The Relationship between Servicescapes and Customer Post Purchase Behaviour

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Abstract

There has been extensive research undertaken in the area of service quality and the strategies that encourage customers to repurchase a product. In some service settings, the servicescape, the physical environment in which a customer and service provider meet can have a significant effect on what a customer experiences and the subsequent perceptions and behaviour of that customer. Anything a customer sees, feels, touches, hears and smells can have an impact on a firm’s success or failure. This research reports on an empirical study of the potential significance of the inclusion of the ‘servicescape’ in a model relating customer service quality with customer behavioural outcomes in a service setting. The research addressed the question: How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?

This research contributes to the marketing literature by developing a service quality model of future customer behaviour. This model espouses a more longitudinal conceptualisation of the retail servicescape by recognising the multidimensional nature of the services industry, with the addition of the servicescape service quality (SSSQ) variable with other service quality variables. This adds a significant element to improve the predictive effect, and provides empirical evidence, on succeeding customer perceptions and behaviours.

This research develops and tests a new theoretical framework, the proposed ‘Model of Future Customer Behaviour’. The model provides service providers with a means of evaluating the relationship between the retail establishment and their consumers, which will be statistically linked to the model’s three variables of service performance, as measured by three independent variables (product delivery, functional service quality and servicescape service quality). Post purchase perceptions are measured by two mediating variables (customer satisfaction and relationship strength) linked to the outcome, future customer behaviour as measured by two dependent variables (retention intention and word-of-mouth behaviour).

The origin of the service quality framework was based on the seminal conceptualisation of service quality advanced by Grönroos (1990, 1982) whose theory postulated that service quality was the result of customer perceptions based on the interaction that took place during customer service delivery (functional service quality) and product delivery (technical service quality). The combining of those two constructs and the addition of servicescape service quality provide an informed measure of service quality.
This research was conducted within a positivism ontology, (how does the servicescape in retail affect customer service retention intentions and word-of-mouth?) and epistemology, (do customers actually consider environment as a key factor regarding repurchase intentions?). As this research was grounded in a positivism philosophy, structural equation modelling was considered appropriate as the relevant method of statistical analysis.

Five hypotheses were tested in coffee shops in Melbourne. This research was conducted using a two stage methodological approach. Stage 1 was qualitative and exploratory in nature by conducting focus groups and personal interviews. This process combined with the review of the literature provided a basis for the construction of the test instrument in Stage 2. During Stage 2, the quantitative stage, a survey was carried out in ten coffee shops providing the required data to address the research question and hypotheses. A total of 500 usable surveys, which were stratified by obtaining 50 responses from patrons of those ten different coffee shops, were completed enabling the data to be analysed using structural equation modelling as the main statistical technique along with SPSS 15.0 and AMOS 7.0 software.

Exploratory factor analysis and confirmatory factor analysis were conducted on four models as first step processes prior to analysing the research data using structural equation modelling. The data obtained during Stage 2 was used to test the competing models developed for this research. This process included assessing the original theoretical and structured models to find the most parsimonious fit model. In analysing the researches four models steps were taken to evaluate and determine which model had the best fit indices and highest R squared value. This process resulted in the identification of the model of best fit, highest R squared value and parsimony.

As the initial theoretical framework outlined it was established that from a theoretical perspective the servicescape variable would be presented as one construct and was presented as a single construct in developing the hypotheses. Through the literature reviewed and as the variable is defined, Section 1.2, some researchers (Wagner 2000; Bitner 1992 and Baker 1987) intimated that there were more than one servicescape component. Factor analysis testing revealed that the servicescape construct did, in fact, split into three distinct components: servicescape service quality facilities (SF), servicescape service quality atmosphere (SAT) and servicescape service quality appearance (SAP) and are presented as such in the model.
Tests were undertaken to evaluate if the servicescape variables did play a significant role in the predictive powers of the model. The tests revealed that the model with the servicescape did in fact produce more significant results than the model without the servicescape;

- **customer satisfaction** (model with SSSQ $R^2 = 0.719$; without SSSQ $R^2 = 0.676$);
- **relationship strength** (model with SSSQ $R^2 = 0.642$; without SSSQ $R^2 = 0.606$);
- **retention intentions** (model with SSSQ $R^2 = 0.651$; without SSSQ $R^2 = 0.643$); and,
- **word-of-mouth** (model with SSSQ $R^2 = 0.433$; without SSSQ $R^2 = 0.427$).

The results of the tests on the theoretical model and the most parsimonious model therefore indicated that the servicescape variables did improve and had a positive effect on the model’s predictive ability.

Overall, the research identified that of the five hypotheses developed four were supported, concluding that a mixture of direct and indirect relationships has lead to outcomes of retention intentions and word-of-mouth providing support for the relationships of a Model of Future Customer Behaviour.
The results of this study have contributed to theory and practice by:

1. confirming the addition of the retail servicescape to measure customer service quality

2. empirically supporting the relationship between servicescape and consumer perceptions of customer satisfaction and relationship strength

3. empirically supporting the relationship between servicescape and the two customer post purchase behavioural variables of retention intentions and positive word-of-mouth, as mediated by customer satisfaction and relationship strength

4. developing and testing a new conceptual service quality framework relating to future customer behaviour, the proposed model of future customer behaviour.
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‘IT was the best of times, it was the worst of times, it was the age of wisdom’, Charles Dickens (1859) wrote those words in his novel, A Tale of Two Cities. I could not find a more appropriate quote to use that could sum up my own personal journey in writing my Doctoral thesis.

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The Worst of Times quite honestly if there were any they have long since faded from memory. I do recall ‘hitting the wall’ with my writing once throughout the entire process but again the supportive people surrounding me made that episode short lived.

It was the Age of Wisdom in part, represents the amount of knowledge I have crammed into the brain in such a short time frame. The learning curve has been steep and I have enjoyed all aspects of it. Also in part, writing a Doctoral thesis doesn’t provide you with immediate wisdom but it does make you a wiser person regarding your thought processes, outlooks, attitudes and approaches to life overall. The age of wisdom is as we know a continual process of learning at any and all levels throughout ones life.

As I started this acknowledgement with a quote I would like to finish with one. ‘Writing a thesis is like a football game, a team does not use one play to get from one end of the field to the other, they do it one play at a time’, the Reverend Father Joseph Nally (2006). I wrote my thesis one word, one sentence, one paragraph, one section and one chapter at a time. Many people offered various insights and ideologies throughout this journey however, none were so branded in my constitution as the one provided by Father Nally.

I dedicate this book to my mother and father, Anna and Vincent Perrone. Thanks for making this possible with your love, support, guidance and rearing a confident and independent son.
Declaration

I hereby declare that to the best of my knowledge and belief that this thesis submission is my original work and contains no material previously published except where due reference and acknowledgement is made. I certify that the work contained in this thesis has not been previously, either in whole or in part, submitted for any other degree at any other college or university.

Signed By: _______________________________

Date: ________________________________

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Chapter 1

Introduction
1.0 Introduction

This chapter provides an introduction to this study of servicescape service quality in a retail setting. Chapter 1 provides a brief background to the research including details on the research question, hypotheses and contributions this research makes to knowledge by reviewing how the service environment or ‘servicescape’ relates to service quality as perceived by customers and, how perceived service quality relates to subsequent customer perceptions and behaviour.

This chapter also provides justification of the research and the methodology used in the study including key definitions of the seven main variables, the boundaries of the research and an outline of the structure of this thesis.

1.1 Background to the research

The service sector has grown to become one of the dominant drivers of economic growth (Bigné, Moliner & Sanchz 2003 and Brady, Cronin & Brand 2002). In Australia the service industry is the fastest growing industry and the largest sector of the Australian economy with 8.8 million (85 percent) of employed Australians in service industries and accounting for about three-quarters of Gross Domestic Product (GDP), (Australian Bureau of Statistics 2007 and Veldre 2007).

In 1993 the services sector in the United States of America accounted for 66 percent of the Gross National Product (GNP), while 75 percent of all jobs resided in service industries, and 85 percent of all new jobs were created from service providers (Henkoff 1994; Rust & Oliver 1994; Shugan 1994 and Daniels 1993). Since that time the services sector continues to be the fastest growing sector in the USA accounting for 83 percent of the Gross National Product in 2006 (Howells & Barefoot 2007).

The importance of the services sector has resulted in intense competition between service providers (Brady, Cronin & Brand 2002). From an economic perspective, a service provider’s understanding of consumers’ evaluative processes contributes to their profitability and market performance from future customer behaviour (Zeithaml 2000; Rust & Zahorik 1993 and Koska 1990). From a social viewpoint, however, service providers have the opportunity to contribute to a consumer’s wellbeing as their service is likely to impact on a customer’s quality of life (Sirgy 1996 and Sirgy & Lee 1996).
Service quality has become an increasingly indispensable aspect for service providers in managing a successful business operation in today’s competitive service market (Blose, Tankersley & Flynn 2005 and Schneider, Holcombe & White 1997). Consumer reactions to service quality can result in a number of positive benefits, such as:

- higher consumer retention rates;
- attraction of new customers through word-of-mouth referrals;
- successful cross-sell and up-sell opportunities by service providers;
- service provider market share increases;
- improvements in staff morale and productivity;
- a decrease in staff turnover;
- reduction of operating costs; and,
- improved financial performance


Since the 1970s service quality in the retail environment has provided marketers with a vast field of research. Kotler (1973) emphasised the importance of retail marketing strategies by focusing on the relevance of atmospherics in influencing consumer behaviour. Marketers have been subsequently exploring ways and means of producing a coherent framework for analysing retail environments (Gilboa & Rafaeli 2003).

‘Servicescape’, which refers to the physical surroundings in a service environment, was a term first introduced by Mary Jo Bitner (1992) and how these surroundings affect and influence customers. The physical surroundings are important in retail settings because customers are affected by these surroundings (Bitner 1992). This research addressed how the servicescape can influence the way consumers react to a product or service provider, and makes a significant contribution to our understanding of consumer behaviour (d’Astous 2000). This research describes the theoretical foundation and the methodology proposed on the service environment and how that environment relates to subsequent customer perceptions and behaviours.
In order to measure how the environment relates to subsequent customer perceptions and behaviours, the proposed model has within its framework three types of variables: service performance, post purchase perceptions, and future customer behaviour. The concepts of each variable are provided as follows:

- Customer perceptions of service performance provide service providers with a comprehensive assessment of their business operations, align performance measures, facilitate communication with staff and their customers, provide feedback for training, and to develop learning (Klenke & Trickey 2002). The three independent variables associated with service performance are product delivery (the product), functional service quality (often referred to as customer service) and servicescape service quality (the retail environment).

- Post purchase perceptions indicate how customers reflect service performance in terms of customer satisfaction and their perceived relationship with the service provider. There are two mediating variables associated with post purchase perceptions, customer satisfaction and relationship strength.

- Future customer behaviour is measured by the intentions of customers to re-purchase and future word-of-mouth behaviour. Service providers who can predict future purchase behaviour, based on their relationships with their customer’s by reducing or eliminating potential negative evaluations of their company, will reduce those customers’ intentions to switch resulting in financial gains for their firms (Verhoef 2003).
1.2 Research question, hypotheses and contributions

This research investigated the possible relationship between the service environment, or servicescape, and customer post purchase behaviour in relation to the retail industry. The research addresses the question: **How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?**

The variables used to measure the retail servicescape and customers’ post purchase behaviours were developed from the literature reviewed. Specifically, the research addressed and provides measures on the impact of servicescape on customer perceptions of service quality as evidenced through product delivery, functional service quality, retention intentions, customer satisfaction, relationship strength and word-of-mouth.

Following are the definitions of the seven main variables used for this research:

- **Product Delivery (PD)**—is the quality of the service product (sometimes called the ‘outcome dimension’). For example, in the case of a coffee shop the PD will be the outcome in terms of the finished product, the coffee delivered, are the cups clean, is there ample sugar and milk and are there other ancillary products available such as cakes, food and other drinks (adapted from Grönroos 1990, 1988, 1984, 1982).

- **Functional Service Quality (FSQ)**—is defined as the manner in which the customer receives the service product (sometimes called the ‘process-related dimension’), that is the manner in which the coffee and other products were provided, which is commonly called ‘customer service’ (adapted from Grönroos 1990, 1988, 1984, 1982).

- **Servicescape Service Quality (SSSQ)**—The term ‘servicescapes’ refers to the physical surroundings in which the delivery of a product takes place and how these surroundings affect customers and employees. The servicescape has three elements: ambient conditions; spatial layout and functionality; and signs, symbols, and artefacts (Bitner 1992).

- **Customer Satisfaction (CS)**—Customer satisfactions are feelings and judgements of customers towards a product after it has been used or consumed (adapted from Jamal & Naser 2003).
• **Relationship Strength (RS)**—Relationship strength is a customer’s global perception of the magnitude of the relationship that they have with an organisation in a commercial context (Bove & Johnson 2001).

• **Retention Intentions (RI)**—Retention intentions are a customer’s behavioural intention to continue to patronise an organisation based upon their evaluation of the provider with a subjective probability the customer will repurchase the product in the future (adapted from Fishbein & Ajzen 1975).

• **Word-of-Mouth (WOM)**—is the process in which clients tell others, external to the transaction, of their (dis)pleasure with a product or service provider (Swanson & Kelly 2001).

The theoretical framework guiding this research, labelled the ‘Proposed Model of Future Customer Behaviour’ is presented in Figure 1.1. The framework commences with the customer’s perceptions of Service Performance as evidenced through three independent variables, product delivery (Grönroos 1990, 1982), functional service quality (Grönroos 1990, 1982) and servicescape service quality (Bitner 1992). These performance perceptions are then related to customer Post Purchase Perceptions, which in turn are related to Future Customer Behaviour.
The variables used to measure Post Purchase Perceptions were developed from the literature and are assessed by two mediating variables, customer satisfaction (Anderson & Fornell 1994; Bitner & Hubbert, 1994; Bolton & Drew 1994; Rust & Oliver 1994; Anderson & Sullivan 1993; Cronin & Taylor 1992; Fornell 1992; Oliver & Swan 1989; Oliver 1981, 1980, 1977 and Olson & Dover 1979) and relationship strength (Bove & Johnson 2001 and Crosby, Evans & Cowles 1990). The overall post purchase perception of a customer is then represented by the outcome of these two variables.

The origin of this theoretical framework can be traced to the seminal conceptualisation of service quality advanced by Grönroos (1990, 1982). Specifically, Grönroos’ (1990, 1982) conceptualisation put forward that service quality is the result of customer perceptions of the interaction that takes place during customer service delivery (functional service quality) and product delivery (technical service quality), which is the outcome result of the production process. When technical and functional service qualities are combined, as the literature suggests, the addition of other constructs such as the physical environment (servicescapes) plays a key factor in the development of service quality perceptions (Dann & Dann 2004; McColl-Kennedy 2003; Schiffman & Kankuk 2000; Schiffman, Bednall, Watson, & Kanuk 1997; Zeithaml, Parasuraman & Berry 1990; Grönroos 1988; Parasuraman, Zeithaml & Berry 1985; Zeithaml, Parasuraman & Berry 1985; Lovelock 1983; Normann 1983 and Grönroos 1982).

This ‘new proposed model’, based on the adaptation and expansion of an existing model, was focused on service based around customers’ requirements of the retail environment. The
development of this more comprehensive service quality model provides service providers, marketers and future researchers with the means to include the servicescape service quality variable and customers post purchase behaviour concepts at every stage in the planning and delivery of their products. Therefore, from a service provider’s viewpoint, the relationship between their retail outlet and the customer should then be statistically linked to service performance leading to post purchase perceptions linked to the outcome, future customer behaviour.

Through the literature review, there are a number of service quality models identified relating to customer perceptions and behaviours of satisfaction; however, the literature did not provide a model where the servicescape service quality variable was combined with the other components or variables of this research in a manner in which they were related to each other. This research responded to this gap by producing a service quality model of future customer behaviour where the servicescape service quality variable is combined with other service quality model variables. Therefore, the addition of the servicescape variable plays a significant role in improving the predictive powers of the model by seeking to provide empirical evidence of the predictive effect on subsequent customer perceptions and behaviours.

One research question and five hypotheses were developed and are described in full at Section 2.10. The question and hypotheses are summarised in Table 1.1. The hypotheses are expressed in terms of consumer perceptions of the servicescape variable and the corresponding relationships between the constructs, which also includes testing the theoretical model with and without the servicescape variable to ascertain the predictive power of the model (Section 4.3.10).

<table>
<thead>
<tr>
<th>Research question and hypotheses</th>
<th>How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ H1</td>
<td>Customer perceptions of the servicescape are positively related to Customer Satisfaction.</td>
</tr>
<tr>
<td>H2</td>
<td>Customer perceptions of the servicescape are positively related to Relationship Strength.</td>
</tr>
<tr>
<td>H3</td>
<td>Customer perceptions of the servicescape are positively related to future Retention Intentions.</td>
</tr>
<tr>
<td>H4</td>
<td>Customer perceptions of the servicescape are positively related to future Word-of-Mouth behaviour.</td>
</tr>
<tr>
<td>H5</td>
<td>The addition of the servicescape independent variable(s) improves the predictive power of the model.</td>
</tr>
</tbody>
</table>

Source: Developed for this research.

In the testing of the hypotheses the research question was answered with the theoretical contributions presented in Section 5.3 specifically testing the model in a retail coffee shop setting.
1.3 Justification for the research

The previous section provides an introduction to the research question and hypotheses developed as a result of the literature reviewed. In this section, justification of the need for this study is identified.

This research investigated the retail environment, which was empirically tested in coffee shops. Coffee shops were chosen as they are an area where one would be expected to encounter most aspects of service delivery. This research provides for a wider understanding of consumers responses to environmental cues in the retail servicescape. There are numerous research papers on servicescapes; however, this study supports a model of service quality in which the servicescape is a fundamental part. The outcome of a review of the ‘servicescape’ literature and its possible impact on service quality, as perceived by customers, has identified a gap in existing service quality models.

This research addressed this gap by 1) developing and testing a new theoretical framework, as outlined in Section 1.2 (Figure 1.1); and 2) adding the variable servicescape service quality, to other service quality variables, product delivery and functional service quality and their prediction of customer satisfaction, relationship strength, retention intentions and word-of-mouth.

Justification for this research;

- provides contributions to the marketing literature specifically relating to service quality and customers post purchase behaviours;
- provides a practical element for the services industry with a model relating to improved predictive relationships;
- as the review of the literature indicated, and as there is little empirical evidence that indicates that the servicescape is tested in service quality models, which seek to predict future customer behaviour.

Therefore, this research develops a framework detailing the relationship between service quality variables and the servicescape in determining the predictive powers of future customer behaviour.

Further contributions provide for a better understanding of how services are evaluated by users that will lead to an increased awareness of how to influence and manage these customers’
evaluations and provide a stronger predictive relationship between customer service quality and future customer perceptions and behaviours. Several contributions to practice emerge from this model and are provided in Section 5.4.

The potential value of this research will impact customer behavioural intentions on a service provider’s market performance as pressure increases from stakeholders for those companies to deliver better results. The delivery of performance results is exhibited by consumers demanding more from their relationships with service providers as seen through retention intentions and word-of-mouth behaviour (Zeithaml 2000; Rust, Zahorik & Keningham 1995; Rust & Zahorik 1993; Nelson, Rust, Zahorik, Rose, Batalden & Siemanski 1992 and Koska 1990).

Some service industries are already quite skilled at identifying areas of improving service quality; however, managing and building relationships objectively still eludes others. It is therefore an important element that this has research addressed (Zeithaml 2000; Rust, Zahorik & Keningham 1995; Rust & Zahorik 1993; Nelson, Rust, Zahorik, Rose, Batalden & Siemanski 1992 and Koska 1990). As was noted in Section 1.1, the services sector accounts for a significant percentage of modern economies workforce and their respective Gross Domestic/National Products thereby supporting the delivery of quality service by those companies to their customers. Therefore, this research is further justified in terms of practical significance for the services industry.

The perpetuation of profitability by service provider’s attentiveness to customer’s perceptions by strengthening their relationships could result in increased customer satisfaction (Heskett, Jones, Loveman, Sasser & Schlesinger 1994; Schlesinger & Heskett 1991 and Schlesinger & Zornitsky 1991). However, the impact of service performance on profitability is beyond the scope of this research.

Consequently, the results of this study may aid service providers in their approach in such areas as, training, design, relationship marketing and operationalisation of service quality strategies through a clearer understanding of customer perceptions of their relationship with the provider and the subsequent effect on their future retention intentions.

In summary, this section provides justification for this research by filling the theoretical gap in the service quality literature, by creating a new service quality model and by making practical contributions to the marketing of the services industry, with relevant data that improve relationships with their customers. The next section provides an overview of the research methodology.
1.4 Methodology

This section provides a brief introduction to the methodology used in the collection and analysis of the data for this study. Complete details of the methods and analysis used are provided in Chapters 3 and 4.

This study employed exploratory and descriptive research design methods in a two stage process with Stage 1 (exploratory), utilising focus groups and personal interviews, and Stage 2 (descriptive), using quantitative methods for the main data gathering by administering a structured self administered survey. The purpose of Stage 1 was to inform the construction of the test instrument for Stage 2 (Kvale 1996; Thompson, Locander & Pollio 1989 and Hudson & Ozanne, 1988).

In Stage 1 qualitative methods were used to explore consumer’s behavioural responses to coffee shop patronage. During the process of conducting interviews and focus groups, insights and perspectives were obtained to provide initial contextual information that enhanced the researcher’s knowledge about the research being conducted. The Stage 1 process also assisted the researcher in clarifying the phenomenon being investigated and to identify with the research issues (Hair, Bush & Ortinau 2003; Zikmund 2003; Churchill & Iacobucci 2002; Cooper & Emory 1995 and Baker 1994). For this exploratory phase, there were a total of 43 participants representing service providers and customers. Two traditional focus group formats were conducted with 17 participants.

In Stage 2, the quantitative data gathering phase, the test instrument was developed to measure the seven main variables of the research as provided in Figure 1.1 with the information obtained from the findings of Stage 1 and the literature reviewed for the study. The data gathering process entailed surveying members of the public who were a random sample from patrons of Hudson Coffee shops in the greater Melbourne, Victoria area. The data sample consisted of 500 usable test instruments that were stratified by obtaining 50 responses from participants in each of ten different Hudson Coffee shop locations.

Data analysis was undertaken using, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), which was a first step prior to analysing the research data using structural equation modelling. Descriptive analysis was performed using SPSS 15.0, which prepared the data providing details describing a set of factors for this study (Sekaran 2003). This process was followed by EFA and then assessment of the measurement model using Confirmatory Factor
Analysis (CFA). Finally, hypotheses testing of the relationships using Structural Equation Modelling (SEM) were conducted with AMOS 7.0 software.

As noted Structural Equation Modelling was used to analyse the data and as this research is grounded in a positivism theoretical design (Sections 3.2.1 & 3.2.2), SEM was considered appropriate as the relevance of positivism is complementary to SEM analysis (Guba & Lincoln 1994 and Hunt 1991). These elements were contributing factors why positivism was an appropriate paradigm philosophy for this research.

The data gathered during Stage 2 was used to test the competing models developed for this research with the detailed process described in Chapter 4. During the analysis four models were evaluated to determine best fit indices and by testing the various models to see which set of variables were most significant. This included eliminating all non significant variables and pathways resulting in the most parsimonious model for this research. The process of testing the different models included assessing the original theoretical model with subsequent assessing of the structured models to find the most parsimonious fit model (Kline 1998 and Hulland, Chow & Lam 1996). All model diagrams drawn/represented in this thesis are for illustration purposes and are not representative of measurement or structural models, those CFA and SEM models have been shown in the appendices section of this thesis.

In summary, quantitative research methods were used for this positivism study. Interviews were conducted in two stages to collect the data for this research and the data was analysed using statistical software, SPSS 15.0 and AMOS 7.0.
1.5 **Boundaries of research**

This research has four boundaries or delimitations of scope that restricts the generalisation of these findings, further details are provided in Section 5.5. These boundaries are briefly discussed as follows:

1. The research was conducted in retail coffee shops, subsequently the findings may not apply either in full or in part to other retail service businesses. Therefore, the use of the Model of Future Customer Behaviour variables may provide alternate results with significant or non-significant outcomes to the data collected with the testing of other retail service settings.

2. The restricted number of coffee shops used for this research may present a boundary in itself. Although the study was conducted using ten stores of a national retailer, Hudsons Coffee, other competing coffee shops were excluded. Limitations of finances and time constraints also put a boundary on expanding the research.

3. As there was adequate sampling to satisfy SEM requirements and to establish a representative sample of respondents, the sampling frame may be limiting in selecting patrons who were familiar with the Hudson Coffee shops selected for this research. Respondents familiar with a retail environment may experience a pre-conditioned emotional approach or avoidance response, which could override the emotions elicited by the retail environment. Consumers may become socialised into the environment of Hudsons Coffee shops and the corresponding transformations in their outlooks and self-conceptions (Donovan, Rossiter, Marcoolyn & Nesdale 1994).

4. Primarily, geographical location was restricted to Australia, specifically Stage 1 and Stage 2 processes were carried out in either a regional centre, Rockhampton, Queensland or a capital city, Melbourne, Victoria. The cultural environmental implications are therefore uniquely Australian and may not be translatable to other cultures.
In summary, this research is limited to a single retail service setting establishment and corresponding patrons who are located in one geographical country at one point in time exploring the constructs relationships from a consumer perspective. Therefore, future research should be conducted to confirm that these studies’ findings can be drawn to other settings outside the stated boundaries.
1.6 Outline of this research

A summary of this research and chapter outline is provided in Figure 1.2. This research is divided into five chapters.

Figure 1.2: Outline of this study

![Diagram of chapter outline]

Source: Developed for this research.

**Chapter 1**—provides a background of the study, its research problem, hypotheses, justification, contribution and methodology including definitions’ and boundaries.

**Chapter 2**—provides a review of the literature that includes the theory of service quality and the contributions made by other researchers and an intensive investigation on the proposed theoretical frameworks seven main variables. The chapter discusses service quality literature and highlights the focus of servicescapes and customers post purchase behaviours. The conceptual model is provided including the hypothesised interrelationships between the constructs.
Chapter 3—provides the methodology of this research, the justification of the quantitative research method, the studies design, and methods used to collect and test the data of the model developed in this research. The process of the test instruments design and development, reliability, validity, sampling, Stage 1 results and the ethical considerations of this research were also discussed.

Chapter 4—details the analysis of Stage 2 data, including the preparation of the data, response rates, respondent profile, sample assessment, and descriptive and exploratory factor analysis. The findings of structural equation modelling are presented including the testing of the proposed model and the hypotheses.

Chapter 5—the final chapter of this thesis provides conclusions for this research, contributions to theory and practice, the limitations and suggestions for future opportunities of research.

1.7 Summary

In this chapter, the foundations were laid for this study. The chapter provides introductions and outlines for this study’s subsequent chapters. In Chapter 1 the background to the study was presented including the research question, contributions and hypotheses. Justification for this study was provided, the methodology that was implemented, definitions of the seven main variables provided as well as the researches boundaries and an outline of the research. The formatting of this thesis followed the AGPS Style Manual, ‘A style manual for authors, editors and printers’, 97/2002 and complementary CQUniversity Australia guidelines.

Chapter 2 provides a review of the literature and the development of the conceptual framework.
Chapter 2

Literature Review: The role of Servicescapes in customer service quality


2.0 Introduction

In Chapter 1, the foundations of this study were introduced. The purpose of this chapter is to provide an extensive review of the literature concerned with retail servicescapes and related variables in developing the theoretical framework and competing models. Overall, service quality is considered to be a major contributor of how customer satisfaction and relationship strength are perceived by customers and how these perceptions lead to subsequent customer behaviour. Specifically the research addresses: 1) the impact of servicescapes on customer perceptions of service quality; and 2) the impact of including the servicescape on the predictive power of a service quality model. For this research, service quality is not a variable that was directly measured. However, service performance, as measured through product delivery, functional service quality and servicescape service quality was used specifically to address the impact of servicescape on customer post purchase perceptions and behaviours.

Following this introduction, the background literature of each variable is defined in detail within the chapter. The research initially was conceptual in form then research outcomes were integrated in a broad sense and then focused on the research problem. Chapter 2 further discusses the significance of the servicescape from a marketing perspective as the literature relates to the retail servicescape environment and its effects on consumer behavioural patterns. Accordingly, this chapter is divided into twelve sections. Chapter 2 culminates with a summary regarding the findings of this review in Section 2.9 followed by the theoretical framework and model development in Section 2.10 and the chapter conclusion in Section 2.11. Figure 2.1 provides the outline of this chapter.
Figure 2.1: Chapter outline

- 2.0 Introduction
- 2.1 Service Quality Models
  - 2.2 Product Delivery
  - 2.3 Functional Service Quality
  - 2.4 Servicescape Service Quality
  - 2.5 Customer Satisfaction
  - 2.6 Relationship Strength
  - 2.7 Retention Intentions
  - 2.8 Word-of-Mouth
  - 2.9 Summary of literature review
  - 2.10 Theoretical framework and model development
  - 2.11 Chapter 2 Conclusion

Source: Developed for this research.
The key concept of the research paradigm and methodology can be traced to seminal research on service quality conducted by Grönroos (1990, 1982) and the development of the Model of Perceived Service Quality (1990, 1982). This research aims to further extrapolate from that empirically tested model and illustrate how service quality relates to subsequent customer perceptions and behaviour and, how service quality relates to the service environment or servicescape as perceived by customers.

There are seven main variables in this research that are explored: Product Delivery (PD), Functional Service Quality (FSQ), Servicescape Service Quality (SSSQ), Customer Satisfaction (CS), Relationship Strength (RS), Retention Intentions (RI), and Word-of-Mouth (WOM).

There are three independent variables that make up the proposed theoretical framework: model product delivery, functional service quality and servicescape service quality, which are classified as performances conducted by the retail provider that measures customer service quality. The mediating variables, customer satisfaction and relationship strength are regarded as customer’s post purchase perceptions, which are the basis for customer’s relationship formulation with the retail provider. These mediating variables lead to the dependent variables, retention intentions and word-of-mouth, and the outcome of how customers behave in a certain way following their engagement with the retailer.

The research provides measures of service quality, which are evidenced through the three independent variables (PD, FSC, SSSQ). The relationship between these three independent variables and post purchase variables, Customer Satisfaction and Relationship Strength, mediates the relationship with future customer behaviour, using two items, the dependent variables (RI, WOM). Therefore from a retail providers perspective the relationship between a customer and a retailer should be statistically related to Service Performance leading to Post Purchase Perceptions and then to the outcome Future Customer Behaviour. Figure 2.2 shows the proposed theoretical framework.
Figure 2.2: Proposed Theoretical Framework

Source: Developed for this research.

For this research, each construct in the theoretical framework is defined (Section 1.2) providing informational background for the seven variables (product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intention and word-of-mouth) as they relate to service quality outcomes. This chapter also provides detailed background information for each variable in the research.
2.1 Service Quality Models

2.1.1 Service Quality

In reviewing the literature on service quality, it is suggested that there are varying thoughts and opinions as to how service quality is defined (Berry & Parasuraman 1991 and Grönroos 1988, 1984). It is generally agreed that service quality arises from a customer’s expectation of a service provided and their perception of the service performed (Berry & Parasuraman 1991 and Webster 1991). As there were many examples of varying service quality models reviewed in the literature measuring customers’ expectations and perceptions of service quality, the section begins with a review of various models of service quality to help define and clarify the distinctions researchers make when applying the concept of service quality. In the following sections, three such models are discussed in detail, SERVQUAL, SERVPERF and Grönroos Model of Perceived Service Quality along with other alternative service quality models and scales presented.

2.1.2 Service Quality Model (SERVQUAL)

The SERVQUAL scale was developed by Parasuraman, Berry & Zeithaml (1988, 1985) to evaluate customers’ perceptions of the actual service that was delivered by measuring the gaps between customers expectations of the service they were being provided and their evaluations of the performance of that service. Developed as an assessment tool originally for the financial sector, SERVQUAL consisted of a 22-item instrument conceived from focus groups and specific industry applications that measured customer expectations and perceptions (Parasuraman, Berry & Zeithaml 1988, 1985). The validity of the 22 individual items that make up SERVQUAL has been well supported as reported in the literature (Cronin & Taylor 1992 and Carman 1990). Since its development the SERVQUAL scale has been used in numerous studies using five main dimensions; tangibles, reliability, responsiveness, assurance and empathy to measure customer expectations and perceptions with either four or five items used to measure each dimension (Parasuraman, Berry & Zeithaml 1991). Consumer assessment of service quality is formed using the dimensions shown at Table 2.1.
Table 2.1: SERVQUAL main dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
<th>Items in scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>The appearance of physical facilities, equipment, personnel and communication</td>
<td>4</td>
</tr>
<tr>
<td>Reliability</td>
<td>Ability to perform the promised service dependably and accurately</td>
<td>4</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Willingness to help customers and provide prompt service</td>
<td>4</td>
</tr>
<tr>
<td>Assurance</td>
<td>Knowledge and courtesy of staff and their ability to convey trust and confidence</td>
<td>5</td>
</tr>
<tr>
<td>Empathy</td>
<td>Caring and individualised attention the firm provides its customers</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Adapted from Zeithaml, Parasuraman, & Berry (1991).

The SERVQUAL model has been widely used to measure customer perceptions as it has been tested and adapted by varying organisations and businesses such as: schools, retailers, hospitals and financial institutions (Metha, Lalwani & Han 2000 and Babakus & Boller 1992). For this study relationships between servicescape service quality and post purchase perceptions, (customer satisfaction and relationship strength), and future customer behaviours (retention intentions and word-of-mouth) were measured by defining, in part, aspects of the domain of overall service quality in developing the items used in the test instrument.


The main issues which have been raised in criticism of SERVQUAL are the reliability and validity of the model’s differences in score formulations, the requirement to measure expectations, the interruptions and operationalisation of expectations, and SERVQUAL dimensionality (Cui, Lewis & Park 2003; Lee, Lee & Yoo 2000; Buttle 1996 and Cronin & Taylor 1992). Some researchers believed additional work was required to find suitable measures of service quality as it pertained to reliability and validity (Asubonteng, McCleary & Swan 1996), while the soundness of the SERVQUAL’s psychometric usefulness and its reliance on measuring expectations and perceptions had its critics (Newman 2001; Teas 1993; Babakus & Boller 1992 and Carman 1990). The main criticism concerned SERVQUAL’s reliance on two scales measuring expectations and perceptions when one scale is simpler, quicker, shorter and easier to comprehend and administer (Newman 2001).
The use of expectation was a question by some authors (Asubonteng, McCleary & Swan 1996; Cronin & Taylor 1992), as customer expectations being unique with individual constructs prior to a service, influence customers’ evaluation of service performance and satisfaction (Cronin & Taylor 1992; Bitner 1990 and Tse & Wilton 1988). There appears to be no consensus in the literature about the conceptual definition of this expectation’s construct (Spreng, MacKenzie & Olshavsky 1996). Cronin & Taylor (1992) argued SERVQUAL confounds satisfaction and attitude. They maintained that performance instead of performance/expectation would more accurately measure service quality. The disconfirmation model of expectations is a basis for continued marketing research and practice (Patterson & Spreng 1997; Erevelles & Leavitt 1992 and Yi 1990). This model illustrates expectations as the standard in which performance outcomes are assessed and consumers subconsciously go through when evaluating experiences (Bearden & Teel 1983 and Oliver 1980). It was concluded that the disconfirmation approach has little support empirically or theoretically (Kettinger & Lee 1999 and Cronin & Taylor 1992).

Other researchers questioned SERVQUAL’s interpretations and operationalisation of expectations that it had a tendency to set expectations higher than perceptions thereby developing a negative gap between expectations and perceptions (Avkiran 1999 and Teas 1993).

There have been further criticisms of SERVQUAL as reviewed in the literature, which are summarised as follows:

1. SERVQUAL required adaptation or replication and is not a generic measure that can be applied to all service products. It needs to be customised to the specific service. This is true of all measures of service quality (Aldlaigan & Buttle 2002 and Carmen 1990).

2. Concerns relating to service/product dimension and its neglect of the other dimensions of the marketing mix for example, place, price, promotion, physical surroundings, process and people (Bahia & Nantel 2000).

3. SERVQUAL does not provide good measures of the importance of service attributes and the five dimensions, as there is a high degree of intercorrelation (Harmen & Vriens 2000).

Taken as a whole, investigations of SERVQUAL suggest that significant adaptations are necessary in the basic approach to using SERVQUAL. As more and more scholars and academics expounded on the criticisms of the validity and feasibility of using the SERVQUAL model to
measure service quality, other models of service quality measurements began to be developed. The most popular scale among all of these was one such model developed by Cronin & Taylor in 1992, SERVPERF. The next section discusses the SERVPERF model.

### 2.1.3 Service Performance Model (SERVPERF)

Due to the concerns and criticisms of SERVQUAL the SERVPERF scale was developed to address these deficiencies and therefore did not include customer expectations, but measured customer perceptions of the actual service performance delivered (Cronin & Taylor 1992). Cronin & Taylor (1992) argued that SERVQUAL was a flawed paradigm in its conceptualisation and measurement of service quality. Their tests provided empirical results showing service quality should not be a measurement of satisfaction, as with SERVQUAL, but rather as a measurement of attitude. The approach adopted in the development of this study’s model; however, it does measure customer satisfaction, as customer service encounter perceptions are directly affected by elements of interaction in the retail setting through physical surroundings, tangible cues, customers’ involvement and process variables allowing customers to often experience and draw conclusions on the total service within the firm’s physical facility like a coffee shop (Bitner 1992, 1990).

Although the review of the literature is inconsistent regarding the differentiation between perceived service quality and attitude, Parasuraman, Zeithaml, and Berry (1988) noted that customers’ perceived service quality was similar to an attitude. Customers therefore form an attitude about a retail provider based on prior expectations regarding that retailer’s performance thereby consumer’s attitude affects their intentions to purchase from that retailer (Oliver 1980). The approach to measure actual customer evaluations of service performance rather than expectations, as Cronin and Taylor indicate, was used in this study.

Cronin and Taylor (1992) took the original SERVQUAL and examined the various sections of the scale as it related to four different industries. In using SERVQUAL, Cronin and Taylor used an importance-weighted scale for the first application, which was followed by their SERVPERF performance based method in measuring service quality, concluding with another SERVPERF administered importance weighted adaptation. In their study, it was reported that their SERVPERF performance based scale was actually an improved way of measuring the service quality dimension as compared to the SERVQUAL scale. As was discussed in the review of the literature, the SERVPERF scale appeared to conform more closely to the implications of satisfaction and attitude having a better overall fit as the performance only form was more consistent with previously established theory (Cronin & Taylor 1992).
Based on these findings Cronin and Taylor (1992) resolved that the SERVPERF performance based scale was deemed to be a more accurate means of measuring consumer’s perceptions of service quality than SERVQUAL, thereby supporting the theoretical ascendancy of the SERVPERF scale thereby recommending that SERVQUAL and SERVPERF be treated as unidimensional and subsequently disconfirmed SERVQUAL’s five dimensional structure; tangibles, assurance, empathy, reliability, and responsiveness (Cronin & Taylor 1994 and McAlexander, Kaldenberg & Koening 1994). Empirical evidence revealed that the delineation of the five components was not constant when applied to cross-sectional analysis and that some items did not load on the same factors when compared across various service providers (Cronin & Taylor 1992 and Carman 1990).

In a follow up study by McAlexander, Kaldenberg Koening (1994) that took place in the health care industry, they examined the four models Cronin and Taylor (1992) previously compared. The results of that study supported the performance based measures concluding McAlexander, Kaldenberg and Koening (1994) to report that the use of performance based measures in the evaluation of consumer’s perceptions of service quality was in fact more accurate than SERVQUAL.

SERVPERF provides a useful tool for measuring attitudes and suggests that service quality is an antecedent of customer satisfaction and that customer satisfaction employs a stronger influence on customer purchase intentions than does service quality (Cronin & Taylor 1992). Based on the discussions of researchers, consumer expectations should remain as an exception when measuring service quality, but can provide valuable data regarding the behavioural patterns of consumers, in particular performance perceptions (Cronin & Taylor 1994 and Boulding, Kalra, Staelin, Zeithaml 1993). The results of SERVPERF indicates retail providers may need to focus on overall customer satisfaction programs versus programs centreing on service quality as customers may not buy the highest quality service but buy for convenience, price or availability that may enhance their satisfaction while not actually affecting customer perceptions of service quality (Cronin & Taylor 1992).

In the following section, a third model that investigates service quality is the Grönroos Model of Perceived Service Quality (1990, 1982), which will provide a synthesis of other service quality models and research. The Grönroos Model focuses on the technical and functional aspects of customers perceived service quality involving the service provider and the consumer.
2.1.4 Grönroos Model of Perceived Service Quality

Grönroos (1990, 1982), proposed and defined the dimensions of service quality in global terms as comprising technical and functional parts. The technical aspect, or service product delivery, is a means by which customers measure service objectively. The technical service quality component usually occurs through consumer interactions in specifically evaluating the quality of service delivered by a firm, such as, how efficiently a ticket is booked at a ticket office, or how efficiently the paperwork for a hire car is completed. Functional service quality influences customers on how they receive and experience the service. Functional service quality is a perceived reaction by the customer from a more subjective point of view (Grönroos 1990).

Customers see and perceive the technical and functional process they are involved in as consumers of the service as well as the outcome of this process. The utilisation of physical products can be described as outcome consumption while the utilisation of services can be characterized as process consumption (Grönroos, 1998, 1990). Figure 2.3 shows the Grönroos Model of Perceived Service Quality.

**Figure 2.3: Grönroos Model of Perceived Service Quality**

As Grönroos (1990, 1988, 1982) has defined the dimensions of service quality in global terms as being functional and technical, Parasuraman Zeithaml and Berry (1988) identified service-quality dimensions using terms that describe service-encounter characteristics (reliability, responsiveness, empathy, assurances, and tangibles) while Cronin and Taylor (1994) measured customer perceptions and attitudes of the actual service delivered.

Criticism of these constructs has come from Grönroos (2001) who cited that a change in terminology was required, from technical and functional service quality dimensions to technical and functional features of services. Identifying a change in terminology was a direct result that the original model of perceived service quality was anything other than a conceptual model to assist retailers in understanding the need satisfying elements, which related to the service aspect of their businesses.
In defining the variables used in this study’s theoretical model, the terms product delivery (technical service quality) and functional service quality (customer service) are the satisfaction providing process perceived by customers of the service which relates to Grönroos (1982) original model of perceived service quality. The customer perceives what they receive as the outcome of the process in which the resources are used, the technical or outcome quality of the process; however, customers often perceive how the process itself functions, the functional or process quality (Grönroos 2001). Therefore the technical quality or the quality of the product delivered and what the customer is left with when the production process has been completed (product delivery) and functional quality or how the customer receives the service, dimensions of perceived service quality have emerged (Grönroos 1990).

From a number of previous studies by fellow researchers, Grönroos further put together a listing of determinants of good perceived service quality. These six criteria were based on existing knowledge of how service quality is perceived. The six criteria were not meant to be an exhaustive listing as there may be other situations in various industries where other criteria are more important and thereby not covered by these six criteria (Grönroos 1990, 1988). Table 2.2 provides the six criteria of good perceived service quality and corresponding definitions.

