# An Investigation of the Antecedents of Service Delivery and Organisational Performance: A Service Culture Perspective

By

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A Doctoral Thesis
Submitted in Partial Fulfilment of the Requirements
For the award of
PhD in Marketing of Loughborough University

October 2010

# ABSTRACT

Service quality has been shown to be critical for the success of service organisations. However, the quality of service delivered by an organisation is dependent on the behaviours of organisational members. Therefore, understanding the various processes that foster desirable service behaviour is important. While there have been many studies which deal with antecedents of service delivery, research adopting a cultural perspective and focusing on elements such as shared values and norms have been somewhat sparse. This is quite surprising given the amount of reference to the importance of a service culture.

Recently, there have been calls for research into the cultural determinants of service quality and in particular service culture. This study answers the call by testing a multi-layer model of service culture and performance. The key objectives of the study relate to understanding how service culture leads to both customer-based and financial performance, as well as investigating the process of culture transmission from managers to employees.

On the basis of data collected from management and employees, the study assesses service culture at the management and the employee levels, focusing simultaneously on assumptions, value, norms and behaviours. Two routes for culture transmission: the social contagion and behavioural routes are hypothesised and tested. The key findings are that shared service norms are the key impact point of culture transmission from management to employees as well as the key determinant of employee service delivery behaviour. The findings also show that proximity among managers and employees is crucial in the diffusion of service culture and hence in the leadership influencing process. Based on the findings, managerial implications for managing service employees are discussed as well as limitations and suggestions for future research.

Keywords: Service Culture, Service Quality, Norms, Values, Behaviours, Performance, Social Contagion,

# ACKNOWLEDGEMENTS

To begin at the beginning, I would like to thank Loughborough University for the studentship that made this doctorate a possibility.

My sincere gratitude goes to my supervisors, Dr Chanaka Jayawardhena and Professor John Cadogan, for their time, support, encouragement and advice throughout my doctoral study. Their guidance and mentorship was essential to the completion of this thesis and to my understanding of the academic world in the UK. My appreciation also goes to my research director, Professor Anne Souchon and other members of staff whose comments and suggestions helped in no small way to fine-tune my work. Thank you, Dr Belinda Dewsnap, for your painstaking attention to detail.
.
I would also like to acknowledge my fellow doctoral students in the Business School. Your support has been invaluable. Xiaozheng Zhang, a very dear friend, who shared an office with me throughout my stay in Loughborough, deserves particular mention for her help and friendship.

The leaders and members of God's Vineyard Church, Loughborough, both past and present, were a constant pillar of support. You made Loughborough more than a place of study. You made it my home. You are too many to mention all by name; so I will mention just a few: Dr Akin Oluwole, Dr Eno Oluwole, Biola Adekunle, Doyin, Ugonna, Jeff, Tayo; thank you all.

I would like to especially thank my wife, Funmike, for her understanding, encouragement, support and love over the course of my study. For the past few years you have been married both to me and my work. You climbed many mountains with me and have earned in the process a PhT: putting hubby through.

Mummy and my siblings: Boboye, Idolo, Benaebi, Yinke, Tiemo and Miebi; from across the seas you all played your part in driving me on towards the goal. I appreciate all your help, your faith in me and your understanding throughout my years

of study. Thank you Daddy for how you pushed me towards this. It happened just the way you said it would.

Finally, and most importantly, I thank you God for helping me through. There were many mountains that moved when I asked you for help. For that I am grateful. And even for those that refused to move; thank you for giving me the strength to climb them and get to the other side.

# DEDICATION

For Daddy
You dreamed of this
I know you are happy where you are

And

For Pereye
I have already begun to dream for you

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# CHAPTER 1 INTRODUCTION

## 1.1 Overview of Service Quality Research

Ever since the seminal papers on service quality by Gronroos (1984) and Parasuraman et al (1985) were published, service quality has generated a lot of interest among scholars in the fields of marketing, management and organisational behaviour. Among the vast number of studies which deal with service quality, two major research streams can be identified.

The first stream in the literature focuses extensively on customer-perceived service quality and the various performance-related consequences of customers' perceptions. The earliest research within this stream focused on the definition and measurement of perceived service quality (Gronroos, 1984; Parasuraman et al., 1988; Cronin and Taylor, 1992; Brady and Cronin 2001). Other researchers have investigated the impact of perceived service quality on customer satisfaction (Caruana et al 2000, Lassar et al., 2000; Lee et al., 2000), behavioural intentions (Parasuraman et al 1996; Cronin et al 2000), loyalty (Anderson et al, 1994; Bloemer et al 1999; Mittal and Lassar 1998; Wong and Sohal, 2003) and organisational performance (Caruana and Pitt, 1997; Chang and Chen, 1998; Rapert and Wren, 1998; Aaker and Jacobson 1994; Rust and Zahorik, 1993; Rust et al 1995). Findings from these studies have shown that when customers perceive service quality to be higher, they are more satisfied with a firms offering, are likely to engage in positive word of mouth (Zeithaml et al 1996), stay loyal to the organisation and increase their share of wallet with the organisation (Cooil et al., 2006; Keiningham et al., 2003). The ultimate result is superior performance for the organisation in terms of market share, firm value and profitability (Zeithaml, 2000).

Researchers and practitioners have, however discovered that consistently providing high levels of service quality is not easy. Consequently, a second stream of research focuses on the intra-organisational determinants of service quality (Zeithaml et al, 1998; Dean 2004; Lewis and Gabrielsen, 1998). Such studies are concerned with identifying the mechanisms that foster desirable service behaviours and thus better customer perceptions of an organisation's service. Dean (2004:245) in a

comprehensive review of such studies suggests that there is "compelling evidence" for the idea that internal organisational attributes, link to customer experiences and financial outcomes.

However, even with the strength of findings from these reviews, Dean (2004) suggests that additional conceptual and empirical work is required to strengthen knowledge of these links. She argues for example that "although many bivariate correlations have been demonstrated between variables … there are few causal models that provide a holistic view in particular industries". This study is developed in recognition that more conceptual and empirical work needs to be undertaken to strengthen our understanding of the intra-organisational determinants of service quality. This study specifically focuses on an aspect that has received little attention in the services literature: organisational culture.

## 1.2 Intra-organisational Antecedents of Service Delivery

It is generally believed that people who work in service organisations have a desire to provide good service (Schneider, 1980). However, whilst this may be the case, it is worthwhile to investigate the drivers of service delivery so as to more fully understand the mechanisms that foster desirable service behaviours. Antecedents to service behaviours identified in the literature include both the individual employee, as well as managerial or organisational-level antecedents.

Employee-related antecedents have predominantly been studied from a social exchange theory perspective, which suggests that: "a person for whom another has done a service is expected to express his gratitude and return a service when the occasion arises" (Blau, 1964: 4). Studies have shown that employee perceptions of organisational support (Yoon et al., 2003; Bell and Menguc 2002) of organisational justice, (Bienstock et al., 2003; Kim et al., 2004; Bettencourt et al, 2005) job satisfaction and commitment (Schneider et al, 2006; Malhotra and Murkejhee 2004, Wilson and Frimpong 2004; Lewis and Gabrielsen 1998, Schneider and Bowen 1993; Yoon et al, 2001) and employee perceptions of management commitment to quality (Hartline and Ferrell, 1996, Babakus et al, 2003) all contribute towards service delivery performance of employees and ultimately to customer perceptions of service quality. The basic premise here is that when employees are served well by their

organisations, they will in turn serve the organisation by providing quality service to customers.

Managerial and organisational antecedents have been argued mainly from a control theory perspective (Jaworski, 1988). According to Jaworski (1988) control mechanisms can be of two types: formal and informal. Formal control mechanisms are those which form part of the policies and formal guidelines of an organisation, while informal controls are developed and enforced by members (Jaworski 1988).

From a control theory perspective, researchers have investigated the effect of formal control mechanisms such as recruitment, empowerment, rewards, training, decision making, organisational structure and socialisation on the attitudes and service delivery performance of employees (Hartline and Ferrell, 1993; Hartline and Ferrell, 1996; Hartline et al., 2000; Chebat and Kollias 2000; Boshoff and Mels 1995). When these formal control mechanisms are seen as supportive of service quality, organisations are described as service-oriented or customer-oriented (Lytle and Timmerman; 2006; Gonzalez and Garazo, 2006; Brady and Cronin, 2001b). These formal control mechanisms help to create a service climate (Schneider et al., 1998; Liao and Chuang, 2004; Borucki and Burke, 1999; De Jong et al, 2005), which is "the degree to which management emphasizes service quality in all of its activities" (Schneider et al, 2006:111). The managerial actions in support of service are suggested as key antecedents of employee attitudes and behaviours (e.g. Babakus et al., 2003)

Some researchers have also identified informal control mechanisms as antecedents to service delivery. Such studies have posited that social and cultural controls are key antecedents of service performance (Jaworski, 1988). Parasuraman (1987) and Siehl (1992) were two of the earliest to develop conceptual arguments placing corporate culture at the centre of the service delivery process. Both studies suggest that culture is a major determinant of the effectiveness of an organisation's service delivery activities. Others researchers (e.g. Kennedy et al., 2002; Klein et al., 1995; Webster, 1995; Goodale et al., 1997; Wilson, 1997b; Rapert and Wren 1998; Sin and Tse 2000; Glisson and James 2002; Hartline et al., 2002; Bellou; 2007) have also investigated to some extent the role that cultural elements play in service delivery. Studies such as these provide a literature-based rationale for attempting a study which utilises

organisational culture as the theoretical lens for studying the antecedents of service quality.

## 1.3 Culture and Climate: A Distinction

"The first priority for research on culture is to be clear about what it means." (Omstrom et al., 2010: 12).

Therefore, before discussing in more detail the gaps in the literature which drive this study, and the specific research questions of this dissertation, it is important to highlight a key distinction between two organisational constructs used widely in the services marketing and management literature. These constructs are climate and culture.

It is unlikely that any study focusing on culture's effects on performance can be conducted without some reference to organisational climate. While organisational culture and organisational climate both refer to the social context of organisations (Denison, 1996), there is need to distinguish between them, because many researchers have confused the two (Desphande and Webster, 1989; Denison, 1996).

Schneider and Rentsch (1988) describe culture at the most basic level as "why things happen the way they do" versus organisational climate, "what happens around here". Culture, as conceptualised by researchers consists of basic assumptions, values, norms and behaviours (Hatch, 1993).

Schneider et al. (2009) further suggest climate as the meaning employees attach to the policies, practices, and procedures and the behaviour that gets rewarded, supported, and expected in an organisation. Organisational climate therefore differs subtly from organisational culture because its focus is on the behavioural processes of the organisation (Desphande and Farley, 2004). In other words, the focus of climate studies is on behaviours, specifically, management behaviours and the perceptions of employees about such behaviours; i.e., psychological climate.

"Organisational climate … can be viewed as primarily the surface layer of culture (e.g., management practices, cultural artifacts, patterns of behaviour)" (Omstrom et

al., 2010: 12).Therefore, any study of culture will also reflect properties of climate. To quote Denison (1996) "culture refers to an evolved context, within which a situation (climate) may exist". Based on this understanding, climate can be conceptualised as embedded within culture (Denison, 1996; Ashforth, 1985; Saffold, 1998).

The focus of this study is therefore not only on what happens (behaviours) but also on "why things happen the way they do" (assumptions, values and norms). Focusing on these deeper levels of culture is important in order to investigate more comprehensively how the social context in organisations drives behaviour. By positioning the study within the broad framework of culture, this research has the potential to investigate different paths that lead to quality service delivery and add theoretical insights not currently available in the literature.

## 1.4 Organisational Culture and Service Delivery

A key issue in service organisations is ensuring that customer contact employees serve customers well. Therefore understanding what drives their behaviour is extremely important to managers. Of the many studies that have addressed antecedents of service delivery, the majority have focused on the individual employee. In other words, more studies detail how individual employee attitudes such as commitment and satisfaction arise from managerial actions and how such individual attitudes and perceptions lead to individual actions. Marketing control (Hartline et al., 2000) and social exchange theories (Bettencourt et al; 2005) have been predominantly used to argue why employees would perform in a service-oriented manner. The basic reasoning here is that managerial actions have a direct effect on employee attitudes and behaviours, while these behaviours are the prime determinants of customer perceptions of service.

This study argues that, in addition to the focus on the individual, the field of services marketing can benefit from a more socially oriented approach. In this light, one area that has yet to receive sufficient attention is how shared or collectively held perceptions and attitudes affect service delivery in an organisation. Edvardsson and Enquist (2002:153) argue that "different aspects of culture such as shared values and shared meanings have not been given much attention in empirical studies" even

though the "energy and direction of an organisation" may be highly dependent on these elements.

The importance of service culture is further underscored by its inclusion as one the current research priorities of the Journal of Service Research (Ostrom et al., 2010). This is particularly welcoming as studies adopting organisational culture as a theoretical lens for the study of antecedents to service quality have been relatively scarce. Goodwin (1996) reveals that, "while the climate metaphor has been widely accepted, few researchers have explored cultural aspects of service".

Culture serves as a mechanism for social control (Jaworski, 1988; O'Reilly and Chatman, 1996), and it is in this vein that a service-oriented culture is thought to be critical for organisational success (Parasuraman, 1987; Kennedy, et al., 2002; Siehl, 1992). Siehl (1992) and Parasuraman (1987) argue that the intrinsic characteristics of service delivery, such as intangibility and customer contact, make culture; i.e.; shared values and norms) critical for good service delivery. Culture helps to fill the gaps between what organisations can train members to do and what they must do to meet customer expectations across a variety of situations. Consequently, service firms hoping to excel at service may need to rely heavily on shared cultural values and norms, to direct members' actions (Siehl, 1992). This view is most succinctly stated by Castro et al (2005: 654) who suggest that delivering high levels of service quality depends on "an organisational culture in which the values, norms and symbols favouring the continual performance of service quality permeates the whole firm".

It is therefore surprising that, while there is anecdotal reference about the importance of culture for service delivery, there is a relative paucity of rigorous academic research linking service culture and performance. This paucity of rigorous and systematic research on service culture and performance means that practitioners are unable to fully assess the extent to which service oriented beliefs, norms and behaviours actually permeates their organisations and how these elements relate to organisational performance. If such an assessment can be made, causal relationships among these elements could be identified, suggestions made, and interventions implemented to ensure consistently excellent service (Kennedy et al, 2002). In view

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of this there has been a recent call for more rigorous and systematic research "to probe organisational cultural antecedents to best in class service practices and behaviours" (Lytle and Timmerman, 2006:145).

As a step forward in this direction, this study develops a social context-sensitive approach to studying the determinants of service delivery. This study seeks to assess how collectively held or shared perceptions and about service delivery; i.e., service culture develops within an organisation and how the relationships among culture elements affect service delivery and ultimately organisational performance.

## 1.5 Research Gaps

While there have been previous studies which attempt to link culture and service delivery, a systematic review of the literature shows a number of gaps in the studies linking culture to service delivery. These gaps are what make this study vital. The next few sections highlight the important areas where more research work needs to be undertaken and consequently how this study attempts to address these issues.

### 1.5.1 Gap 1: The Nature of Organisational Culture

The first gap relates to the attention that has been given to the nature of the organisational culture construct when linking it with service quality and other performance outcomes. As noted by Omstrom et al (2010:12).

*"This widely accepted principle of service excellence is far more a matter of faith than empirical proof. One would be hard pressed to cite published empirical studies that establish the linkage between service culture and either customer satisfaction or financial success when organisational culture is defined and measured consistent with the academic literature".*

Two aspects of this nature of culture are of particular importance in investigating the relationships among culture, service quality and financial performance.

### 1.5.1.1 The Multi-Layered Nature of Culture

The first issue relates to the lack of comprehensiveness in the way culture has been assessed in previous studies. Few studies have paid much attention to the multi-layered nature of organisational culture (Schein, 1992).

Organisational culture has been defined as "the pattern of shared values and beliefs that help individuals understand organisational functioning and thus provide them norms for behaviour in the organisation" (Deshpande and Webster, 1989 : 4). Organisational culture is often described as consisting of the following distinct but interrelated layers- assumptions, values, norms and behaviours (Homburg and Pflesser, 2000; Schein, 1992). Assumptions refer to an organised pattern of knowledge that an individual or a group holds to be true. Values are "a conception, explicit or implicit, distinctive of an individual or characteristic of a group which influences the selection from available modes, means and ends of actions" (Kluckhohn, 1951:395). Norms refer to expectations of behaviour appropriate for members of a system (Katz and Kahn, 1966). Behaviours refer to actions of organisational members with an instrumental function (Trice and Beyer, 1993).

Researchers have identified strong relationships among these layers. Assumptions have been found to lead to value systems consistent with the assumptions (Hatch, 1993; Gordon, 1991). The relationship among values, norms and behaviours has been described in the following manner "behaviours are driven by norms prescribing and sanctioning these behaviours and values in which the norms are embedded" (Katz and Kahn, 1978:43). The behaviours of organisational members in turn directly influence organisational performance.

