty

Brand loyalty is a key area in marketing research. However there has been considerable debate regarding the most appropriate measurement of the construct (see Jacoby 1971; Tarpey 1974; Baldinger and Rubinson 1996; Ehrenberg 1997) thus limiting the research to definitional issues. Whilst it is critical to establish this, the continued debate reduces further research on higher level issues. By establishing that attitudinal and behavioural measures can be combined in a longitudinal study, a foundation is established for research into other brand loyalty issues. Marketing theory in this area can now go beyond concepts and definitional issues and explore the world of experience that it purports to measure (see Bagozzi 1980, p115 for relationship between concepts, terms and objects). Additionally, the research into brand loyalty can be extended to other levels of abstraction of loyalty.

Loyalty towards the brand is at a low level of abstraction. While this means the results are specific and relevant to the sample it also reduces the generalisation of the results (Dowling 1986). Loyalty as a personality trait is at a high level of abstraction, however this research demonstrated little association between this and behaviour. Other levels of abstraction are loyalty to the organisation and loyalty to the individual service-provider. By establishing the dual dimensions of attitudinal and behavioural loyalty for one of these levels of abstraction, it opens the way for testing it for the other levels.

9.4.2 Relationship marketing

A key outcome of relationship marketing is cooperation (Morgan and Hunt 1994). The notion that where cooperation exists the relationship between a buyer and a seller will be mutually beneficial, is relatively new. However, in an era of increasing competition, effective relationships where buyers and sellers cooperate can successfully increase the competitive advantage of a firm.

Relationship marketing has been operationalised by the constructs of trust and commitment, the two key characteristics of effective cooperation, and has
traditionally focused on the relationship between the buyer and seller (Morgan and Hunt 1994). In some instances its antecedents have been identified (Gabarino and Johnson 1999), however little emphasis has been given to the outcomes of relationship marketing.

In the business-to-business literature, relationship marketing appears to be used as a proxy for brand loyalty where developing long-term relationships is a key objective to ensuring organisational success (Doney and Cannon 1997). This study has extended the relationship marketing field by demonstrating that it is an antecedent to brand loyalty. Rather than viewing relationship marketing as an outcome in itself, this study views an effective relationship as a necessary antecedent for a business service to develop brand loyalty.

9.4.3 Involvement theory

The involvement construct has also generated significant debate in the literature. The mainstream view is that it is a multidimensional construct that has several key dimensions (Kapferer and Laurent 1985; Zaichowsky 1985; Bloch 1988). The Zaichowsky PII scale was used in this study on the basis of higher levels of validity from previous tests (Goldsmith and Emmert 1991; Bearden, Netemeyer and Mobley 1993). This scale has two dimensions called ‘interest’ and ‘importance’. However, unidimensionality has been posed as a critical issue for establishing construct validity (Anderson and Gerbing 1988), which creates a potential problem using a multidimensional scale.

Compounding this problem is which dimension should be used to reflect the involvement construct? The issue of whether involvement is a cognitive or an emotional construct has been identified as an area for further research in the literature (Day, Stafford and Camancho 1995). Interest reflects the emotional aspect of involvement which is likely to be higher for products that have hedonistic appeal such as make-up, sport and movies. Importance appears to reflect a cognitive aspect of involvement which is likely to be higher for products that are utilitarian in nature.
This was supported by the results of the congeneric single factor model of involvement which identified that the cognitive items reflecting importance were the most appropriate measures of involvement for this study. The ‘interest’ items included emotion-laden words such as ‘excitement’, ‘fascination’ and ‘appeal’. The ‘importance’ dimension reflected cognitive words such as ‘relevant’, ‘meaning’ and ‘value’.

The implications this has for involvement theory is that the construct may well be either cognitive or emotional, depending on the purpose of the product. In the situation of a business service such as advertising, it is unlikely that respondents will feel any hedonistic appeal and purchase the product due to its relevance for their business. However if the business was purchasing a catering service, then the emotional items may better reflect the involvement with the product.