Table 2.2: Grönroos six criteria of good perceived service quality

| **Professionalism and Skills:** Customers realise the service provider, employees, operational systems, and physical resources have the knowledge and skills required to solve their problems in a professional manner (outcome or technical quality related criteria). |
| **Attitudes and Behaviour:** Customers feel employees are concerned about them and are genuinely interested in solving their problems in a friendly and spontaneous way (process or functional quality related criteria). |
| **Accessibility and Flexibility:** Customers feel the service provider, location, operating hours, employees and operational systems are designed and operate so there is easy access to the service. Service providers are prepared to adjust to the demands and wishes of the customer in a flexible way (process or functional quality related criteria). |
| **Reliability and Trustworthiness:** Customers know whatever takes place or has been agreed upon, they can rely on the service provider, employees and operational systems to keep promises and perform with the customer’s best interests at heart (process or functional quality related criteria). |
| **Recovery:** Customers realise whenever something goes wrong or something unpredictable or unexpected happens that the service provider will immediately take corrective action (process or functional quality related criteria). |
| **Reputation and Credibility:** Customers believe the operations of the service provider can be trusted and stands for good performance and values, which can be shared by the consumer (image or filtering function related criteria). |

Source: Adapted from Grönroos (1990, 1988).

In evaluating the six criteria, professionalism and skills would be related to the technical quality dimension, as it is outcome related. In terms of Grönroos Model of Perceived Service Quality (1982), this is what customers are left with when the production process and buyer-seller
interactions are over. The technical or outcome dimension can then be measured objectively by consumers due to its character of a technical resolution to a problem (Grönroos 1990, 1988).

The four criteria, behaviour and attitudes, accessibility and flexibility, reliability and trustworthiness, and recovery, would be related to the functional quality dimension as the Grönroos model interprets this functional or process related dimension as customers being influenced by how they receive a service and how they experience the simultaneous production and consumption process. Therefore, functional quality cannot be assessed as objectively as the technical dimension but rather it is perceived quite subjectively (Grönroos 1990, 1988).

The criteria of reputation and credibility would be viewed as image-related thereby fulfilling a filtering function; however, they are regarded as subsequent evaluations as they occur after the delivery experience. Usually, the service provider cannot hide behind brand names or distributors. In most cases, the customers will be able to see the firm, its resources, and its ways of operating. The image is therefore of utmost important to retail providers and has an impact on the perception of quality (Grönroos 1990, 1988). Brand image was not one of the seven variables covered by this research in part to maintain simplicity and size restraints with the survey constructed and as brand image would have lead to other research avenues.

It can be noted that the theoretical framework initiated by Bagozzi's (1992) appraisal of emotional response coping model suggested that initial consumer appraisal leads to an emotional reaction. In a services context this suggests perceived service quality precedes consumer satisfaction (Chenet, Tynan & Money 1999; Ennew & Binks 1999; de Ruyter, Wetzels, Lemmink & Mattson 1997; Patterson & Spreng 1997; Woodruff 1997; Alford & Sherrell 1996; Spreng & Mackoy 1996; Anderson, Fornell & Lehmann 1994; Gotlieb, Grewal, & Brown 1994; Kelley & Davis 1994; Anderson & Sullivan 1993 and Cronin & Taylor 1992).

Specifically, there has been a merging of opinions that favourable perceived service quality leads to improved positive customer satisfaction. Satisfaction often plays an intervening role between a customer’s perception of quality service and the creation of their behavioural intentions. (Cronin, Brady & Hult 2000; Gottlieb, Grewal & Brown 1994; Spreng & Singh, 1993 and Cronin & Taylor 1992). There does, however, appear to be a premise that there is a lack of evidence concerning the role of satisfaction in the relationship between perceived service quality and loyalty involving the consumer and the service provider (Fullerton & Taylor 2002; Fornell, Johnson, Anderson, Cha, & Bryant 1996 and Spreng & MacKoy 1996). Certain distinctive factors make this
separation difficult as perceived services are intangible, they vary, they may be perishable or they may be simultaneously produced and consumed (Schiffman & Kanuk 2000).

To be able to conceptualise perceived service quality the acknowledgement that there is a distinction between quality and satisfaction must be realised. The dimensions underlying perceived service quality are cues or attributes while satisfaction results are derived from various dimensions including some related to service quality. Consumer reaction can then be attributed to quality judgements or prompts (Oliver 1993 and Bolton & Drew 1991). Consumer expectations of perceived service quality are based on ideals or perceptions of excellence while Issues relating to non—quality; needs, equity and fairness assist in the formation of satisfaction outcomes (Oliver & Swan, 1989 and Westbrook & Reilly 1983).

Perceived service quality can be regarded as one dimension on which satisfaction is based (Sivadas & Baker-Prewitt 2000; Iacobucci, Ostrom, & Grayson 1995; Anderson & Fornell 1994; Dick & Basu 1994 and Rust & Oliver 1994). As perceived service quality is related to consumer satisfaction, it can be confirmed that perceived service quality plays a significant part in a consumer’s formation of their satisfaction cues (Martensen, Gronholdt, & Kristensen 2000; Kristensen, Martensen, & Gronholdt 1999; Erevelles & Leavitt, 1992 and Oliver, 1980). Perceived service-quality is however an important contributing factor of consumer satisfaction (Cronin, Brady & Huit 2000).

In summary, the Grönroos Model of Perceived Service Quality has had a range of studies conducted on it from various researchers that support his findings. As noted, Grönroos (1982) conceptualised service performance as comprising two sub-processes, technical and functional service quality. Technical service quality is defined as the outcome of the service experience, whereas functional performance is defined as the interplay, which occurs during customer and service provider interaction. There were six criteria of good perceived service quality subsequently developed. These six criteria of good perceived service quality were based on existing knowledge of how service quality is perceived. The literature illustrated the use of integrated studies as a method for measuring the relations between attributes that determine perceived service quality, and the dimensions of perceived service quality. It was further presented that researchers argued and empirically supported that perceived service quality was an antecedent of customer satisfaction therefore, indicating service providers should emphasise the performance perceived by customers, rather than the difference between perceived performance and customers' prior expectations.
The next section reviews some alternative scales and models that have been developed to measure customer’s perception of service quality in various industries.

### 2.1.5 Alternative scales/models of service quality

There has been substantial literature written on the topic of service quality, which seems to have sequentially developed providing a continuous updating and learning from the findings and observations of previous authors. The review of various service quality models has revealed that service quality outcome and measurement is dependent on the type of retail setting, situation, time, and need factors. In developing this study’s theoretical framework, those models helped in understanding the complexity of service quality. Additionally, customer’s expectations towards particular retail products are ever changing with respect to factors such as; time, increase in the number of encounters with a particular retailer, and the competitive environment (Guru, 2003; Sureshchander, Rajendran & Anatharaman 2002; Newman, 2001; Silvestro & Cross 2000; Lasser, Manolis, & Winsor 2000; Gummesson, 1998; Chang & Chen, 1998; Hallowell, 1996; Gammie, 1992; Cronin & Taylor, 1992 and Leonard & Sasser 1982).

Service quality is a complex topic rich in its context of definitions, models and measurement issues with many measurement instruments having contributed to the continued study of perceived service quality. Researchers have had various perspectives of service quality, many that have been adequate and easy to apply to the product delivery process using different methodologies in conducting their studies improving the overall quality of consumer services. As a result of the research conducted some comparative factors appear to be consistent for an evaluation of the models and are outlined as follows:

- Identification of factors affecting service quality;
- Suitability for a variety of services in consideration;
- Flexibility to account for the changing nature of customers’ perceptions;
- Directions for improvement in service quality;
- Suitability to develop a link for measurement of customer satisfaction;
- Diagnosing the needs for training and education of employees;
- Flexible enough for modifications from changes in the environment and conditions;
• Suggests suitable measures for improvements of service quality to a firm;
• Identifies future needs of a firm such as infrastructure and resources;
• Accommodates the use of IT in services; and,
• Capability to be used as a tool for benchmarking


In an effort to qualify the various service quality scales and models, Table 2.3 provides a listing of those authors and researchers who have provided a different point of view about service quality. The purpose of this review of the different service quality models is intended to draw a linkage between them.

Table 2.3: Alternative scales/models of service quality

<table>
<thead>
<tr>
<th>Author(s)/Researcher(s)</th>
<th>Scale/Model</th>
<th>Applications of the Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldlaigan &amp; Buttle (2002)</td>
<td>SYSTRA-SQ scale</td>
<td>The SYSTRA-SQ scale was developed for the United Kingdom's retail banking context only. The scale measured four factors which were labelled SSQ, behavioural SQ, machine SQ, and service transactional accuracy. It measures two forms of SQ, the quality of the organisational service system, and transactional performance quality. There is direct linkage to Gronroos's SQ by the scale’s ability to integrate technical and functional attributes into a single quantitative dimension at the organisational level (SSQ), while simultaneously distinguishing between FSQ and TSQ dimensions at a transactional level.</td>
</tr>
<tr>
<td>Broderick &amp; Vachirapornpuk (2002)</td>
<td>Internet banking model</td>
<td>A service quality model of internet banking, which utilises participant observation and narrative analysis of the United Kingdom Internet Web site community. It explores how internet banking customers perceive the elements of the model on perceived service quality. Customer expectations of the service, the image and reputation of the service organisation, aspects of the service setting, the actual service encounter, and customer participation.</td>
</tr>
<tr>
<td>Author(s)/Researcher(s)</td>
<td>Scale/Model</td>
<td>Applications of the Model</td>
</tr>
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<td>---------------------------------------------</td>
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<tr>
<td>Soteriou &amp; Stavrinides (2000)</td>
<td>Internal service quality data envelope analysis (DEA) model</td>
<td>A banking industry model that provides input and output processes. The input to the model consists of two sets: consumable resources such as; personnel, space &amp; time and the number of accounts in different categories. The output of the model is the level of service quality perceived by the personnel of the branch. The DEA model compares branches on how well they transform these resources (inputs) to achieve their level of service quality (output) given the client base.</td>
</tr>
<tr>
<td>Frost &amp; Kumar (2000)</td>
<td>Internal service quality model</td>
<td>The model evaluates the dimensions, and their relationships, which determine service quality among internal customers (front-line staff) and internal suppliers (support staff) within a large service organisation.</td>
</tr>
<tr>
<td>Dabholkar, Shepherd &amp; Thorpe (2000)</td>
<td>Antecedents and mediator model</td>
<td>The model includes antecedents, consequences, and mediators to provide a deeper understanding of conceptual issues related to service quality. It examines some conceptual issues in service quality such as: the relevant factors related to service quality, better conceived components &amp; antecedents and the relationship of customer satisfaction with behavioural intentions.</td>
</tr>
<tr>
<td>Oh (1999)</td>
<td>Service quality, customer value and customer satisfaction model</td>
<td>The model focuses mainly on the post purchase decision process. The model incorporates key variables such as perceptions, service quality, consumer satisfaction, customer value and intentions to repurchase. Word of mouth communication is conceptualised as a direct, combined function of perceptions, value, satisfaction and repurchase intentions. The model provides evidence that customer value has a significant role in the customer’s post-purchase decision-making process.</td>
</tr>
<tr>
<td>Sweeney, Soutar, &amp; Johnson (1997)</td>
<td>Retail service quality and perceived value model</td>
<td>In this model functional service quality perceptions directly influence consumers’ willingness to buy. Functional service quality perceptions also influence technical service quality perceptions, which in turn influence product quality perceptions; however, neither of the two directly influence value perceptions.</td>
</tr>
<tr>
<td>Philip &amp; Hazlett (1997)</td>
<td>Pivotal, Core and Peripheral (PCP) attribute model</td>
<td>The model takes the form of a hierarchical structure based on three attributes; pivotal, core and peripheral. Pivotal attributes—what the consumer expects to achieve and receive when the service process is completed. Core— is the amalgamation of the people, processes and organisational structure through which consumers must interact and/or negotiate so that they can achieve/receive the pivotal attribute. Peripheral—are the incidental extras or frills designed to add roundness to the service encounter and make the whole experience for the customer a complete delight.</td>
</tr>
<tr>
<td>Spreng &amp; Mackoy (1996)</td>
<td>Model of perceived service quality and satisfaction</td>
<td>The model attempts to enhance the understanding of perceived service quality and customer satisfaction. The model highlights the effect of expectations, perceived performance, desired congruency and expectation disconfirmation on overall service quality and customer satisfaction. These variables are then measured through set of ten attributes of advising: convenience in making an appointment, friendliness of the staff, advisor listened to the author’s of the advisor, the advice was consistent, advisor helped in long-range planning, the advisor helped in choosing the right courses for career, advisor was interested in personal life, and the offices were professional.</td>
</tr>
<tr>
<td>Author(s)/Researcher(s)</td>
<td>Scale/Model</td>
<td>Applications of the Model</td>
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<tr>
<td>Dabholkar (1996)</td>
<td>Attribute and overall affect model</td>
<td>The author proposed two alternative models of service quality for technology-based self-service options. The attribute model is based on what consumers would expect from such an option. It is a cognitive approach to decision making, where consumers would use a compensatory process to evaluate attributes associated with the technology based self-service option in order to form expectations of service quality. The overall affect model is based on the consumers’ feeling towards the use of technology. It is based on an affective approach to decision making where consumers would use overall predispositions to form an expectation on self-service quality for a technology-based self-service option.</td>
</tr>
<tr>
<td>Dabholkar, Thorpe &amp; Rentz (1996)</td>
<td>Hierarchical model of service quality</td>
<td>Model suggests service quality is a multi-level and multi-dimensional construct consisting of: (a) Consumers’ overall perception of service quality. (b) A dimension level which consists of physical aspects, reliability, personal interaction, problem solving, and policy. (c) A sub-dimension level which recognises the multifaceted nature of the service quality dimensions.</td>
</tr>
<tr>
<td>Berkley &amp; Gupta (1994)</td>
<td>IT alignment model</td>
<td>The model links service and information strategies of a firm. It describes the use of IT for improving service quality in various fields; banking, courier, transportation, manufacturing and services industries.</td>
</tr>
<tr>
<td>Mattsson (1992)</td>
<td>Ideal value model of service quality</td>
<td>Value-based model of service quality of a perceived ideal standard against which the experience is compared. Implicit negative disconfirmation on a pre-conscious value level is then hypothesised to determine satisfaction on a higher attitudinal level. Negative disconfirmation is the major determinant of customer satisfaction. Cognitive processes by which consumers’ service concepts are formed and changed.</td>
</tr>
<tr>
<td>Brogowicz, Delene, &amp; Lyth, (1990)</td>
<td>Synthesised model of service quality</td>
<td>The model integrates traditional managerial framework, service design &amp; operations and marketing activities. The model identifies the dimensions associated with service quality in a traditional managerial framework of planning, implementation and control. It considers three factors, company image, external influences and traditional marketing activities as the factors influencing technical and functional quality expectations.</td>
</tr>
<tr>
<td>Haywood-Farmer (1988)</td>
<td>Attribute service quality model</td>
<td>Service providers have high quality providing they meet customer preferences and expectations consistently. Separation of attributes into various groups is the first step towards the development of a service quality model. Services have three basic attributes: physical facilities and processes, people’s behaviour, and professional judgment.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.

From this review of some of the various service quality models that have been developed, it should be noted the variety of the models developed and the process of the delivery of services from a more conventional to an IT-based service. Service quality outcomes and measurements are dependent on the type of service setting, situation, time and need factors. There have been different models created to deal with the complexity of the subject/field. The situation is further complicated
by the customer’s expectations towards a particular retail provider and their personal requirements of time, increase in the number of encounters with a particular retailer and the competitive environment.

The review outlines the continuous effort by researchers to provide viable outcomes for firms in their understanding of the retail provider-customer relationship, to be able to learn, validate, and modify existing concepts of service quality. The review further provided the following research:

- Service quality models developed of the varying types of service encounters;
- Refinement of service quality models to account for altering situations; and,
- New models developed which were derived out of weaknesses /learning’s of existing models.

The models reviewed provide integral elements to service quality improvements such as:

- service provider and customer focuses
- an understanding of the concepts of service quality
- a system of measurements and feedback
- how researchers and retail providers view the consumer.

As the literature revealed there was no all encompassing ‘absolute’ measurement model of service quality. Therefore, the proposed model for this research draws on the conceptual studies by Grönroos (1990, 1988, 1984, 1982) and the development of his model of perceived service quality that are measured how customers see and perceive the technical and functional process they are involved in as consumers of the service as well as the outcome of this process. Consequently, this research develops and tests a new service quality model providing retail providers with a means of evaluating the relationship between their customers and their retail establishments.

In the following section, the variable product delivery or the technical element of the service encounter process is explained.
2.2 Product Delivery

Product delivery is a means by which customers measure technical service objectively by specifically evaluating the quality of a product delivered by a firm. Most often product delivery methods can be measured objectively by customers due to the technical nature of delivering the product (Grönroos 1990). Product delivery can be a perceived service measured by the level of performance, which is produced by a firm’s operating system and can be in the form of some other more common practical functions rendered by the provider such as: customer advice, credit functions, and repair and maintenance information (Hoffman & Bateson 2006; Schiffman, Bednall, Watson, & Kanuk, 1997 and Robin 1978). Organisations can provide a working environment for staff on:

- what should be done?
- how it should be done? and,
- why it should be done? As related to the process of service quality and its effects on product delivery.

In this way retail providers can subsequently have an impact in guiding customers on those product delivery elements that are most relevant to their specific consumer needs (Schiffman & Kanuk 2000).

Product delivery deals with the customers’ expectations from a service provider through their interaction with staff and can be influenced by the outcome of the finished product to satisfy and meet their required needs. These acts are described as consistency, timeliness, effectiveness, efficiency and responsiveness (Schiffman, Bednall, Watson & Kanuk, 1997).

Through the literature reviewed, it was found that customers often change suppliers due to the perceived indifference of employees (Keiser 1988) or that exceptional product delivery may be too expensive or impossible to differentiate the offering by developing the technical solution, however product delivery is probably still a requirement of a firm (Grönroos 1990).

In today’s marketplace, more businesses are increasing profits by actually saving customers’ time by satisfying their wants and needs. Firms do this by training a new breed of customer-service representatives, people with the skills to get to the root cause of consumer problems and who are closely linked to the provider of the product to arrange to get the problem fixed (Womack 2006).
Those firms who provide effective product delivery will then be able to deliver to the consumer a service encounter with minimal errors throughout the process (Dann & Dann 2004).

Fujitsu Services of Europe, a relative newcomer to the help-desk industry, started by asking what the consumer really wants, as it was more beneficial in creating a positive experience for customers (Womack 2006). Efficient product delivery by firms who use many methods in providing their staff with the means to deliver those technical processes to their customers are asked why then do customer dissatisfaction levels continue to rise? Five reasons were cited why corporate management usually underestimates their employee’s product delivery abilities when delivering product information:

1. the first reason is customer service staff may feel their customers know more about the products they sell than they do, and second, internal systems do not adequately support the products being sold (Vaz-Oxlade 1993);

2. skilled customer service staff can satisfactorily meet consumer needs and save them time in the process. This is a concept which can be applied to many service provider industries such as: repair and maintenance services, retail, and health care (Tehrani 2005);

3. it is more advantageous for retailers to provide better product knowledge while at the same time saving consumers’ time and reducing service provider costs (Tehrani 2005);

4. customer service staff can ensure customers are satisfied by providing them with answers to their questions and solutions to their problems, along with fulfilling any expectations they may have in a realistic time frame (Wall 1998);

5. companies are extending their employee training, to include skills in listening, showing empathy to customers' wants and needs, have problem solving capabilities and be able to respond to customer requests in the most efficient manner possible (Mouawad & Kleiner 1996). Skilled up training measures include: educating employees on the company's services, products, policies and practices. The philosophy here is the customer is not always right, but satisfying their needs is mostly more important than who is right (Scott 1988).
Research revealed that product delivery extended beyond face-to-face interaction between customer service staff and the customer (Johnson 2007). Product delivery is not the only barometer for firms wanting to gauge customer’s behavioural responses regarding the performance of customer service staff. Some retailers in the USA such as, K-Mart, Kroger, Wal-Mart and Home Depot are now providing self serve check out lanes which allow employees to focus on other high demand product delivery areas such as the deli, floral and bakery departments thereby increasing a firms overall performance levels (Johnson 2007). In Australia, retailers such as Woolworths and Big W are following suit by freeing up staff to attend to those higher demand product delivery areas (Rossow 2008).

Technology is also playing a role with international retailer Payless Shoe Source Inc., in the technical service delivery of its products to their consumers. A new point of sale solution utilising broadband technology enables Payless Shoe to process up to 80 transactions in a one-hour period. Point of sale technology has helped the chain cut approvals on debit and credit card transactions to less than a minute. Shoppers enjoy browsing for the latest footwear fashions but also expect a quick checkout experience (McCoy 2007).

Product delivery quality is usually seen as an in-store issue; however, as consumer demands continue to increase on service providers, providers are looking for ways to meet their customers before they are actually in store. In a case study by Fenn (2007), a traditional storefront dry cleaning business could not keep up with the demands of its customers by providing quality and timely service, reduce environmental impacts of the chemicals used to dry clean merchandise and customer service staff were unable to provide knowledgeable information to customers who had special needs laundering. A decision was made to close storefronts and provide dry cleaning services through a Web based company with door-to-door service using route drivers. By altering the relationship between customer service staff and their customers, this allowed for the technical side of the business to be addressed, which saw revenues increase by fifteen percent solely due to point of sale items offered such as: laundering of special garments with beading, silk items, and specialty garment bags all of which were being neglected with the face-to-face technical service provided. ‘Dry cleaning is all about providing information and building relationships’ (Nealis 2007, p. 58).
Through the review of the literature it was found that firms will use many methods in providing their customer service staff with adequate tools to provide the consumer with efficient product information (Vaz-Oxlade 1993). Research also revealed that product delivery extended beyond face-to-face interaction between customer service staff and the consumer. Effective technological support systems allows service provider employees to focus on other product delivery areas thereby increasing a firms overall performance levels (Johnson 2007).

Product delivery provides the customer with a means of objectively measuring the service aspect of a business. It allows firms to establish a relationship with their customers through the delivery of products in order to satisfy consumer’s wants and needs (Schiffman, Bednall, Watson, & Kanuk 1997 and Grönroos 1990).

In this research, product delivery addresses the overall service performance of the technical component of a retail provider as a means by which customers evaluate service objectively. Through consumer interactions with customer service staff, this evaluation by consumers is carried out specifically by evaluating the quality of delivery. The net result is what the customer is left with when the production process and buyer-seller interactions have concluded. Product delivery is therefore measured by how the products are prepared, is the product hot when delivered, and are the items listed (goods) available. Most often this method can be measured objectively by customers due to the technical nature of solving the problem. For this research product delivery is therefore the systems and infrastructure designed and created to organise delivery of the product, which can include computerized systems, machines, and technical solutions provided by customer service staff.

In the following section the variable of functional service quality is addressed, which unlike product delivery’s objective evaluation, functional service quality is usually perceived by the customer from a more subjective point of view.
2.3 **Functional Service Quality**

Product delivery was one of the variables reviewed in the previous section that formed part of the Grönroos perceived service quality model and is one variable to the proposed model in this research.

In this section, the influence that retail providers can have on customers by how they receive and experience the product delivered is discussed. This aspect is termed functional service quality (Grönroos 1990). Unlike technical quality, functional quality is usually perceived by the customer from a more subjective point of view. In most instances, customers will be able to view the organisation, its resources and the ways in which it operates (Grönroos 1990). There is extensive literature that shows how functional service can undoubtedly affect the perception of that retail provider’s quality (for example, Dann & Dann 2004; Schiffman, Bednall, Watson, & Kanuk, 1997; Grönroos 1990; Shavitt 1989; Lehtinen & Storbacka 1986; Parasuraman, Zeithaml & Berry 1985 and Grönroos 1984).

Research has indicated a positive influence on customer perceptions and a significant relationship between a customer’s perceptions of functional service quality. Therefore, quality customer service will have a positive effect on consumer perceptions with increased loyalty levels (Grönroos 2001). Consumers perceive that what they receive as an outcome of the quality process is in fact the function of that process (Grönroos 2001). Customers will assess what it is they need to obtain from an organisation, such as customer service, in choosing the product they desire or assortment options and look for social interaction from staff through this functional process (Noble, Griffith & Adjei 2006).

Thereby perceived functional service quality is obtained when customer’s expectations are met. If there is an image of the organisation providing quality functional service in the minds of the customer then the organisation will be viewed favourably. Adversely if there is a negative image on an organisation’s functional service quality then the organisation can be potentially damaged (Danaher & Rust 1996a, b; Zeithaml, Parasuraman & Berry 1996; Patterson 1995: Cronin & Taylor 1992; Bitner 1990; Grönroos 2001, 1988 and Parasuraman, Zeithaml & Berry 1988).

During direct interaction between the retail provider and the customer, consumer perceptions take place through their interactions with the firm’s staff. Therefore, customer perceptions are based on questions such as: Do staff listen to customers needs? Are they polite and are their personal appearances neat and tidy? Do staff make customers’ shopping experiences
pleasant and do they have good knowledge of the products they are selling? (Grönroos 2001, 1998, 1990, 1988).

It is through this direct interaction that socialisation is afforded to consumers where shopping is a prime motivator for retail patronage (Arnould 2005). Some smaller local merchants will emphasise personalised customer service as compared to larger impersonalised chain style retailers thereby attracting those customers who are looking for that in-store interaction (Brennan & Lundsten 2000). In this way, customers and customer service staff will be able to develop personal relationships with each other and in some situations with other consumers who have similar interests (Noble, Griffith & Adjei 2006). Researchers have noted that smaller sized retailers are able to offer a niche business providing a focus on functional service quality and the delivery of that service (Brennan 1998). Smaller retailers are therefore able to offer those functional service processes such as; good product knowledge and a pleasant shopping experience, which may differentiate them from their larger counterparts (Grönroos 2001, 1998, 1990, 1988; Stone 1995; Winninger 1994 and Halvorson 1993).

A significant contribution to a firm’s functional service quality often depends on the selection and training of staff, including corporate expectations, policies, procedures and product knowledge (Letts 1991). Additionally, customer service staff should have the required selling skills in dealing with customer relations to maximise the technical aspect of the service provided. It is important to build a multi-functional team, which would include staff input, correlated with customer feedback, on the day-to-day operations of the functional service environment (McClelland & Wilmot 1990).

While these techniques appear good, the challenging aspect in practice is ensuring customer service staff retain what they have learned, and in keeping them updated as product information or services change (Friesen 1989). In this regard, it is suggested customer service staff are provided with product informational manuals or more appropriately named, Client Needs Handbook or a Customer Service Guide, designed as a tangible tool for customer service staff to deal with the functional service process related aspects of the service (Pell 1989). These handbooks and guides can be up-dated as new information is disseminated. The following is a listing of examples of the types of functional customer service information found in such manuals:

- Product information, which would include code identifications;
- A description of the product;
• How the product works;
• Consumer details for usage, e.g., age, weight or who is most likely to use the product;
• A listing of brochures or other informational materials;
• A referral listing in the event customers desire more information;
• Product features and benefits; and,
• Example responses to potential customer questions and cross selling opportunities (Pell 1989).

Studies have also indicated that those consumers who patronise a retailer, at times making a purchase, are actually forging a relationship with the service provider, the retailer (Thompson & Arsel 2004 and McCracken 1986). In this way, consumers engage in continuous functional service quality as a meaningful transfer process that cements the connections between them and customer service staff (Thompson & Arsel 2004 and McCracken 1986). Theoretically this finding yields insights into retail provider-consumer relationships and the varied interactions embedded therein, as each party seeks to invest in the true meaning of what functional service quality means in the transformation of a retail space (Casey 1996).

In the past some retail companies in the USA, for example, Best Buy, Tandy’s Incredible Universe and Highland Superstores, switched their employee salary structures from commission based to non-commission based (Goerne 1992). The switch was intended to quell customer’s perception of not trusting commissioned salespeople on the functional component of the business (Goerne 1992). In an effort to ensure the functional service quality of a company’s operation was put into a tangible tenet, in 1991 the University of Wisconsin Credit Union (UWCU) put their employees through a ‘Quality College 101’ class, which is now a requirement for all employees of the organisation. The Quality College represented UWCU’s functional, on the job quality service training. Customer service staff were taught how to make beneficial statements, how to handle complaints, establish and maintain good eye contact, give immediate service, and selling and servicing skills (Symons 1992).

The variable of functional service quality represents an important element in the service environment as customer service staff are the front line for many retailers and have at times an immediate impact on customer’s perceptions of the service provider. The greater the shopping value
the customer perceives the stronger loyalty attitudes and intentions they will exhibit. Functional service quality therefore has influences inbuilt in its conception such as trust, information exchange, joint working agreements, flexibility of the retail provider, age of the relationship, switching costs, and personal characteristics (Homburg, Giering & Menon 2003 and Homburg & Giering 2001).

In the next section the variable of servicescape service quality, the physical properties of the selling environment, is addressed. The review addresses the importance of how the servicescape can influence the way consumers react to a product or service provider, particularly when the product involved may have a degree of intangibility making the product difficult to evaluate objectively.
2.4 Servicescape Service Quality

In the previous section, functional service quality was reviewed as an independent variable for this research and as initially established by Grönroos (1982) in his model of perceived service quality. Functional service quality was established as a dimension of buyer-seller interactions and how customers are taken care of by the service provider through those functions or the process, which is a subjective evaluation by the consumer (Grönroos 1990).

Servicescape service quality has been referred to as the physical surroundings in which the delivery of a product takes place and how these surroundings affect customers and employees. The servicescape has three elements: ambient conditions; spatial layout and functionality; and signs, symbols, and artefacts (Bitner 1992).

Research into the servicescape component of service quality has the potential to make a significant contribution to our understanding of consumer behaviour and practice. A deeper understanding of how service quality is evaluated by users will lead to greater conceptual ideals of how to manage these customers’ evaluations and how they can be influenced (Yavas, Benkenstein & Stuhldreier 2004; Bitner 1992; Bolton & Drew 1991; Parasuraman, Zeithaml & Berry 1988 and Berry 1983).

Further, findings may also improve the design of retail settings thereby enhancing the positive attributes to the servicescape service quality. The environment of a store can serve as an important differential or competitive advantage in attracting particular segments of shoppers (Turley & Chebat 2002). These servicescape attributes will in turn provide consumers with a more positive experience. Marketing researchers recognise this role of the physical setting as offering alternative cues which consumers choose service providers and evaluate the quality of service provided (Bitner 1992, 1990 and Berry 1983). From this perspective, servicescape settings are considered ‘physical evidences’ that retailers can effectively use to portray the specific elements of their product delivery that they are conveying to the consumer, and consequently consumers experience the physical setting in its entirety (Berry & Parasuraman, 1991). In this way, the ‘place’ itself is being fully maximised, indicating that consumers may consider the physical setting to have more than a solely functional role (Wakefield & Blodgett 1996, 1994).

The physical environment or servicescape in a marketing setting has been an on-going focus of marketing academics who are interested in examining its effect and influence on customer response behaviours for over three decades. The ability of the physical environment of a service
setting to influence behaviour (Wall & Berry 2007) and to create an image has been particularly apparent for service businesses such as hotels, restaurants, professional offices, banks and retail stores. The position advanced here is that the physical surroundings are significantly important in service settings because customers and staff are affected by their surroundings (Bitner 1992) and thus should form a part of service quality. The concept that the retail environment creates atmospheres that affect shopping behaviour suggests that the study of the retail atmospherics could be used productively to research store environments. Experimental control of environmental factors may provide a better, more controlled, test of environmental factors and the moderating role of subsequent emotional states on shopping behaviour (Donovan & Rossiter 1982 and Mehrabian & Russell 1974) as has been demonstrated in retail atmospherics (Newman, Dennis & Zaman 2007).

In the review of the marketing literature, Kotler (1973) has been credited with emphasising the importance of atmospherics and the influencing effect it has on consumer behaviour. The term atmospherics, which describes how marketers can intentionally control environmental cues and how atmospherics can influence consumer behaviour, is outlined as follows:

- Products are surrounded by sensory qualities;
- Perceived qualities of the atmosphere can affect a consumer’s cognitive state;
- A modified cognitive state can increase purchase probability (Kotler 1973).

The sensory cues of: sight, hearing, smell, and touch indicate how consumers identify with the atmosphere. Although these sensory classifications are not used as a general framework of theory construction, they do provide a high level of influence on consumer’s behavioural responses. Sensory cues also provide further research of the impact of environmental factors on consumer behaviour (d’Astous 2000).

Much of the research, which focused on environment in the retailing sector, concentrated on customer’s perceptions and their behavioural responses to the atmospheric variables. The variables included **music** (Areni, 2003; North, Shilcock, & Hargreaves 2003; Sweeney & Wyber 2002; Chebat & Vaillant 2001; Dube & Morin 2001; North, Hargreaves, & McKendrick 1999), **lighting** (Summers & Herbert 2001; Areni & Kim, 1994), **colour usage** (Crowley 1993; Bellizzi & Hite 1992), **clutter and cleanliness** (Bitner 1992; Gardner & Siomkos, 1986), **aromas** (Michon, Chebat & Turley 2005; Mattila & Wirtz 2001; Spangenberg, Crowley, & Henderson 1996; Hirsch 1995; Mitchell, Khan, & Knasko 1995; Erglu & Machleit 1993), and **layout and design** (McOmish & Quester 2004; Ang, Leong, & Lim 1997; Smith & Burns 1996; Park, Iyer, & Smith 1989).
Additionally, the human variables of the social servicescape have a further effect (Tombs & McColl-Kennedy 2003) such as crowding (Eroglu, Machleit & Barr 2005; Machleit & Eroglu 2000; Machleit, Kellaris & Eroglu 1994 and Hui & Bateson 1991) and employee’s attire (Shao, Baker & Wagner 2004) which have been investigated.

The Stimulus-Organism-Response (SOR) model, developed by Mehrabian and Russell (1974), and adapted by Donovan & Rossiter (1982), was used to measure the relationship between environmental factors and consumer responses to productively research store environments. Therefore, researchers subsequently analysed retail shopping behaviour with this framework and found significant relationships between emotional states and factors such as; time spent in the store, inclination to make a purchase, and satisfaction with the experience (Sherman, Mathur & Smith 1997; Kellaris & Kent 1993 and Yalch & Spangenberg 1993). These environmental stimuli affect the emotional states of pleasure and arousal in consumers, which affect consumer’s approach and avoidance behaviours. The stimulus factors are physical features such as: colour, store layout, lighting, music and ambient conditions. Consumer’s emotional states are then influenced by the physical environment in terms of pleasure or arousal (Donovan & Rossiter 1982).

Figure 2.4 shows Mehrabian & Russell’s (1974) (S-O-R) model that has been the basis for many environmental psychology studies that has evolved on consumer research in retailing (Gilboa & Rafaeli 2003; Matlia & Wirtz 2001; Donovan, Sherman, Mathur & Smith 1997; Tai & Fung 1997; Rossiter, Marcoolyn & Nesdale 1994 and Donovan & Rossiter 1982).

**Figure 2.4: Mehrabian & Russell’s Model**

![Mehrabian & Russell's Model](source)

The continued development of consumer’s cognitive behaviours to Kotler’s (1973) atmospheric cues of sight, hearing, smell, and touch and how consumers identify with the retail atmosphere, lead Baker (1987) to develop a conceptual model to illustrate the nature of the environment in service activities of the retail environment related to human factors. Looking at the intrinsic character of the physical factors of a retail provider, the framework breaks the physical environment into three elements: ambient conditions, design and social factors. These three elements also play a determining role on consumer behaviours in the environment and influence consumer behaviour and the effects they have on the relationship between customers and retailers, which can be explained as:

- ambient factors are background conditions that exist below the level of a consumer’s immediate awareness for example, temperature, scents and noise.
- design factors are visual stimuli in which consumer’s are far more likely to be aware of. they consist of architecture, style, colour or functional design (i.e., layout, comfort, and signage).
- social factors refer to the human element of the physical environment or the interaction between the customer and the customer service staff (Baker 1987).

Baker’s (1987) components are summarised in Table 2.4

**Table 2.4: Baker’s Components of the Environment**

<table>
<thead>
<tr>
<th>Ambient Conditions</th>
<th>Design Factors</th>
<th>Social Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background conditions that exist below the level of immediate awareness.</td>
<td>Stimuli that exist at the forefront of awareness.</td>
<td>People in the environment.</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td><strong>Aesthetic</strong></td>
<td><strong>Audience</strong> (other customers)</td>
</tr>
<tr>
<td>- Temperature</td>
<td>- Architecture</td>
<td>- Number</td>
</tr>
<tr>
<td>- Humidity</td>
<td>- Colour</td>
<td>- Appearance</td>
</tr>
<tr>
<td>- Circulation/Ventilation</td>
<td>- Scale</td>
<td>- Behaviour</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td><strong>Materials</strong></td>
<td><strong>Service Personnel</strong></td>
</tr>
<tr>
<td>- Level</td>
<td>- Texture, pattern</td>
<td>- Number</td>
</tr>
<tr>
<td>- Pitch</td>
<td>- Shape</td>
<td>- Appearance</td>
</tr>
<tr>
<td><strong>Scent</strong></td>
<td>- Style</td>
<td>- Behaviour</td>
</tr>
<tr>
<td><strong>Cleanliness</strong></td>
<td>- Accessories</td>
<td></td>
</tr>
</tbody>
</table>

Based on the previous works of Baker (1987), Donovan and Rossiter (1982), Mehrabian and Russell (1974), Bitner (1992) developed a servicescape conceptual framework model, which focused on three dimensions of the physical environment in a service setting. They are ambient conditions, spatial layout and functionality, and signs, symbols and artefacts (Bitner 1992). These dimensions can be defined as:

- ambient conditions which include background characteristics of the environment such as temperature, lighting, noise, music, and scent. as a general rule, ambient conditions affect the five senses;
- spatial layout—refers to the ways in which machinery, equipment, and furnishings are arranged, the size and shape of those items, and the spatial relationships among them. as part of the spatial layout the functionality of those elements allows for the same items to facilitate performance and the accomplishment of goals;
- signs, symbols, and artefacts—refer to the many items in the physical environment, which serve as explicit or implicit signals that communicate about the place to its users. signs, symbols, and artefacts are particularly important in forming first impressions, for communicating new service concepts, for repositioning a service, and in highly competitive industries where customers are looking for differentiating cues. for example, particular environmental cues, such as the type of office furniture and decor and the apparel worn by a lawyer, may influence a potential client's beliefs about whether the lawyer is successful or not successful, expensive or not expensive, and trustworthy or not trustworthy (Bitner 1992; Wener 1985; Davis 1984; Wineman 1982 and Becker 1977).

Bitner’s model encompassed all the physical elements, which are controllable by a service provider in their dealings with their customers as well as taking into account the effects physical factors have on their own customer service staff, as shown at Figure 2.5.
Bitner’s (1992) model proposed that the servicescape encompasses all the physical elements that can be controlled by a service provider. In this way, they are able to enhance customer and employee actions. The model also takes a holistic view of the internal environment as it relates to the perceived servicescape. This research will include in its study some of those elements in Bitner’s (1992) model relating to: 1) how the servicescape relates to customers behavioural responses to the retail environment; 2) the internal servicescape environment; and 3) the physical environment in a service marketing setting.

Moderators relating employee impact on the servicescape environment including approach-avoidance behavioural responses will not be incorporated into the theoretical framework of this research, as this research: 1) will provide for a better understanding of how products are evaluated by users that will lead to a greater understanding of how to influence and manage these customers’ evaluations (Hoffman & Bateson 2006; Donovan & Rossiter 1982 and Mehrabian & Russell 1974); and, 2) a stronger relationship between servicescape service quality and future customer perceptions and behaviours.
Upon comparison of Bitner’s (1992) and Baker’s (1987) servicescape components, there is an overlapping element in terms of their functional components, which encompasses the design of the servicescape. There is also a distinction Baker (1987) made between design factors; how aesthetics include architecture, materials, style and shape, and with the functional component which includes comfort and layout. Baker’s (1987) conceptual model also indicated that servicescape stimuli exist from a design factor internally and externally and there is inclusion of social factors pertaining to consumers in the servicescape.

Leading on from Bitner’s (1992) and Baker’s (1987) studies, a conceptual model of the aesthetic value in the servicescape included the variables of architecture, marketing and design (Wagner 2000). The main focus of Wagner’s (2000) model was on the visual aspect of the servicescape. The model was an extension of Holbrook’s (1994) study of consumer value, which was one of eight dimensions derived from consumer’s experience of product use, adding in the elements of visual arts, architecture and philosophy into the servicescape. The effect of Wagner’s (2000) model provides a global view of the overall design of the servicescape which can be manipulated by the retail provider when designing the service environment. The model differentiates between the subjectiveness of the cognitive and behavioural responses of consumers and the objectives of the servicescape features. Wagner’s model is shown in Figure 2.6.

**Figure 2.6: Wagner’s Model of Aesthetic Value in the Servicescape**

<table>
<thead>
<tr>
<th>OBJECTIVE FEATURES</th>
<th>SUBJECTIVE FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer Characteristics</strong></td>
<td><strong>Cognition</strong></td>
</tr>
<tr>
<td>Motive</td>
<td>Beliefs</td>
</tr>
<tr>
<td>Taste</td>
<td>Categorization</td>
</tr>
<tr>
<td>Personality</td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td></td>
</tr>
<tr>
<td><strong>Sensory Elements</strong></td>
<td><strong>Perceived Servicescape</strong></td>
</tr>
<tr>
<td>Colour</td>
<td>Building</td>
</tr>
<tr>
<td>Light</td>
<td>Interior</td>
</tr>
<tr>
<td>Texture</td>
<td>Exterior</td>
</tr>
<tr>
<td><strong>Principles of Design</strong></td>
<td><strong>Decor</strong></td>
</tr>
<tr>
<td>Proportion</td>
<td>Furniture</td>
</tr>
<tr>
<td>Symmetry</td>
<td>Fixtures</td>
</tr>
<tr>
<td>Repetition</td>
<td>Artefacts</td>
</tr>
<tr>
<td><strong>Elements of Design</strong></td>
<td><strong>Affect</strong></td>
</tr>
<tr>
<td>Form</td>
<td>Pleasure</td>
</tr>
<tr>
<td>Space</td>
<td></td>
</tr>
<tr>
<td>Unity</td>
<td></td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td><strong>Other Types Of Value</strong></td>
</tr>
<tr>
<td>Sequence</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td><strong>Approach</strong></td>
</tr>
<tr>
<td>Enter</td>
<td></td>
</tr>
<tr>
<td>Circulate</td>
<td></td>
</tr>
<tr>
<td>Intention to</td>
<td></td>
</tr>
<tr>
<td>Repatronize</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.5 provides some comparative elements of Baker’s, Bitner’s and Wagner’s models.

### Table 2.5: Comparative Elements of Servicescape Models

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Focuses on design factors.</td>
<td>• Servicescape influences cognitive and affective behavioural responses of the customer.</td>
<td>• Focuses on design factors.</td>
</tr>
<tr>
<td>• Integrates architectural design into conceptual framework.</td>
<td>• Represents a holistic perspective.</td>
<td>• Integrates architectural design into conceptual framework.</td>
</tr>
<tr>
<td>• Includes interior and exterior in the servicescape environment.</td>
<td>• Focuses on the internal servicescape environment.</td>
<td>• Includes interior and exterior in the servicescape environment.</td>
</tr>
<tr>
<td>• Emphasizes the importance of the people component of the environment.</td>
<td>• Adopts an approach-avoidance behavioural response from customers and employees.</td>
<td>• Represents a holistic perspective.</td>
</tr>
<tr>
<td>• Focuses on the physical environment in service marketing.</td>
<td>• Focuses on the physical environment in service marketing.</td>
<td>• Servicescape influences cognitive and affective behavioural responses of the customer.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.

Variations in environmental cues may also affect employees’ beliefs. The physical setting of the retail space is the same setting that communicates and influences customers, therefore it is reasonable to point out these conditions may affect employees of the firm (Baker, Berry & Parasuraman 1988). Research conducted in organisational behaviour revealed the physical setting can influence employee satisfaction, productivity, and motivation. For example, office size and type of furnishings may affect an employee's beliefs about the importance of their function within the firm in relation to other employees (Sundstrom & Altman 1989; Steele 1986; Sundstrom & Sundstrom 1986; Wineman 1986; Davis 1984 and Becker 1981).