However, while some of these linkages have been empirically validated in a marketing context such as by Homburg and Pflesser (2000) in their conceptualisation of a market-oriented culture and by Kwon et al. (2000) in their study of cultural antecedents of relational role behaviours, it has never to the best of the researchers knowledge been utilised in a study linking culture and service quality. This is quite surprising given that, it has been argued that, understanding the interactions among these elements can improve understanding of the process through which culture

ultimately results in organisational performance outcomes (Homburg and Pflesser; 2000).

Many previous studies in this area have tended to focus exclusively on organisational values when conceptualising culture and linking it to organisational outcomes (e.g. Kennedy et al, 2002). Other studies, particularly in the service climate and service orientation areas have focused on the link between behaviours of both management and employees and performance (e.g. Schneider et al., 2009; Lytle and Timmerman 2006).

However, such narrowness of focus; i.e., equating the whole concept of culture with values or behaviours (Desphande and Webster, 1989; Halliday, 2002) goes against conventional understandings of culture, which lay emphasis on how cultural elements "tend to be very intimately associated and influence one another" (Kluckhohn, 1942: 65). The question thus arises as to whether studying isolated cultural elements tends to produce a severely limited understanding of the organisations involved. For instance, it has been argued that measuring culture as values lacks analytical strength and richness especially as values do not directly influence performance outcomes (Pettigrew 1985, Saffold; 1988).

Trice and Beyer (1983: 653) argue that, "if cultural elements interact closely, a more comprehensive approach to analyzing organisational culture would yield better results". Culture researchers suggest that measurement of single, discrete culture elements presents an incomplete picture of what drives performance, and insist that, the richness of studies linking organisational culture to performance can be improved when researchers devote more attention to how various cultural elements interact to create performance outcomes (Saffold, 1988; Homburg and Pflesser, 2000). In other words "an adequate culture-performance framework must examine how specific culturally conditioned processes contribute to outcomes" (Saffold, 1988: 552).

This study suggests that for a comprehensive view of the service or customer focus of an organisation, it is necessary to investigate the shared values of organisational members, the antecedents of these values as well as the mechanisms that link values to behaviours (Earley and Mosakowski, 2002). Such an approach can document more

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comprehensively "the continuum of causes and effects necessary for a more complete understanding" (Kennedy et al, 2002: 161) of the organisation.

**1.5.1.2 The Multi-Faceted Nature of Organisational Culture**

Another feature of culture which has not been sufficiently taken into consideration in previous studies about culture and service is its multi-faceted nature (Schein, 1992). Although culture has for a long time been recognised as a multi-faceted construct, this characteristic of organisational culture has only recently begun to receive closer empirical attention within the marketing literature. Facets of organisational culture relate to the shared perceptions among members of an organisation about aspects of the organisation that inform behaviour within a particular role or context (Zohar and Luria, 2005). Facets which have received empirical attention include market orientation (Homburg and Pflesser 2000), innovation culture, (O'Cass and Ngo, 2007), technological orientation, (Han et al 2001) ethical culture, marketing culture, (Webster, 1995) safety culture, (Zohar and Luria, 2005), competitive culture, (Noble et al, 2002) and service culture (Bitner et al, 1990, Wilson, 1997).

Since culture is related to various aspects of organisational functioning, different facets of culture are relevant for different organisational goals. Saffold (1988) argues that a particular cultural feature may not affect all performance related organisational processes. However, when linking culture to service delivery and customer-perceived service quality, many previous studies, (e.g. Glisson and James, 2002) have focused on the overall culture of the organisation. This approach is represented by Figure 1.1.

Conceptualising culture in global terms may mean that aspects of the organisation's culture which are not relevant to the specific organisational phenomena being investigated are included (Detert et al., 2000; 2003; Meglino and Ravlin, 1998). This is because general measures of culture may include elements which may be theoretically irrelevant to the specific aspects the researcher is interested in (e.g. including values not relevant to interpersonal interactions to predict interpersonal behaviour). Using non-relevant elements to predict outcomes may lead to erroneous conclusions about organisational processes and phenomena (Meglino and Ravlin, 1998).

Furthermore, linking the general culture to service outcomes, presents a situation where elements which are most critical for service quality may be omitted or not given sufficient attention. This argument is clearly expressed by Detert et al., (2003) who argue that although beliefs regarding service and customer focus are undeniably key aspects of quality management, most extant instruments for organisational culture do not cover these aspects. Consequently, conclusions drawn from studies linking general culture to service outcomes may not accurately reflect reality.

This study argues therefore, that, for theoretically and practically relevant assertions about service culture and performance to be made, researchers and practitioners must be able to accurately assess an organisation for the *"values, norms and symbols favouring the continual performance of service quality"* (Castro et al., 2005: 654). However, no measures currently exist in the literature to assess assumptions about service quality, the value placed on service quality and service quality norms. Service oriented behaviours (e.g. Bettencourt and Brown, 2003) and to some extent service or customer-oriented beliefs have been measured previously in the literature. For instance, Kennedy et al. (2002) conceptualise the customer mindset as customer-oriented beliefs of employees. However, their measures are not wholly service-specific.  By developing measures for these elements and assessing their interrelationships, this study aims to contribute both to theory and practice. Figure 1.2 details the approach adopted for this study.

Service culture is formally defined as the facet of an organisation's overall culture which includes shared assumptions about service quality, values related to service quality as well as the norms that guide the service behaviours of organisational members *(*adapted from Deshpande and Webster, 1989: 4).

## 1.5.2 Gap 2: Level of Analysis

The second question of interest in this study primarily concerns how service culture is assessed in empirical studies. This question relates to the appropriate level of analysis for service culture.

**Figure 1.1 A Classificatory Approach to the Relationship between Culture and Service Quality**
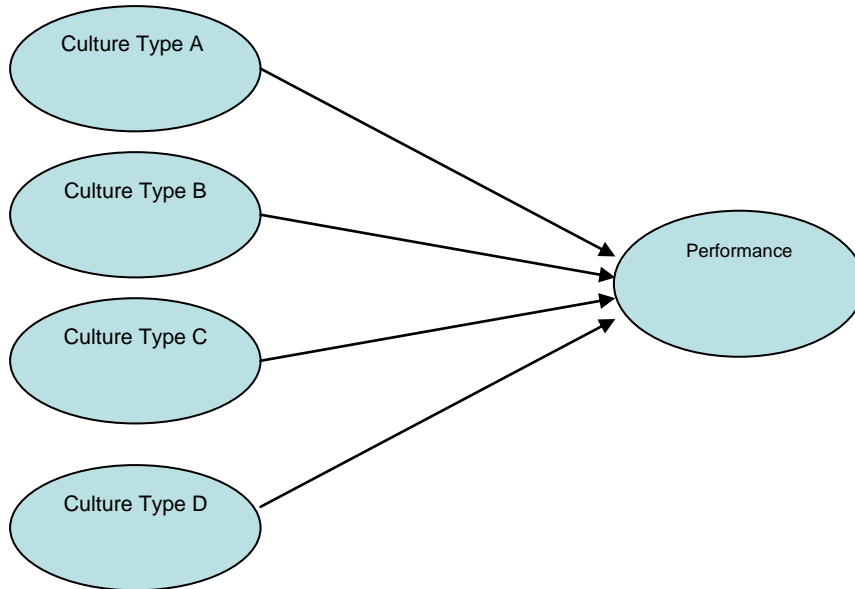


**Figure 1.2 A Facet-Specific Approach to the Relationship between Culture and Service Quality**
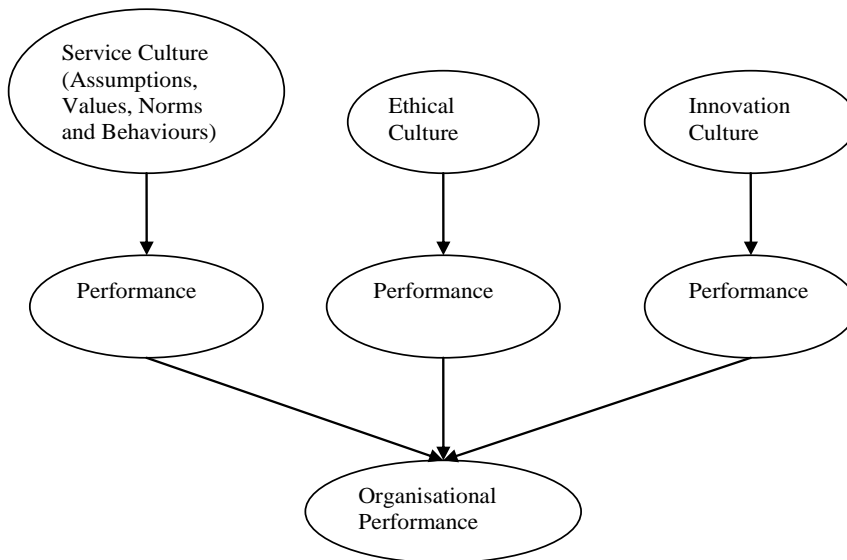


Culture exists within groups (Glisson and James, 2002); where the term "group" may refer to organisational subgroups or to the organisation as a whole. In other words, it is possible to conceptualise and assess any culture facet at the organisational level or

at subgroup level (Jaworski, 1988). A key issue of interest to researchers therefore is, whether organisational culture should be assessed as a property of the total organisation or of groups within the organisation (Jaworski, 1988; Desphande and Webster, 1989). In answering this question, three different perspectives have been adopted by researchers when assessing an organisation's culture: integration, differentiation and fragmentation (Martin, 1992).

The integration perspective sees culture as a unitary phenomenon in the organisation (Martin, 1992). This perspective assumes that perceptions, beliefs, norms and behavioural manifestations are uniform across the organisation. The differentiation perspective of organisational culture, on the other hand, suggests that organisations are made up of functional and hierarchical subcultural groups (Martin, 1992; Sackmann, 1992). These groups, though having an overriding cultural umbrella, may differ from one another in terms of their norms and behaviour. Some researchers have argued that cultural differentiation is the rule while unitary cultures are exceptions (Van Maanen and Barley, 1985).

From a hierarchical perspective, organisations can be divided into management and employee groups. In these groups, it is possible that there may be differences in interpretations and perceptions of organisational goals and expectations, giving rise to subcultures (Saffold, 1998; Schein, 1990). Different employee groups may also differ in terms of norms and therefore in terms of behaviour (Saffold, 1998). Assuming the potential that such differences exist among groups, it is important that they are taken into consideration if valid assertions about culture and more importantly its effect on performance are to be arrived at. This in essence may mean that, for most studies, the appropriate level of analysis for culture would be the sub-group level and not the firm level.

Many previous studies linking culture and service quality adopt an integration perspective of culture (Martin, 1992). From this perspective, it is assumed that senior management's articulation of their organisation's culture corresponds to the actual culture in every group and at every level in the organisation. However a key informant's perspective of a firm's culture may not represent the reality within the organisation (Lytle and Timmerman, 2006). Studies demonstrate that the perceptions

of executives routinely differ from that of operational-level employees (Lytle et al, 1998). Senior management's articulation of their firm's culture may relate more to what they perceive as the culture among senior managers rather than what operates among employees. To understand service culture in organisations, researchers will need to assess the culture that actually exists at the employee level.

*"Rather than investigating how an organisation's generalised culture impacts upon performance it may frequently be more accurate to study how its multiple subcultures interact to influence outcomes"* (Saffold 1998 : 548).

Recently, researchers have begun to realise, that, multiple assessments of culture within organisations provide a clearer picture of organisations, and so have advocated for more attention to be given to subgroup perspectives about culture in empirical marketing studies. For example, Lytle and Timmerman, (2006) in their study on service orientation, measure the service orientation of the whole organisation through employee as well as management responses. However, they do not (in similarity with many previous studies) investigate the relationship between service orientation at the managerial level and at the employee level. Furthermore, they do not account for possible differences between management and employee groups in their study. They nevertheless suggest that "additional research is needed to better understand the relationship between an organisational unit's level of service-orientation and the overall corporate organisational service orientation" (Lytle and Timmerman, 2006:145).

By assessing culture within relevant organisational groups, researchers and academics can more accurately assess the extent to which service culture elements permeate an organisation's culture. Furthermore, because different organisational performance outcomes may result from the behaviours of individuals in different organisational groups, a differentiation framework aids in identifying the within-group antecedents of group behaviour and performance. For example, employee service quality is typically a function of the actions of customer-contact employees (Bettencourt and Brown, 2003) and management service quality is typically a function of management actions (Chiou et al, 2004). The assessment of service culture within organisational groups enables the researcher to take into account the extent to which group dynamics

and social control ; i.e., "the prevailing social perspectives and patterns of interpersonal interactions within subgroups in the firm" (Jaworski 1988:27) affect group behaviours and organisational performance (Earley and Mosakowski, 2002).

While there has been some research which focuses on employee-level service culture (Wilson, 1997; 2001; Glisson and James, 2002), service culture within top management teams has rarely been investigated (Andrews and Rogelberg, 2001). Furthermore, no study has simultaneously assessed service culture, both within management and employee groups, and linked them to service performance. This study fills that gap.

### 1.5.3. Gap 3: Transmission of Service Culture

Researchers in the fields of culture, leadership and organisational identification have variously indicated that the values of an organisation and by extension its culture are largely determined by its leaders (Selznick, 1957; Hofstede, 1988). Furthermore, they suggest that, if organisations are to survive and succeed, values promoted by founders and significant leaders of an organisation must permeate the norms and behaviours of organisational members to some degree (Hofstede, 1988; Selznick, 1957; Hambrick and Mason, 1984; Wieseke et al, 2009).

The question of importance therefore, is how the abstract ideal of service quality is disseminated within the organisation so that it ultimately permeates the actions of customer-contact employees. In essence a key aim of this study is to identify the key relationships or paths that account for this transmission process. A better understanding of the key relationships that account for culture transmission can guide practitioners in making the interventions needed to ensure that a strong service culture exists within their organisation.

As indicated earlier, service culture both at the management and employee level, may be assessed in terms of service-related values, norms and behaviours. The question of interest therefore is "What are the key linkages that connect culture at these levels and what theoretical frameworks can be used to explain the culture transmission process?"

There is increasing evidence in the academic literature that what organisational leaders do, think and feel have an impact on what employees also do, feel and think (Wieseke et al, 2009, Barsade, 2002). In other words there are behavioural, cognitive and emotional routes that account for culture transmission (Wieseke et al, 2009).

The behavioural path or corridor of culture transmission has been accounted for in many previous studies (e.g., Hartline et al, 2000, Sturdy, 2000). This behavioural route "centres on exchange-focused activities" (Wieseke et al., 2009:139) and relates primarily to how managerial actions influence employees intentions and actions. Some researchers also suggest that value systems are a function of the climate created in organisations because, over time, what people see in operation is what they come to believe in and value (Schneider, et al, 2009). The behaviours of management, performed in support of employee service efforts, are therefore critical determinants of service culture at the employee level. A climate for service influences behavioural intentions of employees to provide service (Schmit and Allscheid, 1995) as well as the service-oriented behaviours of customer-contact employees (Gonzalez and Garazo 2004; Sturdy, 2000).

This behavioural route can be theoretically explained from a social exchange theory perspective. Basically: "a person for whom another has done a service is expected to express his gratitude and return a service when the occasion arises" (Blau, 1964: 4). Management support for employees leads to intentions on the part of employees to reciprocate by serving customers well. In essence "by addressing the issues of recruitment, training and support services, a company can establish a more customer-focused service culture" (McDonalds et al., 2001: 347)

However, as previously mentioned, there is evidence that what leaders feel and think also influence employees (Wieseke et al., 2009). Values represent what leaders feel and think. Few studies have however empirically investigated a more direct route where management values directly impact on employee-level service culture by influencing the shared service norms of employees. A recent study argues that "there is little empirical research in the internal marketing literature that emphasizes the diffusion of organisational values" (Wieseke et al., 2009:139). In addition therefore to the behavioural route, this study investigates a possible direct route where the service

values of management drive employee service norms. This route of diffusion may be explained by theories of diffusion, social influence and social contagion (Strang and Soule, 1988; Barsade, 2002).

Diffusion theories relate to how attitudes, ideas and behaviours are transmitted among actors in a social system. Two different mechanisms are suggested for the diffusion of managerial values to employees. These mechanisms are cognitive and emotional contagion (Barsade, 2002).

Cognitive contagion entails the transfer of ideas and of cognitive biases. It has its roots in social-information processing literature, which focuses on how individuals are influenced by the attitudes and cognitions of others in their social environment (e.g., Salancik and Pfeifer, 1978). Through the interaction that occurs between managers and employees in organisations, employees are likely to perceive and be influenced by the attitudes and thoughts of managers about service quality. Furthermore, employees may also be influenced at the more subconscious level through emotional contagion processes. Unlike cognitive contagion, emotional contagion is less conscious and more automatic and involves "someone catching the emotion experienced by another wherein the emotion of the receiver converges with that of the sender" (Howard et al., 2001:189).