9.4.4 Emotions

The strong influence of the emotional variable of satisfaction is an interesting finding, as the literature on business-to-business purchasing emphasises the rational or cognitive processes as a distinguishing factor from consumer purchasing (Morris 1992).

This raises two questions: is there really such a difference between consumer and business transactions; and second, is this attribute specific to services? It may well be that business durables conform to the existing view of business-to-business purchasing as being different to consumer, with business and consumer services having more in common. This is supportive of the view proposed by Fern and Brown (1984) and Hutton (1997) that business and consumer markets are not mutually exclusive categories.

Additionally, it introduces the notion that the contribution of emotional factors on attitude formation for experienced product users is important. Recently there has been research into the interplay of cognition and emotion in consumer behaviour
(Elliott 1998; Kim, Lim and Bhargava 1998; Shiv and Fedorikhin 1999). The theme being introduced is that emotion can dominate product choice and decision-making in various conditions. Varying levels of motivation, perceived risk and exposure to the product can influence this.

This research demonstrates that in situations with high levels of involvement and high experience with the product, emotions play a key role in attitude formation. This extends the emerging emotions literature in marketing and offers areas for further investigation.

9.4.5 Diagnostic tool

The model developed in this research provides a diagnostic tool for managers to identify current areas of weakness or strength in the antecedents of brand loyalty. Modifications to the marketing mix can then be made to either reinforce the strengths or correct the weaknesses. The antecedent of satisfaction rather than the relational constructs was the most critical for brand loyalty. According to this program of research, satisfaction is a key construct in the development of brand loyalty for business services. It mediates the effects of risk and involvement on attitudinal brand loyalty and directly affects trust and commitment. Thus, a business that aims to increase its attitudinal brand loyalty levels should concentrate initially on increasing satisfaction.

Involvement is also a very important factor in understanding brand loyalty as it has strong direct effects on both satisfaction and attitudinal brand loyalty. This means that businesses that wish to modify attitudinal brand loyalty levels need to understand the level of involvement their customer has with the product category. As a cognitive variable, when involvement is low there is little cognitive decision-making occurring. This places more emphasis on the affective variables rather than the cognitive in their impact on attitudinal brand loyalty.

Each respondent can then be segmented according to their attitudinal and behavioural brand loyalty scores. The scores for each respondent can be classified as
high, medium or low and then placed into a three x three matrix with attitudinal scores on one axis and behavioural on the other. Respondents who have low attitudinal and behavioural loyalty are classified as ‘not loyal’ (Baldinger and Rubinson 1996). Those with higher attitudinal scores than behavioural are classified as ‘prospects’ and those with higher behavioural scores than attitudinal are classified as ‘vulnerables’ (Baldinger and Rubinson 1996). Finally, those with high levels of attitudinal and behavioural loyalty are classified as ‘true loyals’ (Baldinger and Rubinson 1996).

Different marketing strategies can then be pursued for each segment. A reward and protection strategy would be pursued for the true loyals. This is the group most likely to be an advocate for your brand and engage in positive word of mouth. They are also more likely to purchase from you in the future. The vulnerables need a retention strategy, while they currently purchase from you (moderate to high behavioural loyalty), their low attitudinal loyalty means they are more exposed to a competitor’s offer. The key objective with this segment is to increase their attitudinal loyalty levels to reduce their exposure to counterpersuasion. The third segment is the prospects. This group are attitudinally predisposed to your brand however, do not currently purchase, or purchase infrequently. The reasons behind this need to be ascertained before a marketing strategy of acquisition can be undertaken. For instance, if the target brand is BMW, there are many people who are attitudinally predisposed to BMW however lack the financial means to purchase. Thus it may not be profitable to target these people in order to achieve behavioural brand loyalty.

Finally, the segment of no loyalty can be targeted. Again, the reasons behind their lack of loyalty needs to be examined before a marketing strategy is engaged. It may be that the target brand does not meet their need or situational factors such as pricing and availability may preclude its purchase. This segment is likely to be more resource intensive in order to gain new customers.