Perceptions of the servicescape influence beliefs about the environment itself, but also appears to affect beliefs about other, seemingly unrelated, service attributes. The physical environment’s influence in altering consumer behaviours to create an image is particularly apparent for service providers in varying industries such as; hotels, restaurants, professional offices, banks, retail stores, and hospitals (Baker 1987; Bitner 1986; Upah & Fulton 1985; Zeithaml, Parasuraman, & Berry 1985; Booms & Bitner 1982; Shostack 1977 and Kotler 1973).

Other researchers have followed up on Baker’s (1987) comments by taking into account the complexity of customer-environment relationships, for example, some concepts and methods were derived from:

- Anthropology (Belk, Sherry & Wallendoff 1988)
Ecology (Bloch, Ridgway & Dawson 1994)

Sociology (Aubert-Gamet & Cova, 1997 and Goodwin 1994)


These approaches are considered to enhance customer-retail provider environment interaction (Everett, Pieters & Titus 1994).

Table 2.6 represents additional studies performed that specifically examined consumer’s behavioural responses to the retail servicescape.

Table 2.6: Consumer’s behavioural responses to the retail servicescape

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Study conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox, Cox &amp; Anderson (2005)</td>
<td>In their study, consumers viewed the shopping outing as a pleasurable kinaesthetic experience irrespective of the merchandise element.</td>
</tr>
<tr>
<td>Turley &amp; Milliman (2000)</td>
<td>Focused on how consumers respond to un-related variables within the retail environment at a fixed point in time.</td>
</tr>
<tr>
<td>Penaloza (1999)</td>
<td>Reviewed how spatial and kinetic elements of consumer behaviour from an interpretative perspective were a necessity in translating meaning to customers.</td>
</tr>
<tr>
<td>Ward, Bitner &amp; Barnes (1992)</td>
<td>A review was conducted to establish whether consumers perceive multiple facets of the internal environment from the retail selling space and the effects it had on consumer perception.</td>
</tr>
<tr>
<td>Bitner (1990)</td>
<td>Study showed that a travel agent’s office decor affected customer attributions for the travel agent’s behaviour.</td>
</tr>
<tr>
<td>Gardner &amp; Siomkos (1986)</td>
<td>In a consumer study, variations in verbal descriptions of store atmospherics were found to alter beliefs of the consumer about a product (perfume) sold in the store.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.

The literature reviewed indicated there has been extensive research, which has examined the dimensions of the internal retail environment. The consumer is no longer only a user of the physical environment but a co-contributor of the service space. Consumers are not only experiencing the service, they are creating new meanings and functions, which ultimately affect the level of service quality provided by service providers creating opportunities to improve service management.

Researchers have taken into account the way in which service spaces can be manipulated to entice consumer behaviour providing the conceptual framework and the servicescape typology suggesting a wide range of research applications. One of the earliest researchers, Kotler (1973), identified that atmospherics was a key element in the planning process by firms that service providers should include three variables in that process: architecture, interior design and a stores
window display. Through the various research studies, service providers have designed the retail servicescape to ultimately affect consumers on how they react unconsciously to environmental cues such as: colours, smells and sounds. The literature revealed how situational stimuli have become important influences in the way consumers behave to a product particularly when the intangibility of the variables involved may be difficult to objectively measure.

The understanding of consumer responses to the retail environment led to several models being developed most notably Bitner’s (1992) servicescape model, which was adapted from previous works by Donovan and Rossiter (1982) Mehrabian & Russell (1974). It is important to note this earlier conceptualisation of Mehrabian and Russell’s Stimulus-Organism-Response model, from its inception, was adopted from environmental psychology, which studied how people perceive and interpret the environment. In Bitner’s conceptual framework, she proposed all the environmental aspects that constitute the servicescape include all the physical factors which can be controlled by a retail provider. These variables were described as ambient conditions, spatial layout and sign, symbols and artefacts.

The literature provides many dimensions of the service environment and the importance each can have on consumer behavioural responses. Providing a means of putting all those dimensions together is at best difficult, mainly due to the perceived holistic ideology of the environment. The research conducted on servicescape service quality will optimize the variables encountered in a retail setting and provide a better understanding of environmental needs in the service process.

In the following section customer satisfaction is reviewed as one aspect of a customer’s interaction to the service encounter as it relates to the retail servicescape.
2.5 Customer Satisfaction

In this section customer satisfaction is reviewed as a variable in this research to determine, how customer satisfaction affects consumers’ behavioural cues in the retail servicescape.

Customer satisfaction’s influence on consumer behavioural intentions and customer retention has been the subject of much attention in the literature suggesting that it reflects the degree to which a consumer believes that the possession and/or use of a service evokes positive feelings (Anderson & Fornell 1994; Bitner & Hubbert, 1994; Bolton & Drew 1994; Rust & Oliver 1994; Anderson & Sullivan 1993; Cronin & Taylor 1992; Fornell 1992; Oliver & Swan 1989; Oliver 1981, 1980, 1977 and Olson & Dover 1979).

Ideally it is the consumer’s fulfilment response to a judgment that a product, service provider, or the product of services itself that is being provided, (or is providing), a pleasurable level of consumption related fulfilment, which includes levels of under or over fulfilment (Oliver 1997). Other researchers have made note in service management literature that customer satisfaction is the result of a customer’s perception and that overall customer satisfaction is a perceived quality and is based, conceptually, on the amalgamation of service quality attributes (Athanassopoulos 2000; Fornell, Johnson, Anderson, Cha, & Bryant 1996 and Hallowell 1996).

For most marketers, customer satisfaction has been an integral part of their practical and theoretical research. Firms today are faced with the customer message of, ‘give me what I want’, ‘how I want it’ and ‘when I want it’, while at the same time they want to be made to feel special. With today’s competitive marketplace, there are options for the consumer to buy elsewhere if this does not take place (Meuter, Ostrom, Roundtree & Bitner 2000). It is therefore a necessity for retail providers to be able to develop customer satisfaction strategies which cannot be underestimated for those market-orientated firms (Kohli & Jaworski 1990).

As a result, there has been an increase in retailers conducting customer satisfaction surveys (Danaher & Haddrell 1996) as well as an increase in consumer satisfaction testing, which is due to the variety of measurement scales used in customer satisfaction instrument tests (Devlin, Dong & Brown 1993).
There are two broad types of scales used in customer satisfaction surveys, single and multi-item scales.

- Single-item scales (generally having 2–9 points) to reflect ‘very satisfied’ to ‘very dissatisfied’ responses however single-item scales have two faults. First, it cannot provide information on separate components or assess various dimensions, resulting in the inability to capture the complexity of customer satisfaction entirely. Second, it is very difficult to assess reliability with a single-item measure, with the only reliability estimate being that of a test-retest format (Yi, 1990; Westbrook 1980; Andreasen & Best 1977; Oliver 1977 and Olshavsky & Miller 1972).

- Multi-item scales measuring of customer satisfaction are administered by having survey respondents asked to give an overall evaluation of their satisfaction with the retail provider and asked to rate the key components of the service process. (Danaher & Mattsson 1994; Rust, Zahorik, & Keiningham 1994; Rust & Zahorik 1993; Bearden & Teel 1983; Churchill & Surprenant 1982 and Oliver 1980). In the customer satisfaction measurement setting, multi-item scales can be grouped into three broad categories: performance scales, such as poor, fair, good and excellent; disconfirmation scales, such as worse than expected to better than expected; and satisfaction scales, such as very dissatisfied to very satisfied (Devlin, Dong & Brown 1993).

The approach of customer satisfaction in service industries, however, has been looked at differently, which has been done by equity theory, attribution theory, confirmation and disconfirmation paradigms, and as a function of perception through customer satisfaction (Parker & Mathews 2001; Davis & Heineke 1998 and Erevelles & Leavitt 1992).

Equity theory is compared by customers with those of others through their input/output ratios. Customers may compare their net gain to reference groups or marketers to determine their level of satisfaction (Parker & Mathews 2001). The level of satisfaction is then perceived by the customer’s outcome to the input as being fair and therefore may further evaluate satisfaction of their understanding to the transaction and the cost benefit outcome. Customer satisfaction is then an interpersonal experience with an outcome based result (Parker & Mathews 2001). However, one criticism of equity theory is that it fails to distinguish differences of how individuals respond to situations involving equity (Shore 2004).
Attribution theory originally developed as a theoretical framework by Weiner (1985), assumes that people try to determine why people do what they do, attribute causes to the behaviour and is described as a three-stage process.

- Internal versus external source of cause
- Controllability
- Stability of the cause of the outcome.

Attribution theory is used to explain the difference in success and failure of consumer purchases, which brings about why customers try to explain such occurrences (Richins 1985). Successful customers view the approach from a level of satisfaction rather than dissatisfaction because they believe success is due to effort. The cause of failure on the other hand was thought to be bad luck or not their fault. Consumers are thereby un-affected and their self-esteem remains high as success builds pride and confidence. As with equity theory, attribution theory has had criticisms from some researchers for its lack of explanation of the possibility that consumer reasons could differ from one time to another for the same consumer (Daly 1996; Lewis & Daltroy 1990; Richins 1985 and Weiner 1985).

The confirmation/disconfirmation paradigm provides the foundation for many of the satisfaction studies conducted (Parker & Mathews 2001). There are four constructs to this paradigm: expectations, performance, satisfaction/dissatisfaction and disconfirmation (Caruana 2002). Disconfirmation takes the view that customer satisfaction arises out of their perceptions and prior expectations. The consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption (Parasuraman, Zeithaml & Berry 1994; Tse & Wilton 1988 and Oliver 1981).

Disconfirmation consists of two processes, the formation of expectations and the disconfirmation of those expectations (Andreassen & Lindestad 1998). Further customer perception is then influenced by quality, marketing mix, brand name and company image, with positive and negative disconfirmations weighing uniquely different on customer satisfaction. Losses are then perceptually greater than gains of equal amount (Kahneman & Tversky 1979).

Negative disconfirmation has more impact on satisfaction than positive disconfirmation (Anderson & Sullivan 1993). Customer satisfaction is, therefore, regarded as the accumulated experience of a customer's purchase and consumption experiences which will have an impact on
customer loyalty (Andreassen & Lindestad 1998). If service performance is greater than or equal to an anticipated service then it will result in positive customer satisfaction, while customer dissatisfaction occurs when performance is less than the anticipated service (Davis & Heineke 1998).

Some of the wider documented arguments relating from products rendered by providers indicated that the desired product is at a level a customer believes can, and should be, delivered and that adequate product delivery is at a level the customer considers acceptable (Zeithaml, Berry & Parasuraman 1993). In a study by Spreng and Olshavsky (1993), they demonstrated there was a significant relationship between the extent to which performance is congruent with desires, but did not find the disconfirmation of expectations to be significant. A further example of the argument was postured that while perception alone may be a better predictor of satisfaction, it offers less understanding of the underlying trend than the disconfirmation model, suggesting that the question is an area for future research (Parasuraman, Zeithaml & Berry 1994).

Researchers who use other approaches to measure customer satisfaction question the disconfirmation model. Goode and Moutinho (1995, p. 33), for example, stated, ‘The disconfirmation of expectations model has been increasingly criticized in recent years and, as a result, standards other than expectations have been suggested’.

Another argument that arose contended that the varied definitions of expectations made it too difficult to measure expectation levels with inferior operational measurements undermining those models that used expectation concepts (Teas 1994).

Other researchers have used different forms of comparison models to evaluate satisfaction thereby providing different opinions on single components of satisfaction as they relate to each other (Parker & Mathews 2001). It was suggested that there may not be any effect on customer satisfaction from either disconfirmation or expectation (Cronin & Taylor 1994 and Churchill & Suprenant 1982). While it has been demonstrated that performance and satisfaction levels are directly linked (Cadotte, Woodruff & Jenkins 1987).

After a review of the literature there has been no consistency when functionalising the expectation aspect of customer satisfaction. As there are varying theories and models on disconfirmation (Cronin & Taylor 1994; Teas 1994 and Churchill & Suprenant 1982), this research will take an alternative route, bypassing the debate that surrounds the complexity of the expectation concepts in measuring customer satisfaction. The approach is to depend on actual
customer evaluations of satisfaction instead of the gap that exists between perception and expectations (Cronin & Taylor 1994 and Teas 1994).

2.5.1 The relationship between service quality and customer satisfaction

Service quality is considered a critical aspect to an organisation’s overall performance with researchers developing measures of service quality to better understand its antecedents and consequences in building customer loyalty (Alexandris, Dimitriadis & Markata 2002 and Zahorik & Rust 1992).

It is considered that superior service quality is essential in establishing and having a satisfying relationship with customers (Lassar, Manolis & Winsor 2000). Customer satisfaction is considered vital to an organisation’s financial targets, improved profits, word-of-mouth referrals and reduced marketing expenditure (Beerli, Martin & Quintana 2004; Reichheld 1996; Jones & Sasser 1995 and Iacobucci, Grayson & Ostrom 1994). Service quality and its relationship with customer satisfaction is considered relevant subject matter, as service quality should be regarded as a pertinent gauge of customer satisfaction (Lee, Lee & Yoo 2000; Spreng & Mackoy 1996 and Cronin & Taylor 1992).

Service quality and customer satisfaction have a common relationship; however, both have been conceptualised as separate and unique identities (Jamal & Naser 2003 and Cronin & Taylor 1992). Many discussions have taken place surrounding the links between the two with their conceptual overlaps thereby leaving some researchers to argue that while service quality and customer satisfaction have similar and close concepts they also have varying differences (Rust & Oliver 1994 and Patterson & Johnson 1993). Researchers note that in order for a customer to form a satisfaction judgement they must first have experienced a product, whereas perceived service quality does not necessarily have to be experience based (Patterson & Johnson 1993). Perceived service quality, as cognitive judgement behaviour, allows the consumer to gain knowledge regarding an organisation through other means such as word-of-mouth communication, in addition to the usual experienced interaction a customer would have with that organisation (Liljander & Strandvik 1994).

Service quality and customer satisfaction concepts are distinct from each other by separate antecedents, as has been argued by Oliver (1993). Service quality is considered to be a predictor of customer satisfaction, which has been supported theoretically, conceptually and empirically, as related to the sequential order of each constructs (Lee, Lee & Yoo 2000; Oliver 1993 and Cronin &
Taylor 1992). Both constructs are considered to be important components of marketing theory and practice therefore organisations that have a competitive edge on their competition are advantaging the quality of service they deliver to satisfy their customers (Chupitaz & Paparoidamis 2004; Shemwell, Yavas & Bilgin 1998 and Spreng & Mackoy 1996). As service quality is a performance, it is assessed by consumers as a perception of that performance. Therefore, customer satisfaction results from that perception and is thus feelings and judgements towards a product as defined in Section 1.2 (Jamal & Naser 2003). There have been numerous empirical studies supporting the service quality—customer satisfaction relationship Table 2.7 provides a summary of some of the more relevant studies between the two constructs.

Table 2.7: Studies between service quality and customer satisfaction

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Service quality model used</th>
<th>The industry study was performed in</th>
<th>Results of the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamal &amp; Naser (2003)</td>
<td>Model developed from literature. Three main components; Core quality, Relational service (employees service quality) and Tangibles.</td>
<td>Banking</td>
<td>Showed a strong relationship between service quality and customer satisfaction.</td>
</tr>
<tr>
<td>Lee, Lee &amp; Yoo (2000)</td>
<td>Used 15 items out of the 22 items from the SERVQUAL model.</td>
<td>Entertainment park, investing and consulting, aerobic school.</td>
<td>Showed that perceived service quality is an antecedent of satisfaction, rather than vice versa.</td>
</tr>
<tr>
<td>Lassar, Manolis &amp; Winsor (2000)</td>
<td>Grönroos (technical and functional service quality) and SERVQUAL models.</td>
<td>Financial</td>
<td>Showed that the technical and functional quality dimensions reliably predicted levels of customer satisfaction. A majority of SERVQUALs did not.</td>
</tr>
<tr>
<td>Spreng &amp; Mackoy (1996)</td>
<td>Study was based on Oliver’s (1993) model, ten attributes of advising quality were used.</td>
<td>Financial Service</td>
<td>Showed that service quality has a positive influence on customer satisfaction.</td>
</tr>
<tr>
<td>Boulding, Kalara, Staelin &amp; Zeithaml (1993)</td>
<td>SERVQUAL</td>
<td>Education</td>
<td>Showed that the perception of service quality dimensions is confirmed to be a function of customer satisfaction.</td>
</tr>
<tr>
<td>Cronin &amp; Taylor (1992)</td>
<td>SERVPERF</td>
<td>Fast food, pest control, dry cleaning and banking.</td>
<td>Showed there was a significant relationship between service quality and customer satisfaction.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.
The results from Table 2.7 indicate significant empirical evidence that service quality influences customer satisfaction. The following section reviews the impact of customer satisfaction on retention intentions.

2.5.2 The relationship between customer satisfaction and retention intentions

Studies have shown that customer satisfaction and retention are critical constructs to organisations as they both have significant impact on profits (Beerli, Martin & Quintana 2004 and Levesque & McDougall 1996). Although there are other benefits to organisations related to customer satisfaction such as; satisfied customers are not as price conscious, influenced by the competition, usually buy multiple products and will stay with the firm longer (Zenledin 2000).

Therefore, the more satisfied the customer the easier it is to retain them and build a stronger and more profitable business. In this regard, customer satisfaction has been traditionally thought to be a determinant of customer retention (Ranaweera & Prabhu 2003).

There have been studies that examined the relationship between customer satisfaction and retention in several different industries such as; financial services and telecommunications, thus the link between the two has been acknowledged in the literature (Ranaweera & Prabhu 2003). Overall customer satisfaction has an influencing effect on customer retention (Nguyen & LeBlanc 1998) while repurchase intentions was found by some studies, to be positively influenced by satisfaction with the probability that consumers would be retained by an organisation as satisfaction levels increased (Anderson & Sullivan 1993). It was found that as customer satisfaction levels increased so too does the rate of customer retention (Oliva, Oliver & MacMillan 1992). Table 2.8 provides a summary of results of some studies that were performed on the link between customer satisfaction and customer retention intentions.
## Table 2.8: The relationship between customer satisfaction and retention intentions

<table>
<thead>
<tr>
<th>Researchers</th>
<th>The industry study was performed in</th>
<th>Results of the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beerli, Martin &amp; Quintana 2004</td>
<td>Banking</td>
<td>Showed satisfaction was an antecedent to customer retention.</td>
</tr>
<tr>
<td>Ranaweera &amp; Prabhu 2003</td>
<td>Telecommunications</td>
<td>Showed customer satisfaction had a positive association with retention.</td>
</tr>
<tr>
<td>Caruana 2002</td>
<td>Financial Services</td>
<td>Showed customer satisfaction had a mediating role on the effect of service quality on retention.</td>
</tr>
<tr>
<td>Nguyen &amp; LeBlanc 1998</td>
<td>Financial Services</td>
<td>Showed that customer satisfaction had a significant effect on customer retention. Customers once satisfied with the service received were more likely to stay with the provider.</td>
</tr>
<tr>
<td>Hallowell 1996</td>
<td>Financial Services</td>
<td>Regression results showed customer satisfaction was significantly responsible for customer retention.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.

From the studies provided in Table 2.8, the results indicated customer satisfaction had a significant connection with customer retention.

### 2.5.3 Conclusion to customer satisfaction

Customer satisfaction as a variable to this theoretical framework was reviewed to highlight the impact service quality has on the behavioural cues of customer satisfaction in the retail servicescape. The literature revealed that organisations must be able to provide the best possible product for price while at the same time avoid raising customer expectations beyond their product delivery levels. Satisfaction was seen to come from varying elements of an organisation’s product delivery in addition to the use of the product, such as; the environment where product delivery is provided, the product delivery provided by customer service staff, and the organisation’s amenities.

If a customer is satisfied with the overall delivery of a product there is real scope that organisations will be able to step to the next level of relationship marketing with the consumer, relationship strength. Organisations must be consistently high with the level of their products and provide customer satisfaction with each consumer encounter in order to begin building on the relationship strength of consumers.

In the following section, relationship strength is explored as an evaluation of how organisations and consumers build relationships through the quality of the product delivered by firms in the retail servicescape. Relationship strength is a multi dimensional construct, which addresses the magnitude of relationships in the literature.
2.6 **Relationship Strength**

The term relationship strength has been used in consumer research contexts to describe the extent of a relationship with an organisation and its staff in the retail industry (Bove & Johnson 2001; Naude & Buttle 2000; Ward & Smith 1998; Storbacka, Strandvik & Grönroos 1994; Crosby, Evans & Cowles 1990 and Gummesson 1987).

Some elements of the construct consist of trust, commitment, and a degree of rationalism, which are perceived to exist between those relationships (Bove & Johnson 2001 and Ward & Smith 1998). The perception of relationship strength provides direct outcomes between the consumer and the service provider, such as adaptability, performance, long-term stability, and cooperation (Hausman 2001). Organisations can assess the relationship strength and pinpoint areas of that relationship with their customers where there may be possibilities the relationship could have a weak bond thereby allowing them to put forward actions in improving that relationship. Conversely, it can be considered that relationship strength could be regarded, in a particular fashion, inappropriate as it provides an undertone of borderline intent, which is at times associated with references to romance, friendship or family contexts (Hausman 2001).

Relationship strength may provide the customer with varying levels of a relationship with an organisation while at the same time fulfil a need they have for their goals and expectations of that retailer (Bove & Johnson 2001 and Jarvelin & Lehtinen 1996). Customer confidence may also be heightened due to relationship strength, as customer’s perceptions of the organisations integrity and reliability increases with that firm’s performance (Wong & Sohal 2002).

Customers who interact in relationship strength building with an organisation may receive economic advantages from developing relationships with businesses. Customer’s foremost motivation in establishing a relationship with an organisation can be due to money saving reasons (Wong & Sohal 2002; Bove & Johnson 2001; Jarvelin & Lehtinen 1996 and Peterson 1995). Those customers may be provided with incentives, rewards, or special pricing opportunities, which would strengthen the relationship (Peterson 1995). Retailers use other non-monetary rewards such as; consumer loyalty programs and free gift with purchase, which are experienced by customers as a benefit in staying with a business. Those benefits are a way retailers limit customers in having to make adjustments in starting new relationships with other competitors and the associated costs that go with switching providers (Klemperer 1987 and Wernerfelt 1985).
Building strong consumer relationships may provide customers with the freedom from having to make decisions. Once a customer is dedicated to a relationship with an organisation the strength of that relationship will be solidified, as customers will stop questioning alternative purchasing possibilities or how much future stock they need to put into that relationship with the retailer (Sheth & Parvatiyar 1995; Klemperer 1987 and Wernerfelt 1985). The result of this dedication translates into energy saving measures allowing customers time for other things (Rosenblatt 1977). Relationship strength building helps customers reduce their choices by engaging in an ongoing allegiance with the retailer (Sheth & Parvatiyar 1995).

Once a customer begins building the strength of their relationship with an organisation they may then receive ancillary services or preferential treatment, such as discounts off items purchased, special shopping times outside of normal business hours, and reduction in delivery fees, not normally bestowed to non-regular customers (Gwinner, Gremler & Bitner 1998). Customers soon rationalise that staying in a relationship with a retailer may afford them certain privileges, which will ultimately provide them with optimal satisfaction. Subsequently, the retailer benefits from building relationship strength with their customers as it provides the business with specific customer knowledge such as their tastes or preferences. Building those relationships ensures optimum treatment and strengthens the customer service satisfaction levels (Zeithaml 1981).

In the retail context, building relationship strength between customers, customer service staff, and the respective organisations may provide an outcome with positive results. A positive result is likely to occur, providing consumers can trust customer service staff, which may then increase the benefits derived from the overall shopping experience (Swan & Nolan 1985). The relationship strength philosophy that customer service staff should be able to build on is one of a trusting relationship with customers as opposed to an adversarial approach (Grönroos 1996). Retailers are not accustomed to the scenario of a win-lose perspective instead would rather see and benefit from a win-win situation with both parties involved being better off in the long term as partners (Grönroos 1996).

To be an effective retailer and to be able to build relationship strength, a firm must be an effective co-operator. An effective organisation is contingent on the existence of trust between the customer and the retailer, otherwise there will be no commitment to a mutual cause (Hunt & Morgan 1994).
There are three tactical issues organisations may need to take up in building relationship strength:

- Seek direct contact with customers and other stakeholders
- Building a database that covers vital information about the customer
- Developing a customer-oriented service system

(Grönroos 1996).

Customer service staff can also contribute in building relationship strength by possessing certain attributes as a means of building and maintaining customer strength. These skills may not only improve customer relations but also could positively affect service quality, improve satisfaction, and strengthen the relationship between the organisation and the customer considerably. Some of those attributes are as follows:

- Have a genuine liking of people
- Have enjoyment of working for and servicing others
- A strong social need
- An ability to feel comfortable among strangers
- A sense of belonging to a group or place
- An ability to control feelings
- Sensitivity towards people and an ability to show compassion or empathy
- Have a general sense of trusting others
- A high level of self-esteem
- A track record of competence

(Martin 1993; Finch 1990 and Martin 1989).

As customer service staff may have an overall effect on customer relationships, based on particular attributes they may possess, there are several internal factors organisations could have in forging an ongoing relationship with customers where customers look for value in the total service
offering, resulting in the whole chain of activities having to be co-ordinated and managed as one total process:

- Relationships resulting in the collaboration between functions and departments that are responsible for different elements of the service
- Staff responsibility for the core product itself
- Effective advertising of the product(s)
- Maintaining and delivering the product
- Resolving complaints and errors in an efficient and timely manner
- Efficient billing routines and product documentation

(Grönroos 1996).

Organisations may further set themselves apart from the competition by securing their relationship base by remembering three basic philosophies:

1. Consumers are by nature predictable and loyal creatures, therefore, there is no difference what organisation they are doing business with; however, they would prefer a long term stable relationship with one firm.

2. Some customers have been more fortunate financially than others therefore they will spend more, look after their personal accounting needs more promptly and require less maintenance in service.

3. Customers may find a retailer’s services or products more beneficial than its competitors. Therefore, organisations should realise they are not all things to all people and focus on the firm’s specific specialties, strengths, needs, and opportunities

(Reichheld 1996, p. 63).

Those retail providers who can attract consumers who may belong to one of these ideologies have a better opportunity of increasing their relationship base.
Researchers argue that relationship strengthening strategies between customers and retailers and subsequently retaining those clients’ takes three forms, financial, social and structural.

- **Financial**—occurs when the customer is obligated to the organisation through price incentives or other forms of financial bond
- **Social**—occurs when the organisation regards the customer on a personal communication level
- **Structural**—the organisation regards the customer as a partner. Retailers may work closely with their partners to develop customised goods and services (Berry & Parasuraman 1991).

As with customer satisfaction, service quality as a performance is thereby assessed by consumers as a perception of that performance. Therefore, relationship strength results from that perception and is thus a customer’s relationship that exists with an organisation as defined in Section 1.2 (Bove & Johnson 2001).

### 2.6.1 The relationship between relationship strength and retention intentions

Organisations are constantly transforming their businesses from product orientated to customer orientated with a focus on retaining customers through relationship building and customer retention outcomes (Beerli, Martin & Quintana 2004). In order for organisations to continue to grow financially, retaining existing customers has been a key performance indicator with add on and cross selling of products a targeted strategy with current retained customers (Finnie & Randall 2002 and Swailes & Dawes 1999).

Researchers agree that organisations through some form of interactions and relationships, can add value to products and services, which will eventually promote a strengthening in their consumer relationships, which in turn increases customer retention rates (Berry & Parasuraman 1991; Kotler 1991; Turnbull & Wilson 1989; Jackson 1985 and Levitt 1983).

Customer relationships may be able to improve the net effect of an organisation’s profitability (Dawkins & Reichheld 1990); however, the retention of customers based on the strengthening of the relationship should not be, to all intents and purposes, the goal of retailers as consumer relationships are not necessary in order for those organisations to be profitable (Dawkins & Reichheld 1990). It may be recognised that customers may not wish to have relationships in the
way organisations expect; however, few would dispute that it is more cost-effective to retain existing customers than to seek out new ones (Ahmad & Buttle 2001 and Blois 1996).

### 2.6.2 Conclusion to relationship strength

In examining relationship strength using relationship components, some investigations have concentrated on customer satisfaction, commitment and trust as predicting constructs (Barnes 1995), by looking at how often or frequently a consumer uses a firm or how consumers view their strength of their relationship with a firm (Hennig-Thurau, Gwinner & Gremler 2002; Hennig-Thurau & Hansen 2000; Dorsch, Swanson & Kelly 1998; Hennig-Thurau & Klee 1997 and Crosby, Evans & Cowles 1990). Relationship strength is believed to act as a mediating variable, as it is represented in this study, having an effect on behavioural intentions (Forrester & Maute 2001).

The literature review revealed two key factors in relationship strength, namely that relationships need to be maintained between organisations and customers and that customers are more inclined to be loyal when organisations are flexible and are willing to continuously adapt to their needs. The literature further highlighted that financial, social and structural bonds can help retain customers and there may be significant influence in organisations profitability when there is a strengthening relationship between the customer and that firm as long as each side can be adaptable to the other. This research looks to: 1) identify and measure relationship strength components; and 2) the function relationship strength has on consumer’s evaluation of their relationship desire, benefits, satisfaction and relationship orientated retention intentions.

Retention intentions are the focus of retaining customers by organisations and will be the next variable reviewed. Research has indicated enhancing organisation’s consumer retention levels by a mere two percent will result in overhead costs declining by ten percent (Jamieson 1994).
2.7 Retention Intentions

Retention intentions are a focus of this research as a cognitive component of attitude. In an ideal situation a researcher would like to be able to measure repurchase behaviour directly. From a data-gathering viewpoint, this method has many practical difficulties. Retention intentions are one of two dependent variables in this study. They are considered to be a behavioural intention with a subjective probability that the customer will perform some type of behaviour. Retention intentions may be influenced by a customer’s intention to remain with a firm, knowing their product quality, which is based upon the customer’s perceptions of the firm’s technical, functional and servicescape quality. An output measurement of this research is the relationship based retention intentions (Fishbein & Ajzen 1975).

Researchers claim a five percent increase in customer retention rates increases the net present value of customers by between twenty five and eighty five percent in a wide range of industries such as; credit card companies, insurance brokerage firms, auto services and office building management (Reichheld 1996, pp. 33–62; Dawkins & Reichheld 1990 and Reichheld & Sasser 1990). The argument behind their claim is that the higher retention rate leads to higher net present value. There appears to be two reasons why an increase in customer retention increases net value. First, relative costs of generating revenue streams from existing customers are lower than for new customers. Second, as these customers stay with an organisation expenditures that would have been spent on replacing those customers are saved. Some authors agree that it costs between one-fifth and one-tenth as much to keep existing customers than to establish new ones (Ahmad & Buttle 2001; Fites 1996; Vandermerwe 1996, p. 24 and Rosenberg & Czepiel 1984).

It is easier to keep existing customers than to try to find new ones (Brendin 1995). In part this finding is supported by global firms such as Disney, Lexus and Neiman Marcus who provide an excellent customer service image. The reason is they have learned the art of reminding the customer of the great product they provide (Brendin 1995). Retailers operate in an extremely competitive environment where many companies have lost sight of how important it is to hold onto their existing customers (Gorder 1991).

Overhead costs of organisations may decline as much as ten percent if firms enhance customer retention by just two percent, which will result in overall profitability (Jamieson 1994). Don Sachs of Beneficial Management Corp., who spoke at the American Financial Services Association's January 1991 Operations Conference stated ‘Back in the old days you took it
personally if you lost a customer because you knew that person but today for many companies, it just means you have to go out and get a new customer’ (Gorder 1991, p. 1). The pace of today’s workplace environment is much faster, and much of the business comes in through direct response, making face-to-face contact that much more difficult. Today, more and more companies are asking their employees and their customers. ‘How are we doing?’ (Gorder 1991).

Parsons (1995) made the following points on why retaining customers, while at the same time satisfying their needs, is relevant to a firm’s survival:

- It typically costs five to fifteen times more to attract a new customer than to retain an existing customer
- Retaining customers can account for up to sixty percent of sales
- Over forty percent of retained customers re-purchase due to a positive shopping experience
- A five percent increase in customer retention can increase profits twenty-five to forty percent.

Other factors may play a role in a firm’s customer retention efforts and ultimately strengthening their customer loyalty base:

- Customer Longevity, which is defined as the longer the relationship with a customer the more profits may increase due to that longevity. Customer longevity can be further broken down by:
  - Consumer growth, and strengthening of their economic position.
  - The longer the relationship, the less expense will be exhausted by the firm.
  - Customers may purchase more, and a varied amount of products.
  - Long term customers will refer friends and family to the firm.
- Increasing employee longevity may result when customers are satisfied, satisfied customers translate into satisfied staff. When a customer is satisfied with the level of product delivery they are receiving it is ultimately easier for employees to deal with those customers. The outcome may reduce a firm’s expenses by being able to retain staff and eliminating the cost of employment searches/hiring.
Confounding competitors is in direct relation to employee longevity as the higher the retention rate the harder it is for competitors to react. Most firms may not be able to realise that a competitor’s growth may be directly related to improved retention (Reichheld & Kenny 1990).

Retailers will use technology in tracking customer retention through the medium of database marketing (Hughes & Paul 1995). Database marketing is a radical shift in acquisition media choices and may have a significant improvement in a firm’s bottom line due to customer’s subsequent purchases. Through a measurement called lifetime value, marketers have to calculate future profits which may be directly linked to a customer’s current retention profile. The profiling method would then allow consumer source media to be traced. The result of which is not customer acquisition, but customer retention (Hughes & Paul 1995).

Retaining customers, in part, depends on rewarding people for being customers. No doubt customer retention begins with consumer’s behaviour towards a retailer and the subsequent consequences they will experience from that business. The more customers feel they are being rewarded the greater the chance they may continue to be repeat customers. Customers who have a positive perception of the level of product delivery they are receiving may be least likely to leave as their expectations may be fulfilled. It would further conclude that the need for variety seeking could also be reduced as customers may see less need for switching thereby having a significant positive impact on repurchase intentions (Ranaweera & Neely 2003).

Researchers have noted other factors that may have been found to have an impact on customer retention, organisational structure, culture and staff development, (Swailes & Dawes 1999) such as:

- senior management’s commitment to improving staff relationships (Hamilton & Howcroft 1995)
- a re-designing of corporate systems may provide the necessary flexibility for retaining customers (Child, Dennis, Gokey, McGuire, Sherman, & Singer 1995; Grant & Schlesinger 1995 and McKenna 1991)
- interdependence between marketing operations, human resource management and internal marketing may be a major factor in building relationships (Grönroos 1995)
customers may make decisions about the continuance of a relationship based on the likeability, competence and dependability of the retailer (Martin & Sohi 1993).

All may be considered essential in successful customer retention requiring organisations weave into their corporate fabric a culture conducive to continuing those relationships.

Throughout the review of the literature, customer retention is found to be a multi-dimensional construct consisting of behavioural and affective factors. Customers exhibit repeat purchase behaviours from an organisation, as a degree of service loyalty, which they possess a positive attitudinal disposition toward the organisation, and may only consider using that firm when their need for this product arises (Gremler & Brown 1996).

In a study examining customer loyalty to retail organisations and factors that lead to its development, there were five elements that contributed to customer/employee relationships in building interpersonal bonds: familiarity, care, friendship, rapport, and trust (Gremler & Brown 1996). Analysis indicated customers and retailers have little contradiction of views on what they deem to be product loyalty, with minor differences noted. One such theme had at least six different types of switching costs; habit, setup, search, learning, contractual, and continuity. Each one could play a significant role in the development of customer retention (Gremler & Brown 1996). These findings were consistent with earlier findings by Guiltinan (1989) and Klemperer (1987).

In a study conducted at the Lenox Hotel in Boston, USA, researchers looked at what attributes would increase customer retention (Bowen & Chen 2001). Results supported the contentions that there is a positive correlation between customer retention and profitability. The more loyal the customer base the more repeat business there would be. Further, loyal customers were less likely to shop around as apposed to their counterparts, non-loyal customers. According to 564 survey respondents, it was clearly indicated customers stayed at the Lennox Hotel, while in Boston, over sixty six percent of the time on return visits; however, they claimed they would definitely return to the Lennox Hotel, over eighty eight percent. While more than half, fifty nine percent, said they did not shop around (Bowen & Chen 2001).
There are however two critical thresholds affecting the link between customer retention and satisfaction (Coyne 1989).

- When satisfaction reaches a certain level, retention increases dramatically
- While at the same time when customer satisfaction declined retention dropped equally dramatically

( Oliva, Oliver, & MacMillan 1992).

Building any customer retention base is one of the biggest challenges facing retailers today (Yesawich 1997). There are times when a customer has a favourable attitude towards an organisation and may even hold them in high regard. In turn, customers may also recommend that retailer to friends and family but with reservations as they may feel the retailer was too expensive and therefore would not use them on a regular basis (Toh, Hu & Withiam 1993). Repeat purchases may not always be the result of a commitment towards an organisation or their products (TePeci 1999). For example, a customer may frequent a specific coffee shop for the convenience of their location en route to work. Then when a new coffee shop opens across the street from their residence, they may switch because the new cafe offers better customer service, value or quality in their product delivery. Therefore repeat purchase may not always mean commitment (TePeci 1999).

Three distinctive approaches to examining customer retention were noted in regards to attitude and behaviour.

- Attitudinal measurement—uses attitudinal data to reflect the emotional and psychological attachment of consumers to retailers. Attitudinal measurements are concerned with repeat purchases, engagement and allegiance of consumers to retailers (Bowen & Chen 2001).

- Behavioural measurements—consider consistent, repetitious purchase behaviour as an indicator of customer retention to retailers. A concern with the behavioural approach is that repeat purchases may not always be the result of a psychological commitment towards the retailer (Bowen & Chen 2001).

- Composite measurements—combine the first two dimensions and measure repeat purchases by customers' product preferences, retailer switching, frequency of purchases, recent purchases and total amount of purchases (Wong, Dean & White 1999; Hunter 1998 and Pritchard & Howard 1997).
Customers who form friendships with their retailers may do so by starting off with a process that moves them from a, 1) demonstrated competence to a, 2) friendly self disclosure to, 3) retention (Price & Arnould 1999). It can then be further concluded that marketing encounters may also be social interactions (Herreman 1997 and Clough 1985), and customers may maintain a relationship with a retailer due to those social factors resulting in long-term retention intentions, (Gwinner, Gremler & Bitner 1998).

Retention intentions of the consumer to remain with an organisation may be influenced by any number of factors. As presented there have been numerous studies conducted relating to the various aspects that make up retention;

- customer loyalty
- satisfaction
- product delivery and functional service quality encounters, and,
- psychological theories.

This research, however, is particularly interested in the impact of how retention intention, as a future customer behaviour construct, is specifically affected by the retail servicescape as a global aspect of service quality. Consequently, this study examines retention intention of a customer’s intention to continue to patronise a retailer based upon their evaluation of their encounter with that retailer.

In the next section, word-of-mouth communication is reviewed as the second future customer behaviour variable of this research and examines how it affects the servicescape environment setting through a voluntary exchange of referrals, techniques, strategies and anecdotes.
2.8 Word-of-Mouth

In this section of the chapter, a review of the literature examines word-of-mouth communication and the influence friends, family, and acquaintances may have on consumer related decisions and the economic impact the word-of-mouth process has on a retailer’s delivery of their products (Schiffman & Kanuk 2000, p. 395; Walker 1995).

According to Nick Chiarelli director of consumer trends, GfK Roper Consulting (2006), ‘word-of-mouth is now the number one most-trusted source of product information on a global scale, with advertising a distant second. Seventy percent of consumers across the globe trust friends, family, or other people first when searching for information or ideas on products to buy. In the USA eighty percent of consumers cite word-of-mouth as the most trustworthy source’ (Chiarelli 2006, p. 42).

Consumers may also prefer personal information sources when they were going to buy from or use a retailer due to the confidence they have in those sources (Murray 1991). Many consumers may be influenced more by word-of-mouth communications than they are, for example, by printed formats (Herr, Kardes & Kim 1991). Research, however, in the word-of-mouth context has been generally regarded as opinion leadership research, or the process that an ‘opinion leader’ informally influences the actions or attitudes of others (Dobele 2006 and Schiffman, Bednall, Watson, & Kanuk 1997, p. 472). Opinion leaders could spread information concerning a retailer and their products quickly over a populous starting within their own circles. Information may then continue to spread to other circles and so on, as effective opinion leaders can easily create instant positive word-of-mouth for an organisation in this way (Walker 1995).

As word-of-mouth marketing by researchers increases, the resulting effect has been the attention retailers have been placing on its validity within the community and their decreasing reliability in more traditional marketing techniques (Laemer 2004; Gladwell 2000; Silverman 2001a, 2001b; Hendricks 1998; Silverman 1997; Rust, Zahorik & Keiningham 1995; Wilson, A. 1994 and Wilson, J.R. 1994). Word-of-mouth marketing may therefore affect the implementation of new product categories because of consumer beliefs and preferences and the choice of products, which may decide the success or failure of those retailers’ products (East, Hammond & Lomax 2008).
Some techniques marketers have employed in stimulating word-of-mouth communication include:

- referencing of other purchasers or knowledgeable individuals
- creating stirring promotions, which may get people talking about the wonderful products of a retailer
- the development of consumer referral incentive schemes to existing customers for referral or introduction of new customers to the firm
- providing add on promotions that encourage customers to use a product and bring along friends who may benefit from the promotion such as; buy two meals and the third one is free
- advertising that features testimonials from a satisfied customer about the retailer or their products

(Libai, Biyalogorsky & Gerstner 2003 and Wirtz & Chew 2002).

These promotional techniques by marketers may tend to be more positive than negative whereas opinion leaders may be regarded as more credible which lends to the negative aspects as well. Marketers have found word-of-mouth to be an effective method of communication however, it is problematic in its control (Piirto 1992; Bayus 1985 and Voss 1984). Table 2.9 provides informational responses opinion leaders may convey during a consumer conversation.

**Table 2.9: Opinion Leader Responses**

<table>
<thead>
<tr>
<th>Consumer Conversation Topic</th>
<th>Opinion Leader Comment(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where the best place is to shop:</td>
<td>When David Jones has a sale, the values are fantastic.</td>
</tr>
<tr>
<td>What retailer provides the best product related customer service:</td>
<td>Having used Xerox for the past 20 years I still think their products and customer service are the best in the industry.</td>
</tr>
<tr>
<td>Which of these brands are best:</td>
<td>It is my opinion Toshiba colour TV’s have the sharpest picture and best customer service staff.</td>
</tr>
<tr>
<td>How best to use a specific product:</td>
<td>I find that when I use laser printers they will work best when one uses a high quality paper.</td>
</tr>
</tbody>
</table>

Source: Developed for this research.
Researchers have looked at ways to assess consumer susceptibility to being influenced by pivotal individuals who may have significant influence on their cognitive processes towards a retailer and their products. One such way is to use a 12 item Agree/Disagree scale which is used to capture a consumer’s level of susceptibility to interpersonal influences. The scale takes on the theory that a person who is highly responsive to another’s opinion may conform, emulate and seek further information from them (Bearden, Netemeyer & Teel 1989). Another measure used is the objective method. The objective method was designed much like a controlled experiment in which it measures the influence of opinion leaders, for example, on household matters. The research is designed to establish true opinion leaders and the ability they have at altering the opinions of consumers in the direction of their own opinion (Myers 1966). Table 2.10 provides four methods including the two discussed which are used primarily to examine opinion leadership.