Individuals are more likely to transmit their ideas and emotions to others when they are able to express it (Hatfield, et al, 1984). In the same vein, individuals are likely to assimilate others' ideas when they pay attention to the ideas of others. This suggests that leaders and managers are more likely to transmit their ideas and emotions to employees who interact with them because they have more time to express their thoughts and feelings. Furthermore, employees are likely to attend to the thoughts, feelings and emotions of leaders because they depend more on their managers than vice-versa (Hatfield et al, 1994; Sy et al., 2005). In other words, managers are likely to be key referents (Festinger, 1954), whose ideas shape the ideas of employees. Managers' ideas are therefore likely to be "contagiously" transmitted to employees. In this way, the perceptions and feelings of employees about service are likely to be influenced by managers' opinions and feelings about service quality. Social contagion

thus suggests a direct link between managerial ideas about service quality and employee ideas about service quality.

Therefore in addition to the behavioural path of culture transfer this study investigates a path accounted for by social contagion and social influence processes. In essence, a key contribution of this study involves simultaneously testing of the conventional behavioural route as well as the social contagion/ social influence route of culture transmission.

### 1.5.4 Gap 4: Service Culture and Organisational Performance

The final question relates to the performances consequences of a service culture. The business literature asserts that organisational culture is a source of competitive advantage and is therefore a significant determinant of organisational performance (Kotter and Heskett, 1992).

Within the marketing literature it is possible to distinguish two types of performance - market performance and financial performance. Market performance is defined as the effectiveness of organisations marketing activities and is measured by items pertaining to perceived service quality, customer satisfaction, customer retention and market share while financial performance refers to organisational performance in financial terms such as profits and return on investment (Homburg and Pflesser, 2000).

In order for a strong service culture to be regarded a source of sustainable advantage for organisations, an understanding of its performance implications is vital. In essence is a service culture significantly related to organisational performance? A study that specifically answers this question is needed to provide a better understanding of the performance related consequences of developing a service culture.

Theoretically, the only element of culture which can have a direct impact on performance is behaviour (Homburg and Pflesser, 2000). In a service culture context, service delivery behaviours of both management and employees are more likely to have this direct effect on market performance. Previous research has extensively

linked employee service behaviours to market performance e.g. perceived service quality, customer satisfaction etcetera (Klein et al., 1995; Liao and Chuang, 2004). The link between customer perceived service quality and economic performance has also been established in the literature (Caruana and Pitt, 1997; Chang and Chen, 1998; Rapert and Wren, 1998; Aaker and Jacobson 1994; Rust and Zahorik, 1993; Rust et al 1995; Kamakura et al, 2002). However, it is possible that service quality performance may not always translate into financial performance. For example while it is often assumed that the display of high levels of service behaviours in frontline employees is always desirable, since it leads to better performance from the perspective of the customer, it has been argued that it is not necessarily always so for the organisation in financial terms (Ackfeldt and Wong, 2006). For example, high levels of service delivery behaviours are associated with higher costs (e.g., consumption of organisational resources) leading to loss of productivity.

While the links between employee behaviours and performance is well established in the literature, to the best of the researcher's knowledge, no single study has *simultaneously* linked various elements of management and employee service culture to both market and financial performance. Therefore the extent to which a service culture contributes to organisational performance is not well established (Omstrom et al., 2010). By focusing on multiple elements of culture, obtained from multiple sources, as well as two types of performance, this study addresses recent calls for testing the links between the organisation, its customers and performance *simultaneously* (Kamakura et al, 2002; Dean, 2004).

**1.6 Summary of Research Gaps**

1. No previous study adopting culture as the theoretical lens for the study of service delivery has comprehensively assessed and investigated the links among service culture elements (i.e., assumptions, values, norms, and behaviour).

2. No previous study on culture and service quality has *simultaneously* examined service culture at the top management and employee levels

3. No previous study has tested simultaneously the behavioural and social contagion paths which link service culture at the management level to service culture at the employee level

4.  No previous study has simultaneously examined how service culture at both management and employee levels relate to both market and financial performance.

Figure 1.3 and Table 1.1 show some of the links which have been explored in previous studies and links which have not been explored.

**Figure 1.3 Overview of Empirical Research on Service Culture and Performance**
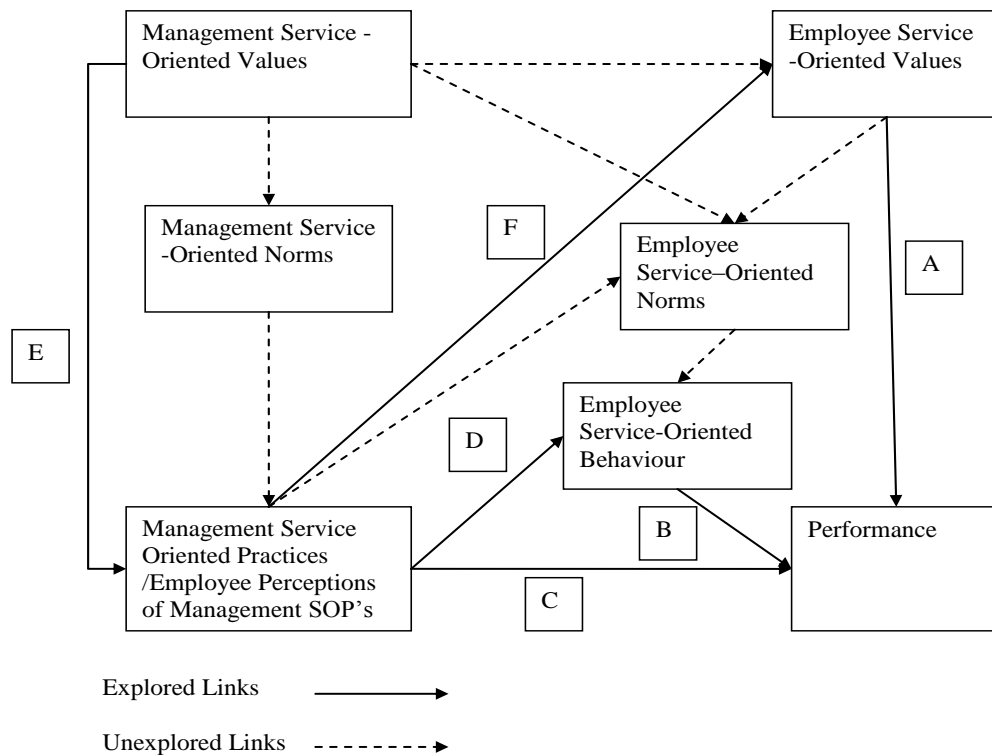


**Table 1.1 Previously Explored Links among Cultural Elements**

|   | Links | Example of Studies |
|---|---|---|
| A | Employee Values and Organisational Performance | Kennedy et al 2002 |
| B | Employee Behaviour and Organisational Performance | Bettencourt and Brown 2003; Babakus et al, 2003 |
| C | Managerial Practices and Organisational Performance | Lytle and Timmerman, 2006; |
| D | Managerial Practices and Employee Behaviour | Babakus et al, 2003; Schneider et al, 2005 |
| E | Management Service Values and Managerial Practices | Andrews and Rogelberg, 2001 |
| F | Managerial Practices and Employee Service Values | Hartline et al, 2000, |

**1.7 Research Objectives**

Having identified the research gaps, the specific objectives of this study can be developed. Essentially, the objectives are focused on obtaining theoretical and empirical evidence regarding the assumptions, values, norms, and behaviours related to service quality, the interrelationships among these elements and their performance consequences. More specifically the objectives of the study are set out below.

1) To develop through a review of the relevant literature, measures for assessing the elements of the service facet of organisational culture.
2) To assess service culture at top management and customer-contact employee levels and examine the relationships among the elements of culture at these levels.
3) To investigate the possible causal relationships that link culture at the management level to culture at employee level. In essence, the objective is to investigate how culture is transmitted from managers to employees.
4) To investigate the relationships among service delivery behaviours of both management and employees and organisational performance

In order to achieve these objectives, a number of steps are required. First, a comprehensive conceptual framework linking service culture to organisational performance must be created. Such a model will rely upon a synthesis of the relevant literature strands (e.g., marketing and organisational behaviour). A thorough review sets the ground for arguing and presenting hypotheses for the interrelationships among the constructs under investigation. Furthermore, a thorough review of the literature can also provide the theoretical background for measure development.

To test the conceptual model, data will need to be collected. For data to be collected, measures may need to be developed, where there are no existing measures, for constructs within the model. In addition, data collection will involve the design and implementation of a particular data collection technique (specifically, a postal questionnaire) with the aim of providing enough data to test the proposed conceptualisation. Analysis of this data will then be required so that the hypothesised relationships between constructs can be tested, reported, and discussed.

This study differs from previous research within the service quality area in two distinct aspects. It is the first study utilising organisational culture as a theoretical lens for the study of antecedents to service quality to develop a multi-layer, model of service culture as a facet of organisational culture. Second, it is the first study to investigate service culture using a cultural differentiation framework and linking culture at the management level to culture at the employee level.

## 1.8 Contributions and Implications of the Study

The implications of the research for both academics and practitioners are as follows. Academically, this study provides much needed work on the relationship between culture and service delivery. As stated earlier, there has been a lack of systematic and comprehensive research in this area. One key contribution of this study is that it makes a clear distinction among different elements of service culture. This unique approach represents a more dynamic and comprehensive way (Hatch, 1993) of conceptualising and assessing service culture in organisations by focusing on multiple elements of the service facet of culture. A model of service culture that includes assumptions, values, norms and behaviours at two different organisational levels serves to validate the assumptions-value-norm-behaviour linkage in a service culture framework. This, to the author's knowledge has not been done in any previous study.

Furthermore by focusing on both the management and employee levels, this research can potentially provide researchers with a framework to assess the extent to which service culture elements permeate organisations and add theoretical insights to service research. While previous studies have examined the relationship between service culture and performance at the employee level (Wilson, 1997), this study is the first to develop a model including two groups in the organisation whose actions are essential for service delivery; i.e., managers and employees.

The study also involves the assessing of the different relationships that link management service culture and employee service culture. Given the importance of service delivery to organisational performance, such research is both timely and warranted. While some of these linkages have been studied previously, this study is the first to investigate *simultaneously* the different relationships that link management service culture and employee service culture. The research serves to indicate which

paths are most significant for the transmission of service culture within the organisation and therefore for ensuring excellent service delivery.

This study also has potential implications for managers. Perhaps the most important one concerns potential guidance implications for decision-making. At a general level, the results of the study can provide managers with a detailed understanding of some of the processes that drive behaviour in organisations and show how cultural elements lead to organisational outcomes. This study also helps in identifying the key relationships that account for the transmission of service culture and highlights how managerial service culture elements relate to service culture elements among employees.

The results of this study should inform managers of the significance of particular cultural elements both at the managerial and employee levels for service delivery. The results should also improve managers understanding of the key links among cultural elements at the top management level and frontline employee level, as well as highlight possible factors that might moderate such across-group linkages. For managers, the research will help to draw attention to those areas where they should focus in order to generate the most beneficial results for their organisation.

Furthermore, knowledge of the extent to which both management and employee behaviours each contribute to overall service performance can aid management in taking necessary steps to improve such behaviours in their organisation. For example, it is possible that the impacts of management and employee behaviour on performance may vary according to industry type; e.g., employee service delivery may have less impact on performance in industries with minimal customer contact. Such knowledge can help top management in directing efforts either towards improving service delivery at the employee or at the company level in order to improve organisational performance.

The measures to be developed clearly allow an organisation to assess service culture at the subgroup or functional group level. From a managerial perspective, measuring service culture at the relevant subgroup level could yield a more accurate profile of the organisation and will allow insight as to the extent to which subgroup culture is in

line with the desired culture. The extent to which employees have embraced a service orientation can be identified; capabilities can be judged; and remedies can be implemented. Thus, necessary efforts and interventions can be tailored to meet the needs of particular units and locations and their effects evaluated.

This study should prove particularly useful for organisations where different and distinct customer-contact employee groups provide service. In such organisations, service provided by each functional group or department will be partly dependent on the service norms within the group. The measures to be developed can assist management in such organisations in monitoring and comparing culture elements in different groups and directing their discretionary efforts towards groups where inconsistencies exist to ensure that overall service quality is not compromised.

**1.9 Thesis Structure**

Following on from the objectives outlined above, Table 1.2 details how the rest of the thesis is organised.

Chapter 2 provides a literature review of research surrounding all constructs examined in this study. This chapter provides a review of literature relating to organisational culture (assumptions, values, norms and behaviours), service quality and the relationship between these in order to develop a facet-specific conceptualisation of service quality culture.

Chapter 3 presents the model for this study and outlines the hypotheses to be tested based on theoretical and empirical findings. This is done by providing hypotheses explaining the expected relationships between constructs. The chapter concludes with the presentation of a conceptual model that is subsequently tested.

Chapter 4 discusses the research methodology used in this study. This chapter includes the theoretical justification for and the description of the research design. Discussion of scale development, the formation of the research questionnaire and operational definitions of all constructs provided are also included in this chapter. Details of both the pilot study and main study are provided, including sampling procedure, data collection method and analysis of non-response. Chapter 4 also

presents the results of the descriptive analysis of the responses from the main survey. It provides the profile and characteristics of individual and organisational respondents using summary statistics. This description is important as it could provide insights for the discussion of the quantitative findings in later chapters. Discussion then focuses upon structural equation modelling as an appropriate technique for data analysis.

Table 1.2 Outline of the Thesis Structure

| | |
|---|---|
| **Literature Review**<br>Organisational Culture and Service Culture<br>Service Quality | **Chapter 2** |
| **Conceptualisation**<br>Hypothesis Development<br>Presentation of Conceptual Model | **Chapter 3** |
| **Methodology and Data Collection**<br>Construct Measures<br>Questionnaire Development | **Chapter 4** |
| **Measurement Model**<br>Scale Development<br>Confirmatory Factor Analysis | **Chapter 5** |
| **Structural Model**<br>Testing Strategy<br>Model Modification Strategy | **Chapter 6** |
| **Discussion**<br>Model Testing Results<br>Interpretation of Results | **Chapter 7** |
| **Conclusions**<br>Theoretical Implications<br>Managerial Implications<br>Study Limitations<br>Further Research Directions | **Chapter 8** |

Chapter 5 details the measure development process adopted in the thesis. A further discussion of scale development procedures is included here with details of the psychometric tests performed on the collected data in order to test its reliability and validity prior to structural modelling. The chapter includes details of exploratory and confirmatory factor analysis procedures carried out, and presents details of final scales to be used in the subsequent chapter.

Chapter 6 presents the results of the overall testing of the structural model. The specification, searching and modification strategy adopted in order to arrive at a model for hypothesis testing is also presented in this chapter. This model is used to inform discussion of the results of the hypotheses testing in the following Chapter.

Chapter 7 presents detailed analysis of the findings from the structural model. Firstly, the Chapter concentrates upon significant findings, before moving on to discussion of non significant findings.

Chapter 8 marks the conclusion of the thesis. Theoretical contributions from the research to the literature are discussed here, as are managerial implications drawn from the results. Limitations of the research are then highlighted. The thesis concludes with identification of possible avenues for future researchers to consider.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Introduction

The purpose of this chapter is to present an overview of the research streams under investigation in this dissertation, with the aim of presenting, summarising, and critiquing prior work in the areas of intra-organisational determinants of service quality and particularly, organisational culture antecedents. Special attention is given to the service quality facet of organisational culture and the elements of service culture.

The chapter is organised as follows. First, an overview of general issues relating to the organisational culture construct is provided. Issues relating to the nature of organisational culture, culture formation, the distinction between culture and climate and organisational culture paradigms are discussed here. Following this, key theoretical issues to consider when linking culture and performance are discussed. Thirdly, a theoretical framework of service culture is developed based on previous theoretical and empirical work in the field. Particular emphasis is placed on the key elements of service culture; i.e., assumptions, values, norms and behaviours as well as the relationships among these elements. The next part of this chapter discusses the process of culture transmission in organisations. In the final part of this chapter, the performance constructs; i.e., perceived service quality, customer satisfaction and organisational performance are discussed.

## 2.2 Culture- An Overview

The study of culture has its roots in anthropology and was translated to the organisational context almost three decades ago (Denison, 1996). Various definitions of culture exist in the marketing and management literatures. Schein (1991:9) suggests that culture is "a pattern of basic assumptions, invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration – that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think and relate to those problems". Trice and Beyer (1983) suggest that culture refers to beliefs, values, norms and symbols shared by a group of people.

Among culture researchers, two specific contexts have received the most attention. These are nations and organisations. Consequently, there have been numerous studies, which have dealt with the conceptualisation, measurement and effects of both national culture and organisational culture (Hofstede, 1983; Schein 1985; Deal and Kennedy 1982). In this study the focus is on organisational culture.

**2.3 Organisational Culture**

Organisational culture refers to the deep structure of organisations, which is rooted in the norms, values and assumptions held by organisational members (Denison, 1996). Deshpande and Webster (1989: 4) refer to organisational culture as "the pattern of shared values and beliefs that help individuals understand organisational functioning and thus provide them norms for behaviour in the organisation". This definition derives from Davis' definition of organisational culture as a "pattern of shared beliefs and values that give members of an institution meaning, and provide them with the rules for behaviour in their organisation" (1984:1).

Organisational culture thus refers to the patterns of assumptions in an organisation, the values that lie beneath what the organisation supports and expects; the norms that underpin the policies, practices and procedures of organisations and which give guidance to the behaviours of organisational members (Schneider, 1988).