9.4.6 Promotional Campaigns
This research has highlighted the role of involvement for the ordering of attitude and behaviour. The involvement levels were found to be high and it was thus not surprising that attitude was found to precede behaviour (as hypothesised). Involvement was also found to be a cognitive construct in this research. When a cognitive approach to decision-making is engaged this is called the central processing route, “attitude changes induced via the central route are postulated to be relatively enduring and predictive of behavior” (Petty, Cacioppo and Schumann 1983, p135). Alternatively if there are lower levels of involvement, then the peripheral processing route is engaged which utilises emotion rather than cognition (Petty Cacioppo and Schumann 1983; Shiv and Fedorikhin 1999). The lower level of involvement is also likely to result in behaviour preceding attitude, as is postulated for many of the FMCGs which are typically low involvement products bought out of habit (East 1997; Ehrenberg 1988).

Therefore, if marketing managers know the level of involvement with their product category then they are able to design their promotional campaigns to increase brand loyalty accordingly. If the central processing route is used by purchasers, then attitude is likely to precede behaviour. This means that advertising campaigns should focus on the information aspect of the product to stimulate cognition. There should also be less emphasis on the emotional aspects such as celebrity status of the product endorsement or the likeability of the advertisement (Petty Cacioppo and Schumann 1983).

If the level of involvement is low, the peripheral route is more likely to be used (Shiv and Fedorikhin 1999). This means that by increasing the likeability levels and using celebrity endorsers, the content of the advertisement should stimulate the emotions (Petty, Cacioppo and Schumann 1983).

The use of sales promotions can also be an effective promotional tool if used correctly. If behaviour precedes attitude, then a primary promotional objective is to stimulate trial rather than an attitudinal predisposition. However, it is important that after the product has been purchased (behavioural brand loyalty), that attitudinal brand loyalty levels are stimulated, possibly through advertising. This is due to the
inability of sales promotions on their own to stimulate long-term sales (Ehrenberg, Hammond and Goodhardt 1994).

9.4.7 Sales Force Management

This research offers practical suggestions for the management of a sales force. In many service industries, it is the sales force that delivers the service and is the ‘public face’ of the organisation. Therefore the relationship that is developed between the customer and the service-provider is crucial.

Again, the model can be a diagnostic tool to assess the role of the sales consultant in generating brand loyalty. If a business has identified low trust and commitment levels, then the remedy may be to examine the sales practices of the organisation. These include; reward and remuneration, territory management, and recruitment of sales consultants.

Many sales-driven organisations reward their sales consultants on a commission basis dependent on the order taken or services sold. This can be very short-term focused with the sales consultant only looking to ‘the next sale’ rather than looking at the long-term needs of the customer. This short-term focus on immediate sales is also compounded if the territories are reassigned each year with sales consultants receiving different customers. There is no incentive to nurture a relationship because someone else will reap the benefit.

Therefore, issues such as territory management need to be examined. For example, if it is the practice of the organisation to change the territory or customers a sales consultant is assigned each year, this then reduces the likelihood of a relationship developing over time. As this relationship is important to brand loyalty, constant changing of a sales consultant may also reduce the brand loyalty levels of the customer.
If the organisation wishes to engage in the long-term development of a relationship with the customer, this influences the type of person recruited to be a sales consultant. Instead of a ‘hard hitting, take no prisoners’ approach, the sales consultant hired needs to be able to balance the immediate need for sales against meeting the needs of the customer which may involve a long-term approach.

In summary, there are three key implications of the contributions for marketing practice. The first is the diagnostic ability of the revised model. Second is the role of satisfaction in influencing loyalty in a business-to-business services context and third is the importance of involvement.

9.5 Limitations and research directions

This research provides some new insights into the antecedents of brand loyalty in a business-to-business setting. However these findings should be viewed in light of some limitations. The nine limitations addressed in this section relate mainly to the methodology of data collection. The limitations for each will be discussed and suggestions for overcoming the limitation proposed. These limitations, however, should be balanced against the advantages of a longitudinal design and the difficulty in collecting archival data.