**Table 2.10: Methods used in measuring opinion leaders**

<table>
<thead>
<tr>
<th>Measurement Method</th>
<th>Description of Method</th>
<th>Sample Questions</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-designating</td>
<td>Person is asked a series of questions to determine the degree to which they perceive themselves to be an opinion leader.</td>
<td>Do you influence others in their selection of products?</td>
<td>Measures the persons own perceptions of their opinion leadership.</td>
<td>Dependent on the objectivity of the respondent.</td>
</tr>
<tr>
<td>Sociometric</td>
<td>People are asked to whom do they go to get advice and to whom do they give advice too regarding a retailer.</td>
<td>Whom do you ask? Who asks you for information about a product or service?</td>
<td>Have the greatest degree of validity.</td>
<td>Sample size of respondents must be large. Complex to administer and costly.</td>
</tr>
<tr>
<td>Key Informant</td>
<td>Carefully selected key informants of a social system are asked to designate opinion leaders.</td>
<td>Who are the most influential people in your group?</td>
<td>Inexpensive to administer.</td>
<td>Informants may not provide thorough or valid information.</td>
</tr>
<tr>
<td>Objective</td>
<td>Artificially places individuals in a position to act as opinion leaders.</td>
<td>Have you tried the product?</td>
<td>Measures the individual’s ability to influence in a controlled environment.</td>
<td>Established experimental design. Able to track resulting impacts on participants.</td>
</tr>
</tbody>
</table>

Source: Adapted for this research from Rogers (1983) Diffusion of Innovations 3rd edition.

The impact of word-of-mouth on consumers has been of significant interest to researchers as it relates to consumers’ actions, preferences and choices (Katz & Lazarsfeld 1955). Studies have found that word-of-mouth communication has often exerted strong influence on consumer behavioural judgements on an organisation (Herr, Kardes & Kim 1991). Retailers are placing more and more importance on word-of-mouth strategies; however, there has been little academic research looking at word-of-mouth communication from an organisations perspective. Research, in part, has
focused on developing an understanding of the underlying phenomenon itself (Godes & Mayzlin 2004). Research into word-of-mouth communication has mainly occurred to establish its frequency, effect, product evaluation and social impact on relationship behavioural patterns (Alvarado 2000).

Table 2.11 provides a sample of those researchers who have focused on the effects of word-of-mouth communication representations.

Table 2.11: Research on Word-of-Mouth communication

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Research Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dobele (2006)</td>
<td>Studied what are the different types of positively referring clients of professional services firms and how do these types relate to the believability of the referral.</td>
</tr>
<tr>
<td>Bell &amp; Song (2004); Garber, Goldberg, Libai, &amp; Muller (2003); Foster &amp; Rosenzweig (1995)</td>
<td>Studied the effects of WOM from the geographical evolution of sales data.</td>
</tr>
<tr>
<td>Van den Bulte &amp; Lilien (2003); Van den Bulte &amp; Lilien (2001); Coleman, Katz &amp; Menzel (1966)</td>
<td>WOM played a significant role in the diffusion of tetracycline, and determined that a more-sophisticated decomposition of the physicians’ adoption decision did, in fact, yield evidence for the role of interpersonal influence.</td>
</tr>
<tr>
<td>Biyalogorsky, Gerstner &amp; Libai (2001)</td>
<td>The authors investigated the optimality of customer referral programs and show that the firm should offer rewards to customers only if they are somewhat demanding but not too demanding.</td>
</tr>
<tr>
<td>Mayzlin (2001)</td>
<td>The author demonstrated that the creation of anonymous online WOM may be a profitable strategy even when consumers are aware of the possibility that the firm is creating it.</td>
</tr>
<tr>
<td>Feick &amp; Price (1987)</td>
<td>Suggested that there exist ‘market mavens’ whose influence extends across categories.</td>
</tr>
<tr>
<td>Bloch &amp; Richins (1983); Jacoby &amp; Hoyer (1981); King &amp; Summers (1970); Katz &amp; Lazarsfeld (1955)</td>
<td>Studied the important role played by category-level opinion leaders in the diffusion of information.</td>
</tr>
<tr>
<td>Engel, Blackwell &amp; Kegerreis (1969); Arndt (1967); Coleman, Katz &amp; Menzel (1966)</td>
<td>WOM as a key driver of service provider sales.</td>
</tr>
</tbody>
</table>

Source: Developed for this research from the authors listed.

Through the review of the literature, it is apparent opinion leaders are regarded as people who others seek out for advice about an organisation. Consistent findings also revealed from this analysis, word-of-mouth may have the biggest impact on a firm’s sales because of the interpersonal relationships with acquaintances, friends and relatives.
While there is argument that word-of-mouth is an important form of communication regarding customer service quality, few researchers offer insightful perspective for retailers. Opinion leaders provide information therefore interpersonal relationships with the consumer affects sales therefore marketers and retailers should market to opinion leaders. Through the research little guidance is offered in terms of how to actually implement this marketing strategy. Most of the studies performed have validated the creation of word-of-mouth communication. Therefore, word-of-mouth is communicated based on some past set of circumstances with an organisation. Word-of-Mouth, as a marketing tool, may be more influential than other marketing tactics but there still appears to be little evidence that research evaluates the question from a retailer’s perspective. The next section provides a summary of the literature reviewed in this chapter.
2.9 Summary of the literature review

This chapter reviewed the marketing literature associated with service quality, and described the foundational constructs of the theoretical framework. This study drew on a seminal and empirically tested model, the Grönroos Model of Perceived Service Quality that divided service quality into two dimensions, technical service quality and functional service quality. The combining of those two variables and the addition of servicescape service quality provided an informed measure of service quality in developing a new proposed service quality model to include the servicescape variable and customers post purchase perceptions and behaviours. Based on this foundation, the chapter presented a framework for approaching the research topic beginning with the three independent variables, product delivery, functional service quality and servicescape service quality.

The chapter reviewed the two mediating variables, customer satisfaction and relationship strength. These two dependent post purchase perception constructs indicated how customers reflect a service performance in terms of customer satisfaction and their perceived relationship with a retail provider. Retention intentions and word-of-mouth communications made up the two dependent future customer behavioural variables reviewed. Literature identified how retail providers, who can predict future customer behaviour based on their relationships with consumers, may be able to reduce or eliminate possible negative evaluations of their organisation.

As is evident from the preceding literature review, there is considerable research examining the conceptualisation and operationalisation of perceived service quality. The following sub sections provide a review of the theoretical framework variables identified.

2.9.1 Theoretical framework variables identified

In developing the theoretical framework there were seven key variables identified in the literature (product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth) consequently resulting in some key definitions being provided to underpin the research (Section 1.2). The theoretical framework distinguishes these variables into three categories, Service Performance (product delivery, functional service quality, servicescape service quality), Post Purchase Perceptions (customer satisfaction, relationship strength), and Future Customer Behaviour (retention intentions and word-of-mouth). A goal of this chapter was to develop a new conceptual model, (Section 2.10),
which empirically tests service quality relating to future customer behaviour where the servicescape is the fundamental part.

### 2.9.2 Service performance variables

The three service performance independent variables measure consumer’s expectations of service quality.

**Product delivery** or the technical aspect of service quality, as outlined in Section 2.2, directly evaluates the quality of a product that is delivered by an organisation. In a coffee shop setting, for example, it is the finished product or outcome dimension such as glasses, plates, drinks, and food. Through the literature reviewed, product delivery was also identified as a perceived level of service performance that is produced by an organisation in dealing with customer expectations of their interactions with staff.

**Functional service quality** or customer service (Section 2.3) relates to the level of service a customer receives from staff or how those customers will view the service of an organisation. Therefore, functional service quality in the literature is sometimes called the process related dimension and can be exampled by the following statements, I received a welcome upon arrival, the staff listened to my needs, staff were polite and staff had good product knowledge. Functional service quality subsequently is the seller-buyer interaction and how the organisation provides for consumers.

**Servicescape service quality**, the third performance variable (Section 2.4) relates and measures the general facilities of the retail outlet. Servicescape refers to the overall physical environment of a retail setting for example, the décor, lighting, temperature, music and furniture. Therefore, servicescapes, from a performance perspective, are those physical evidences that organisations effectively utilise to portray aspects of their product delivery where consumers experience the entire physical environment. The servicescape variable in the theoretical framework (Section 2.10) has been represented as a single construct comprising all of the physical elements. The literature reviewed did reveal that some researchers made reference that the retail servicescape consisted of more than one component in its formation, which is reflected in its definition.

### 2.9.3 Post purchase perception variables

The two-post purchase perception mediating variables measure consumer’s perceptions of service quality as manifested in two perception variables:
Customer satisfaction, (Section 2.5), relates to the overall satisfaction a consumer has with an organisation. The literature reviewed was analysed to provide an indicative representation of research studies resulting in customer satisfaction outcomes as they relate to retail industries because of its potential influence on consumer behavioural intentions and customer retention. Customer satisfaction was perceived as being evaluative and an emotion based response to a retail encounter. Research then suggested customer satisfaction reflected the degree to which a consumer believes that the possession and/or use of a product evoked positive feelings. Some typical statements consumers may ask of an organisation would be, has staff met my expectations, were services I received adequate, and did I enjoy the product(s)?

Relationship strength the second post purchase perception variable, (Section 2.6), which measures the level of relationship between the consumer, an organisation and its staff by asking the questions as consumers, Do I have a good rapport with staff? Do I trust the staff? Are staff approachable? Do they make me feel good about my purchases? In building relationships with customers, the literature reviewed suggested retail providers have focused on customer satisfaction as one measure in that process with other noteworthy predicting constructs of trust and commitment. Researchers indicated that those retail providers, through customer interactions, might be able to add value to their products by promoting a strengthening of those consumer relationships, which in turn may increase retention rates. Relationship strength was thought to act as a mediating variable relating to behavioural intention, as it is presented as a post purchase perception in this research.

2.9.4 Future customer behaviour variables

The two future customer behaviour dependent variables of the theoretical framework measure subsequent consumer behaviour.

Retention intentions (Section 2.7) concerns a customer’s future purchase intention being a cognitive component of attitude. Do I plan on returning to this retailer? When I purchase again will I make that purchase from the same organisation? Therefore, retention intentions is a behavioural intention with a subjective probability that consumers will perform some form of behaviour. Consequently, for this research, a customer’s behavioural intention to continue to patronise an organisation may be based upon their evaluation of the retail provider with a subjective probability the customer will repurchase the product in the future. Retention intentions may be influenced by a customer’s intention to remain with a firm, knowing their product quality, which is based upon the
customer’s perceptions of the firm’s technical, functional and servicescape service quality as mediated by customer satisfaction and relationship strength.

**Word-of-mouth**, the second dependent variable measures a consumer’s future referral intention. Will I refer others? If asked to recommend an organisation would I tell them about the one I went to? Word-of-mouth theory in the literature suggested that it is a result of consumer responses to the use of products or services associated with cognitive processes, such as perceptions of value and equity evaluations, which consumers experience and is shared as meaningful information with others. Therefore, given this reasoning word-of-mouth is an activity that is likely to have positive influences of a particular shopping experience. In this research, word-of-mouth communication is a future customer behavioural variable in the theoretical framework and may take into account the actual quality of the delivery of products provided by the retailer.

Section (2.10) of this chapter addresses the research issues. It also provides the theoretical framework, research problem, related research question and has put forward specific research hypotheses to be empirically tested utilising the conceptual model.
2.10 Theoretical framework and model development

2.10.1 Introduction

Chapter 2 has provided a detailed review of the literature associated with customer service quality and the studies seven main variables as presented in Section 2.2 (Product Delivery), Section 2.3 (Functional Service Quality), Section 2.4 (Servicescape Service Quality), Section 2.5 (Customer Satisfaction), Section 2.6 (Relationship Strength), Section 2.7 (Retention Intentions) and Section 2.8 (Word-of-Mouth). This section presents the theoretical framework and the model based on this theoretical and empirical background which was tested empirically within a retail coffee shop setting. This section also provides the research question as derived from the literature reviewed and describes the hypotheses to be tested.

2.10.2 Theoretical Framework

The proposed theoretical model contains seven constructs, three independent variables, two mediating variables and two dependent variables, as shown in Figure 2.7. The model postulates that the relationships between the constructs provides measures of service performance as evidenced through the service performance of the three independent variables, Product Delivery, Functional Service Quality and Servicescape Service Quality. These three variables when combined with post purchase perceptions two mediating variables, Customer Satisfaction and Relationship Strength, are proposed to predict customer post purchase behaviour.

Figure 2.7: Theoretical model

![Theoretical model diagram]

Service Performance         Post Purchase Perceptions   Future Customer Behaviour

Product Delivery

Functional Service Quality

Servicescape Service Quality

Customer Satisfaction

Retention Intentions

Relationship Strength

Word-of-Mouth

Source: Developed for this research.
Future customer behaviour is assessed, as noted, using two dependent variables, Retention Intentions and Word-of-Mouth. In the coffee shop scenario used to test the model, the relationship between a customer and the retailer should be statistically related to: Service Performance as assessed by the three independent variables Product Delivery, Functional Service Quality and Servicescape Service Quality leading to Post Purchase Perceptions, as assessed by the two mediating variables Customer Satisfaction and Relationship Strength. The outcome, Future Customer Behaviour as assessed by the two dependent variables Retention Intentions and Word-of-Mouth.

This research provides for a wider understanding of consumers responses to environmental cues in the retail servicescape. As there have been numerous research papers on servicescapes, none appear to empirically support a model of service quality in which the servicescape is a fundamental part. Therefore, the research addresses this gap to support empirically a model of service quality in which the servicescape is a key variable of the test, by testing a new theoretical framework.

The physical surroundings are important in retail settings because customers are affected by these surroundings. This research addresses how the servicescape influences the way consumers react to a product or retail provider, thereby making a significant contribution to our understanding of consumer behaviour. The research further describes the theoretical foundation and methodology proposed for the retail coffee shop servicescape and how they relate to subsequent consumer perceptions and behaviours.

In the development process of the theoretical model the study’s gap was attuned into the research question:

**How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?**

The service quality literature revealed seven pertinent themes, as noted earlier, in addressing the research problem. Therefore, as a result of their hypothesised interrelationships, the theoretical model was constructed. In the instance of the servicescape construct where no hypothesised relationships were established in the literature, foundational understanding and rationale was applied during the development process. Table 2.12 provides the research question and related hypotheses.
Table 2.12: Research question and hypotheses

<table>
<thead>
<tr>
<th>RQ</th>
<th>Research question and hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ</td>
<td>How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?</td>
</tr>
<tr>
<td>H1</td>
<td>Customer perceptions of the servicescape are positively related to Customer Satisfaction.</td>
</tr>
<tr>
<td>H2</td>
<td>Customer perceptions of the servicescape are positively related to Relationship Strength.</td>
</tr>
<tr>
<td>H3</td>
<td>Customer perceptions of the servicescape are positively related to Retention Intentions.</td>
</tr>
<tr>
<td>H4</td>
<td>Customer perceptions of the servicescape are positively related to Word-of-Mouth.</td>
</tr>
<tr>
<td>H5</td>
<td>The addition of the servicescape independent variable(s) improves the predictive power of the model.</td>
</tr>
</tbody>
</table>

Source: Developed for this research.

Table 2.12 provides the hypotheses of this study in the alternative hypotheses style, which is the conventional method of stating the alternative hypotheses subsequent to the null hypotheses. The alternative hypotheses are the method used for presenting in this research, as this method is constant with other marketing studies that have engaged in Structural Equation Modelling (Malhotra, Hall, Shaw & Oppenheim 2002 and Morgan & Hunt 1994). Figure 2.8 provides the related hypothesised theoretical model.

Figure 2.8: Theoretical hypotheses model

Source: Developed for this research.
In Chapter 4, data analysis tests and compares the Theoretical Model with and without the servicescape service quality variable, hypotheses five (H5), in order to validate if the addition of the servicescape improves the predictive power of the model. The model is represented in Figure 2.9.

**Figure 2.9: Modified theoretical model without the servicescape variable**

Source: Developed for this research.

### 2.10.3 Summary

This section presented the review of the theoretical framework relevant to this study. The identification of a gap in the literature, the research question and the related hypotheses. The next section provides the conclusion of Chapter 2.
2.11 Conclusion

Research has indicated that consumers can be enticed to react and behave in a certain way based upon the retail environment created by retail providers. It is also noted that this research stream centres on the nature, importance and design of an appealing and effective retail environment, which aligns itself with a retailer’s financial outcomes and interests.

The retail servicescape is a complex array of environmental cues which can potentially influence and affect the behavioural processes of the consumer. In the marketing literature there have been a number of theoretical models proposed in an attempt to assimilate environmental attributes and consumer responses into the overall framework. The theoretical framework of this research is based on those theories and empirical research from the various academic fields. Therefore, this research may contribute to the marketing literature by empirically testing a new model of consumer’s affective and behavioural responsiveness to the presence of the servicescape service quality in a retail setting. Specifically, the research addresses and provides measures on the impact of servicescape on customer perceptions of service quality as evidenced through product delivery, functional service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth.

The next step is to describe and justify the research methodology to be used which is provided in Chapter 3, Research Methodology.
Chapter 3

Research Methodology
3.0 Research methodology

3.1 Introduction

In the previous chapter, the theoretical and hypothesised models were developed for testing. This chapter describes the methodology used for this research including the collection of data, survey procedures, (which includes the test instrument design), selection of the participants and the conduct of the interviews. Chapter 3 also justifies the use of Structural Equation Modelling (SEM), the procedures used for data analysis, and examines the reliability and validity of the instrument used in the data collection. Ethical considerations of the study are discussed providing affirmation pertaining to the ethical research procedures of CQUniversity Australia. Figure 3.1 provides an outline of this chapter.

Figure 3.1: Chapter 3 outline

Source: Developed for this research.
3.2 Justification for the research paradigm

3.2.1 Introduction

This research was undertaken within the positivism paradigm. This section justifies the paradigm used in this research, and describes the approach to theory construction used and then justifies the choice of research design. Acknowledging and recognising the ontology and epistemology was critical to this research study, as they had an effect on the conduct of the study (Deshpande 1983); the researcher then clarified the preferences (Miles & Huberman 1994).

An initial step that took place in this research was to identify a research paradigm that would then guide the research and determine what problem was addressed by this research combined with the methods to address that problem (Guba & Lincoln 1994; Lincoln & Guba 1985 and Deshpande 1983). Once the paradigm philosophy was specified, it guided the specification of the methods required for conducting the research (Trochim 2003 and Guba & Lincoln 1994). There were four paradigms considered for this research, positivism, critical theory, constructivism, and interpretive (Lincoln & Guba 2000; Perry, Riege & Brown 1999; Sarantakos 1998; Guba & Lincoln 1994 and Neuman 1994). A summary of these four-research paradigm philosophies is provided in Table 3.1.
Table 3.1: Research Paradigm Philosophies

<table>
<thead>
<tr>
<th>Paradigms</th>
<th>Positivism</th>
<th>Critical Theory</th>
<th>Constructivism</th>
<th>Interpretive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontology</strong> (Form and nature of reality)</td>
<td>Science is able to discover the true nature of reality. Apprehendable reality driven, global objectivity and external.</td>
<td>Historical realism where social realities are apprehensible. Focuses on critical analysis and transformations of social, political, cultural, economic, ethnic and gender values.</td>
<td>Reality can be known and categorised through analysis and measurement of relationships between variables. Relativism where truth is subjective. Based on individuals’ perceptions of reality.</td>
<td>Science is based on common sense, relies on interpretations, is inductive and not value free.</td>
</tr>
<tr>
<td><strong>Epistemology</strong> (Form and nature of relationship between the researcher and reality)</td>
<td>Researcher and research object are independent. Findings are value free and may be generalised to the entire population.</td>
<td>Researcher values and those of the research subjects are changed as inquiry proceeds.</td>
<td>Intractive link between the researcher and research object.</td>
<td>Subjective in people’s minds. Is created and interpreted differently by people.</td>
</tr>
<tr>
<td><strong>Methodology</strong> (How the researcher finds reality)</td>
<td>Principally quantitative. Verifies hypotheses.</td>
<td>Principally qualitative, consensus, dialogues.</td>
<td>Researcher usually is a passionate participant. Can be qualitative or quantitative.</td>
<td>To interpret social aspects of life and to understand social life while discovering people’s meanings. May or may not be qualitative depending on the underlying philosophical assumptions of the researcher.</td>
</tr>
</tbody>
</table>


These four paradigms are discussed briefly in the following sections with the choice of the positivism paradigm being justified as the most appropriate for this research.

### 3.2.2 Positivism paradigm

The positivism paradigm perceives that science discovers a single apprehendable reality concerning the research problem, as long as the research is based on observations that would result in the knowledge being trustworthy (Guba & Lincoln 1994). As positivism is typically the dominant paradigm in marketing research (Cooper & Emory 1995 and Hunt 1991), the researcher is thereby independent of the investigated outcomes of the questions. The hypotheses were therefore explored through quantitative methods, particularly within a value-free framework, which used complex and
dynamic social systems that related to a community setting that provided a one way in-sight on reality (Easton 1998 and Yin 1994).

Positivism was most suited for this research as positivism was associated with existing theories that addressed marketing relationships within business to consumer environments. Positivism, for example, emphasised the importance of having multiple measures and observations, which considered that the reality may produce acceptable errors with the reality being easily apprehendable (Guba & Lincoln 1994). The positivism philosophy allowed for objective observations from external factors including allowing for generalisation of regularities in participants behaviours. Positivism also tends to be deductive in its logic with findings presented, for the most part, in a formal writing format (Onwuegbuzie 2002). As structural equation modelling was used to analyse the data, the relevance of positivisms quantitative and hypotheses testing association, which complement’s SEM analysis (Guba & Lincoln 1994 and Hunt 1991), and as the research is also grounded in a positivism theoretical design, these elements were contributing factors why positivism was an appropriate paradigm.

This research was conducted within a positivism ontology, (how does the servicescape in retail affect customer service retention intentions and word-of-mouth?) and epistemology, (do customers actually consider environment as a key factor regarding repurchase intentions?). As theoretical propositions were available to test, as they related to the overall model proposed in this research, the deductive theory of testing associated in positivism was thereby appropriate.

### 3.2.3 Critical theory

Critical theory is one of historical realism where reality is based on historical structures. Critical theory focuses on common practices including social, political, economic, cultural, gender and ethnic values (Perry, Alizedah & Riege 1997). Critical theory is the researcher’s capacity to interpret between the researcher and the subject with the goal of transforming misconceptions into informed perception (Guba & Lincoln 1994). As critical theory principally adopts qualitative methodologies to investigate the reality of changes to the values of the researcher and those participants of the research (Lincoln & Guba 2000), it was determined that quantitative methodologies were better suited to directly compare the research results. This research does not attempt to transform any current industry practices, alter participants’ values or change the environment in which the participants of the research live but rather the research seeks to record results (Sarantakos 1996 and Guba & Lincoln 1994).
3.2.4 **Constructivism paradigm**

Constructivism specifies that truth is subjective and based on an individual’s perceptions of actuality, which can result in a world of multiple realities (Hirschman 1986). The researcher is an involved participant with the research instrument, one of dialogue and consensus (Lincoln & Guba 1985). Constructivism would therefore be unsuitable for this research as the researcher was not directly involved in the research process through active dialogue with participants nor does this research seek to build any consensus.

3.2.5 **Interpretive paradigm**

An interpretive approach assumes that knowledge of realities is gained through social constructions such as consciousness, language, and shared meanings and is used commonly by social scientists (Klein & Myers 1999). The interpretive approach focuses on the complexity of human sense making as the situation occurs (Kaplan & Maxwell 1994) in an attempt to understand meanings humans assign to them and those processes that influence or influenced them, through the information received, by the context (Walsham 1995 and Orlikowski & Baroudi 1991).

In an interpretive approach, the research goal is to provide an analysis of the actions and meanings that result from social context. The interpretive philosophy was deemed inappropriate for this research, as an interpretative approach usually is qualitative in nature therefore legitimising the subjective nature of the research (Myers 1997).

3.2.6 **Conclusion**

The purpose of this section was to provide and identify some of the key paradigm philosophies and to justify the chosen paradigm. It was decided to use the positivism paradigm philosophy as it assumes that the research conducted is independent of the researcher and is open to varying consumer perceptions (Easton1998). As this research sought to ascertain the perceptions of consumers’ behavioural responses to servicescapes in a retail coffee shop setting and to verify the relationships between a set of theoretical hypotheses, positivism research was chosen.


3.3 Research design

The research design of this study was developed to meet the theory building guidelines of this research (Zikmund 2003; Malhotra, Hall, Shaw & Oppenheim 2002 and Aaker, Kumar & Day 2001). This research design outlines the procedures and methods used in the collection and analysis of data in order to meet the objectives of the research and cover all aspects of scale development ensuring the model was able to be testable using the proposed measuring techniques (Zikmund 2003; Burns & Bush 2000; Malhotra 1999 and Cooper & Emory 1995).

Having established the appropriate paradigm, positivism, as the foundation underpinning this research, the next methodological issue targeted was the development of a suitable research design to collect the required data to address the research problem. A research design was implemented to conduct the data collection and analysis stages of this research (Kinnear, Taylor, Johnson & Armstrong 1996). By adopting a research design subsequent steps ensued specifying the methods and procedures used for collecting and analysing the required information such as; the overall frameworks design, plan, structure and strategy (Zikmund 2003).

The common research designs of exploratory and descriptive theory building are employed for this research (Zikmund 2003; Aaker, Kumar & Day 2001 and Kinnear, Taylor, Johnson & Armstrong 1996). There were two stages of research conducted; Stage 1 was exploratory while Stage 2 incorporated a descriptive design.

During Stage 1 initial perspectives were gathered to gain background information, clarify and generate hypotheses about the research problem, enhancement of the researcher’s familiarity with the phenomenon being investigated and to more specifically identify the research issues (Hair, Bush & Ortinau 2003; Zikmund 2003; Churchill & Iacobucci 2002 and Cooper & Emory 1995). Exploratory research is normally flexible, unstructured and qualitative (Aaker, Kumar & Day 2001 and Burns & Bush 2000). In this research, the exploratory research included a review of the literature, exploratory interviews and focus groups.

In Stage 2 descriptive research is used to describe the frequency of something experienced that is observed such as; customer satisfaction and overall service performance, through a survey. In order to minimise errors and maximise reliability, the test instrument was structured with a significant number of respondents, 500 participants (Kinnear, Taylor, Johnson & Armstrong 1996). This research, however, did not seek to establish a direct cause-and-effect relationship, if any,
between the variables (Zikmund 2003 and Kinnear, Taylor, Johnson & Armstrong 1996) therefore causal theory research is excluded for this purpose.

In summary for this research, exploratory research was conducted in Stage 1 followed by Stage 2, descriptive research using a cross-sectional study to test the hypotheses.
3.4 *Introduction to Stage 1 (exploratory) and Stage 2 (main data gathering)*

In the previous sections (Sections 3.2 and 3.3) the research philosophy and research design were outlined. This section briefly provides an introduction to the study’s two stages with Stage 1, exploratory consisting of focus groups and interviews, detailed in Section 3.5 and Stage 2, quantitative data gathering using a test instrument, explained in Section 3.8. The purpose of Stage 1 was to inform the construction of the test instrument for Stage 2.

**Stage 1**—qualitative methods were used to initially explore consumer’s behavioural responses to coffee shop patronage. This qualitative exploratory phase contributed to informing the development of the test instrument for the main quantitative data gathering (Kvale, 1996; Thompson, Locander & Pollio 1989 and Hudson & Ozanne 1988). For the exploratory phase, face-to-face interviews and focus groups with retail providers and customers were conducted. These findings from focus groups and interviews were used to aid the development of the test instrument and are given at Section 3.5.

**Stage 2**—in the main data gathering phase participants were randomly selected and asked to respond to survey statements focused on the participant’s affective response to the retail coffee shop service. The sample was a representative sampling of customers using coffee shops.
3.5 **Stage 1 (exploratory)**

3.5.1 **Aim of the exploratory process**

This exploratory phase was employed to gather specific information on the seven main variables in the theoretical model that was subsequently used to aid the development of the test instrument. Therefore, this study used face-to-face interviewing and focus groups to gather research data through verbal questioning and listening (Sarantakos 2005 and Fontana & Frey 2000). Face-to-face interviews were the primary and preliminary means of gaining information with a secondary technique, focus groups, used to complement that process (Sarantakos 2005). Interviews and focus groups provided the researcher with clearer insights and understanding of how individuals think and feel providing an alternative perspective on the research topic (Fontana & Frey 2000 and Morgan 1997). Both techniques used are major forms of collecting qualitative data with the focus group process producing further perspectives on the research topic through the dynamics of group interviewing (Hair, Bush & Ortinau 2003; Fontana & Frey 2000 and Madriz 2000). The two exploratory processes are as follows.

3.5.2 **Interviews**

The interview process had five primary goals:

- obtain insights into how servicescapes affect consumer behaviour in a retail coffee shop setting
- gain a better understanding of how consumers view their relationship with their preferred retail coffee shop
- gain a better understanding of customers future purchase intentions
- allow the researcher to be fully immersed into the topic
- allow the researcher to have a wider scope into the soundness of the proposed test instrument (Churchill 1995).

The researcher conducted the in-depth face-to-face interviews with individual participants, using a semi-structured format. These interviews were deemed the most appropriate method to achieve the goals of the exploratory process (Fontana & Frey 2000). The researcher had practical expertise in conducting interviews and was therefore able to provide an interviewing atmosphere that encouraged participants to respond freely and openly, created a friendly and comfortable
environment that put participants at ease (Miller & Crabtree 1999). The researcher’s primary supervisor also had an extensive face-to-face interviewing background and provided support as required by the researcher.

3.5.3 Focus Groups

For this study, the researcher conducted the moderations of the two focus groups. As the researcher possessed the knowledge of the study, the practical expertise of service quality in a retail environment, and had previous practical experience in conducting focus group interviewing, the researcher was able to relate and identify with the participants and investigate crucial points (Bryman 2001 and Krueger & Casey 2000). The skills and expertise of the researcher’s primary supervisor in focus group facilitating also provided the researcher with additional support and guidance.

The focus group method is an exploratory technique used commonly in marketing research, and administered to create interaction and discussions among the group of participants (Fontana & Frey 2000; Kinnear & Taylor 1996; Cooper & Emory 1995 and Neuman 1994). The expression of free flowing discussion of the focus group, coupled with the flexible format, allowed the participants to discuss the research topic with conviction, limited anxiety and inner personal beliefs and feelings as a spontaneous and mutual expression (Sarantakos 2005; Zikmund 2003; Greenbaum 2000 and Blankenship, Breen & Dutka 1998). The focus groups format was also advantageous to the pilot study as it provided critical comments and perspectives required in the development and administration of the data to be captured by the test instrument (Aaker, Kumar & Day 2001; Kinnear & Taylor 1996 and Churchill 1995).

3.5.4 The output of the interview and focus group process

As Stage 1 involved focus groups and face-to-face interviews, overall they provided an in-depth and deeper understanding of customer’s affective responses to the retail servicescape, in this instance relating to coffee shops. The protocols centred on how the coffee shop and its environment made customers behave and feel. Both exploratory processes were undertaken in the local Rockhampton area.
There were three components specifically targeted, through the review of the literature that mainly affected the servicescape element of the retail environment:

1. Ambient conditions (temperature, lighting, music, noise, scent);
2. Spatial layout and functionality (arrangement of equipment, furnishings, size and shape of those items and the ability to facilitate performance); and,
3. Signs, symbols and artefacts (items which serve as signals that communicate about the place) (Bitner 1992).

The formats included open-ended questions where participants were asked to expand on their answers by the use of appropriate investigative questions. In keeping with the exploratory nature of this research method, both processes were directed by each participant’s answer thereby focusing on their individual reflections of their coffee shop experience.

Participants were from a wide range, non-gender specific demographic aged 18 onwards representing diverse occupational and socio-economic backgrounds. Some participants were selected via snowball sampling, from an initial group of respondents who were selected at random (Malhotra, Hall, Shaw & Oppenheim 2002), with the duration of the interviews lasting from five to fifteen minutes and the focus groups from twenty to forty minutes. Consumers who are motivated by experiential benefits based on the experience of shopping (Jones 1999 and Bellenger & Korgaonkar 1980), were the targeted group for the convenience of the sample.

3.5.5 Results of Stage 1 findings

During the Stage 1 process an initial survey was constructed arising from a progression of interview and focus group data, consultation with other academics, researchers, consumers, retailers and colleagues thereby developing an understanding of customer attitudes and behaviours when using a product and their criteria in selecting a retail provider, specifically coffee shops (Edvardsson 1998 and Hayes 1997). A number of findings were drawn from the focus group and interview research that enhanced the researchers understanding of the primary subject including related secondary information. Participants comments were sought on the seven main variables as identified in Chapter 2. A summary of some of those participant comments, as related to the seven variables, during the interviews and focus groups helped inform the development of the Stage 2 test instrument provided in Table 3.2.
Table 3.2: Typical comments of Stage 1 interview and focus group participants

<table>
<thead>
<tr>
<th>Variable on the test instrument</th>
<th>Related typical comments of participants</th>
</tr>
</thead>
</table>
| Quality of Product (Product Delivery) Statements 1–8 | I love the cakes that they serve; there is always a variety.  
I don’t mind the prices of the food and coffee because if you want a good cuppa you have to pay for it.  
Sometimes my coffee isn’t hot, maybe luke warm and even cold.  
One good thing about the place I have my coffee the mugs are big and clean. |
| Customer Service (Functional Service Quality) Statements 9–18 | I do not like it when my order takes too long and I am in a hurry.  
I once got the wrong coffee and told the manager and he gave me a free coffee; now that was great service.  
Staff are not always polite and seem put off when I make special requests.  
I always have a very pleasant experience when I walk into the coffee shop, the shop is very natural, the people are natural.  
I once asked a staff member where they got their coffee from and she provided me with this whole story about where the beans come from; they were organically grown. |
| Facilities (Servicescape Service Quality) Statements 19–34 | I wish the seats were more comfortable. It seems they make the seats uncomfortable so you don’t hang around all day.  
The cleanliness of the coffee shop is not always that good and the tables are cluttered and too close together.  
I would like to see the place where I go ask me my opinion on the set up it is often cold and the music is too soft.  
I hate the fact that there isn’t enough parking where I buy my coffee so I don’t always go there even though their coffee is better than the other place I go as they are in a less busy street but at least I can get my coffee and be on my way.  
I like the set up because on the outside patio; they have these big umbrellas and plants everywhere.  
I like the space and feel of my coffee shop as it makes me feel comfortable.  
I do not like coffee shops that don’t have natural light so you feel like you are in an office with no windows.  
My coffee shop is very homey and intimate.  
My coffee shop has lounges and big chairs. |
| Customer Satisfaction Statements 35–39 | I like the coffee shop I go to because it has an outside area where you can sit and relax and enjoy the atmosphere. It’s clean too.  
I don’t always like it when I have to wait to be served by staff who are talking to other staff and ignoring me.  
A family own the coffee shop so I always get good service and the staff always meet my needs. |
| Relationship Strength Statements 40–45 | I enjoy going to the same coffee shop because they always remember my name and when I bring in a friend they make them welcome by asking their name.  
Most of the time the people at the coffee shop I go to are friendly and I seem to get along with everyone who works there; they treat me good.  
The coffee shop I go to has a customer rewards card so I like to go there because every time I buy something I get discounts. |
<table>
<thead>
<tr>
<th>Variable on the test instrument</th>
<th>Related typical comments of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repurchase Intentions (Retention Intentions) Statements 46–48</td>
<td>There are not that many coffee shops here in Rockhampton so the one I go to I will always go there until a better coffee shop opens up.</td>
</tr>
<tr>
<td></td>
<td>I used to live in a capital city so I used to go to a different coffee shop with my friends all the time.</td>
</tr>
<tr>
<td>Referral Behaviour (Word-of-Mouth) Statements 49–53</td>
<td>If I like the coffee at a specific café, I will tell my friends because a good coffee is hard to find.</td>
</tr>
<tr>
<td></td>
<td>I used to go to this coffee shop but twice in a row they gave me something different than what I ordered so I don’t go there any longer and I have told my friends about them and now they won’t go there either.</td>
</tr>
<tr>
<td></td>
<td>If I like the service or the products, I will tell my friends because I know they like the same things I do.</td>
</tr>
</tbody>
</table>

Source: Developed for this research.
3.6  **Justification of the quantitative research methodology**

This section describes the use of the quantitative method for Stage 2 in which a paradigm requires a specific methodology to be used in research (Neuman 2003). The research methodology directed and controlled the decisions about data collection methods, scaling procedures, measurements and data analysis (Zikmund 2003 and Aaker, Kumar & Day 2001).

Quantitative methodology, for this research, provided the technique required for measuring concepts, guiding the planning and design process stages and informed ways in dealing with sampling issues (Neuman 2003 and Zikmund 2003). Quantitative research was central to the relationships that exist between the study’s variables (Lincoln & Kalleberg 1990) therefore it was important to establish variable relationships as a key factor of this research. Quantitative methods were used to test for relationships between the seven main variables of the theoretical framework; product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth, based on a logical or reasonable means of deduction to test those relationships.

As the positivism paradigm philosophy (Section 3.2.2) emphasised the verification of hypotheses and relationships between variables by mainly using quantitative methods, positivism ensured the objectivity of the researcher from possible biases in the data collection stage from respondents (Perry, Riege & Brown 1999). Objectivity also occurred during statistical measures and controls that decreased the bias level and distinguished variables utilising those quantitative methods (Emory & Cooper 1991). The quantitative research method addressed issues relating to reliability and validity, from an internal and external process, while dealing with procedural and measurement scales concluding this methodology was most appropriate for this research (Kervin 1992).
3.7 **Justification of survey methodology**

In this research, the terms survey and test instrument were used intentionally and deliberately throughout with an express purpose in mind to refer to the instrument used for data collection. Both terms are often used interchangeably in research texts and publications and are also used in a variety of contexts (Sekaran 2003 and Zikmund 2003).

During this data collection process, information on customer perceptions of the seven main variables as measured by product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth, was gathered by administering a field survey and principally analysed using Structural Equation Modelling (SEM). Survey research is used as a common quantitative technique typically utilised by social science research, to obtain data from participants who are thought to be representative of a population by using a survey comprised of closed ended statements or items (Trochim 2003 and Kervin 1992).

In using the survey method, the information produced was intrinsically statistical, provided advantages in its application such as, accessing a large and widely disseminated population, minimising time constraints, minimising interviewer bias, and was self-explanatory (Neuman 2003 and McClelland 1994). The survey was designed with the research objectives of measuring behaviour, opinions, awareness and knowledge (Zikmund 2003 and Malhotra 1999). It was through these means that a field research self-administered survey was deemed the most suitable for the circumstances of measuring the seven main variables and ultimately testing the research hypotheses.
3.8 **Stage 2 (main data gathering)**

Stage 1 (Section 3.5) discussed the methodology of the exploratory study through interviews and focus groups, which provided an overview of customer’s affective responses to the retail servicescape. This section describes and justifies the research methodology used in Stage 2, the main study of this research.

Stage 2 measured those customers’ behavioural responses and attitudes to the retail servicescape as it pertained to coffee shops. Customers were asked specific statements to measure the seven main variables, product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions, and word-of-mouth. This included any moderating or demographic information identified from the literature reviewed and the exploratory stage. As a part of customer’s participation in filling out the test instrument, they were provided with a voucher for a free beverage and biscuit at the participating café, Hudsons Coffee shops (total value $5.00 per participant). The voucher provided a suitable inducement for participants to complete the self-administered survey and afforded a relaxing benefit for their time. The free voucher method offered all participants with an experiential rather than a task-orientated exercise (Babin, Darden, & Griffin 1994). Surveys were focused on participant responses to the coffee shop experience in ten Hudsons Coffee shops in the greater Melbourne, Victoria area.

In developing and measuring the constructs, the marketing research literature provided several examples of models outlining varying development steps in providing enhanced measures of those marketing constructs. Some examples took into consideration the emphasis and significance of Confirmatory Factor Analysis (CFA) in the development of scale evaluation. Following are two outlines of the design process that assisted the researcher in developing and measuring this study’s constructs.
Five step process:

- Defining the constructs
- Designing the scale
- Pilot testing
- Administration and item analysis
- Validation and development of norms


Seven steps process:

- Establishing the variables
- Collecting initial data
- Purifying the measure
- Collecting new data
- Assessing reliability and validity
- Computing scores
- Establishing norms

(Churchill 1979).

Elements of the previous approaches outlined were incorporated into the research design process. To ensure the design was characteristic of the entire research process, the above steps were modified to indicate the importance of the test instrument development (Spector 1992). Figure 3.2 provides a summary of the design process undertaken in Stage 2 to develop optimum measurement of the variables.
Figure 3.2: The overall method

Source: Developed for this research as adapted from Spector (1992), Gerbing & Anderson (1988) and Churchill (1979).
3.9 Test instrument design and administration (Step A)

In this section, the formalisation of the test instrument for the main study was developed using a seven-step process. The overall design, development, pilot testing and administration of the test instrument for this research, as combined from the literature and other researchers, is summarised below.

- The information to be sought was determined
- Variables were specified to be measured
- How the information was to be gathered was established
- The type of interviewing method was specified (in situational intercept, self administered)
- The draft test instrument was then structured with individual content to measure all seven variables
- The format was established in creating the measurement scale
- The organisational design of the test instrument was physically laid out in proper order, (determination of these basic style informational statements related directly to statements based on customer opinions)
- Statements were designed, structured and worded to overcome the respondent’s inability or unwillingness to answer
- The test instrument was pilot tested, refined and finalised
- The final version of the test instrument produced and used in the main study. (Trochim 2003; Zikmund 2003; Boyce 2002; Churchill & Iacobucci 2002; Behling & Kenneth 2000; Kinnear, Taylor, Johnson & Armstrong 1996; Churchill 1995; Sethi & King 1991 and Churchill 1979)

Figure 3.3 provides the outline of the seven-step process of how this test instrument was designed to obtain valid and reliable results. A copy of the final survey for this research is included in Appendix A.
Figure 3.3: The test instrument development and administration process

Step A1: Specify the information needed (developing measures of the constructs)

Step A2: Specify the type of survey

Step A3: Develop the content of individual statements, wording and structure

Step A4: Develop the measurement scale and specify the format process

Step A5: Organise the test instrument, statement order, design and instructions

Step A6: Pilot test, refine and finalise the test instrument

Step A7: Production of final draft of the test instrument to be used for main study

Source: Adapted from Trochim (2003); Zikmund (2003); Boyce (2002); Churchill & Iacobucci (2002); Behling & Kenneth (2000); Kinnear, Taylor, Johnson & Armstrong (1996) and Churchill (1995).

The test instrument in this research was designed to ensure participants were able to respond easily to the statements through a formalised process to provide complete, accurate and dependable data. The design process of the test instrument was drawn from the relevant literature review material as noted, as well as the data obtained in Stage 1. The test instrument developed allowed participants the opportunity to provide answers to statements drawing from their personal experiences about the retail servicescape, specifically a coffee shop setting. In this way, the test instrument was developed to directly address the objectives of the study with statements conveyed
in clear and succinct sentences to reflect the researcher’s study objectives (Malhotra 1999). In its design, each aspect of the test instrument was constructed to obtain participant cooperation thereby assisting in the overall process of the researches data analysis (Kervin 1992).

The test instrument developed for this research provided a layout that was aesthetic in appearance, user friendly, understandable, attractive and motivational in design and nature (Churchill & Iacobucci 2002). According to Behling and Kenneth (2000), the designing of the test instrument and the process of developing statements is more of an art than a science.

3.9.1 Specify the information needed (Step A1)

In designing the survey, the first step required was to determine the information needed to attain the research objectives. As stated in Section 1.2, the research problem was presented for this research while in Section 2.10, the research question and hypotheses developed determined the test instrument data to be collected.

From the literature, reviewed measures were developed and the independent, mediating, dependent variables identified specifically for this research. The process in developing the measurements followed the recommended guidelines by Churchill (1979) which have been adapted for this research. Those steps are as follows:

- The scope of the variables were specified through the literature review;
- Items were generated, for each of the variables, from the literature and through the qualitative stage of interviews and focus groups;
- Multiple item measurements were generated and used;
- Steps taken to refine the test instrument including the items through pilot testing.