Organisational culture has been described as a layered construct, with shared behavioural expectations and norms representing an outer, conscious layer and values and assumptions representing an inner layer that is less conscious to members of an organisation (Rousseau, 1990; Hatch, 1993; Schein, 1992). At deeper level, culture refers to basic assumptions and values and, at a more observable level, norms, behaviour patterns, or style of an organisation that new members are automatically encouraged to follow by their colleagues. Schein (1985) introduces an additional component of organisational culture, which he refers to as "artifacts." These include stories, symbols, arrangements, rituals, and language (Trice and Beyer, 1993).

While some researchers have studied culture by focusing on the manifestation of culture; i.e., behaviours (Trice and Beyer 1993; Schneider et al., 2009), some others

have focused on the deeper levels of culture; i.e., values and assumptions (Schein, 1985). However, it has been argued that for a more complete understanding of organisational culture, it is better to take a holistic perspective; i.e., to focus both on the deeper levels as well as the more visible levels such as behaviours (Sackman, 1991). This, researchers argue, is important both for fully auditing an organisation's culture as well as to understand how culturally conditioned processes ultimately result in performance outcomes for organisations (Hatch, 1993; Saffold, 1988).

### 2.3.1 Culture Formation in Organisations

Schein (1990) suggests that, within organisations, the assumptions and values of leaders are key instruments in culture creation. Culture creation often involves "the modelling by leader figures that permits members to identify with them and internalise their values and assumptions" (Schein, 1990: 112). The beliefs, values and assumptions of dominant figures or founders therefore provide a clear model for how the organisation should function (Schein, 1990).

While leaders continue to attempt to embed their own values within an organisation, the culture of the organisation may also be driven by other parts of the organisation. As such over time, the culture increasingly comes to reflect not only the values of the leaders, but also the beliefs and assumptions of other powerful figures in the organisation.

### 2.4 Climate and Culture

While organisational culture and organisational climate both refer to the social context of organisations (Denison, 1996), there is need to distinguish between them because many researchers have confused the two constructs (Desphande and Webster, 1989; Denison, 1996). Denison (1996: 644) while arguing that the difference between the two constructs is not made explicit in many studies, nevertheless maintains that the theoretical distinction is quite clear.

Organisational climate is associated with "psychological environments in which the behaviours of individuals occurred… it focused on measuring the perceptions of individuals about their organisations, rather than beliefs, values, or norms shared by

groups of people" (Trice and Beyer, 1993: 19). According to Denison (1996: 644), climate refers to "a situation and its links to thoughts feelings and behaviours of organisational members". Climates are therefore temporal and have sometimes been referred to as the "organisational mood" (Turnipseed, 1988). Climate also relates to members perceptions about the extent to which the organisation is fulfilling their needs while culture refers to the values and norms in an organisational unit. Schneider and Rentsch (1988:7) state that "climate refers to …the routines of organisations and the behaviours that get rewarded, supported and expected by organisations".

"Organisational climate … can be viewed as primarily the surface layer of culture (e.g., management practices, cultural artifacts, patterns of behaviour)" (Omstrom et al., 2010: 12). Organisational climate differs from organisational culture because it focuses on the decision-making processes of the organisation, particularly management actions, and to employee responses to these actions (Desphande and Farley, 2004). Culture, on the other hand, refers to an evolved context (within which a situation or climate may be embedded) which is collectively held by group members. Culture refers not just to what happens and how organisational members perceive what happens but on "why things happen the way they do" (Schneider and Rentsch, 1988). Studying culture therefore means that researchers pay attention to the "deeper levels" within the social context of organisations; i.e., norms, values and assumptions.

Glisson and James (2002), drawing upon James et al. (1990), also suggest another distinction. They argue that climate is a property of the individual in an organisation while culture is a property of the social system or work unit. Some authors suggest that climate, unlike culture, is only the view of the organisation's members, rather than a unique organisational attribute. This distinction, they maintain, is important, especially when measuring both constructs in organisational studies. Researchers therefore suggest that in measuring culture the group should be the referent while in measuring climate the individual should be the referent (Glisson and James, 2002).

## 2.5 The Importance of Culture

Culture has been variously theorised and empirically shown to influence performance (Barney, 1986; Homburg and Pflesser, 2000). The way in which culture affects performance can be explained in the following manner.

Culture creates a collective identity that helps its members associate themselves with their organisation's policies and mission, and feel themselves a part of it (Hofstede, 1998; Peters and Waterman, 1982). When leaders promote a certain set of values, they create a social energy which influences employees' attitudes and behaviours. This influence on behaviour occurs through the formation of norms of acceptable and unacceptable behaviour; making it clear for organisational members what they should do in a given situation (Kotter and Heskett, 1992; Schein, 1990).

The formation and enforcement of group norms can be explained by social influence (Hackman 1992; Sussman and Vecchio 1992). The social influence exerted by groups is normally recognised in the development and enforcement of norms to control group member behaviour. These norms help organisational members work together to meet customers' needs and respond to external pressures (Schneider and Bowen, 1995). Culture therefore provides structure and control, without relying on formal controls which may lessen motivation and creativity (Jaworski, 1988; O'Reilly and Chatman, 1996).

It is argued that many aspects of organisational life cannot be formally controlled (Jaworski, 1988). Formal controls may not achieve all the goals the organisation desires, especially when behaviours and outcomes cannot be effectively monitored. Shared views, belief systems and shared norms ensure that the actions of organisational members remain consistent with the goals of the organisation even when formal control mechanisms are not available for, or capable of monitoring behaviour (O'Reilly and Chatman, 1996).

## 2.6 Industry Characteristics and Organisational Culture

Gordon (1991) argues that, although culture is unique to an organisation or its subunits, industries exert influences that cause cultures to be developed within specific parameters. Thus, certain cultural characteristics will be widespread among organisations within a particular context, and these characteristics may be quite different from organisations in another context.

Factors, which have been suggested as leading to industry-related differences in organisational culture, include technology, growth and customer requirements (Chatman and Jehn, 1994; Gordon, 1991). For example, Gordon (1991) suggests that customer requirements can be categorised into demands for consistency and novelty. Where customers require novelty, instrumental values such as innovation and creativity, proactiveness, and initiative are more evident.

Chatman and Jehn (1994) distinguish between industry culture and the effects of industry characteristics on organisational culture. This distinction acknowledges that while similarities exist between the cultures of firms within an industry, organisational culture also varies among firms within the industry.

## 2.7 Organisational Culture Paradigms

Organisational culture is a complex concept that has been researched extensively in many different fields. As such there are different ways of conceptualising the construct, as well as different approaches to obtaining information necessary to assess it in organisations.

Smircich (1983) and Desphande and Webster (1989) highlight two broad research viewpoints relating to the substance of organisational culture ; i.e., what the researcher perceives organisational culture to be. Smircich (1983) distinguishes between conceptualisations of culture as a variable and conceptualisations of culture as a root metaphor. Where culture is treated as a root metaphor, it refers to "what the organisation is" while as a variable, it refers to "what the organisation has". These differing viewpoints derive basically from differences in basic assumptions of researchers. As such, researchers within the interpretative paradigm view organisational culture as a root metaphor while researchers adhering to the functionalistic paradigm see organisational culture as a variable (Denison, 1996).

## 2.7.1 Culture as a Root Metaphor

This approach sees organisations as expressive forms, manifestations of human consciousness. Within this broad approach, researchers explore the phenomenon of organisation as subjective experience and investigate the patterns that make organised

action possible. Three perspectives are identified within this approach - cognitive, symbolic and the structural/ psychodynamic perspectives.

The cognitive perspective views culture as a system of shared cognitions or a system of knowledge and beliefs. Organisations are networks of shared meaning or shared frames of reference, organised patterns of thought or paradigms. The symbolic perspective treats cultures as systems of shared symbols and meanings. The focus here is on how individuals interpret and understand their experience and how these relate to action. Within the structural/psychodynamic perspective, culture is seen as the expression of unconscious psychological processes.

## 2.7.2 Culture as a Variable

Here, culture is viewed as what the organisation has, as opposed to what it is (Smircich, 1983). Culture is treated as an independent variable or as an internal organisational variable.

Culture, as independent variable, is seen as a background, explanatory, variable influencing the development of beliefs and managerial practices across countries. On the other hand, where culture is viewed as an internal endogenous variable, organisations are regarded as culture-producing phenomena (Smircich, 1983). Research in this area is based on systems theory framework and culture is often described as the "glue" that holds an organisation together. It expresses the values and the beliefs the organisational members share (Schein, 1985). These values are manifested in norms, myths, rituals, stories, legends, and language. Desphande and Webster (1989) refer to this perspective as the contingency marketing management perspective.

Research into culture in the marketing domain has predominantly been positioned within the perspective of culture as an endogenous variable (Wilson, 2001; Desphande and Webster, 1989). This study adopts this approach.

## 2.8 Organisational Culture and Performance: Theoretical Considerations

In order to arrive at meaningful conclusions from studies linking culture to performance, some important theoretical issues need to be considered by researchers when assessing organisational culture and its relationship to performance (Saffold, 1988). One important issue relates to what elements of culture to assess (Trice and Beyer, 1983; Homburg and Pflesser, 2000). A second important issue relates to whether the researcher should assess a specific facet of the organisation's culture or the general organisational culture (Zohar and Luria, 2005). A third issue relates to a choice of the level of analysis for culture and therefore from whom information is obtained ; i.e., the researcher needs to identify whether it is more appropriate, for the purpose of the study, to examine culture at the firm level or at the group or team level (Saffold, 1988) . These issues are addressed in the following sub-sections.

### 2.8.1 Elements of Organisational Culture

The key elements of organisational culture identified in the literature are assumptions, values, norms and behaviour (Trice and Beyer, 1983; Schein, 1985). In the following subsections these elements of culture are discussed and differentiated from one another.

### 2.8.1.1 Assumptions

Assumptions are fundamental beliefs about how the world operates. Assumptions refer to an organised pattern of knowledge that individuals hold to be true about the world. Within organisations, assumptions can be seen as encompassing the understanding of organisational or group members about the nature and workings of various aspects of reality (Rokeach, 1968).

Schein (1985), suggests that assumptions underlie values. In other words, the values of organisational members are shaped by what they assume to be true. This value-shaping "occurs through the processes of proactive manifestation, through which assumptions provide expectations" (Hatch 1993:662). The expectations generated, then influence perceptions, thoughts, and feelings about what should be seen as important (Hatch 1993:662).

**2.8.1.2 Values**

While there is considerable variation in the conceptualisation of values by scholars in several fields of learning, there however seems to be some consensus on the nature of values. According to Kluckhohn (1951:395), values are "a conception, explicit or implicit, distinctive of an individual or characteristic of a group of the desirable which influences the selection from available modes, means and ends of actions". Building from this idea, Rokeach (1968:124) define values as "…ideals…representing ... beliefs about modes of conduct or ideal terminal modes…" Rokeach (1968) further suggests that values express a preference for one mode of behaviour over another mode or for one end-state (outcome) over another. Central to both definitions is that values reflect ideas or convictions about what is really important and therefore what should be pursued because of its perceived worth.

While values may appear similar to assumptions, there is some distinction between the two concepts. An assumption is an idea about the nature and workings of various aspects of reality; an organised pattern of knowledge that an individual holds to be true about the world (Rokeach, 1968). A value, on the other hand, reflects an idea of what should be pursued because of its perceived benefits. Values are therefore beliefs, which provide an elaborate and generalised justification both for appropriate behaviour and for the activities and functions of the system (Katz and Kahn, 1978).

When values are viewed as ideas about preferred modes of behaviour, they are termed instrumental values (e.g., honesty, helpfulness). On the other hand, values which refer to preferred end-states are terminal values (e.g. happiness). Rokeach (1968) propose a functional relationship between instrumental and terminal values wherein instrumental values facilitate the attainment of terminal values. In this sense, instrumental values have a lot in common with behaviours. This perhaps explains why in contrast to end-states of existence, instrumental values have been more widely used within the management and marketing literatures to describe and measure an organisation's culture (Schein, 1985; Meglino and Ravlin, 1998).

However it is important to note that instrumental values are not synonymous with behaviour. Instrumental values are ideas about preferred ways to act while behaviours

are actions. While instrumental values theoretically provide the rationale for behaviours, values are only one of many factors that affect behaviour. Therefore clearly distinguishing between values and behaviours, when measuring them, is of importance to researchers (Bardi and Schwartz, 2003).

### 2.8.1.3 Norms

Norms are the informal rules that groups adopt to regulate and regularise group members' behaviour (Feldman, 1984; Flynn and Chatman, 2003). Norms can also be defined as the expectations of any given role. Put differently, organisational norms refer to the expectations regarding members' behaviours sanctioned by a group or the organisation, and thus have a specific 'ought' or 'must' quality (how to do things). Norms detail expectations regarding actions that need to be performed in order to arrive at the organisations preferred end states.

Within organisations, there are accepted standards of behaviour that are shared by members of different groups for a particular role, with the failure of a member to meet the role expectations of the group ultimately resulting in an attempt to correct the individual's behaviour (Feldman, 1984). The interpretation of group member's of how they are supposed to behave in a given situation determines the likelihood that they will engage in certain types of behaviors (Hackman, 1992).

The role of norms, as a form of social control, is well established in the sociology, organisational behaviour and marketing literatures (Sussmann and Vecchio 1982; Jaworski, 1988; O' Reilly, 1989). Social control extends to norms of performance within groups, with the direction for control coming from shared values and a mutual commitment towards a group goal. In other words, system norms derive from the values of the system and make explicit the form of behaviour appropriate for members of the system (Katz and Kahn, 1966). Norms differ from values by "a higher degree of specificity and a higher relevance for actual behaviours" (Katz and Kahn 1978: 43).

Norms are likely to be formed and enforced only with respect to outcomes that have greater significance for the group; i.e., behaviours that help to fulfill or achieve a

collectively desired end state (Feldman, 1984). Therefore, strongly held values are more likely to be represented in stronger norms to ensure that desired end-states are achieved.

Essentially, norms vary along two dimensions (O' Reilly, 1989): the intensity; i.e., the amount of approval/disapproval attached to an expectation and crystallisation; i.e., the prevalence with which the norm is shared. The importance of norms in organisation therefore is not simply their presence but their strength; i.e., the extent to which particular norms are emphasised and the efficacy of such norms in ensuring conformity to organisational goals. In groups where there are strong norms, there is direct or indirect group pressure to perform in certain ways and also sanctions for deviance (Feldman, 1984). Such pressure can come in the form of "a social occasion wherein one individual exhibits behaviours emits verbal utterances, and so on, with the intent of altering the behaviour of another or others to a desired end" (Sussmann and Vecchio 1982:177).

### 2.8.1.4 Behaviour

Behaviours are the most visible layer of culture and refer to the actions of organisational members. Within organisations behaviours may relate to the interactions among organisational members or may relate to the actions directed at customers.

While behaviour is mostly treated as an individual phenomenon in organisations, theoretical support for considering behaviour at the group level can be found in the marketing literature on informal social controls (Jaworski, 1988) as well the social influence literature, and the attraction, selection, and attrition (ASA) framework of Schneider (1987). These streams of literature show that social interaction often leads to the convergence of individual perceptions and behaviours (Hardin and Higgins, 1995) and support the idea that behaviour can be assessed at the group level.

Social control suggests that groups will attempt to regulate behaviour through norms. Furthermore, through processes of social influence, group members will be motivated to conform to group norms of behaviour. The ASA suggests that over time, people

within an organisation become more similar in their dispositions and, consequently, more homogenous in behaviour (Schneider and Goldstein, 1995). This is because the individuals in an organisation are affected by the same situational influences, and thus their attitudes should converge. Finally, through ASA processes, group members can be expected to display similar levels of performance, thereby supporting a focus on a group level of analysis (George 1990). While Schneider based his argument for the ASA model primarily at the organisational level of analysis, subsequent research suggests that ASA processes operate at the group level of analysis as well (George 1990).

### 2.8.1.5 Links among Cultural Elements

As detailed in the first chapter of this thesis, many previous studies have shown a tendency to limit the study of culture to the study of core values. This tendency to measure culture in such simple terms when linking it to performance has been called reductionism (Halliday, 2002).

It has been suggested that studies of culture and performance can benefit by paying better attention to the processes that links culture to performance. The key argument here is that "an adequate culture-performance framework must examine how specific culturally-conditioned processes contribute to outcomes" (Saffold, 1988:552). Pettigrew (1985:44) suggests that, in order to fully appreciate the process through which culture impacts on performance, there is a need to focus on how cultural elements are associated and influence one another to produce performance outcomes. In line with such recommendations, culture is conceptualised and assessed in this study as a multi-layer construct consisting of assumptions, values, norms, and behaviour.

This conceptualisation is consistent with the definition of culture suggested by Desphande and Webster (1989). The relationship between these elements of culture has been recognised in the basic theory of organisational behaviour suggested by Katz and Kahn (1978:43) which suggests that, "behaviours depend on norms prescribing and sanctioning these behaviours and values in which the norms are embedded". This

value-norm-behaviour conceptualisation has been utilised in previous studies within the marketing discipline (e.g. Kwon et al., 2001; Homburg and Pflesser, 2000).