9.5.1 Sampling method

Quotas were sought from three brands in order to ensure that each brand was represented appropriately (Zikmund 1985). This resulted in a sample dominated by the market leader. Therefore, the first limitation is the potential for limited variation due to a ‘main brand’ effect. If there had been more businesses which preferred the other two brands, the results may have been different. In order to overcome this problem in any future research, surveys could be sent to equal numbers for each brand rather than a quota system based on market share. Alternatively, the sample could include enough surveys from each brand allowing the relevant analysis to be carried out on each brand. A suggested minimum sample size of 200 is required for structural equation modelling analysis to be performed. But as there were less than
200 for each of the two remaining brands, analysis on these brands could not be done.

9.5.2 Reported data

In addition there were some differences between the identified preferred brand and the preferred brand nominated and the archival record. The surveys were sent to buyers of each brand to obtain the quotas. The buyers of each brand were identified from previous expenditure records. The source of this information for the market leader was company data and proved to be highly accurate. However, for the other two brands, the data was derived by manually matching the advertisements for each business as listed in the directories with the published price for that size advertisement. The identification number at the bottom of each survey contained a system of identifying the data set from which the respondent was sourced. A potential problem arose when businesses identified through the matching process as advertising only in the two smaller brands, and not the market leader, indicated a preference for the market leader in their responses.

There are two possible explanations for this difference. The advertisers in the smaller brands preferred the market leader brand however do not advertise in the market leader brand. Or, the matching process that identifies those businesses, which advertise in both the competitive and market leader brand is inaccurate. Further investigation revealed that of the 73 non-market leader advertisers sourced from the second largest brand 31 indicated that they advertised in the market leader exclusively with a further 29 indicating they spent in both market leader and the second brand. Of the 21 advertisers sourced from the smallest brand all indicated that they advertised in the market leader brand with 9 stating they did not advertise in the smallest brand at all. These results support the second explanation for the inconsistencies. There is inaccuracy in the matching process of data from the competitive directories with the market leader database.

9.5.3 Missing data
The third limitation which arises from of the mismatched data is the high level of missing data for the behavioural brand loyalty construct. It was difficult matching the survey data with expenditure records, particularly when it was assumed that a business did not have any expenditure with the market leader. Many of the respondents indicated that they did indeed prefer the market leader (preference being based on expenditure), however, there was no identified expenditure from archival records. A possible explanation for this could be that the person answering the survey had more than one business. While the business identified for the research was not advertised in the market leader brand the other was. To overcome this, the survey could contain an introductory paragraph that states the survey is to be completed for one business only, and then capture that business name. A question at the end of the survey could ask the respondent to record any other business names they have.

9.5.4 Data collection method

Next a mail-survey approach was used to collect the data as this allowed the respondent to provide the information at a time convenient to the business. A phone survey was considered, however as the length of the survey would require 15 to 20 minutes to complete, many business owners would not be prepared to commit this amount of time out of their work day. While the benefits of the mail survey approach remove bias related to the interviewer such as errors from the respondent it also introduces other problems (Neuman 1997). If further clarification is required of respondents, surveys are not able to facilitate this (De Vaus 1995). A survey is static in that it is set at one point in time and it cannot explain ambiguities or unclear questions (Dillman 1978). This may lead respondents to provide an incorrect response or to leave the question incomplete, thus increasing the level of missing data. Contamination can also occur when a respondent seeks assistance from another person in interpreting or responding to the survey (Dillman 1978). A method of overcoming this limitation is to keep the survey simple and clear. The inclusion of instructions and examples may assist the respondent. Alternatively, another method of collecting the survey may be used such as phone or intercept, however these introduce interviewer bias as a limitation.
9.5.5 Respondent bias

The fifth limitation, one that is related to the data collection method of surveys, is respondent bias. The use of a single informant on behalf of the business reduces the reliability of their responses. A method for overcoming this would be to survey several people in the business and triangulate their responses. However, given the small business nature of the sample, there is usually only one person who is able to respond to the survey, the sole owner or the person solely responsible for the brand choice. This bias can be overcome by issuing the survey longitudinally over time to the same respondents. The time limits of this research, however, did not allow this. Related to this limitation is the cross-sectional nature of the data collection of the cognitive and affective constructs.