Prior to creating the test instrument or collecting any data, it was important to establish and identify those concepts that may have been relevant to the research problem (Neuman 2003 and Zikmund 2003). In order to distinguish between concepts, measures and operations following are interpretations of their meanings as they relate to this research.
Concepts (or constructs) were identified as objects, attribute processes or occurrences (Zikmund 2003). Conceptualisation was identified as a process which takes a concept and refines it thereby giving it a conceptual or theoretical meaning (Neuman 2003). Concepts have specific meanings which allow them to be identifiable through their definitions and be directly linked to the theoretical framework of this research (Sekaran 2003).

Operationlisation linked those conceptual meanings to specific sets of measurement instruments (Neuman 2003). In determining the amount of a variable an object possesses a measurement instrument was used (Emory & Cooper 1991). The measures used in this research were chosen due to their alignment with the conceptual definitions (Neuman 2003). An example of this, using the construct servicescape service quality, measured the construct using sixteen items or statements in the test instrument that were appropriate for this research (Zeithaml, Berry & Parasuraman 1996).

To summarise, the measurement progression of each variable began with conceptualisation ensued by operationalisation and concluded with the application of the measurement tools. Table 3.3 provides the conceptual and operational definitions or measurements of the constructs. The definitions were the foundation for each of the construct’s conception and the basis of the test instrument statement design in order to collect the required research data. Column 1 lists the constructs and variable type, Column 2 provides the conceptual definitions, Column 3 provides the operational/measurement definitions of each construct and Column 4 provides the corresponding survey statements. (For the purposes of illustration each statement is numbered on the table; however, in the actual survey statement numbering has not been used.)
Table 3.3: Constructs and definitions used in this research

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Conceptual definitions</th>
<th>Operational definitions</th>
<th>Survey statements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Delivery</strong></td>
<td>Is the quality of the service product (sometimes called the ‘outcome dimension’). For example, in the case of a coffee shop the PD will be the outcome in terms of the finished product, the coffee delivered, are the cups clean, is there ample sugar and milk and are there other ancillary products available such as cakes, food and other drinks (adapted from Grönroos 1990, 1988, 1984, 1982).</td>
<td>Measured by: • if glasses, plates and cutlery were clean • selection of drinks and foods • drink and food prices • quality of drinks and food</td>
<td>Section 2: S1–8</td>
</tr>
<tr>
<td>(Service Performance Independent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Functional Service Quality</strong></td>
<td>Is defined as the manner in which the customer receives the service product (sometimes called the ‘process-related dimension’), that is the manner in which the coffee and other products were provided, which is commonly called ‘customer service’ (adapted from Grönroos 1990, 1988, 1984, 1982).</td>
<td>Measured by: • received a greeting • pleasant experience • staff quality, knowledge and service</td>
<td>Section 2: S9–18</td>
</tr>
<tr>
<td>(Service Performance Independent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Servicescape</strong></td>
<td>The term ‘servicescapes’ refers to the physical surroundings in which the delivery of a product takes place and how these surroundings affect customers and employees. The servicescape has three elements: ambient conditions; spatial layout and functionality; and signs, symbols, and artefacts (Bitner 1992).</td>
<td>Measured by: • coffee shops’ facilities, appearance and atmosphere</td>
<td>Section 2: S19–34</td>
</tr>
<tr>
<td>Service Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Service Performance Independent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Satisfaction</strong></td>
<td>Customer satisfactions are feelings and judgements of customers towards a product after it has been used or consumed (adapted from Jamal &amp; Naser 2003).</td>
<td>Measured by: • Customers’ satisfaction with the coffee shops, • staff, • services received, • order ready in a reasonable amount of time • enjoy the products</td>
<td>Section 2: S35–39</td>
</tr>
<tr>
<td>(Post Purchase Perception Mediating variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship Strength</strong></td>
<td>Relationship strength is a customer’s global perception of the magnitude of the relationship that they have with an organisation in a commercial context (Bove &amp; Johnson 1999).</td>
<td>Measured by: • staff information, rapport, feelings, friendliness</td>
<td>Section 2: S40–45</td>
</tr>
<tr>
<td>(Post Purchase Perception Mediating variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Retention Intentions</strong></td>
<td>Retention intentions are a customer’s behavioural intention to continue to patronise an organisation based upon their evaluation of the provider with a subjective probability the customer will repurchase the product in the future (adapted from Fishbein &amp; Ajzen 1975).</td>
<td>Measured by: • Customers’ intent to return</td>
<td>Section 2: S46–48</td>
</tr>
<tr>
<td>(Future Customer Behaviour Dependent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Word-of-Mouth</strong></td>
<td>Is the process in which clients tell others, external to the transaction, of their (dis)pleasure with a product or service provider (Swanson &amp; Kelly 2001).</td>
<td>Measured by: • Customers’ referral behaviours</td>
<td>Section 2: S49–53</td>
</tr>
<tr>
<td>(Future Customer Behaviour Dependent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Developed for this research.
3.9.2 Specify the type of test instrument (Step A2)

Following the process of identifying the information needed, the next step was to determine how data were to be obtained and the type of survey to be administered. This section describes and justifies the use of a self-administered format for this study.

As there are varying choices of the survey methods, Internet online questionnaire, face-to-face interview, direct observation or a telephone interview, selecting the most appropriate format first needed to be finalised as to the best overall data collection method (Malhotra 1999; Emory & Cooper 1991 and Scheaffer, Mendenhall & Ott 1990). The advantages and disadvantages of each method were considered with the decision made to administer the test instrument, face-to-face, to coffee shop patrons to obtain the data required for this research study and to further investigate the research question. The self-administered survey was selected based on logistical and financial issues such as; available research funds, time, an appropriate sample, and the availability of facilities along with the quantity of data and the overall research objectives (Zikmund 2003).

The following reasons justify the process and the advantages to use the self-administered method using a structured survey:

- It assisted the researcher in obtaining complete and valuable information (Zikmund 2003).
- Completion of the survey took between 10 and 15 minutes therefore the self-administered format was the most viable option (Zikmund 2003).
- In order to meet the requirements of having a large sample for structural equation modelling, the presence of the interviewer increased the number of respondents who were willing to participate (Sekaran 2003).
- Large geographical areas were covered at a relatively low cost while accessing coffee shop patrons at the same time (Hair, Bush & Ortinau 2003 and Boyce 2002). To minimise the effect of interviewer bias, several interviewers were used at mall and urban locations as a means of reducing costs from travelling from one coffee shop to another in separate locations across urban areas and provided a more appropriate means of reducing the risk that demographic factors were likely to influence the survey findings (Neuman 2003 and Zikmund 2003).
This process also provided for the collection of responses with minimal costs.

Self-administered surveys could be handed to those patrons of coffee shops where the surveying took place with participants asked face-to-face to complete the survey (Boyce 2002 and Emory & Cooper 1991). Interviewers provided a brief background to the survey explaining the process, handing out the test instrument, and corresponding informational sheet that included the purpose of the research, identification and contact details of the researcher, ethical considerations including anonymity, voluntary participation and consent forms with provision for respondents to receive a statement of the research results. All of these were presented to participants prior to distributing the surveys and collecting the test instruments upon completion (Emory & Cooper 1991).

Although there were some disadvantages identified with using self-administered survey, pre-selected coffee shops reduced and minimised these disadvantages where possible through the direct distribution of the test instruments to those coffee shop patrons. As this research selected the self-administered face-to-face survey method, it was considered the best overall method and approach as compared to other survey methods (Sekaran 2003).

3.9.3 Develop the content of individual statements, wording and structure (Step A3)

In developing the test instrument, the next step was the decision to incorporate a range of statement design techniques that would increase the reliability and validity of the measures (Sekaran 2003; Trochim 2003; Zikmund 2003 and Kervin 1992). This step included response formats, wording and content of the statements, the structure and sequence of the statements and the actual physical layout. Each statement developed required it to be specific to its purpose; otherwise, a statement was not included in the test instrument (Sekaran 2003).

The statements within the test instrument were developed to reflect the literature and the findings from Stage 1 of the study and were developed around the constructs present in that process. Where possible, the items developed as a result of the Stage 1 process used verbatim comments or common phrasing from respondents to ensure the appropriateness of wording. The test instrument developed for Stage 2 was subject to scrutiny by experienced researchers, a process designed to address tautological issues, to clarify statements and to ensure that the instrument would address the research question in an appropriate manner (Singh & Smith 2000). This process of development contributed to the overall reliability and validity of the test instrument (McClelland 1994).
In addition to the researcher’s previous background in developing surveys, the assistance of the researcher’s primary supervisor and two secondary supervisors, all of whom have considerable expertise in the wording of test instruments, and the solicitation of three external researchers, who were engaged in quantitative research and analysis, provided the required expertise needed for this step in the content development process. This process ensured the test instrument was thoroughly scrutinised by an expert panel of academics and researchers, further ensuring formats, structure, sequencying, wording and layout were in line with research protocols.

The statement content was developed and critiqued with the techniques followed in this research maintained to a high content quality. Table 3.4 provides the process that took place to determine that good statement content was applied.

Table 3.4: Statement content techniques

<table>
<thead>
<tr>
<th>Good statement content techniques</th>
<th>Application to this research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the statement necessary, useful or relevant?</td>
<td>This research only included the required statements about the research topic, and respondent’s characteristics.</td>
</tr>
<tr>
<td>Was more than one statement required, or were the statements double barrelled?</td>
<td>Due diligence was applied to ensure that each statement had only one topic.</td>
</tr>
<tr>
<td>Would the respondent provide the information or answer truthfully?</td>
<td>Care was taken to avoid sensitive statements. There could be some sensitivity by respondents relating to age, or gender, therefore respondents were given response brackets from which to choose.</td>
</tr>
<tr>
<td>Was the statement biased?</td>
<td>Biased statements were avoided in this research by ensuring no biased words were used relating to advantages, disadvantages or benefits.</td>
</tr>
<tr>
<td>Was the statement short?</td>
<td>All care and effort were made to avoid unnecessary words.</td>
</tr>
<tr>
<td>Did the statement assume the respondents can remember?</td>
<td>Participants were not asked any overly demanding statements for this research.</td>
</tr>
</tbody>
</table>


All statements were worded so that respondents could answer all statements appropriately and to the best of their abilities (Churchill & Iacobucci 2002) and the statements considered the full extent of the participant’s situation (Trochim 2003). The researcher was also aware that slight wording differences could potentially confuse a respondent or ultimately lead to incorrect interpretations of the statement, therefore attention was given to ensure words could not be misunderstood or misinterpreted (Zikmund 2003 and Kervin 1992). Therefore statements were worded to avoid any ambiguity, generalisations, implicit assumptions, alternatives, leading or double barrelled statements (Hair, Bush & Ortinau 2003; Boyce 2002 and Churchill & Iacobucci 2002). Table 3.5 provides a summary of the statement wording techniques followed in this research.
Table 3.5: Statement wording techniques

<table>
<thead>
<tr>
<th>Statement wording techniques</th>
<th>How techniques were applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>How personal was the wording?</td>
<td>Statements were at a suitable level for the context and there was consistency across all statements to ensure care was taken when respondents were asked opinions.</td>
</tr>
<tr>
<td>Could the statement be mis-understood?</td>
<td>No word had more than one meaning or was confusing to mislead respondents.</td>
</tr>
<tr>
<td>Was the statement balanced?</td>
<td>The statements were specific but not too specific, were simple but not vague, and short but not condescending to respondents.</td>
</tr>
<tr>
<td>Did the statement have abbreviations?</td>
<td>No statement had any abbreviations.</td>
</tr>
<tr>
<td>Was the statement in a complete sentence?</td>
<td>All statements were complete and clear.</td>
</tr>
<tr>
<td>Was the wording too direct?</td>
<td>Direct wording was avoided therefore eliminating disturbing or threatening concerns for respondents.</td>
</tr>
</tbody>
</table>


The test instrument included dichotomous and scaled statements (Churchill & Iacobucci 2002 and Emory & Cooper 1991), which provided for better uniformity across different responses allowing the data collected to be processed more efficiently (Kervin 1992). Details of the measurement scale development are provided in the following section.

3.9.4 Develop the measurement scale (Step A4)

In developing the measurement scale, the researcher needed to decide on an appropriate means for conclusions that could be arrived at from the data (Wren 1997).

In selecting a suitable measurement scale it was noted that the process was likely to cause disagreement and disputes between researchers who had differing views and which has been the subject of extensive research (McCloy, Heggestad, & Reeve 2005; Sheridan & Niwa 2003; Downey & Huffman 2001 and Pallant 2000). A common debate that would arise is whether scales represent ordinal or interval level data. Many researchers have treated all scales as interval data; however, it has been claimed that ‘the level of information captured by any scale falls somewhere in-between the definitions of ordinal and interval level data’ (Darbyshire & McDonald 2004, p. 18). The overall length of scales, labelling and balancing were the three main issues the researcher encountered when choosing a response scale (Darbyshire & McDonald 2004).

It has been claimed that scales with only labelled end points provide more flexibility for analysis (as long as respondents can understand the meaning of the scale), using three pivotal questions, which should guide the researchers development of scales: 1) do I want to perform
statistical analysis?; 2) does the scale need to offer a ‘neither’ option?; and, 3) will the respondents understand the meaning of the scale if it is not fully labelled? (Darbyshire & McDonald 2004).

Through the research conducted, it was determined that a balanced seven point scale with labelled end points would be easily understood by respondents and a neutral response opportunity provided, by the provision of a mid-point. Interval scales are a popular means of measurement with social scientists (Sarantakos 2005) particularly when obtaining attitudinal responses (Cox 1980) and are probably the most widely used in marketing research (Bagozzi & Heatherton 1994). Therefore, the seven-point numerical interval scale was selected as the most appropriate format to record the data on the seven main variables (product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth). The seven point numerical interval scale also provided the desired level of measurement precision (Zikmund 2003 and Hair, Anderson, Tatham & Black 1995) along with its suitability to test hypotheses (DeVellis 1991).

As structural equation modelling was the method of analysis for this research using AMOS 7.0 software, the Likert scale, although also an acceptable means of measurement by social scientists (Neuman 2003), unfortunately has been proved to be unsuitable for use with SEM (Sweeney 2000). Seven point numerical scales allow for ample options for respondents to reply to the statements given, with only the extreme poles labelled, for this research with the labels strongly disagree and strongly agree (Zikmund 2003 and Boyce 2002). The main reason for using the agree/disagree scale was uniformity of the response and thus keeping the test instrument shorter and quicker to complete. Numerical scales with numbering rather than verbal descriptors as response options to determine participants attitudes (Zikmund 2003) was therefore more suitable for use in this research (Sweeney 2000).

Coffee shop patrons were required to provide responses selected from the seven point numerical scale as this scale was used for the data collection. Figure 3.4 shows an example of the seven point numerical scale.

**Figure 3.4: Seven point numerical scale**

| Strongly disagree | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Strongly agree |

Source: Adapted from Zikmund (2003).
The numerical scale allowed for a direct measure of participants opinions in addition to providing a level of intensity of feelings to be expressed (Zikmund 2003). The use of a numerical scale provided information and a means of obtaining data about the participant’s attitudes and their evaluation of concepts (Sarantakos 1998). The numerical scale also provided an economical way to manage responses and was appropriate for varying statistical techniques (Luck & Rubin 1987). Overall care was taken in constructing measurement and scaling processes in the test instrument during the design stage of this research.

3.9.5 Organisation of the test instrument (Step A5)

The organisation of the test instrument included elements such as; instructions, construction of the information sheet, page design, presentation of the measuring instrument and the order of statements, all of which is described in Table 3.6.

Table 3.6: Organisation of the test instrument

| Page design | The five-page test instrument is presented at Appendix 3.1 showing that groups of statements were presented in tabular form using a portrait layout. |
| Instructions | Instructions for filling out the survey were provided to participants at the beginning. Participants were also provided with an example of how to answer each statement. |
| Presentation of the measuring instruments | The test instrument was presented in the form of a survey. This included the five pages of the test instrument statements and the information sheet. The test instrument was printed on white paper on one side only of A4 sized paper. |
| Order of statements | Statements were ordered with all items on the same topic, representing each construct, presented together (Kervin 1992). This test instrument had the demographic questions placed at the beginning followed by statements relating to the three independent service performance variables, product delivery, functional service quality and servicescape service quality positioned next. They were followed by statements relating to the two mediating post purchase performance variables, customer satisfaction and relationship strength, concluding with the two dependent future customer behaviour variables retention intentions and word-of-mouth. |
| Information Sheet | The information sheet provided a brief synopsis regarding the purpose of this research and the way the research information is to be used. All participants were encouraged to respond with an incentive to do so. Participants were not pressured in either filling out the survey or responding to all statements in a specified time frame. The purpose of the research was also not misrepresented to them in any way, shape or form. The information sheet confirmed that anonymity, confidentiality and consent were assured and requested. Ethical considerations were also addressed. The information sheet was provided to assist in gaining a reasonable response rate (Zikmund 2003). Participants were advised to contact the university if they had any problems. The overall sponsorship of the university had been found to be a good method for an increasing response rate (Fox, Crask & Kim 1988). Sponsorship was reinforced by the use of the university’s logo on the information sheet and test instrument. |

Source: Developed for this research.
In summary, an information sheet provided a brief background to the research, the test instrument had a set of instructions, with demographic questions placed at the beginning, followed by sets of statements requesting participants to position their responses on the numerical scale provided.

**3.9.6 Pilot test, refine and finalise the test instrument (Step A6)**

Pilot testing was an integral step of the development methodology and overall design of the test instrument (Kinnear & Taylor 1996). The pilot test was used to demonstrate the appropriateness and effectiveness of the experimental study of the test instrument (Zikmund 2003 and Baker 1994). The outcome of the pilot study affirmed that the test instrument was able to capture the information required and provide warning to the researcher of any possible issues that could have arisen in the main research, such as:

- research protocols not being followed
- methods or instruments were inappropriate
- if suggested methods were too complicated
- the test instrument communicated unclearly
- the test instrument communicated incorrectly and,
- any possible errors

(Boyce 2002; Shao 2002; van Teijlingen & Hundley 2001; Malhotra 1999; Babbie 1998 and Cooper & Emory 1995).

The refinement of the test instrument was conducted over three pilots:

1. Pilot 1 occurred during the initial face-to-face interviews, focus group research, and feedback from other academics and researchers;
2. Pilot 2 used debriefing to evaluate test instrument content; and,
3. Pilot 3 was the refinement of the pilot test instrument and incorporation of the pilot study findings into the main test instrument. Following are details of each pilot as outlined.
Pilot 1—Pilot study data was collected in the form of pre-test meetings with the researcher’s primary supervisor, who has specialised expertise in customer service quality testing, and a further four marketing related academics. The researcher also had prior experience of practical retail setting customer service quality survey application in conducting consumer surveys. Issues of survey length, wording and statement focuses were discussed. The researcher and primary supervisor developed a similar survey instrument that was administered to 152 in-house members of a sports club as part of a separate preliminary study. The results of which were presented along with a corresponding paper to marketing colleagues at an international conference (Perrone & Ward 2006). Additional feedback was obtained from colleagues who analysed and highlighted any other relevant issues.

Further, Pilot 1 testing took place during the face-to-face interviews and focus groups to refine any theoretical issues, wording and structure (Weisberg, Krosnick & Bowen 1996). As noted in Section 3.5, both formats were beneficial to initial pilot testing (Aaker, Kumar & Day 2001; Kinnear & Taylor 1996 and Churchill 1995). Interviews and focus groups took place in Rockhampton, with a total of 43 actual participants. There were two focus groups conducted representing 17 participants held at separate times.

Pilot 2—used debriefing to highlight any weaknesses in the instrument through discussion with the participants upon completion of the survey (Aaker, Kumar & Day 2001 and Malhotra 1999). The purpose of this process was to evaluate statement content, wording, phrasing, length and time elements along with participant interest and attention of the survey (Aaker, Kumar & Day 2001). Results directly informed the development of the test instrument.

Pilot 3—The culmination of the first two pilots, meetings with academics, colleagues and the interview and focus group research, enabled the test instrument to be further improved by incorporating the modifications. For example, the pre-test indicated that there was too much repetitious information in the covering sheet, statements pertaining to background information was too personal and not required for this research study and two statements required some re-wording due to the awkwardness of the language.

During the first two pilot tests, there were 43 actual respondents, 5 academics and 5 colleagues in total who were part of the refining of the test instrument process, which was sound in content and administration.
3.9.7 Production of the final draft of the test instrument (Step A7)

The pilot study confirmed that the instructions, presentation of the test instrument, page layout and design were suitable outcomes for the production of the final survey. There were some changes made to the test instrument as noted in the previous section. Changes were made to some of the demographic questions by eliminating those of a more personal nature, and re-wording of statements six and seven were a result of awkward language use.
3.10 **Sampling process (Step B)**

This research’s sampling process consisted of a sufficient number of respondents from the general population whose responses to the survey provided the required data to investigate the research question. The respondents of the sampling process consisted of members of the public who were retail customers of coffee shops. This research focus was on one service industry in order to preserve the stability of the context and avoid other potential issues that could arise from other contexts, which could have had influencing effects on the findings of this research.

The sampling approach of this process followed the stages proposed by Neuman (2003), Sekaran 2003, Zikmund (2003), Malhotra (1999) and Kervin (1992). These stages were: 1) defining the population, 2) selecting the sampling frame, 3) specifying the sampling technique; and, 4) determining the sample size.

3.10.1 **Defining the population**

Determining what segments of the population to target for this research was critical and most important in obtaining the main source of data for this study (Zikmund 2003). The target sample for this research was from a set of people in which the findings were generalised to the larger spectrum of the population (Neuman 2003).

As this research focused on how the retail servicescape affects service quality as perceived by the consumer through the relationships between the seven main variables, product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth, the sample target market consisted of Australian coffee shop patrons over the age of 18.

It was important to obtain a broad cross-spectrum of the population and to ensure that participants were patrons of the relevant service provider, Hudsons Coffee shops (Bitner, Booms & Tetreault 1990). In considering what method would be most applicable in obtaining a broad cross-spectrum of the population, two processes that were reviewed to select a targeted sample were identified: 1) to take a census of all members of the population; and, 2) select a representative sample from the population (Kervin 1992).
3.10.2 Selecting the sampling frame

Selecting the sampling frame was the next step in defining an appropriate sample for this study. The sampling frame represented people from the population from which the targeted sample was selected, thereby providing for a suitable sampling frame for this research (Sekaran 2003). As sampling an entire population was not a feasible option and as the survey method was self-administered interviews, with time and cost constraints, the determined process was to use public malls and urban intercepts at coffee shop locations with national retailer Hudsons Coffee shops.

The representative approach was determined to be the most effective means to select properly the target sample, which provided the required results. (Sekaran 2003). A Melbourne based marketing research firm, Cherry Enterprises, was employed to interview shoppers.

The opportunity for a sampling error to occur using this method could have led to an error in the research if there were missing elements of the sampling frame (Zikmund 2003 and Sweeney 2000). This was considered to be unlikely as Hudsons Coffee shop patrons were representative of a broad spectrum demographic who were surveyed for this research. Clearance to undertake the research was provided by Hudsons Coffee in Melbourne, Australia (Appendix B). Consequently, the test instrument was administered at ten different Hudsons Coffee shops throughout the greater Melbourne area.

3.10.3 Specifying the sampling technique

Once the sampling frame was decided, the next step was the selection of a suitable sampling technique ensuring there was an acceptable representation of the target market of the population (Kervin 1992). The sampling procedure consisted of a stratified sample from ten Hudsons Coffee shops. The population was heterogeneous and contained varying groups of patrons who were related to the research topic (Levy & Lemeshow 1999). This sampling technique ensured there was a high degree of representativeness of all the strata or layers of the population (Lehtonen & Pahkinen 2004). The sample was then randomly selected from within the strata. This process helped to reduce sampling error with the use of the stratified sampling technique producing the highest precision of all sampling methods (Lehtonen & Pahkinen 2004; Malhotra, Hall, Shaw & Oppenheim 2002 and Levy & Lemeshow 1999).
As stratified sampling is regarded as a probability sampling technique, this process also ensured varying subjects of the target market population had an equal probability of being chosen (Zikmund 2003 and Agresti & Finlay 1997). As this research drew conclusions from the results obtained from the study, the stratified probability sampling technique was determined to be the best method to be used (Neuman 2003).

Consistency was established by selecting random samples from patrons of coffee shops at those Hudsons Coffee retail outlets in the greater Melbourne area where the target sample was drawn. The purpose of the interview was explained to all participants, and all interviews were conducted between the hours of 9 am and 5 pm Monday to Saturday further ensuring varying groups of people. Interviews were conducted in October 2007.

3.10.4 Determining the sample size

Once the sampling technique had been specified, the sample size could be considered. Sample size was determined by the number of observations that were specified by the estimated variance of the target sample population, confidence level and the magnitude of accepting errors (Zikmund 2003). There were three factors that needed to be considered in determining the sample size: 1) financial and time constraints, 2) the proposed data analysis technique to be used; and, 3) the accessibility of the sampling frame (Malhotra 1999). The restrictions of having a tight timeframe, limited budget and the use of structural equation modelling were all considerations in determining the sample size.

Through the review of the literature it was determined that a sample size of > 200 would satisfy the researcher’s decision to use SEM data analysis (Hair, Anderson, Tatham & Black 1995 and Nunnally & Bernstein 1994) by providing parameter estimates with a certain degree of confidentiality (Sweeney 2000 and Gerbing & Anderson 1988). However, one concern when using SEM was the number of observations required for the parameter estimates in the structural equation models and sample size. Observations had to be sufficient in number allowing for significant testing to take place and ensuring accuracy (Kline 2005). Therefore to avoid encountering technical problems during the analysis stage in SEM a small sample size, < 200, was not considered. The use of a small sample size would have meant that the power of the statistical tests would have been limited (Kline 2005).
The data sample for this research consisted of 500 completed surveys of randomly selected patrons at various urban-based Hudsons Coffee shops. As sample size was an important element of this research, a sample of 500 was regarded as ‘large’ and therefore the likelihood of encountering a technical problem was less likely to occur (Kline 2005). The sample was stratified (Section 3.10.3), by obtaining 50 responses from participants in ten separate Hudsons Coffee shop locations in mall and urban settings. As the self-administered interview technique (Section 3.9.2) was employed for this research, and as there were multiple locations and interviewers conducting the data collection, a high response rate was assumed.
3.11 Survey administration (Step C)

The primary data collection instrument for Stage 2 was a structured self-administered test instrument, which provided an opportunity of enhanced measurement through the standardisation of the survey (Babbie 1998). Negotiations took place with national coffee shop chains with an agreement obtained between the researcher and Australian national retailer Hudsons Coffee to administer test instruments, during the month of October 2007, in ten of their Melbourne, Victoria based stores. Permission was granted by the company’s marketing consultant with additional agreement to participate obtained by the managers of the ten randomly selected stores.

Part of the agreement, in order to conduct the research, was for the researcher to provide Hudsons Coffee with a written report of the findings by December 2007. Although the complete data analysis for this research was not finalised by that time, the information correlated in the thirty-page report provided Hudsons Coffee with ample results, which was satisfactory to Hudsons Coffee management.

The fieldwork for the survey administration included the employment of a Melbourne based marketing research company, Cherry Enterprises, to recruit Hudson Coffee shop patrons at entrances to each store. The researcher provided Cherry Enterprises with surveys, instructions, researcher details, consent forms, envelopes for the surveys to be placed into and immediately sealed once completed by the participants and guidelines to be followed by the interviewers. All interviewers who participated in this research were business students from the local RMIT University.

Interviewers were properly trained to reduce and minimise their personal habits or actions, which could have influenced respondents (Zikmund 2003). Additional training was provided in proper etiquette, style, how to be appropriately dressed, understanding and patience to allow respondents enough time to complete the survey, well and softly spoken, and to be a good listener ensuring the minimisation of interviewer bias (Sekaran 2003; Zikmund 2003 and Emory & Cooper 1991).

Prior to the commencement of any interviews, the researcher briefed research assistants employed by the marketing research company thoroughly as to the research requirements. This process was done via Internet video linkage and included written standardised instructions to be used on site as a guide or script by the interviewers. As the principal of the marketing research company was on site, travelling between stores, during all stages of the data gathering, on-going
supervision was available during all stages of the data gathering process. The researcher was also available through direct phone and internet linkage. Once the data gathering was completed, all sealed test instruments were collected by the owner of the marketing research company with all 500 surveys returned to the researcher.

By using the self-administered test instrument for Stage 2 of this research, the researcher was able to obtain data from a large sample of participants in a relatively short period of time with the data collected to be characteristic of an entire population (Sekaran 2003 and Zikmund 2003). Therefore, of the 700 patrons approached at all of the Hudsons Coffee shops, 500 (71.4 percent) actual samples were completed. The non-response was due to those patrons who were approached but who refused to participate in the survey.
3.12 Assessment of test instrument reliability and validity (Steps D and E)

This section defines the scope and meanings of reliability and validity that were used to evaluate the soundness of the measures used (Cooper & Emory 1995). The process ensured that the measures of the seven main variables had reliable and valid measurement properties. Reliability and validity measures ‘are different aspects of a construct and one can have reliable constructs that are not valid and valid constructs that are not reliable, reliability is a necessary first condition that must be achieved’ (Scott 2003, p. 5). It was therefore necessary to make certain the data collected met the requirements of SEM to ensure the results of the research were of sufficient quality and the research being conducted applied criteria establishing reliability and validity.

Reliability is the consistency of measurement and is that part of a measure that is free of random error (Kline 2005; Pallant 2000 and Bollen 1989), while validity assesses whether the construct can be accepted as being a correct measure of what it is intended to measure (Scott 2003 and Zikmund 2003). A number of measures were included in the design of the test instrument (Section 3.9), and during analysis to address reliability and validity (Cooper & Emory 1995). Table 3.7 outlines and defines the processes administered that tested for and measured reliability and validity ensuring the results of the test instrument. The reliability measures applied were scale (multi-item statements), predicator (stability of the variable), construct (consistency of the measures) and variance extracted (shared representation).

Validity was assessed using content (measuring of the stores’ image), and construct which included the complementary test measures of convergent and discriminant validity.
## Table 3.7: Reliability and Validity

<table>
<thead>
<tr>
<th>Measure Assessment</th>
<th>Definition</th>
<th>Assessment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reliability</strong></td>
<td>A measure of consistency where similar results are found across various situations thereby making the instrument useful (Zikmund 2003; DeVaus 2002 and Weisburg, Krosnick &amp; Bowen 1996)</td>
<td>• Scale development adapted from Zikmund (2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Statements written clearly.</td>
</tr>
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<td></td>
<td></td>
<td>• Instructions are easy to find and are clear.</td>
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<td></td>
<td></td>
<td>• Standardisation of the conditions under which the measurement was performed (Cooper &amp; Emory 1995).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use of multiple indicators for each construct (Boyce 2002).</td>
</tr>
<tr>
<td>1. Scale reliability</td>
<td>How consistent the ratings generated by a scale are likely to be (DeVaus 2002 and Parasuraman 1991)</td>
<td>• Statistically assessed in exploratory factor analysis. Use of multi-item statements for theoretical constructs allowing for the application of the Cronbach’s alpha test (Zikmund 2003).</td>
</tr>
<tr>
<td>2. Predictor reliability</td>
<td>The stability of a single indicator variable (Holmes-Smith &amp; Coote 2003)</td>
<td>To be statistically assessed in data analysis to forecast future probabilities with an acceptable level of reliability (Baumgartner &amp; Homburg 1996).</td>
</tr>
<tr>
<td>3. Construct reliability</td>
<td>The internal consistency of a set of measures (Holmes-Smith &amp; Coote 2003)</td>
<td>To be assessed statistically in data analysis based on estimated model parameters (Baumgartner &amp; Homburg 1996).</td>
</tr>
<tr>
<td>4. Variance extracted</td>
<td>The amount of shared representation of indicators with the construct (Hair, Anderson, Tatham &amp; Black 1995)</td>
<td>To be assessed statistically in data analysis with eigenvalue measures of the extracted variance from the total variance as expressed by the correlation matrix (Keen 2007).</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>The degree to which a test instrument accurately measures what it was intended to measure (Scott 2003; Zikmund 2003 and Bollen 1989)</td>
<td>• Scale development adapted from Zikmund (2003). No changes to the test instrument once it is finalised.</td>
</tr>
<tr>
<td>1. Content validity</td>
<td>A largely conceptual test of the degree which a scale logically appears to be accurately measuring the concept under research (DeVaus 2002; Nunnally &amp; Bernstein 1994; Parasuraman 1991 and Bollen 1989)</td>
<td>• Literature review. Feedback from experts with survey developed under the supervision of experienced researchers. Exploratory phase of research. Pilot testing of the test instrument.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Guided by the opinion of experts.</td>
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<td></td>
<td></td>
<td>• Implicated through reliability of the instrument (Malhotra 1999).</td>
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<td></td>
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<td>• Analysis after data is collected.</td>
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<tr>
<td>3. Convergent validity</td>
<td>The extent of the association between a measured construct and measures of other constructs with which the measured construct is theoretically expected to be related (Kline 2005 and Parasuraman 1991)</td>
<td>To be assessed statistically in data analysis, as in the factor analysis process, where the expectation of items loading together on one factor (and not cross-loading on another construct altogether).</td>
</tr>
<tr>
<td>4. Discriminant validity</td>
<td>Requires that the measure does not correlate too highly with measures from which it is supposed to differ (Zikmund 2003 and Churchill &amp; Iacobucci 2002)</td>
<td>To be assessed statistically in data analysis as in the factor analysis process, for example, see unrelated items loading on different factors. Convergent validity is the complement of discriminant validity and together forms the construct validity of an instrument (Campbell &amp; Fiske 1959).</td>
</tr>
</tbody>
</table>

Source: Synthesised from sources acknowledged in the table.
Table 3.7 presented some processes that were built into the research design to corroborate reliability and validity. Initially this was done through the literature review, exploratory study and in conjunction with the supervision by experienced researchers. Once the test instrument was developed it was pilot tested, followed by administration of the data collection process. There was standardisation of the conditions and there were no changes to the test instrument once it was finalised. Through the analysis of the data collected, reliability and validity were assessed.

This section addressed the key issues of reliability and validity with reference to SEM methods used for this research. The advantage of using SEM techniques permitted the examination of measures of reliability and validity (Fornell & Larcker 1981) and further examined the reliability and validity of the items that measured the seven main variables. This section also demonstrated that the research has implemented methods to ensure that the criteria of reliability and validity were met and therefore the findings can be taken as being reliable and valid.
3.13  **Assessment of competing analysis models (Step F)**

This section provides an overview and justification of the use of structural equation modelling for this research including the use of SEM in relation to the steps outlined. Structural equation modelling is defined as ‘a statistical methodology that takes a confirmatory, (for example, hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon’ (Byrne 2001, p. 3) and, according to Kline (2005), is not a single statistical technique but refers to a family of related procedures that compared different models and therefore can be characterised, for this research, by:

- requiring the researcher to think in terms of models
- made it possible to test a variety of hypotheses
- recognising covariance as the basic statistic of this process
- was appropriate for the large sample technique and
- was used to test for varying types of effects for statistical significance.

SEM was chosen as it enabled the researcher to take into account:

- the modelling of interaction
- the correlation of independent variables
- measurement errors and correlated error terms
- multiple latent independent variables each measured by multiple indicators and one or more latent dependent variables that had multiple indicators
- the inclusion of mediating variables

(Ho 2000).

SEM provided the researcher a means of assessing how well the data fitted the competing models (De Vaus 2002). As the models developed through the literature review and operationalised through the exploratory study, the models were multivariate as they consisted of more than two constructs. The competing models that were developed consisted of a **structural element**, how the service performance variables interrelated and affected future customer behaviour variables of the
study; and a **measurement element**, by assessing the constructs with multiple measures to ascertain if those measures were accurately measured (Hair, Anderson, Tatham & Black 1995).

Having been utilised in marketing research over the past two decades, SEM was regarded as a relevant methodology for this research. SEM was also considered an appropriate technique suited to the positivism paradigm (Section 3.2.2), quantitative methods (Section 3.6), and the use of a sample survey to collect data (Baumgartner & Homburg 1996 and Bagozzi 1994). Additionally, experiments were utilised to assist in verifying the studies hypotheses (Baumgartner & Homburg 1996 and Bagozzi 1994). Therefore, with the application of survey research and the underlying positivism philosophy the use of SEM for this study was further deemed appropriate for the following reasons:

- SEM allowed for the testing of varying models that contained multiple interrelated variables and allowed the researcher to specify multiple dependent relationships to capture the effects of mediating constructs as SEM provided separate equations for each variable (Hair, Anderson, Tatham & Black 1995)
- SEM provided the researcher with a means to directly access the measurement properties of the theoretical constructs and the subsequent testing of substantive hypotheses to be evaluated (Bagozzi & Phillips 1982)
- SEM provided the researcher a means for systematic and random measurement of errors to be captured (Bagozzi & Phillips 1982).

The use of SEM combined elements of both path analyses, by relating the models parameters to the covariance’s of observed variables, and factor analysis, by relating latent constructs to manifest variables (Kline 2005; MacLean & Gray 1998 and Bollen 1989). SEM also determined how much variance the dependent variables of the model were accounted for by the independent variables, and their direct and indirect effects. SEM was used to make statistical comparisons between alternative models (Hoyle 1995).

SEM allowed the researcher to examine the measurement and structural properties of the theoretical model (Section 2.10). Therefore, SEM techniques were particularly appropriate for this study of multiple relationships such as those investigated in this research and the use of a sample size of 500 respondents (Hulland, Chow & Lam 1996). The likelihood of encountering a technical problem in the analysis stage was more likely to occur if the sample size was small which would
mean the power of statistical tests would be limited (Kline 2005). A sample of 500 was used and was regarded as ‘large’ (Kline 2005).

A limitation with the use of SEM is that researchers have used incremental fit indices with >0.90 cut-off values as an indication of acceptable levels of model fit. However, researchers have concluded ‘it is difficult to designate a specific cut-off value for each fit index because it does not work equally well with various types of fit indices, sample size, estimators or distributions’ (Hu & Bentler 1998, p. 449). For this research, a general trend was followed using the most common recommended goodness of fit cut-off values such as:

- GFI (Goodness of Fit) reports measures with a range between 0 (poor fit) to 1.0 (perfect fit) (Ho 2000; Hulland, Chow & Lam 1996 and Schumaker & Lomax 1996);
- RMSEA (Root Mean Square Error of Approximation) acceptable values range between .05 and .08 (Byrne 2001; Baumgartner & Homburg 1996; Browne & Cudeck 1993);
- TLI (Tucker Lewis Index) values between .80 and 1.0 indicate acceptable fit however values generally range between 0 and 1.0 (Holmes-Smith & Coote 2003; Baumgartner & Homburg 1996; Schumacker & Lomax 1996 and Hair, Anderson, Tatham & Black 1995);
- CFI (Comparative Fit Index) values between .80 and 1.0 indicate acceptable fit with values close to 0 indicating a poor fit and values equal to 1.0 indicating a perfect fit (Holmes-Smith & Coote 2003; Baumgartner & Homburg 1996; Schumacker & Lomax 1996 and Hair, Anderson, Tatham & Black 1995);
- NFI (Normed Fit Index) values between .80 and 1.0 indicate acceptable fit. However NFI can be rescaled into 0 (poor fit) to 1 (perfect fit) range (Baumgartner & Homburg 1996 and Schumacker & Lomax 1996); and
- Parsimonious fit index (PNFI) values of .6 to .9 accepted as good indicators of model differences (Tabachnick & Fidell 2001; Hair, Anderson, Tatham & Black 1995 and Bollen 1989).
The software package used for SEM in this thesis was AMOS 7.0 because of its user friendliness, the use of graphics, its graphical user interface and its ability to import data directly from SPSS (Arbuckle 2003).

In brief, this section defined and justified the use of structural equation modelling as the suitable quantitative data analysis strategy for this research.
3.14 Ethical considerations

The purpose of conducting this research was a scientific inquiry investigating the social aspects of consumer behaviour with objectivity and research design priorities (Zikmund 1997). Ethical guidelines approved by the Human Research Ethics Committee of CQUniversity Australia, project number H07/06-059, were followed in this research. Ethical clearance was obtained prior to conducting the research (Appendix C).

An important ethical issue that arises in survey research relates to maintaining respondent confidentiality as it relates to the participants’ identity. The test instrument did not ask for individuals’ personal details (including name and address), as this information was not a requirement for this research therefore participant anonymity was maintained. As such, personal information from respondents was not part of the data analysis (Nachmias & Nachmias 1996). The objective of the research exercise was explained to all participants and information regarding how to obtain a summary of the findings provided to all respondents (Nachmias & Nachmias 1996). All respondents were asked to participate in the survey process of their own free will and were told of their right not to participate if they so desired at any stage of their participation (Kervin 1992). Respondents were asked to participate by the research assistants in a pleasant manner with no pressure to respond (Zikmund 2003).

To avoid any ethical concerns in the data collection process, informed consent was obtained from all participants for the methodology utilised on receipt of survey responses and all participants’ names and any other information through which the identity of the research participants may be derived was not collected (Neuman 2003).

As research assistants were used in conducting the data collection, each person was provided a standardised script for administering the survey. This process ensured that ethical protocols were adhered to and followed. All survey information from respondents was entered into a data file and then placed in a secure store at CQUniversity Australia (Rockhampton campus), for a period of five years. The information sheet, together with the accompanying consent form and how the information would be used, accompanied the surveys into the archives.
3.15 Summary

In summary this chapter explained the purpose of the methodology, its justification and the type of data that was collected and from whom it was collected including how it was analysed. The test instrument design was explained, the constructs of the model were described and justified. Reliability and validity steps of the test instrument were detailed, the survey was pilot tested and outlined, and the data analysis methods justified using structural equation modelling. Data were collected from coffee shop locations compromising 500 legal age participants with the methodology of the data collection shown to be ethical for the researcher, respondents and the participating coffee shops. In the following chapter the collected data were analysed.
Chapter 4

Data Analysis
4.0 Data Analysis

4.1 Introduction

In the previous chapter the process of the data collection and research methodology was described and justified, including the development of the test instrument and collection of primary data. This chapter presents the analysis of those quantitative data, which consisted of a total sample of 500. To address the research issues this chapter describes the data set preparation, examination and analysis. The research study also used structural equation modelling to analyse the proposed research model as presented in Chapter 2.

There were two main software analysis packages used in this research, SPSS 15.0 and AMOS 7.0. Two of the reasons for using SPSS are that it is a globally accepted program for data analysis in assessing response and participant characteristics (Pallant 2005; Zikmund 2003; Malhotra 1999 and Nourusis 1993). The presentation of the output results makes them easy to interpret and allows for the calculations of some statistics not available with SEM software such as AMOS. Some of those tests included, principle factor analysis and item-total statistics.

AMOS has direct linkage with SPSS, the program used for summarising statistics in this research, which makes it easier to transfer data between each package (Arbuckle 2003). AMOS also incorporates user-friendly graphics for easier modelling and presentation of results (Arbuckle 2003) and both software programs were readily available, with the researcher’s primary and secondary supervisors having extensive knowledge of each. Statistical justifications and integration of analysis used in this research are detailed in Section 4.4.