## 2.8.2 Facets of Organisational Culture

The term organisational culture, when used broadly, represents the totality of the assumptions, values, norms, and behaviours in an organisation. A number of authors have proposed that corporate cultures correspond to a range of ideal types. The classification approach (Lim, 1995) to organisational culture has led to a number of quantitative methods for measuring the culture of organisations (Cooke and Rousseau, 1988). Widely used culture questionnaires include Cooke and Lafferty′s (1983) Organisational Culture Inventory, the Organisational Culture Profile, (O′Reilly et al., 1988).

Some researchers tend to assess the general culture of organisations when linking culture and service outcomes. In such studies, organisations are classified into global cultural types and the relationship between these culture types and service behaviours or customer perceived service quality are assessed (Glisson and James, 2002; Corbett and Rastrik, 2000; Klein et al., 1995). Such studies generally utilise scales such as the Organisational Culture Inventory (Glisson and James, 2002) and the Organisational Culture Profile (Klein et al., 1995) and suggest that particular types of cultures have stronger relationships with perceived service quality and organisational performance than others. For instance Corbett and Rastrik (2000) and Glisson and James (2002) suggest that a "constructive culture" has a stronger relationship with perceived service quality than a "passive" "defensive" or "aggressive" culture.

While these classifications have the potential to provide a common framework for differentiating and comparing cultures, they do not help in analysing the processes involved in culture formation and transmission (Furnham and Gunter, 1993). An additional problem is that it is difficult to ascertain exactly what part of the culture affects specific performance outcomes. This is because not every culture element may affect all performance outcomes in the same direction (Denison, 1996). It becomes difficult therefore, to establish how the general culture affects the specific outcome been studied. In other words, there may be confusion as to "what" within the culture

helps to produce the observed outcome. From a managerial point of view, it may be problematic therefore to isolate the aspects of culture that need to be managed within the organisation.

From a theoretical point of view, certain aspects of the general culture may not be particularly relevant to the phenomenon been studied. For example, including values that are not relevant to interpersonal interactions in a model linking culture to interpersonal outcomes may lead to erroneous conclusions about organisational processes and phenomena (Meglino and Ravlin, 1998). In the same vein, it is likely that salient elements may be ignored. Detert et al. (2003), for example, argue that while values and beliefs regarding customers, service quality and customer focus are undeniably key aspects of service quality management, most measures of organisational culture do not cover these aspects.

A facet-specific approach to assessing culture overcomes these limitations. Facets of organisational culture relate to the shared perceptions among members of an organisation about aspects of the organisation that inform behaviour within a particular context (Zohar and Luria, 2005). In recent years, researchers have begun to pay closer attention to the different facets through which the culture of an organisation can be assessed. For instance, Webster (1995) refers to marketing culture as the "component of a firm's overall culture that refers to the pattern of shared values and beliefs that help employees understand and "feel" the marketing function and thereby provides them with norms for behaviour in the firm (1995:7). Other facets and sub-facets which have received empirical attention include market orientation, (Homburg et al. 2003), innovation culture, (O'Cass and Ngo, 2007), technological orientation, (Han et al. 2001) ethical culture, safety culture (Zohar and Luria, 2005), competitive culture (Noble et al., 2002) and service quality culture (Bitner et al., 1990; Dobni, 2002). Researchers have also devised instruments to assess the elements of these different facets of culture.

The need for such facet-specific assessment of organisational culture is particularly important when one discrete aspect of organisational functioning is of interest to the researcher. Some researchers have suggested that, as much as possible, researchers should focus on facets, as long as such facets are theoretically meaningful and

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relevant to the phenomena been addressed (De Jong et al. 2005; Schneider et al., 2009). Therefore, since the key focus of this research is the link between culture and service delivery, it is vital to focus on elements which can be shown as relevant to service delivery. By focusing specifically on the service facet of organisational culture, the researcher can assess the assumptions, values and norms which favour the continual performance of excellent service.

## 2.8.3 Level of Analysis Issues in Culture Studies

Levels issues have been a source of continuing debate within the literature in organisational studies (Yammarino and Markham, 1992). This is because by their very nature, organisations are multilevel. In any organisation, individuals work in teams, functions, and departments. Thus, levels issues become important in theory development. According to Rousseau (1985:6), researchers, therefore, need to build theories "with explicit description of the levels to which generalisation is appropriate".

Klein et al. (1994:198) argue that "[no] construct is level free. Every construct is tied to one or more organisational levels or entities, that is, individuals, dyads, groups, organisations, industries, markets, and so on. To examine organisational phenomena is thus to encounter level issues". Therefore it is important for researchers to specify both the level of analysis in the theory as well as the measurement level; i.e., whether it is at the organisational, group or individual level. Furthermore, to arrive at solid and meaningful conclusions, theory and measurement need to be congruent and assessed at the same level of analysis.

With regards to levels or units of analysis, one issue of interest to culture researchers is whether culture is primarily and typically a property of the total organisation or a characteristic of groups within the organisation (Desphande and Webster, 1989). In answering this question, three different perspectives have been adopted by researchers when assessing an organisation's culture (Martin, 1992; Wilson, 2001). Martin (1992) draws a distinction between research perspectives that emphasise integration, differentiation and fragmentation.

The notion of the integration perspective holds that a single view exists in an organisation of shared corporate values and the accepted vision of the organisation (Martin, 1992). Martin (1992:12) contends that studies from the integration perspective possess three defining characteristics: "all cultural manifestations mentioned are interpreted as consistently reinforcing the same themes, all members of the organisation are said to share in an organisation-wide consensus, and the culture is described as a realm where all is clear. Ambiguity is excluded". The level of analysis in studies adopting an integration perspective is the firm level.

Some have suggested, largely on empirical grounds, that the integration perspective is unrealistic and have argued for investigating organisational culture using a differentiation approach (Harris and Ogbonna,1998; Wilson, 2001). The differentiation perspective argues that organisational culture is rarely unitary and that, within organisations, subcultures, which may be related, to functional departments, work teams, organisational hierarchies or levels will be present (Trice, 1993; Wilson, 1997; Harris, 1998; Harris and Ogbonna, 1998; Glisson and James, 2002; Hofstede, 1989). Wilkins and Ouchi (1983) suggest that organisational culture is generally best seen as a characteristic of groups rather than the total organisation.

The fragmentation perspective views culture as a myriad of complex relationships in organisations. This approach defines organisational culture as purely ambiguous and not even known by the members of organisations (Martin, 1992). The fragmentation perspective goes beyond the search for cultural agreement and seeks to understand the complexity and interaction between sometimes conflicting subcultures (Harris and Ogbonna, 1998).

It has been suggested that while the differentiation perspective acknowledges subcultural consensus the fragmentation perspective is some sort of negative differentiation because it argues against any form of consensus (Martin, 1992). The differentiation and fragmentation perspectives both acknowledge the existence of cultural pluralism and interpretation and therefore emphasise the need for multiple interpretations as a key aspect of organisational analysis (Harris and Ogbonna, 1998).

Major methodological differences among researchers adopting any of the three perspectives have also been observed (Wilson, 2001). Much of the research from an integration perspective has involved small-scale qualitative research where the interviews have only been undertaken with the senior levels of selected organisations or quantitative surveys where only the views of top management have been assessed (Wilson, 2001). Such a methodological approach has been criticised for providing an incomplete picture of an organisation's culture, reflecting only what management see (Martin 1992).

Most of the studies identifying a differentiation perspective have tended to be quantitative, interviewing large numbers of subjects, using some form of standardised research instrument. This approach to culture research has sometimes been criticised for its lack of depth and its inability to assess the unique characteristics of an organisation (Schein, 1991). The proponents of the fragmentation perspective have tended to research specific incidents or issues within organisations (Martin, 1992).

It has been suggested that, in order to fully understand an organisation' culture, a focus that takes into consideration all three perspectives will provide the most useful theoretical and managerial insight (Martin, 1992; Wilson, 2001). However, research that combines all three perspectives might be difficult, especially where the aim is to make generalizations, as is often the case in marketing research. Therefore, very few studies have adopted all perspectives within a single study. It is more common for researchers to adopt either an integration or differentiation perspective.

One key objective of this study is to investigate culture transmission from managers and organisational leaders to employees. This objective suggests that a differentiation approach to culture is needed. As such, culture is assessed at the group level with the assumption that some level of cultural consensus, which is vital for organisational survival (Selznick, 1957), exists within each organisation.

### 2.8.3.1 Differentiation and Organisational Subcultures

Subcultures have been defined as a subset of an organisation's members who interact regularly with one another, recognise themselves as a distinctive group within an

organisation, share a set of work-related problems, and routinely take action on the basis of shared understandings unique to the group (Van, Maanen and Barley, 1985; Hatch, 1993). Differences in these factors may mean that the normative expectations and behavioural patterns of one organisational group may vary from those of another group in the same organisation (Saffold, 1988; Sackmann, 1982).

The main types of subcultures identified in organisations are horizontal (functional subcultures, departmental subcultures) and vertical (differentiated by hierarchical level) subcultures (Sackmann 1992; Hofstede, 1998; Van Maanen, 1991, Wilson, 1997a; Trice and Beyer, 1993). Sackmann (2003) also suggests the existence of other types of subcultures, which may affect organisational functioning, but which are neither hierarchical nor functional. Examples include subcultures formed on the basis of the ethnic origin (Gregory, 1983) or gender (Eberle, 1997) etcetera. However the influence of functional domains and hierarchies seem to be the strongest in creating subcultures (Sackmann, 2003). According to Sackman 1992:154

"…Professional groups (Gregory, 1983) ...are important influences in the formation of subcultures. They need to be addressed or controlled for in future studies..."

Functional subcultures, as the name suggests, correspond to different functions in an organisation (Schein, 1985). They develop within groups whose members share a similar educational background (e.g. doctors, academics), perform the same tasks or hold similar positions towards external customers e.g. customer service personnel. Departmental subcultures are a subset of functional subcultures and follow organisational structures and borders.

Hierarchical subcultures develop on particular levels of the organisational hierarchy. The main factors that shape them are the manifestations of hierarchy, position and power (Schein, 1986). Kekale et al. (2004) suggest that, in large organisations, the organisational hierarchy is often so branched that similar strong subcultures on the lower managerial levels are very unlikely. As such except for the 'top management' culture, the other main hierarchical subcultures in typical companies are, then, the workers' subcultures (Schein, 1986; Lubatkin et al., 1999). The same scenario may also exist in small organisations where only one or two levels of management exist.

Although subcultures divide organisations into various informal groups with invisible boundaries, in many studies organisations are modeled as having an overriding cultural umbrella where all the subcultures are looked upon as being at least partially reflective of the main culture (Sackmann, 1992; Martin, 1992). This is consistent with the argument that some consensus within organisations is essential if organisations are to function at all (Selznick, 1957).

A differentiation perspective assumes that culture is best assessed at the sub-group level rather than at the organisational level (Wilkins and Ouchi, 1983). Some studies which have linked culture and service quality have assessed general organisational culture or service culture at the organisational level (Klein, 1995), while in others, the team or group level has been the level or unit of analysis (Wilson, 2001; Glisson and James, 2002).

**2.8.3.2 Relevant Sub-Groups for Assessing Service Culture**

Having identified a differentiation approach as more appropriate for this study, a decision needs to be made about the relevant groups for investigating the service facet of organisational culture. Based on a key objectives of the study; i.e., to investigate culture transmission, it is clear that both management and employee levels of service culture are needed. A managerial assessment of service culture is necessary because management service values are the key drivers of service culture (Schein, 1990). Furthermore, because customer-contact or frontline service employees are the major service actors (Grove et al., 2004) or key providers of service in any organisation, it is expected that their views are essential in auditing this aspect of organisational culture.

Both managers and customer contact employees are likely to recognise themselves as a distinctive group within an organisation, are likely to share a set of work-related problems, and may routinely take action on the basis of shared understandings unique to the group (Saffold, 1988; Sackmann, 1992). Within this study therefore, service culture is assessed among managers and among customer-contact employees.

**2.9 Organisational Culture and Service Quality- A Review of Previous Studies**

As stated earlier, only a few studies have linked culture to service quality. These studies are briefly assessed on the key issues which have been discussed in the preceding sections and which are summarised below.

Previous studies are assessed as to which of the elements of culture identified are included in their assessment of culture. Secondly, studies are assessed with reference to the theoretical perspective of culture; i.e., whether an integration or differentiation perspective was adopted, as well as to the level at which culture is measured; i.e., whether information was elicited at the subgroup level or at the organisational level or within multiple groups. Finally, previous studies are assessed as to whether the researcher focuses on the service facet of organisational culture or on the general organisational culture.

Table 2.1 shows a summary of previous studies linking service quality to organisational culture and the different approaches adopted. The studies included all explicitly discuss and link one or more cultural elements (values and norms) either to service behaviours or to measures of service performance.

**2.10 Conceptual Framework of Service Culture**

Taking the issues discussed in Sections 2.8, into consideration, this study investigates the cultural antecedents of service quality by focusing simultaneously on the assumptions, values, norms and behaviours associated with service quality. This approach enables a more focused investigation of the link between culture and the key organisational variable of interest (service quality) by limiting the study to elements with theoretical relevance to the focal construct, service quality (Meglino and Ravlin, 1998; Schneider et al., 2009).

This approach is valid in a service context because service delivery is a key aspect of all service organisations. Therefore, a facet of organisational culture that relates to service is likely to exist and can be identified and assessed across organisations. This facet of organisational culture creates the social and functional context within which service delivery takes place. This service culture is driven by inner convictions among

**Table 2.1 Previous studies linking Organisational Culture and Service Quality**

| Authors, Date | Theoretical Perspective | Elements of culture measured | Collected data from | Central Variables | Findings | Sample/ Setting |
|---|---|---|---|---|---|---|
| Parasuraman, 1987 | | | | | Customer Oriented Corporate Cultures Are Crucial to Services Marketing Success | CONCEPTUAL PAPER |
| Luk 1997 | Organisational (marketing culture)<br><br>Integration | Values | Employees Customers | Marketing culture<br><br>Perceived Service quality | Found a positive relationship between marketing culture and service quality. High quality service can be delivered when a travel agency successfully fosters a customer-oriented marketing culture characterised with a strong emphasis on service quality orientation and interpersonal relationship | Travel agencies 68 tour escorts 92 customers |
| Siehl 1992 | Organisational culture | | | | The effect of leadership on culture and service quality | CONCEPTUAL PAPER |
| Glisson and James 2002 | Organisational culture<br><br>Differentiation - subcultures | Norms Behaviour | Employees | Culture Climate Work attitudes Service Quality | Findings link team level culture and climate to individual-level job satisfaction and commitment, perceptions of service quality, and turnover. | 283 case managers from 33 child welfare and juvenile justice case management teams |
| Corbett and Rastrik 2000 | Organisational culture Integration | Norms | Employees | Culture Quality | Different management cultures were found to have correlations with quality indicators | Manufacturing |
| Sin and Tse 2002 | Organisational culture<br><br>Integration perspective | Values | Managers | Culture Organisational performance, Marketing Effectiveness | Values are related to dimensions of strategic marketing effectiveness. Dimensions of strategic marketing are related to profitability but not to market share. Organisational cultural values affect both directly and indirectly the performance of the company through its impact on marketing effectiveness. | 388 Hong Kong and foreign service enterprises 167 usable replies and giving a response rate of 42.04 percent |
| Webster 1995 | Marketing culture | Values | Managers | Marketing Effectiveness | Service quality is a dimension of marketing culture. Marketing culture has a positive impact on marketing effectiveness | Pool of service businesses 500. 34.6 per cent response rate. |

| Burke 1999 | Organisational culture | Values | Employees | Values<br>Climate<br>Feedback Service Quality | Levels of both partner and manager feedback had direct effects on perceived quality of services and products provided by the firm through both developmental climate and cultural values | Professional services Professionals and managers, ($N = 382$) |
|---|---|---|---|---|---|---|
| Burke 1997 | Organisational culture Integration | Values | Employees | Values<br>Job Satisfaction<br>Service quality | Work-setting characteristics and work outcomes are consistently and strongly related to cultural values | Professional services 2,150 employees 70% response |
| Klein et al. 1995 | Organisational Culture Differentiation | Values Behaviour | Employees | Culture<br>Employee Performance<br>Service Quality<br>Control | Significant relationships were found between culture and service quality, culture and employee performance | 823 members of 159 service organisations |
| Wilson (1997) | Culture<br><br>Differentiation | Norms | Employees | Culture<br>Branch performance | Finds that distinct subcultures exist within the branches, although no direct relationship was found between a branch's culture and its service delivery performance. | 268 staff in 48 branches of a major UK Bank. |
| Goodale et al. (1997) | | Values | Employees | Empowerment<br>Service quality culture | The results suggest a positive relationship between empowerment and service quality provided, intrinsic rewards for quality service was highly associated with perceptions of service quality. Also, service quality culture had a strong, positive relationship with perceptions of service quality. | 89 customer service representatives from the catalog operation of a large retailer |
| Kwon et al. 2000 | Organisational culture Integration | Values Norms Behaviour | Employees | Values, Norms<br>Relational Role behaviour | Using the value–norm–behaviour linkage, they show that organisational values (consisting of customer orientation, employee orientation, and financial orientation) influence work norms for customer retention (solidarity and role integrity) and, ultimately, relational role behaviours (RRBs) (consisting of both trust-building and attachment behaviours) | Drugstore chain 563 employees were surveyed from 33 branches Response rate of 47.4% N= 267 |
| Edvardson and Enquist (2002) | Service Culture | | | | Service culture drives service strategy | IKEA (Qualitative paper) |

organisational members (Edvarrdson and Enquist, 2002) and provides meaning to what is to be done as well as guidelines for how activities should be carried out at different levels of the organisation.