9.5.6 Agreement bias

Another limitation relates to the unidimensionality of the survey items. Perceived risk, satisfaction, trust and commitment used Likert scale items without reverse scoring, as recommended by Herche and Engelland (1996). A criticism of not reversing items is that it introduces agreement bias with respondents selecting the same score for all items. However, as discussed in the methodology chapter, agreement bias is not as great a problem as lack of unidimensionality. Therefore the trade-off between the two biases was made.

To overcome the possibility of agreement bias, items of the same construct were interspersed with items from another construct, thus questions of a similar nature were separated. An example of this was the mixture of trust and commitment items. Another method is to use different scale types such as the Likert scale and the semantic differential. However, too much variation amongst the scale types increases the difficulty of the survey by requiring respondents to think about their responses in a different way. The respondents in this survey appeared to have more difficulty completing the risk items as different scales were used for that construct. A related issue is the item reduction or purification technique. All of these constructs had items removed because of redundancy. Satisfaction lost one of six items,
commitment lost three of seven items and attitudinal brand loyalty lost four of nine items. The involvement construct had four of its eight items eliminated, however the items deleted appeared to be emotional or affective in nature thus leaving the cognitive items to represent the construct. Reducing the number of items preserved the unidimensional nature of the constructs. In some instances the number of items retained was less than initially anticipated. However, it should be recognised that structural equation modelling provides a strong test of item and construct reliability and validity (Hair Anderson, Tatham and Black 1998).

9.5.7 Response rate

The seventh limitation was the response rate of 20%. This is a low response rate which can raise issues relating to non-response bias. However, it is typical behaviour of a business sample to non-respond (Baldauf, Reisinger and Moncrief 1999). The response rate was initially 15%, this was then increased to 20% through a follow-up phone call to gain commitment to participate. No pressure was applied to respondents as this may have increased the likelihood of falsifying responses merely to satisfy their commitment to return the survey. The survey was designed to increase response rates and thus gain an acceptable rate for business research. The impact of the response rate was a smaller usable sample size than expected.

To overcome this limitation in future business research, and increase the response rate, an initial phone call to gain participation agreement should be made. Once a sufficiently sized sample has been identified, surveys can then be issued. Perhaps an incentive for respondents, such as winning an item of value, could be added to increase response rates. Finally a reminder phone call to non-respondents could be made (respondents would be advised in the covering letter that they will receive a follow-up phone call if the survey is not received). This method would increase the costs of conducting the survey although it should yield higher participation.

9.5.8 Research context
The context provides the eighth limitation of this study. The most competitive area in Australia for the purchasing of directory advertising is the Gold Coast. However the selection of a single region for the sample precludes generalisability to other regions. The limitation of a single product type (directory advertising) was the reason that the Gold Coast region was chosen as this is the area where there is the greatest competition for this product category. Competition is a necessary prerequisite for brand loyalty to occur. Without viable alternative brands, there is no choice and therefore no brand loyalty. To overcome this limitation and allow generalisability to a larger population, the sample could be drawn from a national database with surveys for a range of different service types, as suggested in the recommendation for limitation seven.

9.5.9 Single product study

Related to the research context was the study of a single product. Using a single product, such as directory advertising limits, the results to this product category are an example of a business service rather than a representation. To overcome this limitation, several product types could be selected with respondents randomly selected to receive a survey on a particular product. For instance, the business services of accountancy, management consultancy, directory advertising and recruitment agency could be selected. Respondents would be randomly assigned one of the services to respond to. The data could then be analysed to identify any differences between the service types.