This chapter is divided into six sections, including this introduction, Section 4.1. Section 4.2 details the data preparation process represented by data coding, cleaning and screening. Section 4.3 provides Exploratory Factor Analysis (EFA) or data reduction. Section 4.4 details Confirmatory Factor Analysis (CFA) or statistical justifications. Section 4.5 outlines the structural equation modelling analysis and hypothesis testing and the final section, Section 4.6, provides a summarisation of the findings as drawn from the analysis. Figure 4.1 provides an outline as described.
Figure 4.1: Chapter 4 outline

- Introduction (section 4.1)
- Data Preparation (section 4.2)
  - Data Cleaning and Screening
  - Demographic Information
- Exploratory Factor Analysis (EFA)
  - Data Reduction (section 4.3)
- Confirmatory Factor Analysis (CFA) (section 4.4)
- Structural Equation Modelling (SEM) & Hypotheses Testing (section 4.5)
- Summary (section 4.6)

Source: Developed for this research.
4.2 Data Preparation

4.2.1 Introduction

The pre-analytical process of the data preparation process ensures that the data are complete and accurate by coding, transcribing or the entering of the data into a computer data base and accounting for missing responses to further ensure the results could be meaningfully interpreted from the data (Trochim 2003 and Malhotra 1999). This process includes conducting tests for outliers, descriptive statistics of demographic variables, undertaking data transformation, and ensuring scale validity and reliability, were additionally explored to ascertain a better representation of the data (Sekaran 2003).

4.2.2 Data cleaning and screening

Data cleaning played an important role in identifying the characteristics of the raw data and was conducted prior to statistical analysis (Baumgartner & Homburg 1996). Each completed survey was scrutinised by the researcher to ensure all respondents followed the instructions provided, and to ensure all answers were legible and complete. Following this process, all audited test instruments were then entered into a SPSS data file.

In order to minimise the errors in the data transfer, a random sample of ten percent (50) of the surveys was selected to clean the data manually and to re-check those surveys against the original test instrument (Malhotra 1999 and Hair, Anderson, Tatham & Black 1995). There were no incorrect data entry points identified.

A number of data screening steps were implemented in this research, which followed the guidelines of Pallant (2005), Manning (2004), and Coakes and Steed (2003). Data was first screened to verify that no coding errors had been made and responses recorded correctly. The variables associated with this research were screened and no errors were identified.

Accuracy of transcription was further verified by identifying any outliers, missing data, non-response errors and testing the data for normality (Malhotra 1999 and Hair, Anderson, Tatham & Black 1995). In order to ensure the multivariate requirement of complete data was met an inspection of missing data was undertaken (Afifi & Clark 1996).

Missing data values of greater than ten percent of each data set are said to pose problems (Malhotra 1999). In this research, none of the missing data values for each variable or item exceeded three percent with the listwise deletion method employed (Kline 2005). Missing data
could be replaced for a variable with neutral values such as the mean of a variable based on all valid responses (Malhotra 1999 and Hulland, Chow & Lam 1996). The replacement of missing data with mean values was employed in this study as this method has been extensively used in the literature (Malhotra 1999 and Little & Rubin 1987). Maximum likelihood estimation for analysis was also a strategy employed thereby making use of all available data (Little & Rubin 1987).

**Outliers** are unreasonable observations with extreme values on variables which do not belong and are distinct from the data set therefore the data set was scanned to identify outliers (Barnett & Lewis 1995; Hair, Anderson, Tatham & Black 1995 and Bollen 1989). The data set was checked for outliers using four main causes as identified by Osborne and Overbay (2004). They are as follows:

1. outliers caused by human error in the data entry, collection or coding stages;
2. outliers resulting from observations that legitimately do not fit within the typical range of other data values and can be explained;
3. outliers resulting from observations which cannot be explained or univariate outliers; and,
4. normal observations for single variables that are unusual in their combination of values across the variables or called multivariate outliers.

There were no cases where outliers were detected from the data entered or where outliers were a result of unexplainable events. SPSS and AMOS were used to detect univariate and multivariate outliers respectively. **Univariate** detection of outliers was done by converting the data values to standard Z scores for each variable in the model. This inspection was also achieved by plotting histograms or boxplots to demonstrate the range of data. Analysis considers Z scores over ± 3, (p<.001), which is generally agreed upon as a threshold (Byrne 2001; Hair, Anderson, Tatham & Black 1995 and Nourusis 1993). Individual data was checked and none had to be removed therefore indicating there were no outliers in the data set (Osborne & Overbay 2004).

**Multivariate** detection of outliers was carried out using Mahalanobis distance for each case (Pallant 2005; Manning 2004 and Ho 2000). A case was considered to be a multivariate outlier if the value of Mahalanobis distance was greater than a critical value, calculated as chi-squared ($\chi^2$) static degrees of freedom equivalent to the number of variables and p<.001. All the latent variables for this research, using a check for this test for the data collected, identified no significant outliers.
Non-response bias or error can possibly occur if potential participants included in the sample fail to respond (Zikmund 2003 and Malhotra 1999). In addressing this issue the researcher ensured a high response rate occurred by having the research assistants thoroughly trained. Of the 700 consumers asked to participate in answering the survey, 500 usable test instruments were completed resulting in a response rate of 71.4 percent, which was quite high for business research (Neuman 2003 and Malhotra 1999). The use of offering respondents a free voucher to use in the coffee shop as an inducement to fill out the survey also contributed to the high response rate as the voucher provided consumers an incentive to participate (Malhotra, Hall, Shaw & Oppenheim 2002).

Normality of all survey items was tested by checking their distribution against a bell shaped curve (Pallant 2005). Normality assessment of each calculated variable to be used in SEM was to ensure all data have normal distribution (Arbuckle 2003). Further analysis was undertaken to assess the skewness and kurtosis in the data also using a Z test (Tabachnick & Fidell 2001). The results of the data analysed indicated that there were some negatively skewed and positively kurtotic, which is common in service quality research (Brédart, Razavi, Delvaux, Goodman, Farvacques & Van Heer 1998; Peterson & Wilson 1992 and Oberst 1983). At the multivariate level, normality included the distribution of individual variables and combinations of variables (Hulland, Chow & Lam 1996). However, variables that are not normally distributed are subsequently rejected by a goodness of fit test (Green & Salkind 2003; Malhotra, Hall, Shaw & Oppenheim 2002; Ho 2000; Nourusis 1993 and Marsh, Balla & McDonald 1988).

Inspection of the variables showed that a majority were distributed normally and any deviations from normality were not considered to be a major problem in SEM analysis, given that large sample sizes often reduce the negative effects of non-normality that are identified in the data (Tabachnick & Fidell 2001; Hair, Anderson, Tatham & Black 1995 and Jobson 1991) and was not expected to impact the analysis conducted in this research. As indicated by Pallant (2005), most statistical techniques are reasonably robust and tolerant to the violations of the assumption of normality. The inspection of data resulted in no major deviations from normality being identified.

A linearity test was conducted to inspect the data using a normal probability plot including a scatter plot of all standardised residuals (Pallant 2005). The results indicated that the residuals had a straight line relationship with the predicted dependent variables and were rectangularly distributed concluding there were no major deviations from normality (Pallant 2005 and Tabachnick & Fidell 2001).
Examination of **multicollinearity** took place by assessing Variance Inflation Factor (VIF) and tolerance in multiple regression analysis where the independent variables were assessed against the mediator and dependent variables. Results indicated that no variables had a VIF index >10 or a tolerance value <.10 thereby indicating that multicollinearity was not statistically significant in data analysis (Pallant 2005; Tabachnick & Fidell 2001; Ho 2000 and Hair et al. 1995).

In this section, the data meet the assumptions required for using SEM analysis, such as: internal data (data cleaning, screening and missing data), outliers, normality of data distribution, linearity, and multicollinearity (Pallant 2005, Osborne & Overbay 2004; Green & Salkind 2003 and Tabachnick & Fidell 2001).

### 4.2.3 Respondent Profile

The demographic profile of the respondents from the Hudsons Coffee shop samples is shown in Table 4.1. Demographic characteristics were gathered to establish an overview of the sample. Table 4.1 summarises the main demographic information of the sample respondents. The table provides the age/gender breakdown for all 500 surveys that were administered.

The largest age group of respondents (40.8 percent) of Hudsons Coffee patrons surveyed were aged between 18 and 25 years, followed by those who were aged between 26 and 35, (23.2 percent), thus 64 percent of respondents were aged between 18 and 35 years. Respondents aged between 36 and 45 represented (14.4 percent) followed by respondents aged 46 and 55 (13 percent), followed by respondents aged between 56 and 64 (5.6 percent) with those aged over 65 representing (3 percent) of the total respondents. Females represented (47.8 percent) and males represented (52.2 percent) of the total of all participants. There were no other significant deviations or differences in regards to age or gender.

**Table 4.1: Age/Gender Crosstabulation**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18–25 years</td>
<td>26–35 years</td>
</tr>
<tr>
<td>Female</td>
<td>118</td>
<td>57</td>
</tr>
<tr>
<td>Male</td>
<td>86</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td>116</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>40.80</td>
<td>23.20</td>
</tr>
</tbody>
</table>

Source: Developed from this research.
In summary, respondents were predominantly aged between 18 and 35 with slightly more males than females. Next, summary statistics of the 53 indicator variables are presented.

### 4.2.4 Summary statistics of indicator variables

Summary statistics for each of the 53 indicator variables using the sample of 500 respondents are reported in Table 4.2. All items are grouped by the latent variables they reflect; and the means and standard deviations are reported.

As shown in Table 4.2, the mean scores for *Product Delivery* antecedents were reasonably high (4.50 to 5.28) with all variables reporting standard deviations greater than 1.0 (1.25 to 1.55). Mean scores for *Functional Service Quality* antecedents were also moderately high (4.96 to 5.38) with all variables reporting standard deviations greater than 1.0 (1.29 to 1.55). *Servicescape Service Quality* antecedents reported moderate means (3.42 to 5.04) with all variables reporting standard deviations greater than 1.0 (1.24 to 1.70), with the variables parking, lights, insidecold, insidenoise, insidehot, and insidecluter all reporting standard deviations greater than 1.5. *Customer Satisfaction* antecedents reported means that were moderately high (5.21 to 5.33) with all variables reporting standard deviations greater than 1.0 (1.16 to 1.32). *Relationship Strength* antecedents reported reasonably high means (4.64 to 5.18) with all variables reporting standard deviations greater than 1.0 (1.17 to 1.55) except the variable relationship which had a standard deviation above 1.5. *Retention Intentions* antecedents reported moderate means (4.81 to 5.36) with all variables reporting standard deviations greater than 1.0 (1.21 to 1.38). *Word-of-Mouth* antecedents reported mean scores that were moderately high (4.51 to 4.97) with two variables, willrefer and willrecommend, having a standard deviation greater than 1.0 (1.33) and three variables: wontrefer, dontreferatall and wontrefprice with standard deviations greater than 1.5 (1.68 to 1.78). The results of all variables would indicate that the standard deviations had dispersion in the responses.
Table 4.2: Summary statistics for the 53 indicator variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>StDv</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Delivery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glasses</td>
<td>5.12</td>
<td>1.40</td>
</tr>
<tr>
<td>Plates</td>
<td>5.15</td>
<td>1.33</td>
</tr>
<tr>
<td>Drinkssel</td>
<td>5.28</td>
<td>1.25</td>
</tr>
<tr>
<td>Drqual</td>
<td>5.20</td>
<td>1.28</td>
</tr>
<tr>
<td>Drprice</td>
<td>4.71</td>
<td>1.47</td>
</tr>
<tr>
<td>Foodsel</td>
<td>4.74</td>
<td>1.37</td>
</tr>
<tr>
<td>Foodqual</td>
<td>4.72</td>
<td>1.40</td>
</tr>
<tr>
<td>Foodprice</td>
<td>4.50</td>
<td>1.55</td>
</tr>
<tr>
<td><strong>Functional Service Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welcome</td>
<td>4.96</td>
<td>1.55</td>
</tr>
<tr>
<td>Plsexper</td>
<td>5.15</td>
<td>1.32</td>
</tr>
<tr>
<td>Stafflisten</td>
<td>4.99</td>
<td>1.40</td>
</tr>
<tr>
<td>Staffneat</td>
<td>5.23</td>
<td>1.29</td>
</tr>
<tr>
<td>Staffpolite</td>
<td>5.21</td>
<td>1.41</td>
</tr>
<tr>
<td>Knowdrink</td>
<td>5.14</td>
<td>1.38</td>
</tr>
<tr>
<td>Knowfood</td>
<td>5.04</td>
<td>1.46</td>
</tr>
<tr>
<td>Servquick</td>
<td>5.17</td>
<td>1.54</td>
</tr>
<tr>
<td>Nowait</td>
<td>5.00</td>
<td>1.54</td>
</tr>
<tr>
<td>Seracctime</td>
<td>5.38</td>
<td>1.41</td>
</tr>
<tr>
<td><strong>Servicescape Service Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Décor</td>
<td>4.90</td>
<td>1.30</td>
</tr>
<tr>
<td>Toilets</td>
<td>4.41</td>
<td>1.47</td>
</tr>
<tr>
<td>Parking</td>
<td>3.95</td>
<td>1.65</td>
</tr>
<tr>
<td>Niceatmos</td>
<td>4.97</td>
<td>1.31</td>
</tr>
<tr>
<td>Music</td>
<td>4.73</td>
<td>1.38</td>
</tr>
<tr>
<td>Lights</td>
<td>4.17</td>
<td>1.51</td>
</tr>
<tr>
<td>Insidecold</td>
<td>4.23</td>
<td>1.65</td>
</tr>
<tr>
<td>Insidehot</td>
<td>4.12</td>
<td>1.61</td>
</tr>
<tr>
<td>Insidenoise</td>
<td>4.19</td>
<td>1.70</td>
</tr>
<tr>
<td>Insidecluter</td>
<td>4.25</td>
<td>1.64</td>
</tr>
<tr>
<td>Menus</td>
<td>4.82</td>
<td>1.26</td>
</tr>
<tr>
<td>Pleassmell</td>
<td>5.04</td>
<td>1.24</td>
</tr>
<tr>
<td>Incomfort</td>
<td>5.04</td>
<td>1.30</td>
</tr>
<tr>
<td>Outsidenoise</td>
<td>3.42</td>
<td>1.40</td>
</tr>
<tr>
<td>Outsideples</td>
<td>4.72</td>
<td>1.33</td>
</tr>
<tr>
<td>Outsidecom</td>
<td>4.73</td>
<td>1.36</td>
</tr>
<tr>
<td>Variable</td>
<td>Mean</td>
<td>StDv</td>
</tr>
<tr>
<td>-----------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Customer Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metexpect</td>
<td>5.21</td>
<td>1.24</td>
</tr>
<tr>
<td>Servadaquat</td>
<td>5.31</td>
<td>1.16</td>
</tr>
<tr>
<td>Orderready</td>
<td>5.24</td>
<td>1.25</td>
</tr>
<tr>
<td>Surrcomfort</td>
<td>5.31</td>
<td>1.21</td>
</tr>
<tr>
<td>Enjoyprods</td>
<td>5.33</td>
<td>1.32</td>
</tr>
<tr>
<td><strong>Relationship Strength</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accinfo</td>
<td>4.91</td>
<td>1.30</td>
</tr>
<tr>
<td>Feelgood</td>
<td>4.90</td>
<td>1.25</td>
</tr>
<tr>
<td>Usefulinfo</td>
<td>5.03</td>
<td>1.17</td>
</tr>
<tr>
<td>Approachab</td>
<td>5.18</td>
<td>1.18</td>
</tr>
<tr>
<td>Goodrappor</td>
<td>4.98</td>
<td>1.37</td>
</tr>
<tr>
<td>Relationship</td>
<td>4.64</td>
<td>1.55</td>
</tr>
<tr>
<td><strong>Retention Intentions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willreturn</td>
<td>5.36</td>
<td>1.21</td>
</tr>
<tr>
<td>Willbuy</td>
<td>5.05</td>
<td>1.30</td>
</tr>
<tr>
<td>Ifibuy</td>
<td>4.81</td>
<td>1.38</td>
</tr>
<tr>
<td><strong>Word-of-Mouth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willrefer</td>
<td>4.97</td>
<td>1.33</td>
</tr>
<tr>
<td>Willrecommend</td>
<td>4.94</td>
<td>1.33</td>
</tr>
<tr>
<td>Wontrefer</td>
<td>4.66</td>
<td>1.68</td>
</tr>
<tr>
<td>Dontreferatall</td>
<td>4.59</td>
<td>1.77</td>
</tr>
<tr>
<td>Wontrefprice</td>
<td>4.51</td>
<td>1.78</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As presented in Table 4.2, 53 indicator variables were identified for further data analysis in this study and to determine their factional composition using Exploratory Factor Analysis (EFA).
4.3 **Exploratory Factor Analysis (EFA)**

Exploratory Factor Analysis was utilised to examine the factor structure and its fit with the data thus ensuring the items of the survey actually measured the variables they were designed to measure. EFA measured the factorisability of each group of items providing an overview of the factor structure. To control for possible confounding of the data sample, the initial sample of 500 participants was divided into 200 (EFA) and 300 (CFA) data sets respectively. This process controlled the effect of the confounding of participant data in relating the findings of the EFA to the CFA. Using large sample sizes of more than 200 for complex models provides for the best possible results (Kline 2005; Hair, Anderson, Tatham & Black 1995 and Nunnally & Berstein 1994).

Components analysis was then utilised for initial extraction of factors followed by an oblique rotation. The EFA test was conducted to identify items that did not significantly load on factors (Keen 2007; De Vaus 2002; Fabrigar, Wegener, MacCallum & Strahan 1999 and Hair, Anderson, Tatham & Black 1995).

4.3.1 **Results of exploratory factor analysis**

As noted in Section 4.3, exploratory factor analysis was performed using SPSS with the overall aim of summarising the set of variables structure (Pallant 2005 and Coakes & Steed 2003).

The Bartlett’s Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) were used to examine the adequacy of the correlation matrix for assessing each EFA. A significant Bartlett’s test and KMO of greater than 0.6 indicated that EFA solutions factorability was acceptable (Pallant 2005; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995). The Bartlett’s/KMO test yielded a value of 0.913 and an associated level of significance smaller than, $p < .01$. Interpreting the KMO measures of the correlation matrix, results which yielded 0.90 or greater are represented as marvellous (Kaiser 1974). Therefore, the hypothesis that the correlation matrix is an identity matrix is rejected. There were significant correlations among some of the variables therefore factor analysis was appropriate.

The Cattell scree plot was also used as a diagnostic tool for factor extraction. When one or more factors was extracted from the factor solution, factor rotation was applied to increase interpretability. Factor extraction, for this study was used as the factors were expected to be correlated. Coefficients less than 0.33 were suppressed and solutions rotated using the direct oblimin (oblique) process (Keen 2007; Pallant 2005; Polit 1996 and Hair, Anderson, Tatham &
Black 1995). The overall decision on the number of factors to be used to represent the constructs was done by examination of the eigenvalue (eigenvalue ≥1). The EFA was conducted using all 53 antecedents shown in table 4.2. The examination of the correlation matrix showed that there was a high correlation between the variables. The commonalities table revealed that the proportion of variances in each variable accounted for by the common factor were high. The total variance explained table identified ten factors, after direct oblimin rotation, which had eigenvalues of one or greater. This table shows the number of common factors computed, the associated eigenvalue, the percentage of the total variance for each factor and the cumulative percentage of the total variance associated with the factors. A summation of the means of the individual measures were set out, as shown in table 4.2, having used multi attribute measures and simple means. Initially it was decided to set the eigenvalue to one resulting in ten factors, which are explained in Sections 4.3.3 to 4.3.9.

As indicated in Table 4.3, the reliability of the scales identified in EFA was also tested. Cronbach alpha was used to evaluate and test the internal coherence of all the latent variables after deletion to ensure the scale remained reliable (Keen 2007; Chumpitaz & Papariodamis 2004; Coakes & Steed 2003 and Tabachnick & Fidell 2001).

To test the internal consistency and validity of the constructs measured by the test instrument each variable was item analysed using reliability analysis. Each of the 53 items used to measure the independent constructs (34 items), mediating constructs (11 items) and the dependent constructs (8 items) were tested. Through SPSS, scale reliability was determined with results provided from the reliability statistics table, which produced a Cronbach alpha of 0.953 for all variables. A Cronbach alpha result with a value of 0.5 was acceptable; however, a value of 0.7 was preferred (Pallant 2005; Coakes & Steed 2003; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995). Therefore, the result for this study indicated the scale used in this research had internal consistency (Pallant 2005).

Table 4.3 provides the summary statistics for each of the ten factors after EFA was conducted with each constructs mean, standard deviations, and Cronbach alpha reported.
Table 4.3: Summary statistics for the ten factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>4.67</td>
<td>1.27</td>
<td>0.900</td>
</tr>
<tr>
<td>Product</td>
<td>5.19</td>
<td>1.20</td>
<td>0.880</td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td>5.13</td>
<td>1.16</td>
<td>0.947</td>
</tr>
<tr>
<td>SSSQ Facilities</td>
<td>4.06</td>
<td>1.23</td>
<td>0.793</td>
</tr>
<tr>
<td>SSSQ Atmosphere</td>
<td>4.60</td>
<td>1.06</td>
<td>0.869</td>
</tr>
<tr>
<td>SSSQ Appearance</td>
<td>4.87</td>
<td>.975</td>
<td>0.804</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>5.28</td>
<td>1.08</td>
<td>0.925</td>
</tr>
<tr>
<td>Relationship Strength</td>
<td>4.94</td>
<td>1.07</td>
<td>0.900</td>
</tr>
<tr>
<td>Retention Intentions/PWOM</td>
<td>5.03</td>
<td>1.05</td>
<td>0.865</td>
</tr>
<tr>
<td>Negative Word-of-Mouth</td>
<td>4.59</td>
<td>1.60</td>
<td>0.905</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As shown in the table, the mean scores ranged from a high of 5.28 for the construct Customer Satisfaction to a low of 4.06 for SSSQ Facilities. All variables reported acceptable standard deviations (0.975 to 1.60). The results of all constructs would indicate that the standard deviations had dispersion in the responses. Cronbach alpha for all variables were also acceptable ranging from (0.793 to 0.947). The increase of three factors, from seven to ten, is due to statistical identification of Product Delivery and Servicescape splitting through EFA.

4.3.2 Evaluation of the measurement models

As discussed in Chapter 3, respondents’ affective and behavioural responses to the surrounding servicescape were measured at various Hudsons Coffee shop locations. Respondents’ responses to the coffee shops environment were measured using a seven point interval scale. The overall selection of the measurement variables which represented the latent constructs was based on exploratory factor analysis (EFA) and then subsequently with confirmatory factor analysis (CFA), to assess parameter estimation (Tabachnick & Fidell 2001 and Gerbing & Hamilton 1996).

Exploratory factor analysis (EFA) and scale reliability analysis were undertaken on the performance, affective and behavioural response measures that examined the underlying factor structure of all the items used in the test instrument, including assessing the internal consistency of all measures and to confirm the factors that were theoretically proposed (Chumpitaz & Papariodamis 2004 and Green & Salkind 2003). Exploratory factor analysis (EFA) was conducted to identify any items that loaded significantly on the represented factors and also had high reliability. Exploratory factor analysis (EFA) therefore measured each pool of items providing an
overview of the factor structure, which ensured that each item was measuring specific variables by examining all components that emerged through rotation. Section’s 4.3.3 to 4.3.9 further explains the results of the EFA for each construct in this study. Although the test instrument did not number each item on the survey, for the purposes of this review, identification has been appropriated for each item of the seven variables explained.

4.3.3 Product Delivery

Product Delivery was tested with eight statements in the test instrument, (S1, S2, S3, S4, S5, S6, S7, and S8) as detailed in Table 4.4. It was identified statistically through EFA that two factors were present. These two factors explained 76.86 percent of the variance with both factors having an eigenvalue of 1 or greater. The reported loadings of each indicator variable are presented in Table 4.4.

Table 4.4: Product Delivery (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>glasses</td>
<td>0.675</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plates</td>
<td>0.635</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>drinkssel</td>
<td>0.418</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>drqual</td>
<td>0.551</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>drprice</td>
<td>0.808</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foodsel</td>
<td>0.702</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foodqual</td>
<td>0.625</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foodprice</td>
<td>0.725</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As shown in Table 4.4, two factors emerged for Product Delivery. A significant Bartlett’s test and KMO of 0.840 indicated that the factorisability of the variables were acceptable (Pallant 2005; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995). Product Delivery and Product were then subjected to a scale reliability test with the reported Cronbach alpha of 0.900 and 0.880 respectively for each factor indicating scale reliability and internal consistency was acceptable. Removal of one item from cross loading with two factors, present in the factor analysis of Product Delivery, was conducted by setting the coefficient cut off point at 0.40 thereby suppressing and eliminating the non significant item from one of the factors, with the result yielding the two factors. As a result of the factor split, the first factor was based on delivery of the tangible products in which the product was to be delivered such as glasses, plates, drink quality and selection...
as shown in Factor 1 column. The second factor was defined as those items that represented the product. Therefore, the first factor was defined as Product Delivery and the second as Product.

In all cases where there was an item(s) that presented during the EFA, the Bartlett’s Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) tests were recalculated after cut off values were reset.

### 4.3.4 Functional Service Quality

Functional Service Quality was tested with ten statements in the test instrument, (S9, S10, S11, S12, S13 S14, S15, S16, S17, and S18) as detailed in Table 4.5. It was statistically identified through EFA that only one factor emerged indicating that all items were accurate in measuring the variable, Functional Service Quality. This factor explained 64.45 percent of the variance with an eigenvalue greater than one. The reported loadings of each indicator variable are presented in Table 4.5.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>welcome</td>
<td>0.561</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plsexper</td>
<td>0.554</td>
<td></td>
<td>0.947</td>
<td>0.908</td>
</tr>
<tr>
<td>stafflisten</td>
<td>0.601</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>staffneat</td>
<td>0.624</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>staffpolite</td>
<td>0.726</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowdrink</td>
<td>0.630</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowfood</td>
<td>0.679</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>servquick</td>
<td>0.646</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nowait</td>
<td>0.517</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seracctime</td>
<td>0.379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As shown in Table 4.5, one factor resulted for Functional Service Quality, therefore the items were accurate in measuring the variable. Functional Service Quality was then subjected to a scale reliability test with the reported Cronbach alpha of 0.947 indicating scale reliability and internal consistency was acceptable. A significant Bartlett’s test and KMO of 0.908 indicated that the factorisability of the variables were acceptable (Pallant 2005; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995).
4.3.5 Servicescape Service Quality

Servicescape Service Quality was tested with sixteen statements in the test instrument, (S19, S20, S21, S22, S23 S24, S25, S26, S27, S28, S29, S30, S31, S32, S33 and S34) as detailed in Table 4.6. The EFA resulted in three factors, with the combined factors explaining 60.35 percent of the variance with an eigenvalue greater than one. As indicated from the pattern matrix, Table 4.6, the variables showed a significant Bartlett’s test and KMO (0.799).

Table 4.6: Servicescape Service Quality (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>decor</td>
<td>0.409</td>
<td></td>
<td></td>
<td>0.793</td>
<td></td>
<td></td>
</tr>
<tr>
<td>toilets</td>
<td>0.734</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>parking</td>
<td>0.763</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>niceatmos</td>
<td>0.455</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>music</td>
<td>0.580</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lights</td>
<td></td>
<td>0.611</td>
<td></td>
<td>0.869</td>
<td>0.799</td>
<td>0.000</td>
</tr>
<tr>
<td>insidecold</td>
<td></td>
<td>0.710</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>insidehot</td>
<td></td>
<td>0.682</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>insidenoise</td>
<td></td>
<td>0.761</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>insidecluter</td>
<td></td>
<td>0.793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outsidenoise</td>
<td></td>
<td>0.659</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>menus</td>
<td></td>
<td></td>
<td>0.439</td>
<td>0.804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pleassmell</td>
<td></td>
<td></td>
<td>0.678</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>incomfort</td>
<td></td>
<td></td>
<td>0.694</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outsideples</td>
<td></td>
<td></td>
<td>0.647</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outsidecom</td>
<td></td>
<td></td>
<td>0.673</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As indicated in Table 4.6, EFA resulted in three factors. Examination of the variables resulted in the Servicescape Service Quality construct being re-labelled, Servicescape Service Quality Facilities, Atmosphere and Appearance respectively. It may be noted that Table 2.4 in Chapter 2 summarises Baker’s (1987) components of the environment, which splits the servicescape factor into three similar distinct dimensions as noted above.

Scale reliability was then determined: Servicescape Service Quality Facilities resulted in a Cronbach alpha of 0.793, Servicescape Service Quality Atmosphere resulted in a Cronbach alpha of 0.880 and Servicescape Service Quality Appearance resulted in a Cronbach alpha of 0.789. No scale improvement could be provided by the removal of any variables. Therefore Cronbach’s alpha
indicated high scale reliability as the values were above the acceptable 0.5 threshold (Pallant 2005; Coakes & Steed 2003; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995).

4.3.6 Customer Satisfaction

The measurement of the mediating variable Customer Satisfaction was achieved through five items in the test instrument, (S35, S36, S37, S38, and S39) as detailed in Table 4.7. EFA indicated that one factor was present, which explained 77.23 percent of the variance with a significant Cronbach alpha, (0.925) and KMO (0.853) with an eigenvalue greater than one as reported in Table 4.7.

Table 4.7: Customer Satisfaction (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>metexpect</td>
<td>0.613</td>
<td>0.925</td>
<td>0.853</td>
<td>0.000</td>
</tr>
<tr>
<td>servadaquat</td>
<td>0.673</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>orderready</td>
<td>0.722</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>surrcomfort</td>
<td>0.728</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>enjoyprods</td>
<td>0.794</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

Therefore, the data from the five items presented in Table 4.7 were used to calculate the construct, Customer Satisfaction.

4.3.7 Relationship Strength

The Relationship Strength construct consisted of six items associated with the mediating variable (S40, S41, S42, S43, S44 and S45) as detailed in Table 4.8. No cross loadings occurred with the represented items. It was statistically identified through EFA that only one factor emerged indicating that all six items were accurate in measuring the variable, Relationship Strength. This factor explained 69.23 percent of the variance with an eigenvalue greater than one. The reported loadings of each indicator variable are presented in Table 4.8.
As shown in Table 4.8, one factor resulted for Relationship Strength therefore, the items were accurate in measuring the variable. Relationship Strength was then subjected to a scale reliability test with a reported Cronbach alpha of 0.900 indicating scale reliability and internal consistency was acceptable. A significant Bartlett’s test and KMO of 0.881 indicated that the factorisability of the variables were acceptable (Pallant 2005; Thomas, Souter & Ryan 2001 and Hair, Anderson, Tatham & Black 1995).

### 4.3.8 Retention Intentions

The dependent variable Retention Intentions consisted of three items in the test instrument (S46, S47, and S48). However, items S49 (willrefer) and S50 (willrecommend) associated with the dependent variable Word-of-Mouth also loaded with this factor. The KMO test was significant, (0.811) and Cronbach’s alpha also was acceptable, (0.865). The EFA results for this factor indicated the five items measured for this one factor explained 65.89 percent of the variance. No cross loadings occurred with the represented items. The results are reported in Table 4.9.

### Table 4.9: Retention Intentions/PWOM (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>willreturn</td>
<td>0.596</td>
<td>0.865</td>
<td>0.811</td>
<td>0.000</td>
</tr>
<tr>
<td>willbuy</td>
<td>0.743</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ifibuy</td>
<td>0.531</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>willrefer</td>
<td>0.793</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>willrecommend</td>
<td>0.792</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As reported in Table 4.9, three indicator variables, willreturn, willbuy and ifibuy related to the dependent variable Retention Intentions while two indicator variables willrefer and willrecommend, originally associated with the dependent variable Word-of-Mouth also loaded in...
this factor. What resulted was a combined factor re-named as Retention Intentions/Positive Word-of-Mouth (PWOM). The one factor that emerged from EFA concentrated on consumers’ positive behavioural intentions representing patrons of the coffee shops positive intent without impact on negative influences. However, as was theoretically proposed through the literature reviewed in Chapter 2, the two variables are indeed two distinct behaviours and therefore were subsequently split into their respective constructs.

The results of the factor split are shown in Table 4.10 for the construct Retention Intentions, consisting of three indicator variables in the test instrument (S46, S47, and S48). The KMO test was significant, (0.635) and Cronbach’s alpha also was acceptable, (0.771).

Table 4.10: Retention Intentions (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>willreturn</td>
<td>0.898</td>
<td>0.771</td>
<td>0.635</td>
<td>0.000</td>
</tr>
<tr>
<td>willbuy</td>
<td>0.833</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ifibuy</td>
<td>0.758</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

The results of the factor split for the construct Positive Word-of-Mouth as represented by two indicator variables in the test instrument S49 (willrefer) and S50 (willrecommend), as shown in Table 4.11, provided a significant result for the KMO test (0.500) and an acceptable Cronbach alpha (0.874).

Table 4.11: PWOM (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>willrefer</td>
<td>0.943</td>
<td>0.874</td>
<td>0.500</td>
<td>0.000</td>
</tr>
<tr>
<td>willrecommend</td>
<td>0.943</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

4.3.9 Word-of-Mouth

Word-of-Mouth was measured with five indicator variables, (S49, S50, S51, S52, and S53). The initial EFA for Word-of-Mouth resulted in one factor presenting with an explained variance of 88.84 percent. The factor was significant with Bartlett’s test and KMO of 0.732. Cronbach’s alpha also was acceptable, (0.905). No cross loadings occurred with the represented items. The results are reported in Table 4.12.
As shown in Table 4.12, only three negatively worded indicator variables, (wontrefer, dontreferatall and wontrefprice) loaded with this factor with the other two positively worded original items of the construct Word-of-Mouth (willrefer and willrecommend) loading in the previous factor. The three items represent a negative response factor. This factor was contrary to the construct in which they were conceived. The label applied to this construct was Negative Word-of-Mouth (NWOM).

In order to establish the relationship and strength between PWOM and NWOM and the subsequent split of the indicator variables into the two distinct factors, their correlation was investigated using the Pearson’s product moment correlation (r). As indicated the three negatively worded Word-of-Mouth items (wontrefer, dontreferatall and wontrefprice) were reversed to prevent respondent bias thereby causing the construct Word-of-Mouth to split into two factors, NWOM and PWOM with the indicator items (willrefer and willrecommend), combining with the construct RI to create a new variable RI/PWOM.

By first conducting preliminary analysis of linearity and normality to ensure there was no violation of those assumptions, the results indicated there was little correlation between the two constructs, NWOM/PWOM (0.056). Cohen (1988) suggests the following guidelines in interpreting the strength of the relationships, (0.10 to 0.29) small, (0.30 to 0.49) medium and (0.50 to 1.0) large. In calculating the coefficient of determination (Pallant 2005), there was not much overlap between the constructs, sharing only 0.31 percent of their variance. Table 4.13 shows the results of the correlation analysis between NWOM and PWOM.

Table 4.12: NWOM (EFA)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Cronbach Alpha</th>
<th>KMO</th>
<th>Bartlett’s Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>wontrefer</td>
<td>0.853</td>
<td>0.905</td>
<td>0.732</td>
<td>0.000</td>
</tr>
<tr>
<td>dontreferatall</td>
<td>0.917</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wontrefprice</td>
<td>0.869</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

Table 4.13: NWOM and PWOM construct correlation

<table>
<thead>
<tr>
<th>Variables</th>
<th>NWOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWOM</td>
<td>Pearson Correlation(r) = 0.056</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.
To further illustrate the relationship between the two constructs, correlation analysis was undertaken on the indicator items for each variable as well. The results, provided in Table 4.14, indicated there was little correlation between the items with one NWOM item, wontrefer, providing small negative correlations with two PWOM items, willrefer and willrecommend (-0.027 and -0.022) respectively. None of these correlations proved significant.

Table 4.14: NWOM and PWOM indicator item correlations

<table>
<thead>
<tr>
<th>Variables</th>
<th>NWOM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wontrefer</td>
</tr>
<tr>
<td>willrefer</td>
<td>Pearson Correlation(r) = -0.027</td>
</tr>
<tr>
<td>willrecommend</td>
<td>Pearson Correlation(r) = -0.022</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As a result of these data, NWOM was subsequently removed from the study following the CFA. Table 4.15 provides a summary statistics for the revised twelve factors after EFA was conducted with each constructs mean, standard deviations and Cronbach alpha reported.

Table 4.15: Summary statistics for the revised twelve factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>4.67</td>
<td>1.27</td>
<td>0.900</td>
</tr>
<tr>
<td>Product</td>
<td>5.19</td>
<td>1.20</td>
<td>0.880</td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td>5.13</td>
<td>1.16</td>
<td>0.947</td>
</tr>
<tr>
<td>SSSQ Facilities</td>
<td>4.06</td>
<td>1.23</td>
<td>0.793</td>
</tr>
<tr>
<td>SSSQ Atmosphere</td>
<td>4.60</td>
<td>1.06</td>
<td>0.869</td>
</tr>
<tr>
<td>SSSQ Appearance</td>
<td>4.87</td>
<td>.975</td>
<td>0.804</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>5.28</td>
<td>1.08</td>
<td>0.925</td>
</tr>
<tr>
<td>Relationship Strength</td>
<td>4.94</td>
<td>1.07</td>
<td>0.900</td>
</tr>
<tr>
<td>Retention Intentions</td>
<td>5.07</td>
<td>1.08</td>
<td>0.771</td>
</tr>
<tr>
<td>Positive Word-of-Mouth</td>
<td>4.96</td>
<td>1.24</td>
<td>0.874</td>
</tr>
<tr>
<td>Retention Intentions/PWOM</td>
<td>5.03</td>
<td>1.05</td>
<td>0.865</td>
</tr>
<tr>
<td>Negative Word-of-Mouth</td>
<td>4.59</td>
<td>1.60</td>
<td>0.905</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As shown in Table 4.15, the mean score for RI was 5.07 and PWOM 4.96. When both constructs were combined as per the EFA the mean resulted in a 5.03 score therefore when RI presents as a separate variable the result is slightly more significant whereas PWOM was slightly less. The standard deviation for RI was 1.08 and PWOM 1.24 compared to a combined score of
1.05. Both constructs reported higher standard deviations, (RI 1.08 and PWOM 1.24) versus when they were combined as one variable, (1.05) scores. Cronbach alpha for RI (0.771) and PWOM (0.874) were both acceptable as they were when combined (0.865).

4.3.10 Summary of exploratory factor analysis (EFA)

In summary, of the identified reported factors, EFA was conducted to verify that the indicator variables of this study aligned with the constructs that were theoretically proposed including the scale reliability of each of those factors. EFA confirmed that most of the indicator variables did align with the theoretically proposed constructs. Of the seven main variables, Product Delivery split into two factors, Product Delivery and Product. Servicescape Service Quality split into three factors, SSSQ Facilities, SSSQ Appearance and SSSQ Atmosphere, as was indicated in the literature reviewed (Section 2.4). For the variable Word-of-Mouth two positive indicator items, (willrefer and willrecommend), aligned with the construct, Retention Intentions forming a re-labelled construct Positive Word-of-Mouth (PWOM), while the three negative indicator items, (wontrefer, dontreferatall and wontrefprice), remained together thereby being labelled Negative Word-of-Mouth (NWOM).

As the three negative indicator items resulted in a lack of negative correlation with PWOM factor, it was determined that they would be subsequently removed from the study. As theoretically proposed the dependent constructs of Retention Intentions and Word-of-Mouth, through the literature reviewed, are two distinct behaviours therefore in keeping with the theory, the constructs were subsequently split into two distinct variables thereby creating a ten factor model with two dependent variables, RI and PWOM, as was theoretically proposed. Those items that did not load on a factor were deleted subsequently thereby producing a more than adequate pool of items for each of the factors for further analysis to be performed through Confirmatory Factor Analysis (CFA) Section 4.4.

Following EFA analysis the original theoretical model was developed into four models for comparison using confirmatory factor analysis and structural equation modelling. Following is a brief description of each model presented:

- Model 1, the original theoretical model (Figure 4.2), was assessed as a first step approach in the evaluation process with subsequent assessing of the structural models, (Models 2, 3 and 4) using CFA and SEM (Kline 2005 and Hulland, Chow & Lam 1996). The theoretical model was analysed to establish
data fit with relative changes taking place in factor loadings of the theoretical model, which are observed in the subsequent competing models during the testing process (Kline 2005).

- Model 2, the revised theoretical model (Figure 4.3), is a modification to the original theoretical framework with a resulting ten factor model by splitting product delivery into two distinct constructs (Section 4.3.3), product and product delivery, splitting servicescape service quality into three constructs, (Section 4.3.5), servicescape service quality facilities, servicescape service quality atmosphere and servicescape service quality appearance, as indicated in the literature reviewed (Section 2.4). The variable word-of-mouth partially combined with the variable retention intentions with two positive indicator items moving to that variable while the three negative word-of-mouth items remained as a separate construct, which was subsequently removed from the study as outlined in Section 4.3.9.

- Model 3, the revised ten factor model (Figure 4.4), shows the removal of the construct, NWOM, and the splitting of the RI/PWOM variables. The revised ten factor model was re-run by separating the three retention intention items and the two remaining positive word-of-mouth items into two distinct factors as reviewed in the literature in Chapter 2 and shown in the original conceptual model (Section 1.2 and Figure 4.2).

- Model 4 (Figure 4.5), tests the model without the servicescape variable to determine if the exclusion of the servicescape variable significantly affects the relationship between service quality as measured by the other variables of the model and the impact on customer perceptions and future behaviours.
**Figure 4.2: Model 1 Original theoretical model**

<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Customer Satisfaction</td>
<td>Retention Intentions</td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td>Relationship Strength</td>
<td>Word-of-Mouth</td>
</tr>
<tr>
<td>Servicescape Service Quality</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Developed for this research.

**Figure 4.3: Model 2 Revised theoretical model**

<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Customer Satisfaction</td>
<td>RI/PWOM</td>
</tr>
<tr>
<td>Product</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td></td>
<td>Relationship Strength</td>
</tr>
<tr>
<td>SSSQ Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmosphere</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSSQ Appearance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Developed for this research.
Figure 4.4: Model 3 Revised ten factor model

<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Product</td>
<td>Functional Service Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Atmosphere</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Appearance</td>
</tr>
<tr>
<td></td>
<td>Customer Satisfaction</td>
<td>Relationship Strength</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retention Intentions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive WOM</td>
</tr>
</tbody>
</table>

Source: Developed for this research.

Figure 4.5: Model 4 without the servicescape variable

<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Product</td>
<td>Functional Service Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Atmosphere</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSSQ Appearance</td>
</tr>
<tr>
<td></td>
<td>Customer Satisfaction</td>
<td>Relationship Strength</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retention Intentions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive WOM</td>
</tr>
</tbody>
</table>

Source: Developed for this research.
4.4 Confirmatory Factor Analysis (CFA)

4.4.1 Modelling identification

Using structural equation modelling (SEM) and AMOS software (Arbuckle 2003) was the primary data analysis in this research. The analysis followed steps as adopted from various authors, for example, (Kline 2005; Chumpitaz & Paparoidamis 2004; Green & Salkind 2003; Tabachnick & Fidell 2001; Baumgartner & Homburg 1996 and Hair, Anderson, Tatham & Black 1995). These steps are shown in Figure 4.6, which summarises the analysis undertaken.

Figure 4.6: SEM steps applied in this research


4.4.2 Step1: Model conceptualisation

The conceptualisation of the testing of the theory, to develop the theory or to make predictions regarding outcomes based on the theoretical framework developed for this research, was to determine a set of observed or operationalised variables for each latent variable in the model as latent variables cannot be observed directly (Keen 2007; Kline 2005; Ho 2000 and Baumgartner & Homburg 1996). The conceptual model of latent variables was developed from the literature.
reviewed, Stage 1 exploratory study and from the indicator variables as described in the previous chapter.

All latent variables were measured by multiple items ranging from three to sixteen in number. The most desired number of indicators for a latent variable would range between three and ten providing a better fit between those measurement models with smaller items to those with larger items (Tabachnick & Fidell 2001). Those models with a larger number of items tend to have a larger amount of accumulated measurement errors thereby leading to poor model fit, especially when trying to provide assessment of the model (Dabholker, Thorpe & Rentz 1996; Mulaik 1996 and Bagozzi & Heatherton 1994).