Clearly, organisations may differ in terms of the strength of their service cultures. Therefore, by measuring the different cultural elements across organisations it is possible to discover the extent to which "appreciation for good service exists, and where giving good service to internal as well as ultimate, external customers" (Grönroos 1990: 244) is deemed important by organisational members.

Finally, based on the key objectives of this study, the level of theory development as well as the level of analysis for service culture is the group (subculture) level. The groups of interest have been defined in Section 2.8.3.2 as top management and customer-contact employees.

## 2.11 Elements of Service Culture

As detailed in Section 2.8.1, culture consists of assumptions, values norms and behaviours. The next few sections discuss these elements as they relate to the service facet of organisational culture.

### 2.11.1 Assumptions about Service Quality

Assumptions refer to taken-for-granted beliefs about reality. Assumptions may arise from subjective theorising or from subjective experiences (Hatch, 1993). Schein (1985) identified assumptions as the essence of culture, suggesting that assumptions underlie values. In other words, the values of organisational members are shaped by what they assume to be true. This value-shaping "occurs through the processes of proactive manifestation through which assumptions provide expectations" (Hatch 1993: 662). The expectations generated then influence perceptions, thoughts, and feelings about the world and the organisation (Hatch 1993).

Gordon (1991) suggests that organisations are founded on assumptions about customer requirements, competitors, and society. From these assumptions, certain values develop concerning the "right things to do". In a service culture context, assumptions are likely to relate to the extent to which the organisation's customers require service quality as well as to the importance of service quality in the competitive arena; i.e., how it affects different organisational performance metrics such as customer satisfaction, loyalty, financial performance etcetera. These assumptions are likely to affect the extent to which service quality is considered a worthwhile goal to strive for.

## 2.11.2 Service Quality as a Cultural Value

Values reflect beliefs about what should be pursued because of the perceived benefits. As noted by Rokeach (1968), values can be conceptualised as beliefs about preferred end states or preferred modes of behaviour. Many previous studies have suggested organisational values which lead to high quality service. In essence researchers suggest that these values are likely to result in excellent service delivery. Most of the values (see Table 2.2) fit in more with the conceptualisation of values as preferred modes of behaviour (Rokeach, 1968).

In this study, however, the service quality value construct is conceptualised based on the understanding of values as preferred outcomes (Rokeach, 1968). The reason for adopting this conceptualisation is that instrumental values are likely to be context-dependent. Therefore, while the desired outcome may be high quality service, the means and modes (instrumental values) needed to achieve the outcome may differ. While, a strong service culture in any organisation should include the ideals of consistently providing high quality service, the need for creativity for example (as an instrumental value related to service quality) may depend on the level of predictability in customer needs in the industry (Gordon, 1991). Therefore, while there are many instrumental values, identified by researchers, which may be relevant to service quality, it is possible that some of these values may not be very relevant for service quality in every service context. In other words, some instrumental values may be context-specific while others may be more universal in nature. Therefore in order to

ensure comparability among different contexts, the service quality value construct is conceptualised using the understanding of values as preferred end-states.

**Table 2.2: Values associated with Service Quality**

| Author | Values |
|---|---|
| Skalen and Strandvik (2005) | Empathy, trust, responsiveness, customer orientation |
| Berry (1999) | Innovation, joy, respect, teamwork, social profit, integrity, excellence |
| Dobni (2002) | Customer focus, competence, cost-effective, credibility, communicative, courtesy, responsiveness, service-profit oriented balance, organisational learning |
| Schneider (1994) | Service excellence |
| Sin and Tse (2001) | Being the best, importance of details, superior quality, informal communication, importance of people, innovation, economic growth |
| Siehl (1992) | High quality service, high quality products, high quality after-sales service high quality personnel, customers being right, responsibility of service providers |
| Bowen et al. (1989) | Innovation, customization, flexibility, variety |
| Caruana and Pitt (1997) | Error free service, customers as best judge of quality |
| Parasuraman (1987) | Customer satisfaction, flexibility, creativity, respect for employees |
| Hartline et al. (2000) | Professionalism, aggressiveness, ethics, creativity, industry leadership, superior quality, employee morale and satisfaction |

In this study therefore, the conceptual domain for the service quality value construct involves ideas about service quality as a preferred end-state or outcome for the organisation to strive for. In other words, the construct "service quality value"

represents the extent to which a group desires or aspires for excellence in service quality**.**

**2.11.3 Service Quality Norms**

Norms have been described as context-specific expectations, prescribing what group members should or ought to do within a specific situation or role (Overby et al., 2005) Therefore within an organisation there would be norms, which have as their object different outcomes or behaviours such as the provision of service to customers or innovation.

Service quality norms refer to the domain-specific expectations that regulate the service behaviours of organisational members. The conceptual domain of service quality norms thus refers to behavioural expectations for which service quality for customers is seen as the concrete object of these expectations. In other words service quality norms have as their objective the provision of high quality service to customers.

For frontline service employees, an example of a service quality norm might relate to expectations about the sharing of information among service personnel. Another norm might relate to expectations about helping or altruistic behaviours to ensure effective service delivery, or might reflect expectations that organisational members will assume responsibility for developing and maintaining their work-related skills in order to improve service (Tannenbaum, 1997). Still another norm may emphasise discretionary behaviour towards customers e.g. adjusting an aspect of the service to cater for a customers' needs. At the management level a norm might exist which relates to expectations among managers about supporting employees to improve their performance.

In essence, service quality norms exist within a group when behavioural expectations for which service quality is the concrete object of the expectations are shared by group members.

**2.11.4 Service Behaviours**

In a general sense, service behaviours refer to behaviours performed for the goal of delivering service to customers. These behaviours are normally performed with the aim of directly or indirectly improving the customer's service experience (Bettencourt et al., 2005). One way by which organisational behaviours and especially service-oriented behaviours have been identified in the literature has been with reference to the most proximal beneficiary of such behaviours (Bettencourt and Brown, 1997).

Using this typology, two broad types of service behaviours have been identified in the literature as important for delivering quality service to customers. These are behaviours directed at organisational members and those directed at customers (Bettencourt and Brown, 2003). For example, the Customer Oriented Boundary spanning Behaviours (COBSB) framework (Bettencourt and Brown, 2003) identifies, from an employee perspective, internally directed behaviours (internal influence behaviours) and behaviours, which are directed at customers (service delivery behaviours). From a management perspective, these two types of behaviours can also be identified; i.e., management actions to support employee service delivery and management direct actions towards customers to improve customers' service experiences.

Internally directed behaviours are those behaviours which are directed at the organisation and organisational members and include exchanges that occur at the organisation-employee interface, employee-organisation interface and the employee-employee interface. Service delivery behaviours refer to the actions performed by organisational members, directed towards customers and perceived by the customer (Bettencourt and Brown, 2003).

Distinguishing between these behaviours with reference to the most proximal beneficiary of the behaviour is important because there may be different organisationally relevant antecedents and consequences of each class of behaviours (Lepine et al., 2002). For instance, internally directed behaviours and service delivery behaviours are likely to affect service quality perceptions in different ways. While internally directed behaviours are extremely important for achieving service quality

objectives, in many service organisations, it is the behaviours directed at customers, which have more direct performance consequences for organisations.

Some researchers have argued that internally directed behaviours (e.g. employee behaviour for colleagues and the organisation) may affect customers' evaluation of the service, particularly in high-contact service encounters where customers are more involved in the service delivery processes and can witness employees' interactions (Yoon and Suh, 2003; Bell and Menguc, 2002). However, the view of most researchers is that perceived service quality and customer satisfaction are mostly dependent on customer-directed service delivery behaviours (Parasuraman et al., 1988). Internal service behaviours are more likely to have an indirect impact on performance through its effect on service delivery.

### 2.11.4.1 Role-Prescribed Versus Extra-Role Behaviour

Another issue which researchers have taken into consideration when conceptualising service behaviours, is distinguishing between role-prescribed behaviours, extra-role behaviour and sometimes non-role behaviours (Bettencourt and Brown, 1997; Dewitt, 2004). This issue is primarily related to customer contact-employee behaviour. Management behaviours are more likely to be thought of as role-related even though some studies have attempted to show that management behaviours can also be extra-role (Kim and Mauborgne, 1996).

Extra-role performance refers to the behaviour of customer-contact employees that extends beyond the formal role requirements of the position. The vast literature on organisational citizenship behaviour (OCB), more than any other stream, has intensified the discussion about in-role and extra-role behaviours of employees.

Organisational citizenship behaviours have been defined as individual behaviours of employees that are beneficial to the organisation and are, discretionary and not directly or explicitly recognised by the formal reward system (Organ, 1998). The proximal beneficiaries of OCB's are thus the organisation as well as organisational members. Podsakoff et al. (2000) identified almost 30 potentially different forms of citizenship behaviour, organising them into seven common themes or dimensions:

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helping behaviour; sportsmanship; organisational loyalty; organisational compliance; individual initiative; civic virtue; and self development. In order to distinguish in-role from extra-role behaviours, Podsakoff et al. (2000) suggest that behaviours which are formally (and explicitly) rewarded when exhibited, and punished when not exhibited; which are an explicit part of employees job description; or something they were trained by the organisation to do are in-role behaviours and not OCB's.

Role-prescribed performance refers to behaviours of contact service employees that are prescribed as formal requirements for the position. Expectations for role prescribed behaviours may be developed from job descriptions, employee orientation or training programs, and informal socialisation among employees (Dewitt, 2004). It has been suggested that "service delivery behaviours are likely to be relatively more role prescribed due to their frequent specification in job descriptions, training materials, and performance evaluation forms" (Bettencourt and Brown 2003: 395).

Some researchers have however argued that the in-role versus extra-role debate is unnecessary, since what is considered in-role versus extra-role behaviours may be inconstant across time, employees, organisations, and situations (Van Dyne et al. 1994). Some researchers suggest that it may be better to view a variety of pro-social organisational behaviours, including traditional citizenship behaviours and service delivery, as existing on a discrete continuum from entirely role-prescribed to entirely extra-role with the majority of behaviours lying somewhere between the two extremes (Tepper et al, 2001).

This argument has also been applied to customer-contact employee behaviours in their interaction with customers. Researchers have suggested that many aspects of service delivery require non-mandated employee behaviours that can be critical to customer perceptions of service quality (Bienstock et al., 2003). They suggest that exactly defining employee interactions with customers is difficult. While some behaviours can be explicitly defined (e.g. greet the customer), many others are more abstract and are dependent on employees engaging in a variety of behaviours, some of which are difficult to specifically mandate (Bienstock et al., 2003).

### 2.11.4.2 Classifying Service Behaviours

Taking the arguments from previous studies into consideration, this study primarily focuses on the beneficiary of employee behaviour as the primary vehicle for conceptualising service quality behaviours. Furthermore, service behaviours are not explicitly divided into in-role or extra-role. Behavioural performance is conceptualised as existing on a continuum from non-role to role prescribed to extra-role performance. The two types of service quality behaviours included in this study are customer- directed (service delivery) behaviours, and internally directed (service supporting) behaviours.

### 2.11.5 Service Delivery Behaviours

Service delivery behaviours refer to the actions performed by organisational members for customers. Gummesson (1991) suggests two key types of interactions, which can be identified as part of the service delivery process. The first type of interactions is those between customer contact persons and customers. The second type relates to interactions between customers and the physical environment and systems of the organisation.

Service delivery therefore relates to actions of customer contact staff as well as organisational level actions. The interpersonal actions are performed by frontline service employees in interaction with customers while the organisational level actions are performed or provided for by management for customers.

### 2.11.5.1 Service Delivery Behaviours of Employees

Within the general marketing literature, considerable attention has been given to the behaviours of front-line employees performed for customers. Bettencourt and Brown (2003) refer to these behaviours as service delivery behaviours. These behaviours, which are performed in service encounters, have been conceptualised, classified and described in a variety of ways in the literature.

Liao and Chuang (2004) define employee behaviours in the service encounter as service performance and suggest friendliness, promptness, reliability, empathy and competence as specific indicators of employee service performance. Farrell et al. (2001) use the term service quality implementation and suggest specific behaviours which define employee service performance. These are adaptability (Hartline and Ferrell, 1996), assurance, reliability (Parasuraman et al., 1988), civility, customer orientation, recovery performance, spontaneity (Boshoff and Allen, 2000), teamwork, responsiveness and tangibles.

Winsted (2000) suggest the following as the behaviours that lead to positive customer evaluations of service encounters: authenticity, caring, perceived control, courtesy, formality, friendliness, promptness and personalisation of service. Strong (2006) suggests that customised responsiveness and professional competence are two behaviours of employees, which relate to market performance.

There are therefore a large number of actions which researchers have identified as service delivery actions. This presents a problem for the researcher interest in overall service delivery and not one particular behaviour, as it is not immediately clear what actions should be measured and which should not for any given context. The solution for many researchers has been to measure service delivery at a higher level of abstraction (e.g. Bettencourt and Brown, 2005).

### 2.11.5.2 Management Service Delivery

Management service delivery has received less attention than the behaviours of frontline service employees. However, there is a clear recognition in the literature that certain service actions which fall directly under management remit also directly affect customer perceptions of service.

Management service delivery behaviours refer to the behaviours of management aimed at directly improving customers' experiences in the service encounter (Deruyter et al., 1996). The key word here is "direct". Many actions of management indirectly improve employee perceptions of service. For example, training employees

would have an indirect effect on customer perceptions since the employee is likely to perform better. On the other hand, providing better technology is likely to have a direct effect on employee perceptions.

The idea that perceptions of service quality depend on both inter-personal and organisational level behaviours is clearly evident in the SERVQUAL measure of perceived service quality (Parasuraman et al., 1988), which refers to aspects of both employee performance and organisational performance. In essence while frontline service employees enact service delivery behaviours at the interpersonal level, management enacts similar types of behaviour at the firm level. Therefore, service delivery behaviours of management can be conceptualised in similar fashion to employee behaviour.

For example, responsive behaviour at the interpersonal level may refer to employees' promptness and willingness to help, while responsive behaviour at the organisational level might refer to the helpfulness of the organisation in terms of availability or number of staff present to deal with customer responses, help desks etcetera (Johnston, 2001). Similarly tangibles at the employee level may relate to employee appearance, while at the management or organisational level, tangibles will be represented by the physical environment and tangible representations of the organisation's service provided by management. Empathetic behaviour at the organisational level might involve improving the convenience of service for customers e.g. guidance facilities, extended opening hours etcetera.

Empirical evidence suggests that the service delivery actions of management have considerable effects on customer perceptions of service quality (Chiou et al., 2002). For instance a host of studies have been conducted that show that the servicescape is important in customer evaluations of service quality (Baker et al. 1996, 2002; Bitner 1992; Reimer and Kuehn; 2005).

## 2.11.6 Service Supporting Behaviours

Within organisations, there are a range of behaviours which support service delivery efforts. These behaviours do not directly impact on customer perceptions since they

are performed internally. For the purpose of this study, the behaviours are referred to as service supporting behaviours.

**2.11.6.1 Employee Service Supporting Behaviour**

Service supporting behaviours of employees refer to a range of internally directed actions of employees (i.e., behaviours not directed at customers), which are performed to assist service delivery. In the customer-oriented boundary spanning behaviours (COBSB) framework, Bettencourt and Brown (2003) highlight internal representation behaviours which they define as "employee taking individual initiative in communications to the firm and co-workers to improve service delivery by the organisation, co-workers, and oneself". The notion of service supporting behaviours is similar to this but extends employee actions beyond communication to any form of helping behaviour designed to improve service delivery.

As with service behaviours generally, service supporting behaviours of employees can be conceptualised in terms of the most proximal beneficiary of the action. In other words, service supporting behaviours may be personally directed, enacted to support other employees or enacted towards the organisation. Williams and Anderson (1991) using the OCB framework of Organ (1998), introduced a two-dimensional conceptualisation of OCB's, similar to the COBSB framework of Bettencourt and Brown (2003). Here OCB's are divided into OCB-I (behaviours directed toward individuals; (comprising altruism and courtesy) and OCB-O (behaviours directed toward the organisation; i.e., civic virtue, conscientiousness and sportsmanship). Similarly, Van Dyne et al., (1994) introduced the idea of personally focused behaviours.