Despite the limitations raised, this research makes a valuable contribution to marketing theory and practice. A number of limitations discussed here provide opportunities for further research, such as extending the context of the research to include multiple cities with different business types and different types of services.

9.5.10 Further research

Other research contexts
Given that this research was concentrated in the business services sector, there are opportunities to further test the model in other sectors. These sectors are business durables, business consumables, FMCGs, consumer services and consumer durables. Such a study would either increase the generalisability of the model if the evidence is supportive or provide alternative models for these sectors.

If the model does not ‘hold’ well for other segments then different models of brand loyalty, and its antecedents, should be developed. It may be that in the area of FMCGs, behavioural loyalty precedes attitudinal brand loyalty as proposed by behavioural researchers (Ehrenberg 1988; Olshavsky and Granbois 1979). The study could also be conducted using multiple service products in multiple cities thus increasing the generalisability of the findings. A cross-cultural study could also be conducted to identify differences in paths due to cultural effects.

**Consumer and business markets: a false dichotomy?**

The research has demonstrated the applicability of brand loyalty, a consumer construct, for the business-to-business sector. Perhaps the rationale for this is that the sample was primarily small business whose purchasing behaviour does not fit neatly into the industrial purchasing theories available. According to the Australian Bureau of Statistics, a small business is any organisation that is independently owned and operated, is closely controlled by owners/managers who also contribute most, if not all of the operating capital, and the owners/managers hold the principal decision-making responsibility (ABS 1997). This means that there are few decision-makers in the organisation and any expenses directly affect the ‘hip pocket’ of the owner, so it is like spending their own individual money. In many ways this makes the business owner similar to a consumer in a household, operating within a household buying centre.

If most of the businesses in Australia are small businesses, and small businesses exhibit behaviour indicative of both consumer and business purchasing theories, this poses an interesting situation for researchers. It also lends support to the idea that business and consumer purchasing are not two discrete groups that are completely different but are part of a continuum (Sheth 1979; Fern and Brown 1984; Gordon,
Calantone and di Benedetto 1993; Hutton 1997). If this holds true, then there are opportunities for more consumer concepts to be tested in business contexts, conversely there are also opportunities for business concepts such as trust and commitment to be tested in the consumer context.

**Services marketing**

Another area that could be further developed is services marketing. There has been little done in the area of brand loyalty in a services context with the emphasis on customer loyalty (Caldow and Patterson 1999). Some confusion exists in this field with the proliferation of loyalty terms and little research to explain the differences. It is possible that the loyalty terms are similar but with different objects of focus. However, this is not clear. Consequently questions remain: is service loyalty, loyalty to the service-provider, and customer loyalty the same as brand loyalty? These terms are all used interchangeably in the service literature with little clarification of the differences and similarities. So again there is scope for further research on this important topic.

**Intensity of relationship**

The construct of satisfaction has been shown to take different roles depending on the intensity of the relationship the customer has with the service provider. Research into the relationships between trust, commitment and satisfaction in a service context revealed that satisfaction is only a mediator between trust and commitment and future purchase intentions (classified as *attitudinal brand loyalty* in this study) when the relationship is weak (Gabarino and Johnson 1999). The relationship was deemed to be weak if the purchase frequency was occasional rather than regular. It would be useful to replicate this finding in another business context to determine if satisfaction plays the same role when the purchaser is occasional rather than regular.

**Scale development**

This research has also raised some measurement issues for perceived risk and involvement. The scale for *perceived risk* had the highest amount of missing data
and the Cronbach alpha score, while acceptable, was not as high as the other scales. While there is general consensus in the risk literature, the published reliability levels are only around 0.7 (Oglethorpe and Monroe 1994; Stone and Mason 1995), so there is room for improvement. Comments on the surveys indicated that the respondents had difficulty with this scale despite its previous use (Oglethorpe and Monroe 1994).