Other authors have noted that four or less indicator items should be utilised to measure a latent construct and that during the development of the scale the creation of parsimonious instruments that utilise the fewest number of items will capture all aspects of those variables (Thomas, Soutar & Ryan 2001 and Baumgartner & Homburg 1996). For this research, two processes to reduce the number of items for some latent variables were undertaken, Exploratory Factor Analysis (EFA), Section 4.3 and Confirmatory Factor Analysis (CFA), Section 4.4, and further mentioned in Section 4.3.2, evaluation of the measurement models.

4.4.3 Step 2: Model estimation

After the four models were specified, the next step in the SEM process was to prepare the model for estimation. Three main issues involved in this process were sample size, the nature of the data, and model identification.

Firstly, the sample size must be big enough to obtain stable and meaningful estimates for SEM as sampling error estimation is determined by sample size (Hair, Anderson, Tatham & Black 1995). Most studies provide some broad guidelines and recommendations regarding absolute sample sizes for a complex model. For example, a small or minimum sample size of 100 or less, medium sample sizes between 100 and 200 and, large sample sizes of more than 200 for complex models (Tabachnick & Fidell 2001; Sweeney 2000; Kline 2005; Hulland, Chow & Lam 1996; Hair, Anderson, Tatham & Black 1995 and Gerbing & Anderson 1988). However, overall the recommendation is to obtain as much data as possible in any research study (Hoyle 1995 and Bentler & Chou 1987).
Although there are no absolute guidelines as to what constitutes a sufficient sample size when using SEM (Baumgartner & Homburg 1996), there remains a basic premise that a model of 10 parameters should have as a minimum sample size of 100 (Baumgartner & Homburg 1996) but researchers can go as low as five cases per parameter keeping in mind that the statistical stability of the results may be in doubt (Baumgartner & Homburg 1996 and Bentler & Chou 1987).

At no stage in this analysis has there been a deviation from the rules, as a sample size of 500 respondents used in this study is appropriate for the complexity of the models being tested. For exploratory factor analysis (EFA) forty percent (200 test instruments) of the sample was used and for confirmatory factor analysis sixty percent (300 test instruments) was used to ensure no confound of the data and to provide accurate results.

The nature of the data in this research relates to the data screening such as outliers, missing data, linearity, normality and response errors’ as discussed in Section 4.2.2. From the results of the data screening the estimation function selected was suitable to the data set and sample size (Arbuckle 2003). The Maximum Likelihood (ML) estimation was decided on for this research because of the robustness of ML estimation against the violation of the assumption of multivariate normality for a large sized sample (Kline 2005; Sweeney 2000; Diamantopoulos 1994 and Anderson & Gerbing 1988).

Unweighted Least Squares, Asymptotically Distribution Free and Generalised Least Squares were available estimation procedures; however, they were unappropriated for this study. Unweighted Least Squares is limited due to its sensitivity to measurement scales of observed variables (Kline 2005), and Asymptotically Distribution Free and Generalised Least Squares required larger sample sizes (Anderson & Gerbing 1988). The Maximum Likelihood was thereby more appropriate as the sample size was large in relation to the number of items being estimated and the number of intervals in the numerical scale was greater than four (West, Finch & Curran 1995).

The selection of the Maximum Likelihood method defaults to the covariance data input matrix (Arbuckle & Worthke 1999). As the covariance matrix is more appropriate for theory testing and is the most common used unlike the correlation matrix, the covariance matrix generated a more precise parameter of estimates (Schumacker & Lomax 1996).
**Model identification** is the third issue in the model estimation process where a model is identified as being theoretically possible to calculate only one solution for every one of its parameters in SEM (Ho 2000). Historically there have been three levels of model identification proposed (Ho 2000; Shumacker & Lomax 1996). They are outlined as follows:

- **Just identified**—are models having equal numbers of parameters and observations. The chi squared ($\chi^2$) and the degrees of freedom are equal to zero therefore cannot be rejected (Byrne 2001) as the hypotheses regarding the specific paths in the model can be tested (Tabachnick & Fidell 2001).

- **Under identified**—are models that have more parameters than observations. It is not possible to express the parameters as a function of the sample covariance/variance therefore the model cannot be used due to the parameter estimates being arbitrary or can it be explained (Kline 2005 and MacCallum 1995).

- **Over identified**—are models that have fewer parameters than observations and also do not perfectly fit the data due to discrepancies with the model and the data (Kline 1998). Thus, models with more than one solution but with one optimum solution for each parameter can be considered over identified (Loehlin 1992). Over identified models are usually preferred because they permit testing of statistical hypotheses which includes the global model fit (Loehlin 1992).

The two requirements for the identification of measurement and structural models are that they have as many observations as free parameters and all latent variables have a scale (Kline 2005; Baumgartner & Homburg 1996 and Schumaker & Lomax 1996).

These two requirements were tested using AMOS and were met. The models proposed for this study were over identified as the number of estimable parameters is less than the number of data points, which is required for structural equation modelling allowing for the rejection of a model (Byrne 2001).

To summarise, this section addressed items relating to the estimation of the proposed models. The maximum likelihood method of estimation function was used and the sample size was deemed sufficient. The covariance matrix was used for the input with all models proposed identified. In this research the AMOS 7.0 software provided the researcher a warning message
indicating that the model could not be identified and would include the parameters that were involved in the identification problem. None of the models estimated was under identified. The next step, after the models were estimated, was to evaluate those models.

4.4.4 Step 3: Confirmatory factor analysis (CFA)

Confirmatory Factor Analysis (CFA) was used to demonstrate empirically that the hypothesised model fits the data and CFA confirmed the factor structure and the identification of the underlying factors as produced by the Exploratory Factor Analysis (EFA) (Bollen 1989 and Anderson & Gerbing 1988). The distinction between EFA and CFA is not always clear-cut, therefore CFA results were used to incrementally re-define the measurement models (Gerbing & Hamilton 1996; Bollen 1989 and Anderson & Gerbing 1988). Unidimensionality was assessed using a more rigorous CFA on each of the ten factors. CFA was performed using AMOS 7.0 as AMOS software provided a variety of statistical fit measures such as, root mean square error of approximation (RMSEA), goodness of fit (GFI), and Tucker Lewis index (TLI), (Arbuckle & Wothke 1999).

CFA tests were performed using sixty percent (300 completed surveys) of the data set thereby CFA tests were administered using different data from EFA. To confirm that the measurement items were adequate using CFA, the proposed model for this research was estimated by conducting evaluations of its overall statistical fit, goodness-of-fit criteria and the subsequent assessment of fit of the model.

For the CFA evaluation Cronbach’s alpha values greater than 0.5 were acceptable however values greater than 0.7 were preferred and a value of 0.9 was considered excellent (Kline 2005; Hayes 1998 and Hair, Anderson, Tatham & Black 1995). Critical ratios were also deemed significant if they were greater than a conventional threshold of \(+1.96\) (Hair, Anderson, Tatham & Black 1995). Standardised regression weights were used to measure all item loadings as well as factor loading being the preferred method of this study (Tabachnick & Fidell 2001).

CFA was the preferred statistical testing method as it allowed the hypothesised model to be tested empirically to ascertain if the models fit the data. CFA was appropriate as the researcher had relatively sound background knowledge of the factors through the literature review, pilot study and EFA. These elements were essential in explaining the inter-correlations between the measurement variables (Sureshchandar, Rajendran & Anantharaman 2002).


4.4.4.1 Model assessment and evaluation

The assessment of the model, having been developed from the theory, was evaluated through CFA and was an important part of the analysis ensuring all possible latent variable models were combined into one (Ho 2000). The process of goodness-of-fit criteria in evaluating the proposed model was used as no single fit index had been determined to correctly identify a model from the sample data. Therefore, multiple fit indexes were used as previously outlined in Section 3.13, as they are most common in assessing model fit as most indexes reflect only one particular element of fit, as there is no agreed best-fit index (Byrne 2001; Kline 2005; Hulland, Chow & Lam 1996 and Hoyle & Panter 1995). In using fit indices, it was determined that the models were useful for their intended purpose or the models fit was acceptable (Browne & Cudeck 1993).

For this research in measuring the CFA models there were several types of goodness-of-fit measures used, the chi-square statistic, absolute, incremental and parsimonious fit indices as outlined in Table 4.16 (Ho 2000; Hair, Anderson, Tatham & Black 1995 and Bollen & Long 1993).

Table 4.16: Goodness-of-fit statistics selected for this study

<table>
<thead>
<tr>
<th>Goodness-of-fit indices</th>
<th>Type of fit index</th>
<th>Fit criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/DF</td>
<td>Absolute fit index</td>
<td>Between 1.0–3.0</td>
</tr>
<tr>
<td>RMSEA</td>
<td></td>
<td>Between .05–.08</td>
</tr>
<tr>
<td>GFI</td>
<td>Incremental fit index</td>
<td>Between 0–1.0</td>
</tr>
<tr>
<td>CFI</td>
<td></td>
<td>Between .80–.90</td>
</tr>
<tr>
<td>NFI</td>
<td></td>
<td>Between .80–.90</td>
</tr>
<tr>
<td>TLI</td>
<td></td>
<td>Between .80–.90</td>
</tr>
<tr>
<td>Chi-square</td>
<td>Chi-square</td>
<td>p&gt;.05</td>
</tr>
<tr>
<td>PNFI</td>
<td>Parsimonious fit index</td>
<td>Between .60–.90</td>
</tr>
</tbody>
</table>


Table 4.16 provides statistics for eight fit indices when combined provided an overall representation of the compatibility between the data and the model and were used when assessing CFA and SEM (Hair, Anderson, Tatham & Black 1995 and Hu & Bentler 1998). Each fit index is explained as follows.
**Absolute fit indexes** as indicated in Table 4.16, the type of fit indexes applied for this research were, CMIN/DF, RMSEA, and GFI; each of these are outlined below.

- **CMIN/DF** reports the statistics taking into account the size of the model then calculates the minimum discrepancy divided by its degrees of freedom. Acceptable fits range between 1.0 and 3.0 while over fitted models report values less than 1.0 (Hair, Anderson, Tatham & Black 1995).

- **RMSEA** (Root Mean Square Error of Approximation) is a measure of discrepancy of the degrees of freedom (Ho 2000) and also measures the entire population and not just the sample used for estimation (Hair, Anderson, Tatham & Black 1995). Acceptable values range between .05 and .08 (Byrne 2001; Baumgartner & Homburg 1996 and Browne & Cudeck 1993).

- **GFI** (Goodness of Fit) frequently reports measures with a range between 0 (poor fit) to 1.0 (perfect fit) thereby measuring the fit of the model to the data compared with no model (Ho 2000; Hulland, Chow & Lam 1996 and Schumaker & Lomax 1996). GFI represents the degree of fit based on the comparison of the squared residuals with actual data but is unadjusted for the degrees of freedom and is a non statistical measure (Ho 2000 and Hair, Anderson, Tatham & Black 1995).

**Incremental fit indexes** as represented in Table 4.16 are TLI, CFI and NFI and are recommended for goodness of fit measuring as they are insensitive to sample sizes and model complexities (Hulland, Chow & Lam 1996).

- **TLI** (Tucker Lewis Index) is unaffected by a models complexity and expresses fit per degrees of freedom (Baumgartner & Homburg 1996 and Kline 2005). Values of between .80 and .90 indicate acceptable fit however values generally range between 0 and 1.0 (Holmes-Smith & Coote 2003; Baumgartner & Homburg 1996; Schumacker & Lomax 1996 and Hair, Anderson, Tatham & Black 1995). TLI also combines parsimony measures into a comparative index between the null and proposed models (Holmes-Smith & Coote 2003; Schumacker & Lomax 1996; Hair, Anderson, Tatham & Black 1995).
CFI (Comparative Fit Index) compares the hypothesised model to the null model. The CFI estimates the comparative difference in non centrality between the proposed and baseline models (Shumacker & Lomax 1996). CFI values between .80 and .90 indicate acceptable fit (Baumgartner & Homburg 1996; and Hair, Anderson, Tatham & Black 1995), with values close to zero indicating a poor fit and values equal to one indicating a perfect fit (Holmes-Smith & Coote 2003; Schumacker & Lomax 1996 and Hair, Anderson, Tatham & Black 1995).

NFI (Normed Fit Index) was used to compare the proposed model to the null model. NFI rescales the chi-square $\chi^2$ statistic into 0 (poor fit) to 1 (perfect fit) range (Shumacker & Lomax 1996). However, values of .80 indicate acceptable fit (Baumgartner & Homburg 1996).

Parsimonious fit index (PNFI) as outlined in Table 4.16, measures the fit as it relates to the proposed model to the number of estimated coefficients that are required to achieve the level of fit (Hair, Anderson, Tatham & Black 1995). PNFI also compares the model with differing degrees of freedom (Hair, Anderson, Tatham & Black 1995). When comparing models a higher PNFI value was more desirable, with differences of .60 to .90 accepted as good indicators of model differences (Tabachnick & Fidell 2001; Hair, Anderson, Tatham & Black 1995 and Bollen 1989).

Chi-Square statistic as described in Table 4.16 provides statistic value relative to the degrees of freedom. A significant $\chi^2$ statistic, ( p>0.05), implies there is a difference between the population covariance and the models implied covariance’s (Arbuckle 2003; Joreskog & Sorborn 1996; Schumacker & Lomax 1996 and Hair, Anderson, Tatham & Black 1995). Chi-Square is sensitive to sample size less than 100 or greater than 200 respondents, as in this study therefore a significant chi-square may be reported suggesting other complementary fit measures be consulted to determine model fit, as has been described (Hu & Bentler 1998; Hulland, Chow & Lam 1996 and Hair, Anderson, Tatham & Black 1995).
4.4.4.2 Models to be tested

The conceptual model developed in Chapter 2 puts forward service quality as comprising seven primary variables, product delivery, functional service quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth. A CFA test was then conducted on the four models shown at figures 4.2, 4.3, 4.4 and 4.5. The results are tabulated at table 4.17 for comparison.

Table 4.17: CFA summary of model fit statistics for the four proposed models

<table>
<thead>
<tr>
<th>Goodness-of-fit indices</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/DF</td>
<td>3.80</td>
<td>2.55</td>
<td>2.54</td>
<td>2.54</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.097</td>
<td>0.072</td>
<td>0.072</td>
<td>0.072</td>
</tr>
<tr>
<td>GFI</td>
<td>0.52</td>
<td>0.70</td>
<td>0.71</td>
<td>0.71</td>
</tr>
<tr>
<td>CFI</td>
<td>0.70</td>
<td>0.83</td>
<td>0.85</td>
<td>0.84</td>
</tr>
<tr>
<td>NFI</td>
<td>0.63</td>
<td>0.76</td>
<td>0.77</td>
<td>0.77</td>
</tr>
<tr>
<td>TLI</td>
<td>0.68</td>
<td>0.82</td>
<td>0.84</td>
<td>0.83</td>
</tr>
<tr>
<td>Chi-square</td>
<td>49.54</td>
<td>32.66</td>
<td>28.80</td>
<td>28.78</td>
</tr>
<tr>
<td>PNFI</td>
<td>0.60</td>
<td>0.70</td>
<td>0.71</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As indicated in Table 4.17, most of the goodness of fit indices satisfied the fit criteria, the following summarises the results for the four models presented in the table.

- Model 1, the original theoretical model, provided a basis from which the structural models would be subsequently compared to using SEM. The goodness of fit indices all resulted in values either below (GFI 0.52, CFI 0.70, NFI 0.63, TLI 0.68) or over the acceptable fit criteria ranges established for this research thereby suggesting structural modifications were justified using CFA tests.

- Model 2, the revised ten factor model, which included the RI and PWOM constructs combined and the separated NWOM construct, satisfied the goodness of fit indices fit criteria therefore the model fitted the data acceptably. However as outlined in Sections 4.3.8 and 4.3.9, although the model had acceptable fit the RI/PWOM constructs would be split as per the theory in Chapter 2 and that the NWOM construct items were subsequently removed due to those items negative correlation with the three PWOM items.
Model 3, the revised ten factor model, which had the RI and PWOM constructs split as per the original theoretical model, Model 1, and the removal of the NWOM construct. As can be seen the model fit indices used indicate that the model fits the data adequately for the sample therefore the model fits the data set well and there appears to be no further need to refine the measurement model. Although each index provides different individual calculations, they also represent comparisons between the null model and the proposed model (Ho 2000). The indices also reveal that the RI and PWOM construct split is a better fitting model, Model 3, than the RI/PWOM combined model, Model 2, with the inclusion of the NWOM construct.

Model 4, revised without the servicescape variable, is presented providing a result indicating that the model excluding the servicescape variable is significant. The model fit statistics indicate criteria fit for the proposed model with the models low \(\chi^2\) value, level of significance of \(\chi^2/df\) and relative goodness of fit indices statistics acceptable. This result also indicates that the data obtained for this research, from a coffee shop setting, illustrates that the exclusion of the servicescape variable had a similar outcome as the data indicated with its inclusion. Therefore, Model 4 had little effect on the relationship between service quality as measured by the other variables of the model and its impact on customer perceptions and future behaviours. As noted in Sections 1.5 and 5.4, the testing of other service settings may produce varying results, which is a consideration for future studies (Section 5.6).

As Table 4.16 indicated, the statistics for eight fit indices when combined provided an overall representation of the compatibility between the data and the models as shown in Table 4.17. Another measure for goodness of fit of an estimated statistical model, Akaike's information criterion (AIC) was also looked at as a tool in confirming those measures. AIC looks at the data set of several competing models with the one having the lowest AIC being the best (Anderson, Burnham & White 1998; Hurvich & Tsai 1989 and Akaike 1974). The AIC scores confirmed the results for the four models as follows, Model 1 – 5208.029, Model 2 – 3568.723, Model 3 – 3168.564 and Model 4 – 3169.760, indicating Model 3 as a better fitting model than models 2 & 4 as previously noted.
4.4.4.3 Summary of confirmatory factor analysis (CFA)

In summary, CFA was used to test four models; the null model was tested against several factor models (Sweeney, Hausknecht & Soutar 2000). The proposed model that indicated the best fit to the data was then the supported model. Models were looked at for the best fit by testing various models to see what set of variables provided the greatest significance. The process started with the Theoretical Framework, Model 1, (Figure 4.2), with the results tested using EFA, which provided several factor models (7, 8, 9, and 10). The CFA model, Model 2, (Figure 4.3) resulted in a ten-factor model with varying combinations of item and construct splits (Section 4.3.3).

Model 2 was tested confirming the data using 300 surveys with the removal of the NWOM construct and splitting the RI and PWOM constructs, as theoretically proposed, resulting in a better fitting ten factor model, Model 3 (Figure 4.4), as confirmed by various fit indices (Table 4.17). The CFA model was then tested without the servicescape variable, Model 4 (Figure 4.5), which provided best fit statistical results similar to the outcome results of Model 3 with the inclusion of the servicescape variable.

4.4.4.4 Summary of EFA and CFA

Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to confirm the measurement items aligned with the constructs, which were theoretically proposed, and to enhance and substantiate all the measurement items. Those indicator items that did not meet the criteria of the study were removed. EFA was performed using SPSS with the objective of recapitulating the formation of a set of variables (Coakes & Sneed 2003) from forty percent of the data sample, 200 test instruments. The oblique rotation procedure was used, as oblique rotation provides more realistic results as theoretical elements are not assumed to be correlated, in this study, which improved interpretation and (Keen 2007, Tabachnick & Fidell 2001 and Hair, Anderson, Tatham & Black 1995) with the principle components factor extraction method designated with coefficients less than .33 suppressed. The use of oblique rotation allowed for a better fit of the data to the factor structure at varying levels. Although oblique rotation is not considered as popular as orthogonal rotations, oblique rotation is regarded more realistic in providing results, as the theoretical dimentions are not necessarily assumed to be correlated with the clustering of variables, which is considered more accurate with oblique rotation. (Keen 2007, Tabachnick & Fidell 2001 and Hair, Anderson, Tatham & Black 1995). Direct Oblimin was also used in the research with a delta parameter of zero.
During the CFA process all factor loadings were estimated (freed), so that items were allowed to load only on one construct with no cross loadings. The research also met some basic criteria for CFA testing; 1) sample size, 300 test instruments, sixty percent, of the original sample of 500 surveys were used, which was more than adequate (Hair, Anderson, Tatham & Black 1995 and Anderson & Gerbing 1988), and, 2) as there was normal distribution of the variables, the maximum likelihood discrepancy function was appropriate for the complexion of the data collection process (Bentler & Dudgeon 1996).

Other assessment factors consulted were Cronbach alpha, the significance of Barlett’s Test of Sphericity and the KMO, variance extracted and goodness of fit indices for the models satisfying the acceptable requirements based on these tests for good model fit. The fit indices (Table 4.17) for the four models all fitted well with the survey data with Model 3 proving to fit the data best.

As a two-step model evaluation approach was used for the assessment of the, first step measurement and second step structural models (Kline 2005, Hulland, Chow & Lam 1996 and Anderson & Gerbing 1988), all CFA measurement models produced for analysing data fit are found in Appendix D. Step one produced an accepted CFA measurement model while step two requires the assessment of the structural model fit for the competing models with slight changes in the factor loadings of the measurement models having been observed in the competing models during the testing process (Kline 2005).
4.5  **Structural Equation Modelling and Hypotheses testing**

This section and the remainder of the chapter discuss the analysis and hypothesis testing of the theoretical framework service quality model using Structural Equation Modelling (SEM). SEM measured the relationship among the observed and latent variables by estimating regression equations simultaneously, which then tested the overall fit of the models (Pallant 2005 and Hair, Anderson, Tatham & Black 1995).

As a popular and proven analysis tool for marketing researchers, SEM allowed for the comparison of alternative models; accommodated for the large sampling size of this study of 500 surveys; the use of an interval/numerical scale to measure the study’s seven main variables; and suited the normal distribution of the variables through the maximum likelihood discrepancy function (Baumgartner & Homburg 1996; Bentler & Dudgeon 1996; Hair, Anderson, Tatham & Black 1995 and Anderson & Gerbing 1988).

4.5.1  **Step 4: Structural model evaluations**

The next step in the evaluation process involved comparing models (Kline 2005 and Anderson & Gerbing 1988). In this study, the theoretical model is presented in Chapter 2, which was developed based on the theories reviewed. The use of SEM as an analytical tool has been a successful approach for marketing research (Baumgartner & Homburg 1996). In Section 4.3, the reduction of the data resulted in a more manageable and valid number of measurement items, which were used to evaluate the structural models (Kline 2005). Once CFA confirmed the factor structure was identified through EFA, the use of SEM on the estimation of the proposed models could then be reported.

In order to decide which SEM model was the most parsimonious, usually a model that is easily understood and more convenient to work with (Lambert & Brittan 1970), the process of eliminating non-significant pathways and subsequently variables did yield the most significant and parsimonious model as presented in Figure 4.7. Those variables and items, which were removed were in relation to Product and Product Delivery as the data indicated those two constructs and relating items had little effect on the overall outcome. All structural models have been added as Appendix E, which show standardised regression weights, path significance levels and relationships between constructs.
The most parsimonious model is the simplest that gives a high $R^2$ but not necessarily the highest $R^2$ thereby providing a trade off between complexity and power as the $R^2$ shows the best predictor model. The $R^2$ informs how much of the variance in a dependent construct is explained by the representative model. Those explained variances are expressed in the form of percentages (Pallant 2005). Table 4.18 provides the comparative $R^2$ for the four structural models, Models, 1, 2, 3, and 4 presented in this chapter with the Most Parsimonious Model, Model 5. Table 4.18 presents and compares the five models $R^2$ with all five indicating they had significant results. Model 5, the most parsimonious model, is highlighted.

### Table 4.18: Summary of $R^2$ for the five proposed models presented

<table>
<thead>
<tr>
<th>Constructs</th>
<th>$R^2$ Model 1</th>
<th>$R^2$ Model 2</th>
<th>$R^2$ Model 3</th>
<th>$R^2$ Model 4</th>
<th>$R^2$ Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS</td>
<td>0.607</td>
<td>0.635</td>
<td>0.642</td>
<td>0.606</td>
<td>0.638</td>
</tr>
<tr>
<td>CS</td>
<td>0.680</td>
<td>0.714</td>
<td>0.719</td>
<td>0.676</td>
<td>0.719</td>
</tr>
<tr>
<td>RI</td>
<td>0.644</td>
<td>0.651</td>
<td>0.643</td>
<td>0.650</td>
<td></td>
</tr>
<tr>
<td>WOM</td>
<td>0.422</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWOM</td>
<td></td>
<td>0.433</td>
<td>0.427</td>
<td>0.462</td>
<td></td>
</tr>
<tr>
<td>RI/PWOM</td>
<td>0.654</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWOM</td>
<td></td>
<td>0.374</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.
Model 2—The $R^2$ for Model 2 constructs were; RS (0.635), CS (0.714), RI/PWOM (0.654) and NWOM (0.374). Although the $R^2$ results were significant and the fit indices acceptable, as previously outlined in Section 4.4.4.2, Model 2 presented theoretical contradictions thereby requiring further testing of the data.

Model 3—The testing resulted in an $R^2$ for Model 3 being significant with the constructs RS (0.642), CS (0.719), RI (0.651) and PWOM (0.433) indicating Model 3 was more parsimonious than Model 2. Model 3 also presented fundamentally sound with the theoretical framework including having acceptable fit indices. The results indicated that Model 3 was an acceptable model and would therefore be a reliable model to use in the testing of other retail service settings. Model 3 revealed that the servicescape variable did have a more significant impact than Model 4 which was tested without the variable.

Model 4—The tests for $R^2$ were significant, RS (0.606), CS (0.676), RI (0.643), PWOM (0.427). Model 4 provided a comparison to Model 3 by excluding the servicescape variable from the testing. Although the results were significant the model did not provide higher $R^2$ or fit indices results concluding that Model 4 was not as parsimonious as Model 3.

Model 5—had significant $R^2$, RS (0.638), CS (0.719), RI (0.650), and PWOM (0.462). However, through item and variable deletion of two constructs, Product and Product Delivery, which thereby were removed from the ten-factor model as their impact had little effect on the test results in this study’s service setting, coffee shops. Model 5 however, did present with a slightly greater $R^2$ for the variable PWOM; therefore, for this research Model 5, with the removal of those non significant paths, was the most parsimonious model, for this study on coffee shops.

4.5.2 Step 5: Hypotheses testing

Having determined and established the final structural equation model, Model 3, this section evaluates and interprets the hypotheses developed for this research. The research question and hypotheses were developed through the literature reviewed in Chapter 2. All hypotheses developed relate to the relationships between the constructs of the original theoretical model and were tested in
SEM. The hypotheses were assessed by examination of the path coefficients and the significance levels between the constructs of the model. A critical ratio, an index used to determine the significance or non-significance of a structured path, were deemed significant if they were greater than a conventional threshold of $\pm 1.96$ (Hair, Anderson, Tatham & Black 1995). The critical ratios of all paths were significant. The standard regression weights and path significance for Model 5 are presented in Table 4.19.

**Table 4.19: Standardised regression weights and path significance levels**

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Model 5 (most parsimonious model)</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSC $\rightarrow$ CS</td>
<td></td>
<td>0.609**</td>
<td>8.982</td>
<td>0.000</td>
<td>CS (0.719)</td>
</tr>
<tr>
<td>FSC $\rightarrow$ RS</td>
<td></td>
<td>0.637**</td>
<td>8.986</td>
<td>0.000</td>
<td>RS (0.638)</td>
</tr>
<tr>
<td>SSSQ Facilities $\rightarrow$ CS</td>
<td></td>
<td>0.168*</td>
<td>2.036</td>
<td>0.042</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos $\rightarrow$ CS</td>
<td></td>
<td>0.138**</td>
<td>3.388</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear $\rightarrow$ RS</td>
<td></td>
<td>0.257**</td>
<td>4.357</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear $\rightarrow$ CS</td>
<td></td>
<td>0.168*</td>
<td>2.285</td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td>CS $\rightarrow$ RI</td>
<td></td>
<td>0.429**</td>
<td>7.163</td>
<td>0.000</td>
<td>RI (0.650)</td>
</tr>
<tr>
<td>RS $\rightarrow$ RI</td>
<td></td>
<td>0.455**</td>
<td>7.158</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>RS $\rightarrow$ PWOM</td>
<td></td>
<td>0.330**</td>
<td>4.562</td>
<td>0.000</td>
<td>PWOM (0.462)</td>
</tr>
<tr>
<td>CS $\rightarrow$ PWOM</td>
<td></td>
<td>0.397**</td>
<td>5.586</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos $\rightarrow$ PWOM</td>
<td></td>
<td>0.171**</td>
<td>3.324</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

* = significant at p<.05; ** = significant at p =0.000

Source: Analysis of test instrument data.

Table 4.20 provides a summary of the research question and the related hypotheses along with the result of the hypotheses tests using SEM. In Chapter 2 as a result of the literature reviewed it was established that from a theoretical perspective the servicescape construct would be presented as one variable thereby resulting in a single construct in developing the hypotheses for the servicescape variable. However, as the servicescape service quality construct was split into three components, SSSQ Facilities, SSSQ Atmosphere and SSSQ Appearance (Section 4.3.5), as suggested by other researchers (Section 2.4), (Wagner 2000; Bitner 1992 and Baker 1987) and as defined (Section 1.2), the resulted data for the hypotheses presented for the three servicescape components are represented by SF (SSSQ Facilities), SAT (SSSQ Atmosphere) and SAP (SSSQ Appearance).
### Table 4.20: Results of hypotheses testing

<table>
<thead>
<tr>
<th>Research question and hypotheses</th>
<th>SEM results</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H1</strong> Customer perceptions of the servicescape are positively related to Customer Satisfaction.</td>
<td>SF-Supported SAT-Supported SAP-Supported</td>
<td><strong>R² =0.719</strong></td>
</tr>
<tr>
<td><strong>H2</strong> Customer perceptions of the servicescape are positively related to Relationship Strength.</td>
<td>SF-Rejected SAT Rejected SAP-Supported</td>
<td><strong>R² =0.638</strong></td>
</tr>
<tr>
<td><strong>H3</strong> Customer perceptions of the servicescape are positively related to future Retention Intentions.</td>
<td>SF-Rejected SAT Rejected SAP-Rejected</td>
<td><strong>R² =0.650</strong></td>
</tr>
<tr>
<td><strong>H4</strong> Customer perceptions of the servicescape are positively related to future Word-of-Mouth.</td>
<td>SF-Rejected SAT-Supported SAP-Rejected</td>
<td><strong>R² =0.462</strong></td>
</tr>
<tr>
<td><strong>H5</strong> The addition of the servicescape independent variable(s) improves the predictive power of the model.</td>
<td>Supported</td>
<td></td>
</tr>
</tbody>
</table>

Servicescape Service Quality Facilities = SF; Atmosphere= SAT; Appearance = SAP

Source: Analysis of test instrument data.

Figure 4.8 provides the original hypothesised theoretical model.

### Figure 4.8: Original theoretical model with related hypotheses

Service Performance ➔ Post Purchase Perceptions ➔ Future Customer Behaviour

- **Product Delivery**
- **Functional Service Quality**
- **Servicescape Service Quality**

- **Customer Satisfaction**
- **Retention Intentions**
- **Relationship Strength**
- **Word Of Mouth**

Source: Developed for this research.
As presented in Table 4.20, there were five hypotheses developed from the original theoretical model (Section 2.10); however, as a result of the servicescape variable splitting into three factors (Section 4.3.3.5), the overall results produced thirteen hypotheses of which six were supported by the SEM results and seven rejected.

Figure 4.9 is the most parsimonious model reflecting the findings of the tests of hypotheses H1, H2, H3 and H4. Hypotheses H5, as a result of the comparison tests between the model with and without the servicescape variable, (Table 4.18), concluded that the complete ten-factor theoretical model with the servicescape inclusion provided a predictive model with high predictive powers thereby supporting the hypotheses.

**Figure 4.9: Most parsimonious model with related hypotheses (Model 5)**

![Diagram of the model](source: Developed for this research.)

In summary, six hypotheses were supported by the results of SEM, with four presented in the best fitting and most parsimonious model at Figure 4.9. Appendix F provides the expanded hypotheses relating all constructs in the original theoretical model.
4.6 Summary

The chapter presented the details and results of the data analysis for this study. The foundation of this chapter was to test the research question by supporting or not supporting each hypothesis. The data were screened, cleaned and coded with no missing data found. The sample was then assessed and was found to be representative and homogeneous. Exploratory Factor Analysis (EFA) was then conducted, which selected the items that loaded significantly on the components. Following EFA, Confirmatory Factor Analysis (CFA) was conducted to validate and refine the test instrument. Structural Equation Modelling (SEM) was performed which analysed the structural models indicating the models constructed were reliable and accurate in the representation of the variables within the models. The establishment of the models fit indicated that the most parsimonious model, Model 5, was then accepted and interpreted in terms of the hypotheses of the study. There were five hypotheses in this research, four were supported overall, and three supported by Model 5 with one hypothesis being rejected. The implications, justifications and conclusions of the findings of the data are discussed in the final chapter, Chapter 5.
Chapter 5

Conclusions and Implications
5.0 Conclusions and Implications

5.1 Introduction

In the previous chapter, the research data for this study was analysed. This chapter presents the conclusions and implications of the research findings. This research theoretically investigated the retail environment that was tested empirically in coffee shops. The aim was to identify the impact of servicescape on customer perceptions of service quality and post purchase behaviour (as measured by retention intentions and word-of-mouth), through two mediating variables (as measured by customer satisfaction and relationship strength).

This chapter is divided into seven sections. Section 5.1, the introduction, provides a summary of the four previous chapters of this study. Section 5.2 provides the findings pertaining to the research question and hypotheses. Contributions to marketing theory and practice are presented in Sections 5.3 and 5.4 respectively. Section 5.5 provides the limitations of this research. Future research opportunities are presented in Section 5.6 and then Section 5.7 summarises the overall study. Figure 5.1 outlines the chapter structure.
Chapter 1 of this research introduced and stated the purpose of this research by providing background material on service quality and the main focus of this research, servicescape service quality along with the proposal of modifying an existing service quality model. The significance of servicescape service quality was highlighted, the research question was presented, How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?, as was the justification for this study. Potential contributions to the marketing theory and practice were identified as was the research methodology.

Chapter 2 presented a review of the literature and provided an outline of the theoretical framework, definitions of the proposed variables and model development for this study. Background literature pertaining to service quality was presented highlighting the foundational service quality models and corresponding studies along with other alternative service quality researches. The literature reviewed the seven main variables, (product delivery, functional service...
quality, servicescape service quality, customer satisfaction, relationship strength, retention intentions and word-of-mouth) of the research were provided. Figure 5.2 presents those variables in the research's original theoretical framework.