From a theoretical standpoint, it has been suggested that distinguishing between these behaviours with reference to the most proximal beneficiary of the behaviour is important because there may be different organisationally relevant consequences of each class of behaviours (Lepine et al., 2002). In other words, these behaviours may affect or lead to different outcomes. Secondly, distinguishing them from one another maintains the distinctiveness of each and avoids the assumption that individuals who perform well in one will do so in the other. Lepine et al. (2002:62) suggest that it is

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not impossible that someone who tends to be helpful and cooperative towards others may tend to be hesitant about getting involved in decisions that affect the organisation. However it is likely that when "appreciation for good service exists" organisational members are likely to perform all types of service supporting behaviour.

Service supporting behaviours enacted at the employee-employee interface could include an experienced employee teaching various "tricks of the trade" to new or unskilled employees to enhance the latter's service performance for customers. This behaviour of the skilled employee enables better service delivery performance from his colleague and thus indirectly affects customer perceptions of service quality (Van Dyne et al., 1994). At the employee-organisation interface, employees may make constructive suggestions for service improvements to management that may result in service delivery being improved. Furthermore, service employees may spend personal time to improve their service skills and competence, thereby enhancing service delivery. In the OCB framework suggested by Van Dyne et al. (1994), personally focused behaviours of employees are described as functional participation as distinct from other forms of participation.

Employee service supporting behaviours are formally defined as the personally focused behaviours of employees as well as other helping behaviours directed at fellow employees and the organisation for the purpose of enhancing service delivery.

### 2.11.6.2 Management Service Supporting Behaviour

Management's service supporting behaviours are conceptualised as actions of management directed at employees to encourage employees to engage in the desirable behaviours that lead to high service quality. In this study, management service supporting behaviours relate specifically to management actions which are performed to support employees' service efforts. Management support for employees thus involves management's encouragement of service, training, service system design and organisational procedures for optimal service delivery (Dienhart et al., 1992).

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Within the fields of management, marketing and organisational behaviour, many specific actions of management have been identified as important for improving employee service delivery. Some of these behaviours have been studied under the broad rubric of internal marketing. Internal marketing research focuses on the relationship between the company and its employees and how this relationship affects the relationship between the employees and customers (Lings, 2004). Internal marketing is grounded in the belief that external marketing success is partly reliant on the organisation having satisfied and motivated employees (Berry, 1984; Berry and Parasuraman, 1991; Bansal et al., 2001). Organisational behaviours in internal marketing are typified by marketing-like activities directed towards firms' customer-facing personnel.

The variety of individual behaviours, which fall within the broad understanding of internal marketing include recruitment, employment security, training, rewards, and empowerment (Bansal et al., 2001). Other service quality supporting practices identified in the literature include the facilitating of learning through the use of organisational learning mechanisms (Popper and Lipshitz, 1998, 2000), the use of controls to ensure employee integrity in service delivery (Schwepker and Hartline, 2005) and the adoption of technology to facilitate the speed and responsiveness of service employees.

The use and the particular emphasis of these practices may be dependent to some extent on the service context. For instance, researchers have suggested that empowerment is more important in unpredictable service contexts or where service delivery involves managing a relationship (Bowen and Lawler, 1992; Rafiq and Ahmed, 1998) than in simple transaction-based services. In unpredictable environments, it is more likely that flexibility and creativity will be crucial for success and so empowerment may be essential (Bowen and Lawler, 1992).

Another strand of literature which has shed light on the actions of management, which support employee service delivery, involves studies of organisational support and organisational justice (Bettencourt et al., 2005). Such studies have suggested that effective service delivery arises both out of employees' ability or capacity to deliver service as well as their willingness to do so (Peccei and Rosenthal, 1997; Wayne et

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al., 1997). From a social exchange theory perspective, these studies argue that, even if management practices succeed in providing the self-efficacy needed to deliver service quality, employees may still be unwilling to expend much energy on behalf of the organisation unless they have strong perceptions of organisational support. Organisational support refers to the extent to which the organisation values employees' contribution and cares about employees' general well being as opposed to actions focused on employee task performance.

Studies of fairness and justice in organisations suggest that procedural justice and allowing employee voice leads to greater perceptions of organisational support and therefore greater willingness to work on behalf of the organisation. Behaviours such as treating employees with dignity and respect and providing employees with information concerning how outcomes are determined also contribute to employee willingness to exert effort on behalf of the organisation (Wayne et al., 1997; Bettencourt et al., 2005).

From these different strands of research, two broad groups of service supporting behaviours can be identified. One group of behaviours appear to directly influence the capacity of employees to deliver service. This group of behaviours can be conceptualised as task-supporting behaviours. The most obvious examples of such are training, empowerment and communication. Several studies have suggested that the inability of employees to perform well can be linked to poor levels of training, empowerment and communication (Lytle and Timmerman, 2006; Boshoff and Allen 2000). Employees who do not possess the requisite job and interpersonal skills may fail in providing satisfactory service and in dealing with customers' complaints (Boshoff and Allen, 2000).

However, while training may have a great effect on employee ability and capacity to deliver employees may still be unwilling to perform. The second group of managerial behaviours are those more directed at improving employee willingness to perform. Such behaviours include treating employees with dignity and respect, actively recognising employee contributions to organisational success and providing employees with information concerning how outcomes are determined. These behaviours are general support behaviours.   There is evidence to suggest that such

general support for employees leads to greater levels of performance of employees (Rhoades and Eisenberger, 2002).

Taking the issues raised above, in this study, management service supporting behaviours are used in a broad sense to refer to both the general supportive as well as the task supportive behaviour of management aimed at improving both employee willingness and capacity to engage in effective internal service as well as external service behaviours.

## 2.12 The Formation and Diffusion of Organisational Culture

As detailed in the first chapter, a key question in this study relates to how the abstract value of service quality held by management is disseminated within the organisation so that it ultimately permeates the actions of customer-contact employees.

Selznick (1957) suggests that shared values are essential for organisational survival because they provide the organisation with its distinct identity. Hofstede (1988) argues that, unlike national cultures, which are more rooted in shared understandings, corporate cultures are largely rooted in the values of founders and significant leaders of an organisation. Schein (1990) also suggests that, in the context of organisations, the values of leaders are the most important in creating culture.

In order for the organisation to achieve performance benefits associated with specific values, it is essential that the values held by leaders are diffused across the organisation (Saffold, 1998). Penetration is achieved to the extent that cultural elements at the employee level reflect the ideals inherent in the values of management (Louis, 1985, Saffold, 1988). The next few paragraphs provide theoretical explanations of how the values norms and behaviours of employees come to reflect the values held by managers.

One key influence on employee culture is managerial behaviour; i.e., what managers do. Managerial behaviour may influence not only the behaviours of employees but also their attitudes (Babakus et al., 2003; Schein, 1990).

"By addressing the issues of recruitment, training and support services, a company can establish a more customer-focused service culture" (McDonalds et al, 2001: 347)

A service culture may be assessed among employees in terms of how employee norms and behaviours reflect the ideal of quality service. The influence of managerial behaviour on employee behaviours can be explained through various theories about employee behaviour. Social exchange theory (Blau, 1964) may explain how employee behaviours are influenced by managerial behaviours. While social exchange theory has mainly been studied at the individual level, Zafirovski (2003) discusses the relevance of such social exchange theory for group processes and intergroup relations. A key argument is that groups just as individuals represent exchange agents. A social exchange perspective suggests that when managers support employees, employees are likely to reciprocate. In the case of the customer contact employee, such reciprocal actions may be directed at the organisation, other employees or the organisation's customers.

Service supporting practices can also reinforce the deeper layers of culture; i.e., employee norms because they signal to employees the strategic service focus of the organisation (Omstrom et al., 2010). In this case, employees may develop norms related to certain actions because of managerial preference for such actions (Feldman, 1984). Managerial preferences are likely to be communicated through the actions of management. For example, the more management put effort into training employees to deliver service, the more employees perceive that service quality is a preference for managers. In the same manner, the more managers reward good service, the more employees see service as a preference for managers. Therefore norms may be formed to cater to these preferences and expectations of leaders. In other words, employees may create and enforce norms to achieve certain outcomes because they perceive that managers place importance on these outcomes (Feldman, 1984).

Employees can also be directly influenced by what leaders feel and think (Wieseke et al., 2009). One theoretical framework that can explain this route of culture transmission is social contagion (Barsade, 2002). Social contagion is a form of social influence (Barsade, 2002) which has its roots in social learning and leadership theories (Bandura 1977; Gerstner and Day, 1997). The premise of social contagion is

that ideas, feelings and emotions can be transmitted from one party to another through social interaction (Strang and Soule, 1998; Chartrand and Bargh, 1999; Kelly and Barsade 2001; Barsade, 2002; Wieseke et al., 2009).

Social contagion mechanisms are generally of two types: cognitive contagion and emotional contagion (Barsade, 2002). Cognitive contagion entails the transfer of ideas and of cognitive biases and occurs, where "others' opinions alter one's perceptions of reality" (Roberson, 2006). Emotional contagion, on the other hand involves "someone catching the emotion experienced by another wherein the emotion of the receiver converges with that of the sender" (Howard et al. 2001:189). In other words the emotions of managers get transferred to employees. Such emotions can then influence cognitions and attitudes (Barsade, 2002).

Individuals are more likely to transmit their ideas and emotions to others when they are able to express it (Hatfield, et al., 1994). Individuals are also likely to assimilate others' ideas when they pay attention to the ideas of others. This suggests that leaders and managers are more likely to transmit their ideas to employees who interact with them because they have more time to express their thoughts and feelings. Furthermore, employees are likely to attend to the thoughts, feelings and emotions of leaders because they depend more on their managers than vice-versa (Hatfield et al., 1994; Sy et al., 2005). In other words, managers are likely to be key referents (Festinger, 1954), whose ideas shape the ideas of employees. Managers' ideas are therefore likely to be "contagiously" transmitted to employees. Therefore, the ideas and feelings of employees about service are likely to be influenced by managers' opinions and feelings about service quality. Social contagion thus suggests a direct link between managerial beliefs and attitudes and employee beliefs and attitudes.

## 2.12.1 Communication and Culture Diffusion

The key dimensions of communication suggested in communications theory are frequency, direction, communication medium, and content (Mohr and Nevin, 1990). Frequency refers to the amount, and duration, of communication between social actors (Mohr and Nevin, 1990). Direction refers to the movement of communication between two social actors, characterised as either unidirectional or bidirectional. All

these dimensions have implications for outcomes. The focus in this study, however, is on the content and frequency of managerial communication. In more specific terms, the concern of this study is the extent to which service quality issues feature as part of the content of managerial communication to employees.

According to Cheney (1983), the content of managerial communication to employees may facilitate the process of employee identification with the organisation, because it reveals the goals, values, and achievements of an organisation. When employees are well-informed about organisational issues (such as goals and objectives, new developments, activities and achievements) they are likely to ascertain more clearly the salient characteristics and priorities that are important to managers and that distinguish their organisation (Smidts et al., 2001; Dutton et al., 1994).

Drawing from such studies, it might be expected that when service quality issues feature within the content of organisational communication, the salience of service quality to employees is raised. Employees are likely to perceive that service quality is important to their organisation. Therefore, it may be suggested that the extent to which service quality issues are referred to in managerial communications to employees would be important in determining the extent to which service values of managers are diffused to employees.

### 2.12.2 Proximity and Culture Transmission

In recent years, there has been a growing interest in distance and proximity within organisational studies. This interest reflects a wider recognition that leadership in organisations crucially involves relationships and interactions between leaders and followers. Proximity among individuals and among groups within an organisation has been studied in the literature under the broad banner of distance (Napier and Ferris, 1993).

Dyadic Distance has been described as a multidimensional construct that describes the psychological, structural, and functional separation, disparity, or discord between a supervisor and a subordinate (Napier and Ferris, 1993).

Psychological Distance is a measure of the degree of similarity between managers and subordinates as perceived by employees (Napier and Ferris, 1993). Previous research and theory has shown that perceptions of perceived and actual similarity or psychological closeness may lead to increased affect (Byrne 1961).

Structural distance is a measure of the propinquity, or opportunity for, frequency of, and type of interaction in the management employee dyad. Indicators of structural distance include spatial distance as well as opportunity to interact. It has been shown that when physical distance is present, varying degrees of other distance aspects may also emerge. Likewise, when leader and follower are physically located together, other dimensions of closeness can also appear. Therefore, the term proximity can be extended to include something greater than physical distance alone (Napier and Ferris, 1993). Functional distance refers to the quality and closeness of the working relationship which develops among subordinates and leaders partially as a result of Psychological and Structural Distance. This dimension of Dyadic Distance relates to the relative degrees of closeness to the supervisor.

More recently, Antonakis and Atwater (2002), in a systematic review of the current literature on leader distance, take the stand that, distance is a key moderator of leaders' trust and legitimacy and is therefore a central element of the process by which leaders influence followers. Their definition of leader-follower distance includes three independent dimensions: physical distance, perceived social distance and perceived leader-follower interaction frequency.

Various aspects of distance have been shown to affect different employee-related outcomes (Collinson, 2005). However, the opportunity for interaction may be particularly important in the transmission of culture, particularly through informal mechanisms (Schein, 1990). This is because employees' emulation of leaders does not occur in a vacuum. Therefore, in this study, distance or proximity is addressed primarily in terms of the opportunity for interaction among employees and managers and the accessibility of managers to customer contact employees.

## 2.13 Organisational Performance

Within the marketing literature it is possible to distinguish between various types of performance – customer-based performance, market performance and financial performance. Customer-based performance is defined as the effectiveness of an organisation's marketing activities and is measured by items pertaining to perceived service quality, customer satisfaction and perceived value. Market performance generally refers to performance in terms of areas such as customer retention and market share while financial performance refers to organisational performance in economic terms such as profits and return on investment (Homburg and Pflesser, 2000). A key aspect of market performance in service organisations is service performance.

Two measures are most regularly employed within marketing studies to assess an organisation's service or customer-based performance. These are perceived service quality and customer satisfaction. These two constructs: perceived service quality and customer satisfaction are discussed in the following sections.

## 2.13.1 Perceived Service Quality

It is generally agreed that perceived service quality is an attitude or global judgement about the superiority of a service (Gronroos, 1984; Parasuraman et al., 1998; Cronin and Taylor, 1992; Teas, 1993). Researchers suggest that, although the organisation provides the service, judgements or evaluation about the superiority are best made by customers (Parasuraman et al. 1992).

However, researchers do not agree upon the exact nature of this attitude. While some suggest that it arises from a comparison of expectations with perceptions of performance; i.e., disconfirmation (Gronroos, 1984; Parasuraman et al.1988; Bolton and Drew, 1991), others have opined that it is derived from a comparison of performance with ideal standards (Teas, 1993) or from perceptions of performance alone (Cronin and Taylor, 1992). From the plethora of studies on perceived service

quality two broad schools or approaches to perceived service quality can be identified: the American school and the Nordic school.

## 2.13.1.1 The American Perspective

The two most dominant measures of service quality within the American school are the SERVQUAL developed by Parasuraman et al. (1985, 1988) and SERVPERF developed by Cronin and Taylor (1992).

Parasuraman et al. (1985, 1988) conceptualise perceived service quality as the difference between customers' expectations of a service and their perceptions of service performance and as such service quality is measured as the gap between customers' expectations of a service and their perceptions of the service delivered. This conceptualisation is based upon the disconfirmation paradigm (Oliver, 1980).

From qualitative and quantitative studies, Parasuraman et al. (1988) also suggest that perceived service quality consists of five dimensions, which are reliability, tangibles, responsiveness, empathy and assurance (Parasuraman et al. 1985, 1988, 1991).  They devised the SERVQUAL instrument to measure service quality. They SERVQUAL instrument was later revised to include importance weights (of the dimensions) in its measurement.

Some criticisms have however been levelled against the SERVQUAL instrument. Major issues concerning the SERVQUAL measure, which have been raised since it was originally introduced, relate to the psychometric properties, the generic use of the instrument and the use of gaps (difference scores) to assess perceived quality (Cronin and Taylor, 1992; Teas, 1993; Gounaris 2005).

With regard to the psychometric properties of SERVQUAL, while several studies accept that the SERVQUAL instrument is reliable (e.g. Babakus and Boller, 1992; Babakus and Mangold, 1992; Carman, 1990; Cronin and Taylor, 1994) the validity of the instrument has raised major concerns. Many studies imply greater overlap among the SERVQUAL dimensions – especially among responsiveness, assurance, and

empathy (Peter et al.., 1993) – than implied by Parasuraman et al. (1985), which has led to several questions about the instrument's discriminant validity (Asubonteng et al., 1996). Some researchers (Babakus and Boller, 1992; Carman, 1990) have also questioned convergent validity since the factor loading patterns in none of the studies are similar to those obtained by Parasuraman et al. (1988). The inference is that perceived service quality may actually consist of fewer dimensions than the SERVQUAL scale suggests.

Some studies have therefore suggested that SERVQUAL be condensed into two dimensions- intrinsic quality, provided by employee and extrinsic quality or tangibles provided by the organisation (Mels, et al. 1997). Harrison-Walker, (2002) also suggests that service quality is made up of two dimensions- perceptions of interactive quality, which refers to the direct and indirect actions of employees, and tangibles, which refer to actions by the organisation. In a similar vein, Deruyter et al. (1998) refer to these as service elements controlled by personnel and service elements controlled by management, while Chiou et al. (2002) refer to these dimensions as company service quality and employee service quality.