The second area for scale development is for the **involvement** scale. As discussed in the literature review, there is no situational involvement scale available. Although the scale used in this (Zaichowsky 1985) claims to be applicable for enduring and situational involvement, this may not be the case. The implications of using an enduring involvement scale to measure situational involvement are that relationships expected may not be supported.

While enduring involvement appears to result from prior experience, situational involvement results from perceived risk (Bloch and Richins 1983; Kapferer and Laurent 1985). If in a model containing prior experience as a variable there is little indication that prior experience is an antecedent of involvement, it would be expected that the involvement construct be situational rather than enduring.

Additionally, if involvement is situational rather than enduring, it would be expected that the perceived risk and involvement relationship would hold (Bloch and Richins 1983). It may be that in the situation of purchasing advertising, the amount at stake (be it financial or other) is temporarily inflated thus increasing perceived risk. This would then result in an increase in the level of involvement by the customer with the product. After the purchase, the product slips back to a position of low concern to the purchaser. Previous research where no relationship between prior experience in leisure activities and involvement was found led to the conclusion that involvement in leisure activities must be situational (Wellman, Roggenbuck and Smith 1982; Bloch, Black and Lichtenstein 1989).

The unexpected finding of no significant relationship between perceived risk and involvement requires further study to identify why this occurred. The lack of scales that differentiate between situational and enduring involvement (Havitz and Howard
1995) may have resulted in a scale for enduring involvement measuring situational involvement. Thus there was no relationship between perceived risk and involvement. Further work needs to be done to develop scales that reflect enduring and situational involvement.

Cognition and emotion relationship
This final model indicates that the affective constructs have more direct influence on attitudinal brand loyalty (satisfaction and trust) than the cognitive constructs (involvement and risk). Recent research has indicated that the level of experience the purchaser has explains the interplay between affect and cognition and their effect on attitude (Kim, Lim and Bhargava 1998). This research found that under conditions of low exposure, affect was the only influencer of brand attitude. However, as the exposure increased, both affect and cognition influenced attitude formation with cognition taking the dominant role. In this context, motivation is proposed to be low as a low involvement product was used (Petty, Cacioppo and Schumann 1983).

When motivation is low, the peripheral route processing, which relies on emotion, occurs bypassing cognitive processing (Kim, Lim and Bhargava 1998). In contrast when involvement is high, then motivation is high and central route processing occurs which engages cognitive activity (Kim, Lim and Bhargava 1998; Petty, Cacioppo and Schumann 1983). The dominance of the affective variables would thus indicate that motivation to engage cognitively is low and that the peripheral route is the most likely form of persuasion. Further research could be conducted into emotions to identify their role further, particularly in situations such as a high risk purchase where one might expect the central processing route rather than the peripheral route to be dominant.

Extending the model
Another direction for further research would be to expand the model to include other variables. The Dick and Basu (1994) conceptual model of customer loyalty depicts the constructs of norms and situational factors impacting on the loyalty relationship in addition to the cognitive, affective and behavioural antecedents. These could be added to the model and tested to reduce the unexplained variance in brand loyalty.
Some of the suggested situational factors of brand loyalty are; opportunity to engage in attitude consistent behaviour, incentives for brand switching, personality traits of the decision-maker (risk-taker, conservative etc, normative reference, state or action oriented ability to transform intention into action), expectations of opinion leaders, other business people, and intergenerational effects, e.g. were their parents in business, what did they do/think? (Ajzen and Fishbein 1980; Smith and Swinyard 1983; Dick and Basu 1994; Ha 1998). The model could also be expanded to identify the consequences of brand loyalty, possibly including brand equity, brand image, performance of the business and share value.

As mentioned in the limitations, the cross-sectional nature of the survey precludes inferring causality amongst the cognitive and affective variables. This study could be duplicated in the future to provide longitudinal data for all constructs in the model, and thus allow conclusions about the causal ordering of these constructs to be drawn.