**Figure 5.2: Original theoretical framework**

```
<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Customer Satisfaction</td>
<td>Retention Intentions</td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td>Relationship Strength</td>
<td>Word-of-Mouth</td>
</tr>
<tr>
<td>Servicescape Service Quality</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

Source: Developed for this research.

**Chapter 3** justified and described the research paradigms that give support to research in the social sciences with positivism used for this study. The methodology and the exploratory study were presented and the chapter outlined the research philosophy, design, test instrument reliability and validity, and details of the interview and focus group undertaken in creating the test instrument. The test instrument methodology for this research was explained and the justification of quantitative component was presented. This included justification for running a survey based research tool and the creation of the test instrument used in this study. Sampling design, data analysis strategies, and ethical considerations were presented.

**Chapter 4** provided analysis of the data collection process of the main study of this research. The chapter provided an outline of the software programs used in this research, SPSS 15.0 and AMOS 7.0. Explanation of the data cleaning, screening and coding was provided. Next, the response rate and respondent profile was outlined and then the sample was assessed using descriptive statistics. Exploratory Factor Analysis was conducted, followed by Confirmatory Factor Analysis and finally Structural Equation Modelling. The hypotheses developed in Chapter 2 were tested and all results provided.
Chapter 5 the final chapter of this research is separated into seven sections, as outlined previously in Figure 5.1. Conclusions and implications of the research question and hypotheses are resulted based upon the findings of Chapter’s 3 and 4 as compared with the literature reviewed in Chapter 2. Section 5.2 will follow with the findings of this research.
5.2 Findings

In this section, the findings of this research are summarised. This section used the findings from Chapter 4 as well as theoretical associations from the literature reviewed in Chapter 2. There were five hypotheses developed in Section 2.10, which were tested through quantitative methods using structural equation modelling and are presented in Table 5.2. Following are the findings.

Finding 1

As Figure 5.2 provided, the original theoretical model was developed with seven main variables to be explored:

- three independent constructs, which are classified as service performance variables; product delivery, functional service quality and servicescape service quality that measured customer service quality.
- two mediating constructs, which are regarded as post purchase perceptions; customer satisfaction and relationship strength, which are the basis for a consumer’s relationship formation with a service provider.
- two dependent constructs or future customer behaviour; retention intentions and word-of-mouth are the outcome variables of how customers behave in a certain manner through their engagement with a service provider.

As a first step approach in the evaluation process, the theoretical model was analysed to establish data fit with relative changes taking place in factor loadings of the theoretical model. A revised theoretical model (Figure 5.3), presented a modification to the original theoretical framework with a resulting ten factor model, Model 3, with the variable product delivery splitting into two distinct factors as per the factor analysis (Section 4.3.3) and with the servicescape variable splitting into three factors as theory implied, (Section 2.4). The analysis showed an increase in the number, from three to six, of service performance variables as a result of the splitting of product delivery into product and product delivery and servicescape service quality into servicescape service quality facilities, atmosphere and appearance (Section 4.3.5).

The analysis also showed that the future customer behaviour variables, word-of-mouth partially combined with retention intentions with two positive indicator items moving to the retention intention variable while the three negative word-of-mouth items remained as a separate
construct (Sections 4.3.8 and 4.3.9). However, as was theoretically proposed through the literature reviewed in Chapter 2, retention intentions and word-of-mouth are two distinct behaviours and therefore were subsequently split into their respective constructs. The three negative word-of-mouth items represented negative response factors, which were contrary to the construct in which they were conceived. Therefore, they were subsequently removed from the scale and from further analysis.

The complete theoretical model resulted in significant $R^2$ for the constructs, RS ($R^2 =0.642$), CS ($R^2 =0.719$), RI ($R^2 =0.651$) and PWOM ($R^2 =0.433$) indicating empirical support, including having acceptable fit indices (Table 4.17) thereby being an appropriate model to use in the testing of other retail service settings. The complete theoretical model with corresponding $R^2$ values and relationships, was used as the base for analysis testing of the data is shown at Figure 5.3.

**Figure 5.3: Complete theoretical model**

Source: Developed for this research.
**Finding 2**

Having arrived at the complete theoretical model (Figure 5.3) through EFA and CFA, in order to decide which SEM model was going to be the most parsimonious, the process of eliminating those non significant paths and subsequently constructs delivered producing the most parsimonious model, Figure 5.4. Through the removal of all non significant elements of the SEM model, one of the original conceptual variables, product delivery, which had been split into two distinct variables through factor analysis, (Section 4.3.3), was removed from the model. Figure 5.4 shows the study’s most parsimonious model with corresponding $R^2$ (inside the boxes), standardised regression weights and relationships.

**Figure 5.4: Most parsimonious model**

![Diagram showing the most parsimonious model with Service Performance influencing Post Purchase Perceptions, which in turn influences Future Customer Behaviour.](source)
Finding 3

The initial theoretical framework, (Section 2.10), outlined that the servicescape service quality construct was represented as a single variable. However, as in the scope of the servicescape variable definition, (Section 1.2), and as indicated by the literature reviewed, some researchers (Section 2.4), (Wagner 2000; Bitner 1992 and Baker 1987) made reference that the servicescape environment was comprised of more than one element in its configuration. The factor tests conducted revealed that the servicescape construct did split into three distinct components (Section 4.3.5) and are, therefore, presented as such in the model. Therefore, in order to test if the servicescape did in fact play a significant role in the predictive powers of the model a comparison test took place. The test conducted was on the model without the servicescape variable to determine if the exclusion of the servicescape variable significantly affects the relationship between service quality as measured by the other variables of the model and the impact on customer perceptions and future behaviours. Figure 5.5 is the revised model without the three-servicescape components.

Figure 5.5: Revised complete ten factor theoretical model without the servicescape variable

<table>
<thead>
<tr>
<th>Service Performance</th>
<th>Post Purchase Perceptions</th>
<th>Future Customer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Delivery</td>
<td>Customer Satisfaction</td>
<td>Retention Intentions</td>
</tr>
<tr>
<td>Product</td>
<td>Relationship Strength</td>
<td>Positive WOM</td>
</tr>
<tr>
<td>Functional Service Quality</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Developed for this research.

The results of the revised model without the servicescape variable indicated that the model was significant with high $R^2$ and acceptable model fit statistics for the $\chi^2$ value, level of significance of $\chi^2$/df and relative goodness of fit indices statistics, (Section 4.4.4.2). The results of the data obtained for this study, from a coffee shop setting, also revealed that the exclusion of the servicescape service quality variable had similar fit indices outcomes, as the complete ten-factor model did with the servicescape inclusion. However, the complete ten-factor model with the servicescape produced a higher yielding $R^2$ than the model did without the servicescape variable.
Therefore, the model without the servicescape variable had little effect on the relationship between service quality as measured by the other variables of the model and its impact on customer perceptions and future behaviours. Table 5.1 provides comparison $R^2$ results of the two models.

**Table 5.1: Comparison $R^2$ for models with and without the servicescape variable**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>$R^2$ Model with SSSQ</th>
<th>$R^2$ Model without SSSQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS</td>
<td>0.642</td>
<td>0.606</td>
</tr>
<tr>
<td>CS</td>
<td>0.719</td>
<td>0.676</td>
</tr>
<tr>
<td>RI</td>
<td>0.651</td>
<td>0.643</td>
</tr>
<tr>
<td>PWOM</td>
<td>0.433</td>
<td>0.427</td>
</tr>
</tbody>
</table>

Source: Analysis of test instrument data.

As a result of the tests as indicated in Table 5.1, the servicescape variable did have a more significant impact as $R^2$ values all increased, RS (0.642), CS (0.719), RI (0.651) and PWOM (0.433) than the model tested without the servicescape variable, RS (0.606), CS (0.676), RI (0.643), PWOM (0.427). Although the results for the model without the servicescape were significant, the model did not provide higher $R^2$ and only comparable fit indices, Table 4.17, concluding that the model with the inclusion of the servicescape was more parsimonious than the model tested without the servicescape variable thereby providing a predictive model with high predictive powers. As noted in Section’s 1.5 and 5.4 the testing of other service settings may produce varying results, which is a consideration for future studies (Section 5.6).

**Finding 4**

For this study there were five hypotheses developed in Chapter 2 and empirically tested utilising the conceptual model using SEM, Figure 5.2. However, as the servicescape service quality variable was split in three factors, (Section 4.3.5), the results on Table 5.2 show the distinction between each servicescape variable therefore producing thirteen overall hypotheses results. The hypotheses developed were in relation to the relationships between the servicescape variable and the post purchase perception and future customer behaviour variables of the original theoretical model.
Table 5.2 provides the research question, the results of the hypotheses tested, the relative $R^2$ and standard regression weights.

**Table 5.2: Results of hypotheses testing**

<table>
<thead>
<tr>
<th>Research question and hypotheses</th>
<th>SEM results</th>
<th>Standardised regression weights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RQ</strong></td>
<td></td>
<td><strong>Research question and hypotheses</strong></td>
</tr>
</tbody>
</table>
| **H1** Customer perceptions of the servicescape are positively related to Customer Satisfaction. | SF-Supported  
SAT-Supported  
SAP-Supported  
$R^2 = 0.719$ | SF-0.168  
SAT-0.138  
SAP-0.168 |
| **H2** Customer perceptions of the servicescape are positively related to Relationship Strength. | SF-Rejected  
SAT-Rejected  
SAP-Supported  
$R^2 = 0.638$ | SF-N/A  
SAT-N/A  
SAP-0.257 |
| **H3** Customer perceptions of the servicescape are positively related to future Retention Intentions. | SF-Rejected  
SAT-Rejected  
SAP-Rejected  
$R^2 = 0.650$ | SF-N/A  
SAT-N/A  
SAP-N/A |
| **H4** Customer perceptions of the servicescape are positively related to future Word-of-Mouth. | SF-Rejected  
SAT-Supported  
SAP-Rejected  
$R^2 = 0.462$ | SF-N/A  
SAT-0.171  
SAP-N/A |
| **H5** The addition of the servicescape independent variable(s) improves the predictive power of the model. | Supported | Comparison results Table 5.1 |

Servicescape Facilities = SF; Atmosphere = SAT; Appearance = SAP; N/A = not applicable

Source: Analysis of test instrument data.

The SEM results indicated that there were six hypotheses supported and seven that were rejected. The supported relationships were all deemed to have significant paths with critical ratios above $\pm 1.96$, as indicated on Table 4.19, with the non significant paths rejected by SEM thereby being rejected. Figure 5.6 shows the most parsimonious model, with the related supported hypotheses and standardised regression weights.
Hypothesis one (H1) showed that there is a positive relationship between customer perceptions of the three servicescape factors (SF, SAT, SAP) and customer satisfaction.

Hypothesis two (H2) showed that there is a positive relationship between customer perceptions of the servicescape appearance factor (SAP) and relationship strength but that there is not a positive correlation with the servicescape facilities and atmosphere factors (SF, SAT).

Hypothesis three (H3) showed that there is no positive relationship between customer perceptions of the three servicescape factors (SF, SAT, SAP) and retention intentions.

Hypothesis four (H4) showed that there is a positive relationship between customer perceptions of the servicescape atmosphere factor (SAT) and word-of-mouth but that there is not a positive correlation with the servicescape facilities and appearance factors (SF, SAP).
Hypothesis five (H5) as indicated from the results on Table 5.1, which provided a comparison of the $R^2$ of the two models, with the servicescape variable and without the servicescape variable, indicated that the addition of the servicescape independent variable(s) improves the predictive power of the model. Therefore, this hypothesis was supported.

This section therefore provided a summary of this study’s five hypotheses, with the findings supporting either in full or in part; H1; H2; H4; and H5, while H3 was rejected.
5.3 Contributions to theory

The research contributes to marketing theory in several ways with a major contribution being that the conceptual and subsequent accepted model being the first known research concerning the interaction and grouping of the constructs presented in this fashion.

These additions provided for; 1) a better understanding of how services are evaluated by users, which indicated greater understanding of how to influence and manage these customers’ evaluations and 2) stronger relationships between customer service quality and future customer perceptions and behaviours. Therefore, the research makes four contributions to the literature by:

1. Confirming the addition of the retail servicescape to measure customer service quality.

In Chapter 4, competing models were tested by goodness of fit indices tests and the strength of the models R² values. Through this process a modified model, Figure 5.3, of the generalised theoretical model, Figure 5.2, resulted which produced acceptable fit and strong R² values for the mediating and dependent variables. The model testing resulted in a more parsimonious model being produced relative to this research on coffee shops. This parsimonious model resulted in eight constructs, with the original product delivery variable having been split into two distinct variables, (Section 4.3.3), being removed as not being a significant factor through analysis. These results indicated that through the data collected customer service quality was affected by the retail servicescape.

The combination of the original seven variables indicated that when they are combined and tested in a retail environment it can be concluded, relative to the theory provided in Chapter 2 and confirmed through data analysis in Chapter 4, that they are effective tools in measuring the contribution that the retail servicescape makes to customer service quality. The complete theoretical model, Figure 5.3, also splits the servicescape variable into three components, as suggested by the literature reviewed in Section 2.4, thereby strengthening the models testing ability of customer service quality in a retail setting.
Although the tests indicated strong results the impact of the servicescape variable overall was small thereby opening up the possibility that the servicescape variable could produce much stronger results in other retail situations. The literature also revealed service quality played an important role in a service provider’s success or failure by acknowledging the behavioural relevance the retail servicescape has on customer service quality in one retail setting, coffee shops.

2. **Empirically supporting the relationship between servicescape and consumer perceptions of customer satisfaction and relationship strength.**

This research is of much importance for the service industry as the significance on customer perceptions of the servicescape on customer satisfaction has had little empirical testing and from this study clearly has a significant effect on a consumer’s overall perception of satisfaction. As indicated in Chapter 4, the predicative powers of the model with the inclusion of the servicescape variable produced stronger R² values than the model without the servicescape variable. The result gives a strong indication that the addition of the servicescape variable in the retail setting of a coffee shop provides a better result than without the servicescape variable, therefore demonstrating the servicescape is necessary due to its influence on consumer perceptions of satisfaction.

This research also provides empirical support for the addition of the three servicescape variables into the Grönroos Model of Perceived Service Quality. Following are the refined definitions of the servicescape and technical service quality variables as a result of the outcomes of the tests conducted in Chapter 4. The definitions of the remaining constructs have not been altered, and, therefore, remain appropriate to this research as presented in Section 1.2.

**SSSQ Facilities**—refers to the physical facility surroundings of the retail environment in which the delivery of a product takes place and how these surroundings affect customers and employees. Servicescape facilities serve as explicit or implicit signals that communicate about the place to its customers such as: décor, toilets and parking (Bitner 1992).
SSSQ Atmosphere—refers to the ambient atmospheric conditions of the physical surroundings of the retail environment in which the delivery of a product takes place and how these surroundings affect customers and employees. Servicescape atmosphere includes background characteristics of the environment such as: lights, temperature, and noise (Bitner 1992 and Baker 1987).

SSSQ Appearance—refers to the spatial layout or appearance of the physical surroundings of the retail environment in which the delivery of a product takes place and how these surroundings affect customers and employees. Servicescape appearance refers to design factors of furnishing arrangements and equipment, and the size and shape of those items including aesthetics such as: items referring to furniture comfort (texture, shape, style) and menu design and layout (Bitner 1992 and Baker 1987).

There is also limited empirical support, (EFA and CFA) for splitting the technical service quality variable into two variables product delivery and product.

Product Delivery—is the delivery of those tangible products in which the product is to be delivered such as: glasses, plates, and the quality and selection of those products.

Product—are those items that represented the product or the outcome in terms of the finished product such as food and/or drink products.

3. Empirically supporting the relationship between servicescape and the two customer post purchase behavioural variables of retention intentions and positive word-of-mouth, as mediated by customer satisfaction and relationship strength.

This research empirically identified and measured the relationship between servicescape and the two future customer behaviour dependent variables: retention intentions and positive word-of-mouth. The predictive powers of the model, Figure 4.7, identified the interrelationships between the constructs as indicated, with the inclusion of the servicescape variable, by producing a stronger R² value than the model without the servicescape variables. It was also found that there was a significant positive correlation to those two customer
4. Developing and testing a new conceptual service quality framework relating to future customer behaviour, the proposed Model of Future Customer Behaviour.

In Chapter 2 there were several service quality models presented that used a combination of variables to measure customer’s perceptions, relationships, satisfaction and behaviours. However, no models were identified that used the service performance independent variables of this study to measure service quality as they are presented in this research. As a result, these generalised variables were grouped into a theoretical framework, to be tested, as shown in Figure 5.2. Construct inclusion in the conceptual model was based on other researchers studies such as seminal research conducted by Grönroos (1990, 1982).

The Grönroos Model of Perceived Service Quality included in its model the technical (product delivery) and functional service quality variables. The combination of those two constructs and the addition of the other service quality constructs formed part of the model with the most significant addition being the servicescape variable. It was the inclusion of the servicescape and the particular grouping of the other variables that has distinguished this researches model from those presented in studies previously thereby ultimately playing, as a collective, a significant role in the development of service quality perceptions. This research also provides future researchers with an empirically tested generalised proposed model to use for other research in various service settings, as shown at Figure 5.7.
Although there was no empirical support for the inclusion of Product and Product Delivery independent variables, in the most parsimonious model (model 5), which relates specifically to coffee shops, they have been previously empirically supported by others (Johnson 2007; Hoffman & Bateson 2006; Womack 2006; Tehrani 2005; Wall 1998; Schiffman, Bednall, Watson, & Kanuk, 1997; Vaz-Oxlade 1993; Grönroos 1990 and Robin 1978) and are thus included here for completeness in the proposed model of future customer behaviour.

In summary, the major contributions to theory for this research are:

- Confirming the addition of the retail servicescape to measure customer service quality
- Empirically supporting the relationship between servicescape and consumer perceptions of customer satisfaction and relationship strength
• Empirically supporting the relationship between servicescape and the two customer post purchase behavioural variables of retention intentions and positive word-of-mouth, as mediated by customer satisfaction and relationship strength

• Developing and testing a new conceptual service quality framework relating to future customer behaviour, the proposed Model of Future Customer Behaviour.
5.4 Contributions to practice

5.4.1 Introduction

The previous section discussed the theoretical contributions of this research study. This section discusses the contributions the study makes to the service industry’s customer service quality practice by way of the development of Model of Future Customer Behaviour. While those contributions are framed in the context of this research, i.e., retail coffee shops and their customers, there is the potential to extend the contributions to other service industry settings or more generalised environments.

5.4.2 Service Providers

Owners and marketing professionals in the service industry should fully understand that the delivery of high quality service, an accommodating environment, instilling feelings of trust and satisfaction with their customers will more likely lead to the long term relationship commitments of customer retention and positive referrals. This research has identified customer retention as a significant element of the customers’ post purchase behaviour and as mediated by relationship strength and customer satisfaction. Positive referrals have also been identified as having an affect on that commitment due to its importance on customer’s perceptions of the servicescape and its significant impact on consumer satisfaction and relationship strength.

Relationship strength was positively related to the customer service provided and the overall appearance of the retail outlet. Satisfaction was positively related to the customer service provided, the facilities, atmosphere and appearance of the environment. Positive referrals of customers perceptions of the servicescape were positively related to the atmosphere provided. Therefore service provider’s and marketing professionals need to ensure that service quality is provided to their patrons in such a way as to distinguish and instil a level of confidence in the set of competencies that are valued by their clients as meeting their required level of needs.

This subject would imply that the service provider would fully understand what those consumer needs are in the first instance, which would be consistent with the underlying transactional marketing relationship between a customer’s post purchase behaviour and the retail servicescape.
Service providers and marketing professionals therefore need to understand fully the requirements relating to relationship strength and the effective recruitment of staff are aligned to the important outcome in its relationship building with their patrons. Staff need to be able to instil not only trust but satisfaction as well and to demonstrate an understanding of their customers’ needs. Consequently, as a result internal training programs should reflect the requirements for optimum development of customer relationships, which will garner retention and, in turn, generate positive referrals.

5.4.3 Coffee Shops

Specifically, coffee shops could link Key Performance Indicators (KPI) to training programs to these requirements. Those KPIs would measure the customers’ post purchase behavioural patterns and the inputs that affect that behaviour such as those identified in this study. For example, KPIs could be established to measure inputs such as retention rates, satisfaction, relationship strength, referrals, customer service and the overall servicescape, facilities, appearance and atmosphere, together with an overall measure of post purchase behaviour. This approach would answer the question as to whether the retail coffee shop was truly committed to sustaining and building a relationship with their customers, or why they were not. The onus and emphasis would be on those coffee shops in ensuring that the correct operationalisation of measures is established to obtain the correct results.

Coffee shops would also need a monitoring system capable of measuring their clients’ repeat business. This is a logical path as retention was identified in this study as being highly significant in its relationships with other antecedents. Repeat customers are an important financial benefit for coffee shops, as most are relatively small retail establishments, revenues and profits would therefore be instrumental to the coffee shops success and, in turn, potential market share growth. It would also allow the coffee shops to monitor repeat business intentions, identify and take the necessary steps for those customers who may be at risk of not returning and going to a competitor. Having this knowledge and the factors that would lead up to repeat business, coffee shops could use these insights to implement strategies that would encourage customer continuity and build stronger relationships.

Coffee shops could also seek to instil customer advocacy, positive referrals, from loyal patrons especially if those customers are of an influential nature with friends, family and acquaintances in the wider community. By doing so, retail coffee shops are more than likely to
benefit from repeat and referral business, both constructs that yielded high significance in this study. Referrals are normally associated with share-market growth thereby reducing the capacity for competitors to benefit from shared relationships with same customers. Although repurchase intentions and word-of-mouth were identified as being highly significant factors leading to customer post purchase behaviour, other factors such as customer satisfaction and relationship strength also contribute, albeit indirectly.

Although two of the six independent variables were not significant predictors of retention intentions and positive word-of-mouth in this study (product and product delivery), they should be included in future research (as shown at figure 5.7). Individual studies will then either empirically support or reject their inclusion.
5.5 Limitations of this research

Although this study provides significant insights into customers post purchase behaviours, there were five limitations identified.

1. This research is limited by being a single test in a single service setting. In order to generalise the results a large number of such comparisons will need to be conducted in a number of service settings and industries. While there is face validity in supporting some of the hypotheses in a coffee shop setting, this validity may not be able to be supported in other service settings, such as retail banking, hospitality etc. Thus, for future research there is a need for testing in a number of service settings to establish those cases where the servicescape variable is significant and those where it may not be significant, and also to establish how the size of effect varies in different situations.

2. Coffee shops may present a limitation as they involve the use of a single retail style in a field test. This may be noted with the construct servicescape service quality, as the inclusion of this variable only moderately improved the performance of the test instrument data, which may result in more significant findings if this study was conducted in other service orientated sectors. The research also lacks development over a period of time in data tracking how consumers become socialised into the environment of local coffee shops and the corresponding transformations in their outlooks and self-conceptions. Although there is adequate sampling to satisfy SEM requirements and to establish a representative sample of respondents, the sampling frame may be limiting in selecting patrons who will be familiar with the coffee shops selected for the research. As discussed by Donovan, Rossiter, Marcooly and Nesdale (1994), respondents familiar with a retail environment may experience a pre-conditioned emotional approach or avoidance response, which could override the emotions elicited by the retail environment.

3. A limitation arose from the restricted number of coffee shops covered by this study. Although the research was done using a national retailer, Hudsons Coffee shops, in ten of their corporate locations, other coffee shop establishments were excluded. However, as this study was conducted with a national retailer, this sample is considered reasonably comprehensive and
representative of the coffee shop environment. The collection of the data for this research was limited also by financial and time constraints therefore further research could benefit from greater resources.

4. The use of AMOS models in this research posed as a limitation providing for an indication of the relations between tested variables, as good model fit of the final most parsimonious model is not essentially a valid adaptation of true life behaviour. However, the model accepted in this study exhibits the best mix of theoretical and logical justifications noting that the results of this most parsimonious model are relative, rather than absolute, by reason of the competing models strategy performed in this study (Hair, Anderson, Tatham & Black 1995).

A related issue is the concept of model parsimony. The most parsimonious model requires researchers to accept the simplest explanation from a number of competing theories that have equal probability of being confirmed and being more convenient to work with as well as easier to understand (Morgan & Hunt 1994 and Lambert & Brittan 1970). Having larger samples, parsimonious models generate more precise estimates than ones with less (Bentler & Mooijaart 1989). One advantage of having fewer parameter models is that they are more likely to be duplicated successfully than less parsimonious models. Models with fewer observed variables will, in most situations, have a better overall fit than more complex models. Researchers may choose to accept measurement models with few observed variables instead of models that may contain more variables, noting that models with more observed variables may be considered more parsimonious in terms of known parameters to degrees of freedom. Therefore duplicating the final structural and measurement models is important, with the reduced complexity of the models increasing the likelihood of a successful duplication.

5. Finally, primarily geographical research was restricted to Australia, therefore, despite the limitations outlined this study, has made significant contribution to the current knowledge.
5.6 Future research opportunities

This study has provided some recommendations for future research. Research is needed to validate and generalise the findings to broader settings examining similar study objectives in various service sectors such as; hospitality, banking, and apparel retailers. Each sector should have large samples representing consumers from a variety of service organisations paying close attention to the research design.

The significant results of this study have provided a good indication of customers post purchase behaviours in a coffee shop retail setting. These results will lay the foundation for future similar studies to be conducted, which will allow for the observing and tracking of the development of customer service theory over several years.

Although this study was conducted in a single setting, retail coffee shops, and provides for a snapshot of a selected period of time, the research could be generalised to not only Australia but to other countries as well. In this way databases of service quality could be set up by industry and locality assisting organisations in optimizing their overall profitability. Also in this way it would allow comparisons to be made between service industries in different geographic locations.

This research is of much importance for the service industry as the significance and size of effect on customer perceptions of customer satisfaction of the servicescape has had little empirical testing and from this study clearly has a significant effect on the customers’ overall perception of satisfaction. As this study explored relationships between customer perceptions of the servicescape in a coffee shop setting, further research may explore those relationships from the perspective of management or staff. This would certainly advance understandings of the topic.

Alternative research methods may be engaged from those used in this research to study relationship factors associated with product delivery, functional service quality and servicescape service quality. Quantitative research was justified for this study in Chapter 3; however, qualitative research measures may be an alternative and complementary method to studying customer post purchase behaviours which would include case studies and interviews that would provide additional insights about post purchase behaviours. Further the survey may be administered by mail, telephone or email. Additional constructs may be the result of using qualitative methods into the proposed model or the qualitative approach may identify varying patterns of relationships than those presented in this study, which would further provide alternative theoretical explanations.
Future research could consider the impact of relational characteristics such as:

- How long a customer has been frequenting the organisation;
- How the customer first found out about the organisation;
- Do these characteristics influence a consumer’s willingness to provide referrals, its quality or volume? or,
- Would psychological profiles of potential buyers of a product be used in relation to motivation research including satisfaction and loyalty and the relationship between these characteristics and referral behaviour to improve customers post purchase behaviours and related marketing potential?

As indicated through the literature there were no methodologies found in the existing literature that operationalised a firm’s financial performance and linked it directly to service quality, satisfaction, retention or word-of-mouth referrals (Zeithaml 2000). Therefore, future research is required to measure financial performance and possible links to relationships of retention, referrals, satisfaction and service quality between servicescapes and a customers post purchase behavioural patterns using varying methodologies to verify the regularity of the outcomes across dissimilar study designs.

Finally, when testing the theoretical framework in other service settings future research could examine whether consumers are influenced by varying concepts such as brand imaging and its applicability in various service settings like retail environments. Further research could integrate a third mediating variable ‘brand image’ in the theoretical framework providing additional insights into the relationship between customers brand imaging awareness levels and their subsequent behavioural response to the surrounding servicescape.

In brief this section identified opportunities for future research. The next section will summarise the research.
5.7 Conclusion

Conclusions regarding this study, its issues and problems, were presented in this chapter. Contributions to theory and practise were presented as well as the studies research limitations and future research opportunities. The research question, **How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?** Investigated in this study, relates to classifying the interaction between three independent constructs characterised as service performance variables, two mediating constructs characterised as post purchase perceptions and their effect on two dependent constructs, characterised as future customer behaviour and their association between coffee shops and their patrons namely through retention intentions and word-of-mouth referrals.

This was accomplished by assessing the individual relationships between the variables that made up the foundation of the complete model by examining the correlation coefficients. The research examined the hypothesised interrelationships of the independent and dependent variables by evaluating them using multi linear regression and then subsequently testing the overall fit of the model to the data using structural equation modelling (SEM).

The study found that the three servicescape service quality constructs, facilities, atmosphere and appearance had a direct positive influence on customer satisfaction with the servicescape service quality atmosphere also having a direct positive influence on word-of-mouth. Servicescape service quality appearance showed to have a direct positive influence on relationship strength. Overall, the servicescape service quality constructs had little impact on the predictive powers of the model although it did improve the model’s predicative ability with its inclusion.

The research found that a mixture of direct and indirect relationships has lead to outcomes of retention intentions and word-of-mouth. Therefore, the empirical study provides support for the relationships in the Model of Future Customer Behaviour presented. In relation to coffee shops, owners and marketing professionals should be cognisant of these relationships with each other in the framework of effectively forming, developing and preserving relationships with their patrons.

This research about service quality in a coffee shop retail setting has value as it clarifies that performance and post purchase perception levels of service are significant contributing factors of overall future customer behaviour.
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Appendices

Appendix A

Final Test Instrument

The relationship between servicescapes and customer post purchase behaviour

Introduction

My name is Anthony Perrone and I am a PhD student from the Faculty of Business & Informatics at Central Queensland University, Rockhampton. For my research, I am collecting data on customer service quality in a coffee shop setting with the main focus on the internal environment or servicescape. There has been extensive research undertaken in the area of service quality and what encourages customers to repurchase. Without question in some service settings the servicescape, the physical environment in which a customer and service provider meet, can have a significant effect on what a customer experiences. Anything a customer sees, feels, touches, hears and smells can have an impact on a firm’s success or failure. This research will provide an empirical study of the potential significance of the inclusion of the servicescape in service settings. The information gathered through this survey will assist addressing the main research question: How does the retail servicescape relate to customer’s post purchase perceptions and future behaviour?

Anonymity, Confidentiality and Consent

Please complete this survey based on your most recent visit to a coffee shop. You may be assured that the identity of all participants will be anonymous throughout the course of data collection. No personal details, such as your name, are required thus, this survey is anonymous.

By completing this survey, which will take approximately 10–15 minutes, you are giving your consent for the information gathered to be used in this research project. You must be 18 years or older to participate. You may withdraw your participation at any time. A free coffee and biscuit voucher is being offered to all participants as a thank you for participation in this research.

You may be assured that all information gathered will remain confidential. Data will be stored for a period of 5 years in accordance with ‘CQUniversity Code of Conduct’. Results of this research will be published as a doctoral thesis and submitted to appropriate conferences & journals. If you would like a summary of the results please register your interest with Anthony Perrone (a.perrone@cqu.edu.au) at:

CQUniversity
Faculty of Arts, Business, Informatics and Education
Rockhampton, QLD 4702

Thank You. Your participation in this survey is valuable and highly appreciated.

Please contact CQUniversity's Office of Research (phone: 07 4923 2603) should there be any concerns about the nature and/or conduct of this research project.
Instructions for filling out the survey

You will be provided with a series of statements about a coffee shop you frequent. There are no right or wrong answers, however it is important to try to answer all statements in all sections, by simply circling the number that corresponds to your answer, as in the example below:

- If you DISagree with the following statement circle either 1, 2, or 3.
- If you are Neutral (neither disagree or agree with the statement) circle 4.
- If you Agree with a statement circle either 5, 6 or 7.

<table>
<thead>
<tr>
<th>Strongly DISagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
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<tbody>
<tr>
<td>My order was ready in a reasonable amount of time</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</tbody>
</table>

In this example, the number 6 has been circled, indicating that the person Agrees with this statement.

Thank you for participating in this research

Section 1: Participants background information

Please circle the number representing your response to the following:

1. What is your gender?
   1. Female  2. Male

2. Which age group do you belong?
Section 2: Your perceptions about coffee shop service quality

Circle one number only in each row to show how much you agree or disagree with each statement.

Statement 1: These statements concern the level of QUALITY of food and drink you ordered.

<table>
<thead>
<tr>
<th>QUALITY of PRODUCT</th>
<th>Strongly Disagree</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasses were clean</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Plates and cutlery were clean</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The selection of drinks is excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The quality of drink is excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The drink prices are excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The selection of food is excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The quality of food is excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The food prices are excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Statement 2: These statements concern the level of SERVICE you received from the staff.

<table>
<thead>
<tr>
<th>CUSTOMER SERVICE</th>
<th>Strongly Disagree</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I received a welcome when I arrived</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I had a pleasant experience</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff listen carefully to my needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff appeared neat and tidy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff were polite</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff had good knowledge of drink products</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff had good knowledge of food products</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Staff serve me quickly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I did not have to wait to order</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The order was served in an acceptable time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Statement 3: These statements concern the general FACILITIES of the coffee shop.

<table>
<thead>
<tr>
<th>FACILITIES</th>
<th>Strongly DISagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like the décor</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The toilets were clean</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>There is ample parking</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The coffee shop has a nice atmosphere</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I liked the background music</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The lighting was too bright</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The temperature inside was too cold</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The temperature inside was too hot</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The noise inside was unpleasant</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The layout inside was too cluttered</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The handout menus were easy to read</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The coffee shop had a pleasant smell</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The furniture inside was comfortable</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The outside atmosphere was noisy</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The outside setting was pleasant</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>The outside furniture was comfortable</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
</tbody>
</table>

Statement 4: These statements concern your Overall Satisfaction with in the coffee shop.

<table>
<thead>
<tr>
<th>CUSTOMER SATISFACTION</th>
<th>Strongly DISagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff met my expectations</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>Services I received were adequate</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>My order was ready in a reasonable amount of time</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I felt comfortable with the physical surroundings of the facility (neatness, cleanliness etc.)</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I enjoyed the product(s) I ordered</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
</tbody>
</table>

Statement 5: These statements concern the level of your Relationship (RS) with the coffee shop.

<table>
<thead>
<tr>
<th>RELATIONSHIP STRENGTH</th>
<th>Strongly DISagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt the staff were providing me with accurate information about the product(s)</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>Staff made me feel good about my order</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I trusted that the staff gave me useful information</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I found staff to be approachable</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>I have a good rapport with staff</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>Staff went out of their way to form relationships</td>
<td>1  1  3  4  5  6  7</td>
<td></td>
</tr>
</tbody>
</table>

Statement 6: These statements concern your future purchase intentions.
### REPURCHASE INTENTIONS

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly DISagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>I plan on returning to this coffee shop</td>
<td>Strongly Agree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>When I want to purchase a coffee I will buy it at this coffee shop</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I have not thought about buying another coffee but would buy one at this coffee shop if I decide to buy again</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

### Statement 7: These statements concern your future Referral intentions.

### REFERAL BEHAVIOUR

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly DISagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will refer this coffee shop to other people</td>
<td>Strongly Agree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>If asked to recommend a coffee shop to other people I would tell them about this coffee shop</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I used to refer this coffee shop to other people but I do not refer anymore due to poor service</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I used to refer this coffee shop to other people but I do not refer anymore due to personal choice not to engage in referral behaviour</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I do not currently refer this coffee shop because their prices are too high</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Thank you for participating in this research

The relationship between servicescapes and customer post purchase behaviour

Consent form

I consent to participation in this research project and agree that:

1. An Information Sheet has been provided to me that I have read and understood;
2. I have had any questions I had about the project answered to my satisfaction by the Information Sheet and any further verbal explanation provided;
3. I understand that my participation in the research project will not effect my employment;
4. I understand that I have the right to withdraw from the project at any time without penalty;
5. I understand the research findings will be included in the researcher’s publication(s) on the project and this may include conferences and articles written for journals and other methods of dissemination stated in the Information Sheet;
6. I understand that to preserve anonymity and maintain confidentiality of participants that the identity of all participants will be anonymous throughout the course of data collection. No personal details, such as your name, are required thus, this survey is anonymous;
7. I am aware that a Plain English statement of results will be available by contacting the researcher provided in the Information Sheet; and,
8. I agree that I am providing informed consent to participate in this project.

Signature: _________________________________________ Date: ______________
Name (please print):  ___________________________________________________________________

Where relevant to the research project, please check the box below:

<table>
<thead>
<tr>
<th>1. I wish to have a Plain English statement of results posted to me at the address I provide below.</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Postal Address:________________________________________________________________
E-mail Address:_______________________________________________________________
30th July 2008

To whom it may concern,

Hudsons Coffee Pty. Ltd. authorised a research study which was conducted in ten of our company owned stores by Anthony Perrone in October 2007.

The research was in relation to the relationship between servicescapes and customer post purchase behaviour.

Hudsons Coffee verifies the use of the company name 'Hudsons Coffee' in this publication only.

Please feel free to contact me if you have any further questions.

Kind regards,

Tegan Cividin
Marketing Executive
MEMORANDUM
From the Office of Research

Central Queensland UNIVERSITY

26 July 2007

Mr Anthony Perrone
20 Cathie Street
Cooee Bay QLD 4703

Dear Mr Perrone,

HUMAN RESEARCH ETHICS COMMITTEE ETHICAL APPROVAL PROJECT:
H07/06-059, THE RELATIONSHIP BETWEEN SERVICESCAPES AND CUSTOMER
POST PURCHASE BEHAVIOUR

The Human Research Ethics Committee is an approved institutional ethics committee
certified in accord with guidelines formulated by the National Health and Medical
Research Council (NHMRC) and governed by policies and procedures consistent with
principles as contained in publications such as the joint Australian Vice-Chancellors'
Committee and NHMRC Statement and Guidelines on Research Practice.

On 26 July 2007, the Chair of the Human Research Ethics Committee of the Central
Queensland University acknowledged compliance with the requirements placed on ethics
approval for the research project, The relationship between servicescapes and customer post
purchase behaviour. (Project Number H07/06-059).

The period of ethics approval will be from 26 July 2007 to 31 December 2008. The approval
number is H07/06-059; please quote this number in all dealings with the Committee.

The standard conditions of approval for this research project are that:

(a) you conduct the research project strictly in accordance with the proposal
    submitted and granted ethics approval, including any amendments required to be
    made to the proposal by the Human Research Ethics Committee;

(b) you report immediately anything which may warrant review of ethics approval of
    the project, including:
       (i) serious or unexpected adverse effects on participants;
       (ii) proposed changes in the protocol;
       (iii) unforeseen events that might affect continued ethical acceptability of the
            project;

       (A written report detailing the adverse occurrence or unforeseen event must be
       submitted to the Committee Chair within one working day after the event.)

Page 1 of 2
(c) you provide the Human Research Ethics Committee with a written "Annual Report" by no later than 28 February each calendar year and "Final Report" by no later than one (1) month after the approval expiry date;

(A copy of the reporting pro formas may be obtained from the Human Research Ethics Committee Secretary, Sue Evans please contact at the telephone or email given on the first page.)

(d) if the research project is discontinued, you advise the Committee in writing within five (5) working days of the discontinuation;

(e) you make submission to the Human Research Ethics Committee for approval of any proposed variations or modifications to the approved project before making any such changes;

(f) you comply with each and all of the above conditions of approval and any additional conditions or any modification of conditions which may be made subsequently by the Human Research Ethics Committee;

(g) you advise the Human Research Ethics Committee (email: ethics@oqu.edu.au) immediately if any complaints are made, or expressions of concern are raised, in relation to the project.

Please note that failure to comply with the conditions of approval and the National Statement on Ethical Conduct in Research Involving Humans may result in withdrawal of approval for the project.

You are required to advise the Secretary in writing within five (5) working days if this project does not proceed for any reason. In the event that you require an extension of ethics approval for this project, please make written application in advance of the end-date of this approval. The research cannot continue beyond the end date of approval unless the Committee has granted an extension of ethics approval. Extensions of approval cannot be granted retrospectively. Should you need an extension but not apply for this before the end-date of the approval then a full new application for approval must be submitted to the Secretary for the Committee to consider.

The Human Research Ethics Committee wishes to support researchers in achieving positive research outcomes. If you have issues where the Human Research Ethics Committee may be of assistance or have any queries in relation to this approval please do not hesitate to contact the Secretary, Sue Evans or myself.

Yours sincerely,

Dr Lorna Moxham  
Chair, Human Research Ethics Committee

Co: Project File  
Associate Professor Tony Ward (supervisor)

Application Category: A
Appendix D

CFA original theoretical measurement model (Model 1)
CFA ten factor measurement model with RI/PWOM and NWOM (Model 2)
CFA ten factor measurement model with RI and PWOM split (Model 3)
CFA measurement model minus SSSQ with RI and PWOM split (Model 4)
Appendix E

SEM original theoretical structural model (Model 1)

Standardised regression weights and path significance levels

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Model 1 (original theoretical structural model)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardised regression weights</td>
<td>Critical ratio</td>
<td>Significance level</td>
<td>R²</td>
</tr>
<tr>
<td>FSQ → CS</td>
<td>0.654**</td>
<td>8.340</td>
<td>0.000</td>
<td>CS (0.680)</td>
</tr>
<tr>
<td>FSQ → RS</td>
<td>0.624**</td>
<td>7.160</td>
<td>0.000</td>
<td>RS (0.607)</td>
</tr>
<tr>
<td>SSSQ → CS</td>
<td>0.093*</td>
<td>2.134</td>
<td>0.033</td>
<td></td>
</tr>
<tr>
<td>SSSQ → RS</td>
<td>0.001</td>
<td>0.024</td>
<td>0.981</td>
<td></td>
</tr>
<tr>
<td>PD → CS</td>
<td>0.224**</td>
<td>3.051</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>PD → RS</td>
<td>0.194*</td>
<td>2.417</td>
<td>0.016</td>
<td></td>
</tr>
<tr>
<td>CS → RI</td>
<td>0.426**</td>
<td>7.301</td>
<td>0.000</td>
<td>RI (0.644)</td>
</tr>
<tr>
<td>RS → WOM</td>
<td>0.363**</td>
<td>5.067</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>CS → WOM</td>
<td>0.354**</td>
<td>5.112</td>
<td>0.000</td>
<td>WOM (0.422)</td>
</tr>
<tr>
<td>RS → RI</td>
<td>0.460**</td>
<td>7.405</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

* = significant at p<.05; ** = significant at p =0.000

Source: Analysis of test instrument data.
SEM ten factor structural model with RI/PWOM and NWOM (Model 2)

Standardised regression weights and path significance levels

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD → CS</td>
<td>.029</td>
<td>.356</td>
<td>.722</td>
<td>CS (0.714)</td>
</tr>
<tr>
<td>PD → RS</td>
<td>.126</td>
<td>1.368</td>
<td>.171</td>
<td>RS (0.635)</td>
</tr>
<tr>
<td>Prod → CS</td>
<td>.052</td>
<td>.699</td>
<td>.485</td>
<td></td>
</tr>
<tr>
<td>Prod → RS</td>
<td>.109</td>
<td>1.301</td>
<td>.193</td>
<td></td>
</tr>
<tr>
<td>FSQ → CS</td>
<td>.594**</td>
<td>7.796</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>FSQ → RS</td>
<td>.603**</td>
<td>6.803</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Facilities → CS</td>
<td>.172</td>
<td>2.050</td>
<td>.040</td>
<td></td>
</tr>
<tr>
<td>SSSQ Facilities → RS</td>
<td>.069</td>
<td>.725</td>
<td>.468</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos → CS</td>
<td>.162**</td>
<td>3.378</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos → RS</td>
<td>.106</td>
<td>1.966</td>
<td>.049</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear → RS</td>
<td>.249</td>
<td>2.718</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear → CS</td>
<td>.157</td>
<td>2.000</td>
<td>.046</td>
<td></td>
</tr>
</tbody>
</table>
## Model 2 (ten factor structural models with RI/PWOM and NWOM)

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD → RI/PWOM</td>
<td>0.001</td>
<td>0.010</td>
<td>.992</td>
<td>RI/PWOM (0.654)</td>
</tr>
<tr>
<td>Prod → RI/PWOM</td>
<td>0.018</td>
<td>0.229</td>
<td>.819</td>
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</tr>
<tr>
<td>FSQ → RI/PWOM</td>
<td>0.072</td>
<td>0.684</td>
<td>.494</td>
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<tr>
<td>SSSQ Fac → RI/PWOM</td>
<td>0.093</td>
<td>1.023</td>
<td>.306</td>
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<tr>
<td>SSSQ App → RI/PWOM</td>
<td>0.071</td>
<td>1.308</td>
<td>.191</td>
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</tr>
<tr>
<td>SSSQ Amt → RI/PWOM</td>
<td>0.050</td>
<td>0.557</td>
<td>.578</td>
<td></td>
</tr>
<tr>
<td>CS → RI/PWOM</td>
<td>.337**</td>
<td>3.952</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>RS → RI/PWOM</td>
<td>.350**</td>
<td>4.498</td>
<td>0.000</td>
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</tr>
<tr>
<td>PD → NWOM</td>
<td>0.081</td>
<td>0.687</td>
<td>.492</td>
<td>NWOM (0.374)</td>
</tr>
<tr>
<td>Prod → NWOM</td>
<td>0.111</td>
<td>1.030</td>
<td>.303</td>
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<tr>
<td>FSQ → NWOM</td>
<td>0.157</td>
<td>1.121</td>
<td>.262</td>
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<tr>
<td>SSSQ Fac → NWOM</td>
<td>0.130</td>
<td>1.065</td>
<td>.287</td>
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<tr>
<td>SSSQ App → NWOM</td>
<td>.559**</td>
<td>6.867</td>
<td>0.000</td>
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</tr>
<tr>
<td>SSSQ Amt → NWOM</td>
<td>0.255</td>
<td>2.080</td>
<td>.038</td>
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<tr>
<td>CS → NWOM</td>
<td>.301**</td>
<td>2.650</td>
<td>0.000</td>
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</tr>
<tr>
<td>RS → NWOM</td>
<td>0.115</td>
<td>1.147</td>
<td>.252</td>
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</tr>
</tbody>
</table>

** = significant at p = 0.000  Source: Analysis of test instrument data.
SEM ten factor structural model with RI and PWOM split (Model 3)

Standardised regression weights and path significance levels

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSQ → CS</td>
<td>.670**</td>
<td>10.445</td>
<td>0.000</td>
<td>CS (0.719)</td>
</tr>
<tr>
<td>FSQ → RS</td>
<td>.633**</td>
<td>8.958</td>
<td>0.000</td>
<td>RS (0.642)</td>
</tr>
<tr>
<td>SSSQ Atmos → CS</td>
<td>.134**</td>
<td>3.262</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear → RS</td>
<td>.266**</td>
<td>4.500</td>
<td>0.000</td>
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</tr>
<tr>
<td>SSSQ Appear → CS</td>
<td>.276**</td>
<td>4.926</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>CS → RI</td>
<td>.420**</td>
<td>6.959</td>
<td>0.000</td>
<td>RI (0.651)</td>
</tr>
<tr>
<td>RS → PWOM</td>
<td>.373**</td>
<td>5.010</td>
<td>0.000</td>
<td>PWOM (0.433)</td>
</tr>
<tr>
<td>CS → PWOM</td>
<td>.347**</td>
<td>4.830</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>RS → RI</td>
<td>.463**</td>
<td>7.197</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

** = significant at p = 0.000  Source: Analysis of test instrument data.
**SEM ten factor structural model minus SSSQ with RI and PWOM split (Model 4)**

![SEM Diagram]

**Standardised regression weights and path significance levels**

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSQ $\rightarrow$ CS</td>
<td>.822**</td>
<td>12.332</td>
<td>0.000</td>
<td>CS (0.676)</td>
</tr>
<tr>
<td>FSQ $\rightarrow$ RS</td>
<td>.779**</td>
<td>10.549</td>
<td>0.000</td>
<td>RS (0.606)</td>
</tr>
<tr>
<td>CS $\rightarrow$ RI</td>
<td>.430**</td>
<td>7.346</td>
<td>0.000</td>
<td>RI (0.643)</td>
</tr>
<tr>
<td>RS $\rightarrow$ PWOM</td>
<td>.359**</td>
<td>5.025</td>
<td>0.000</td>
<td>PWOM (0.427)</td>
</tr>
<tr>
<td>CS $\rightarrow$ PWOM</td>
<td>.363**</td>
<td>5.226</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>RS $\rightarrow$ RI</td>
<td>.456**</td>
<td>7.331</td>
<td>0.000</td>
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</tr>
</tbody>
</table>

** = significant at p = 0.000  Source: Analysis of test instrument data.
SEM Most parsimonious structural model (Model 5)

<table>
<thead>
<tr>
<th>Relationship between constructs</th>
<th>Standardised regression weights</th>
<th>Critical ratio</th>
<th>Significance level path coefficients</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSC → CS</td>
<td>0.609**</td>
<td>8.982</td>
<td>0.000</td>
<td>CS (0.719)</td>
</tr>
<tr>
<td>FSC → RS</td>
<td>0.637**</td>
<td>8.986</td>
<td>0.000</td>
<td>RS (0.638)</td>
</tr>
<tr>
<td>SSSQ Facilities → CS</td>
<td>0.168*</td>
<td>2.036</td>
<td>0.042</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos → CS</td>
<td>0.138**</td>
<td>3.388</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear → RS</td>
<td>0.257**</td>
<td>4.357</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Appear → CS</td>
<td>0.168*</td>
<td>2.285</td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td>CS → RI</td>
<td>0.429**</td>
<td>7.163</td>
<td>0.000</td>
<td>RI (0.650)</td>
</tr>
<tr>
<td>RS → RI</td>
<td>0.455**</td>
<td>7.158</td>
<td>0.000</td>
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</tr>
<tr>
<td>RS → PWOM</td>
<td>0.330**</td>
<td>4.562</td>
<td>0.000</td>
<td>PWOM (0.462)</td>
</tr>
<tr>
<td>CS → PWOM</td>
<td>0.397**</td>
<td>5.586</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>SSSQ Atmos → PWOM</td>
<td>0.171**</td>
<td>3.324</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

* = significant at p<.05; ** = significant at p =0.000  Source: Analysis of test instrument data.
### Appendix F

**Expanded Hypotheses**

<table>
<thead>
<tr>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong> Customer perceptions of the servicescape are positively related to Product Delivery and Customer Satisfaction.</td>
</tr>
<tr>
<td><strong>H2</strong> Customer perceptions of the servicescape are positively related to Product Delivery and Relationship Strength.</td>
</tr>
<tr>
<td><strong>H3</strong> Customer perceptions of the servicescape are positively related to Product Delivery and Retention Intentions.</td>
</tr>
<tr>
<td><strong>H4</strong> Customer perceptions of the servicescape are positively related to Product Delivery and Word of Mouth.</td>
</tr>
<tr>
<td><strong>H5</strong> Customer perceptions of the servicescape are positively related to Functional Service Quality and Customer Satisfaction.</td>
</tr>
<tr>
<td><strong>H6</strong> Customer perceptions of the servicescape are positively related to Functional Service Quality and Relationship Strength.</td>
</tr>
<tr>
<td><strong>H7</strong> Customer perceptions of the servicescape are positively related to Functional Service Quality and Retention Intentions.</td>
</tr>
<tr>
<td><strong>H8</strong> Customer perceptions of the servicescape are positively related to Functional Service Quality and Word of Mouth.</td>
</tr>
<tr>
<td><strong>H9</strong> Customer perceptions of the servicescape are positively related to Servicescape Service Quality and Customer Satisfaction.</td>
</tr>
<tr>
<td><strong>H10</strong> Customer perceptions of the servicescape are positively related to Servicescape Service Quality and Relationship Strength.</td>
</tr>
<tr>
<td><strong>H11</strong> Customer perceptions of the servicescape are positively related to Servicescape Service Quality and Retention Intentions.</td>
</tr>
<tr>
<td><strong>H12</strong> Customer perceptions of the servicescape are positively related to Servicescape Service Quality and Word of Mouth.</td>
</tr>
<tr>
<td><strong>H13</strong> Customer perceptions of the servicescape are positively related to Customer Satisfaction and Retention Intentions.</td>
</tr>
<tr>
<td><strong>H14</strong> Customer perceptions of the servicescape are positively related to Customer Satisfaction and Word of Mouth.</td>
</tr>
<tr>
<td><strong>H15</strong> Customer perceptions of the servicescape are positively related to Customer Satisfaction and Relationship Strength.</td>
</tr>
<tr>
<td><strong>H16</strong> Customer perceptions of the servicescape are positively related to Relationship Strength and Retention Intentions.</td>
</tr>
<tr>
<td><strong>H17</strong> Customer perceptions of the servicescape are positively related to Relationship Strength and Word of Mouth.</td>
</tr>
<tr>
<td><strong>H18</strong> Customer perceptions of the servicescape are positively related to Retention Intentions and Word of Mouth.</td>
</tr>
</tbody>
</table>

#### Expanded original theoretical hypotheses model

![Expanded original theoretical hypotheses model](image)

Source: Developed for this research.