There is little research available on the relationship between cognitive/affective variables and behaviour (East and Hammond 1999), including satisfaction, trust and commitment. Further research should investigate ways to fill this gap. To do this, however, links with industry are crucial in order to obtain accurate behavioural data rather than rely on self-reported behaviour.

9.6 Summary

Brand loyalty has long been discussed, with a schism developing between behavioural and cognitive researchers. This disparity between the two groups has resulted from a narrow view of brand loyalty that is the search for the single way to measure brand loyalty. In their efforts to be the dominant paradigm, each group has overlooked the contribution of the other with neither group yielding ground. This debate, while interesting, has gone around in circles with each group providing evidence for their method. Yet both paradigms have elements that are appropriate. The behaviourists have found that brand loyalty tends be more habitual and routine
with minimal decision-making. The reason for this is that behaviourists tend to measure fast-moving-consumer-goods, which tends to exhibit low involvement and thus low decision-making. The cognitive researchers have found the opposite, that decision-making and attitude formation occurs prior to purchase. Again this tends to be the case in high-involvement products such as durables and services.

More generally, marketing appears to be heading towards using more performance based measures, rather than relying on self-reported attitudes. This is because performance measures are actual behaviour rather than inferred behaviour (Dekimpe, Steenkamp, Mellens and Abeele 1997). Additionally, the services sector is transforming itself to be more accountable with organisations using behavioural measures as performance indicators (Trotman 2001). This thesis has demonstrated how these ‘harder’ measures can be used and how they are linked to the ‘softer’ attitudinal measures. The inclusion of behavioural measures as performance indicators adds credibility to marketing. This is particularly the case with company boards whose members usually comprise accountants and economists (Trotman 2001). The more credibility the marketing discipline can obtain the more implications the research has for senior decision-makers. This bodes well for all in marketing research.
Appendix A Definitions

**Business-to-business sector:** Businesses which sell directly to another business (McColl-Kennedy and Kiel 2000).

**Industrial sector:** Same as business-to-business sector.

**Consumer sector:** Individuals who purchase products for their own use or other individuals.

**Services sector:** Products that are intangible, perishable and have simultaneous production and consumption (Ziethaml 1981).

**Business service sector:** Businesses whose core activity is to provide a service for another business.

**Brand loyalty:** The biased (non-random) behavioural response (purchase) expressed over time by some decision-making unit with respect to one or more alternative brands out of a set of brands and is a function of psychological processes and emotional response (Jacoby 1971).

**Attitudinal brand loyalty:** The consumer’s predisposition towards a brand as a function of psychological processes. This includes attitudinal preference and commitment towards the brand (Jacoby and Chestnut 1978).

**Behavioural brand loyalty:** The consumer’s tendency to repurchase a brand revealed through behaviour which can be measured and which impacts directly on brand sales (Hammond, East and Ehrenberg 1996).

**Trust:** Confidence in the object’s reliability and integrity (Morgan and Hunt 1994).

**Commitment:** An enduring desire to maintain a valued relationship (Morgan and Hunt 1994) with the sales consultant of the preferred brand.
**Satisfaction:** Satisfaction is a positive affective reaction towards the preferred brand and an outcome of a prior experience (Ganesan 1994; Giese and Cote 2000).

**Perceived risk:** The probability and importance of loss associated with the product category (Oglethorpe and Monroe 1994).

**Involvement:** The personal relevance or importance of the product category (Bloch and Richins 1983).

**Quantitative approach:** Empirical in nature and produces results that can be statistically analysed (Green, Tull and Albaum 1988).

**Longitudinal analysis:** A form of time-series research where data is gathered from the same sample at two or more points in time and analysed (Green, Tull and Albaum 1988).

**Structural equation modelling:** A technique for measuring associations between variables that explain changes or variations in other variables (Hair, Anderson, Tatham and Black 1998).

**Causal relationship:** A causal assertion between two variables can be made if there is a significant association, temporal antecedence of the cause and affect variables, lack of alternative variables and a theoretical basis for the relationship (Hair, Anderson, Tatham and Black 1998).
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