Another criticism is that SERVQUAL is not a generic measure that could be applied to any service (Carman 1990; Babakus and Boller 1992). In order to account for this, researches have modified SERVQUAL for use in different contexts (Sharma and Patterson, 1999; Dabholkar et al., 1996; Gounaris 2005).

However, the strongest of the criticisms against SERVQUAL relates to the measurement of service quality as a difference score. Cronin and Taylor (1992) argue that "performance" instead of "performance minus expectation" best measures perceived service quality. According to them, disconfirmation is relevant to the formation of service quality attitudes through the moderating effect of customer satisfaction, but it is not relevant to service quality measurement. They therefore argue for the use of performance only measures for service quality measurement.

In order to deal with many of the questions regarding the use of SERVQUAL for the measurement of perceived service quality, Cronin and Taylor (1992) devised the SERVPERF instrument. The authors suggest that service quality is an attitude about

the superiority of a service, which arises out of perceptions of performance alone. The SERVPERF instrument omits the expectation component in SERVQUAL and measures service quality using perception scores only.

The two major distinctions between SERVQUAL and SERVPERF is that SERVPERF treats service quality as a unidimensional construct, as opposed to SERVQUAL which has five dimensions. Secondly the SERVPERF instrument measures service quality using only perceptions instead of gap scores as SERVQUAL does. However most of the items in the SERVQUAL scale remain unchanged in the SERVPERF scale.

### 2.13.1.2 The European (Nordic) Perspective

The European or Nordic perspective derives largely from the work of Gronroos (1984) and from other researchers such as Lehtinen and Lehtinen (1982).

The "Nordic" perspective of service quality suggests that service quality is best identified using overall categorical descriptors (functional quality and technical quality) (Grönroos 1984). Functional quality reflects how service is delivered, or customer perceptions of the service delivery process. Technical quality represents the outcome of the service act, or what the customer receives in the service encounter (Brady and Cronin, 2001a). Rust and Oliver (1994) offer a three-component model: the service product (; i.e., technical quality), the service delivery (; i.e., functional quality), and the service environment.

Adopting Rust and Oliver's (1994) conceptualisation, Brady and Cronin (2001a) found empirical evidence for sub-dimensions that define the basis of service quality perceptions: interaction quality (attitude, behaviour, and expertise), outcome quality (waiting time, tangible elements, and valence of the outcome), and environment quality (ambient conditions, design, and social factors). In addition, they suggest that for each of these sub-dimensions to contribute to improved service quality perceptions, the quality received by customers must be perceived to be reliable, responsive, and empathetic. In other words, they argue that SERVQUAL dimensions more or less describe determinants of a quality service encounter and therefore argue that if service quality represents a latent variable, then something specific needs to be

reliable, tangible, assured, empathetic and responsive. This "something" they argue, represents the real dimensions of service quality.

Interaction quality relates to that part of service quality, which is provided by the frontline service employee (Harrison-Walker, 2002). This dimension has also been referred to as employee service quality (Chiou et al. 2002; Deruyter et al., 1996). The sub-dimensions of interaction quality relate to the actions of employees which can be perceived by customers, since it is what employees actually do in the service encounter that has the greatest effect on customer perceptions (Brady and Cronin, 2001a; Farrell et al. 2001).

Environment quality relates to the extent to which the tangible features of the service-place play a formative role in consumer perceptions of overall service quality. The physical environment has also been referred to as the servicescape (Bitner, 1992). Many studies have found support for the importance of the servicescape in customer evaluations of service quality (Bitner, 1992; Wakefield and Blodgett, 1996; Reimer and Kuehn, 2005; Newman, 2007). Empirical evidence shows that the servicescape affects both employees and customers (Bitner, 1992). The quality of the physical environment is a dimension of service quality that is, more often than not, determined by managerial input. As such, some studies have included it as part of management or company service quality (Chiou et al., 2002). However, factors such as the appearance of the contact employees and cleanliness may also influence judgements regarding physical environment quality (Brady and Cronin, 2001a).

Outcome quality is defined as the result of the service act. Outcome quality is synonymous with technical quality, which Gronroos (1984) defined as "what the customer is left with when the production process is finished". Rust and Oliver (1994) refer to this as the service product. Tangibles refer to what is used to satisfy the needs of customers (Mels et al., 1997). This includes physical products and technology. Valence captures attributes that control whether customers believe that the service outcome was good or bad (Brady and Cronin, 2001a). Outcome quality (waiting time, tangibles and valence) may be determined by the systems and operational resources; i.e., management provisions and/or by the contact person's behaviour. For example, the quality of a haircut may be a function of the hairdresser's competence or

attentiveness or the quality of the equipment or a combination of both. In other words, the quality of service outcomes may be determined by the actions of the organisation; i.e., management or by the contact employee's actions.

According to Brady and Cronin (2001a), customers aggregate their evaluations of the sub-dimensions to form their perception of the firm's performance on each of the three primary dimensions. These perceptions lead to an overall service quality perception.

While the main disadvantage of this approach is that it makes it quite cumbersome for practitioners to measure perceived customer service quality, its advantage lies in the fact that the conception and measurement of perceived service quality becomes more robust (Gounaris, 2005).

### 2.13.1.3 Service Quality as a Single Construct

A recent stream of research has developed over the last decade, which treats perceived service quality as an individual construct (see Gounaris, 2005). Studies in this light are those by Spreng and Mackoy (1996), Dabholkar et al. (2000) and Reimer and Kuehn (2005). They measure overall perceived quality as an individual construct on scales anchored by descriptions such as "Extremely poor/extremely good", "excellent overall service", "service of a very high quality", "a high standard of service". In this approach factors such as service reliability, personnel attention are treated as antecedents to perceived service quality. This approach in conceptualising service quality has the merit that, in comparison to the more "traditional" approach, the assessment of perceived service quality is more simplified, particularly for practitioners. However the ability of such parsimonious measures to offer insights of managerial relevance may be limited.

### 2.13.1.4 The Choice of a Measurement Approach for Service Quality
With so many competing models in the literature, the choice of how to conceptualise and measure service quality remains an important question for service researchers. Most researchers are guided by the focus of their study when defining and measuring service quality.

However there is some consensus regarding one issue. The present understanding among researchers is that defining service quality as the difference between perceptions and expectations is more useful when the aim of the study is to diagnose service shortfalls, which are useful for management action, while the use of perceptions/performance only is more appropriate when the aim is to relate service quality to some external variable (Zeithaml et al., 1996; Brady and Cronin, 2001b). Since the focus of this study is not on diagnosing service shortfalls, it is more appropriate to conceptualise service quality as "judgment regarding the superiority of a service arising out of perceptions of performance".

### 2.13.2 Customer Satisfaction

Customer satisfaction, according to most researchers in the fields of marketing and consumer research, is a response to the evaluation of a consumption experience (Giese and Cote, 2002). Customer satisfaction has thus been defined as "a summary cognitive and affective reaction to a service incident" (Rust and Oliver, 1994) and as a primarily affective response to a consumption experience that influences behavioural outcomes (Oliver, 1997). Giese and Cote (2002:15) suggest three essential components of customer satisfaction. These include a "summary affective response which varies in intensity; satisfaction focus around product choice, purchase and consumption; and time of determination which varies by situation, but is generally limited in duration".

While there are a variety of theoretical explanations about the way customer satisfaction is formed, the most widely accepted is the expectancy-disconfirmation theory (Oliver, 1980). The expectancy-disconfirmation model asserts that customer satisfaction is a direct function of subjective disconfirmation. Anderson and Sullivan (1993), in an investigation of the antecedents and consequences of customer satisfaction, suggest that satisfaction can be broadly characterized as a post-purchase evaluation of product quality given pre-purchase expectations and is best described as a function of perceived quality and disconfirmation.

The manner in which expectancy-disconfirmation works to create satisfaction is generally viewed as two distinct processes. First of all, customers form expectations based on external and internal cues. Secondly, these expectations are compared with the service outcome to form the "disconfirmation" judgment (Rust and Oliver, 1994). In other words, the size and direction of disconfirmation determine, in part, the level of satisfaction. When outcome matches expectations, confirmation occurs. Disconfirmation occurs when there are differences between expectations and outcomes. Positive disconfirmation occurs when product/service performance is better than expected while negative disconfirmation occurs when product/service performance is less than expected. Satisfaction is caused by confirmation or positive disconfirmation of consumer expectations, and dissatisfaction is caused by negative disconfirmation of consumer expectations (Rust and Oliver, 1994).

While comparisons may be interpreted objectively, particularly during the early stages of the disconfirmation process, later stages may be interpreted more subjectively. These later subjective comparisons are viewed as a prime determinant of satisfaction or dissatisfaction (Rust and Oliver, 1994).

With regards to the dynamic aspects of customer satisfaction, there is a distinction in the literature between "transaction-specific satisfaction" and "cumulative satisfaction." Transaction-specific satisfaction is a customer's evaluation of a particular product transaction, episode, or service encounter (Olsen and Johnson 2003). Cumulative satisfaction on the other hand refers to the customer's overall evaluation of a product or service provider to date (Johnson, et al, 1995). Homburg et al (2006) suggest that affect is particularly important in the early stages of the judgment formation process in which customers have little knowledge or experience related to the product. However when customers have experience of a product cognitive elements become more prominent in satisfaction judgements.

**2.13.2.1 Organisational Drivers and Consequences of Customer Satisfaction**

Research suggests that customer evaluations of service delivery play a critical role in determining customer satisfaction and decisions to re-patronise the firm (Bitner et al.; 1990; Brown and Swartz 1989; Crosby and Stephens 1987).Utilising a critical

incident method, Bitner et al. (1990) collected and analysed 700 incidents from customers of various service industries in an attempt to identify the events that caused customers to distinguish very satisfactory service encounters from very dissatisfactory ones. Their research shows that a substantial proportion of very satisfying incidents are attributed to employee service delivery. Conversely, a substantial proportion of dissatisfactory service encounters were also attributed to poor service delivery by customer-contact employees. These results, taken collectively suggest that the service delivery behaviours of employees play a significant role in customer satisfaction judgments.

In addition to the effect of the service behaviours of the customer-contact employee, aspects of service which are provided by managers can also affect satisfaction judgements. Crosby and Stephens (1987) suggest that overall satisfaction in a service context has separate components which include satisfaction with the contact-employee, satisfaction with the core service, and satisfaction with the organisation. Bitner (1990) also suggests that the physical setting can influence the customer's ultimate satisfaction with the service organisation**.**

The consequences of customer satisfaction identified in the literature include both behavioural outcomes such as repurchase intentions, customer retention; customer loyalty, increased share of wallet as well as financial outcomes that include market value, shareholder value and firm profitability (Andersen and Sullivan, 1993; Hallowell, 1996; Luo and Bhattacharya; 2006; Cooil et al, 2007; Gruca and Rego, 2005; Mittal et al, 2005).

### 2.13.3 Financial Performance

Typical measures of financial performance used in marketing studies are profits and return on investment. While measures of service performance detail performance in terms of customer perceptions, financial performance relates to firm performance results in monetary or economic terms.

Research generally suggests that higher levels of service quality and customer satisfaction lead to higher levels of financial performance (Zeithaml et al., 2000; Caruana and Pitt, 1997; Chang and Chen, 1998; Rapert and Wren, 1998; Aaker and Jacobson 1994; Rust and Zahorik, 1993; Rust et al. 1995). The mediating variables between service performance and financial performance are behavioural intentions (Parasuraman et al. 1996; Cronin et al. 2000) and loyalty (Anderson et al., 1994; Bloemer et al. 1999; Mittal and Lassar 1998; Wong and Sohal, 2003).

However, some researchers suggest that it is possible that higher levels of service quality and customer satisfaction may not positively affect financial performance. This is because increasing levels of service performance may result in lower levels of service efficiency (Rust et al., 1995). In other words, efficiency may be sacrificed in the process of satisfying customers. For instance, in a study examining the efficiency-customer satisfaction relationship, Anderson et al. (1997), found a significantly negative relationship between satisfaction and efficiency. Results such as this suggest that the link between perceptual performance measures and financial performance may not always hold to be positive.

## 2.14 Chapter Summary

This chapter presented a discussion on organisational culture in general terms as well as a discussion on service culture as an aspect of organisational culture. Service culture was conceptualised as consisting of assumptions, values, norms and behaviour. In addition, it was argued that the level of analysis for service culture should be the group level, and that service culture should be assessed for managers as well as customer contact employees.

Drawing from the theories of organisational culture, social control, social exchange and social influence, evidence was presented to suggest that there are interrelationships among these layers of service culture. Furthermore, theoretical arguments were presented as to how culture at the management level informs the culture at the employee level; i.e., how managerial culture may be transmitted to employees.

Finally, the chapter presented a brief literature review relating to customer-based performance measures and financial performance. The next chapter provides a conceptual model, specifying the hypotheses to be tested from the linkages identified in this chapter.

# CHAPTER 3 CONCEPTUAL MODEL AND HYPOTHESES

## 3.1 Introduction

The previous chapter provided a literature review on organisational culture and its relationship with service quality and financial performance. Specifically, the chapter discussed theoretical issues relating to service culture. This chapter involves the development of a conceptual model that specifies the linkages among the variables of interest in this study. The arguments for the proposed linkages are explained in detail and hypotheses are presented for testing.

**Figure 3.1: General Model of Organisational Culture and Performance**

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            ┌─────────────────────────┐
            │      Assumptions        │
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                         ▼
            ┌─────────────────────────┐
            │   Service Quality Value  │
            └─────────────────────────┘
                         │
                         ▼
            ┌─────────────────────────┐
            │   Service Quality Norms  │
            └─────────────────────────┘
                         │
                         ▼
            ┌─────────────────────────┐
            │ Service Quality Behaviour│
            └─────────────────────────┘
                         │
                         ▼
            ┌─────────────────────────┐
            │ Organisational Performance│
            └─────────────────────────┘
```
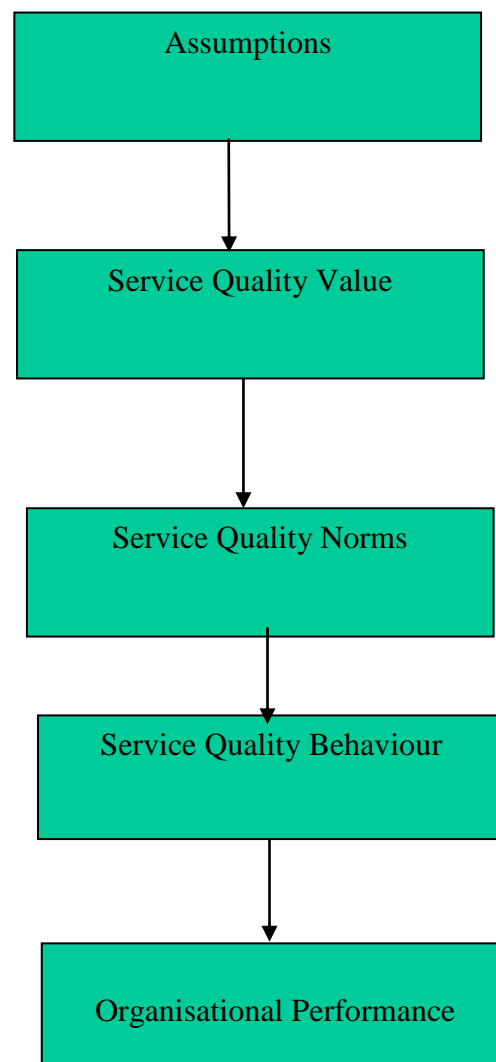
## 3.2 The Conceptual Framework

Figure 3.1 shows a summary of the theoretical linkages among the various layers of organisational culture and organisational performance. The model proposes a causal chain that leads from assumptions about service quality to service quality as an organisational culture value, through service quality norms, to service quality behaviours. This structure is consistent with the basic theory of organisational culture suggested by Schein (1986) and the fundamental theory of organisational behaviour proposed by Katz and Kahn (1978:43) which suggests that behaviours are driven by "norms prescribing and sanctioning these behaviours and values in which the norms are embedded". Values have also been identified as resulting from basic assumptions (Hatch, 1993).

The proposition within this study is that positive assumptions about service quality lead to value being placed on service quality. Valuing service quality has a positive impact on the presence of service norms which in turn have a positive effect on service behaviours in organisations. Service behaviours have a positive impact on customer service performance. Only a few marketing studies have used the value-norm-behaviour linkage to investigate specific types of behaviours in organisations, the norms from which the behaviours emanate and the specific values in which these norms are embedded (e.g. Homburg and Pflesser, 2000). For example, Homburg and Pflesser (2000) clearly show that values which support market orientation are likely to lead to market-oriented norms while Kwon et al. (2001) suggest that customer oriented values are likely to lead to norms of solidarity and ultimately relational role behaviour.

A more detailed approach such as this, in linking values to norms and behaviours, can show a clearer theoretical link between a specific facet of culture, the performance outcome related to it and ultimately financial performance (Saffold, 1998; Meglino and Ravlin, 1998, Kwon et al 2001).

## 3.3 Hypotheses

For the purpose of the research the model in Figure 3.2 will be tested.

**Figure 3 .2: Model for Hypotheses Testing**
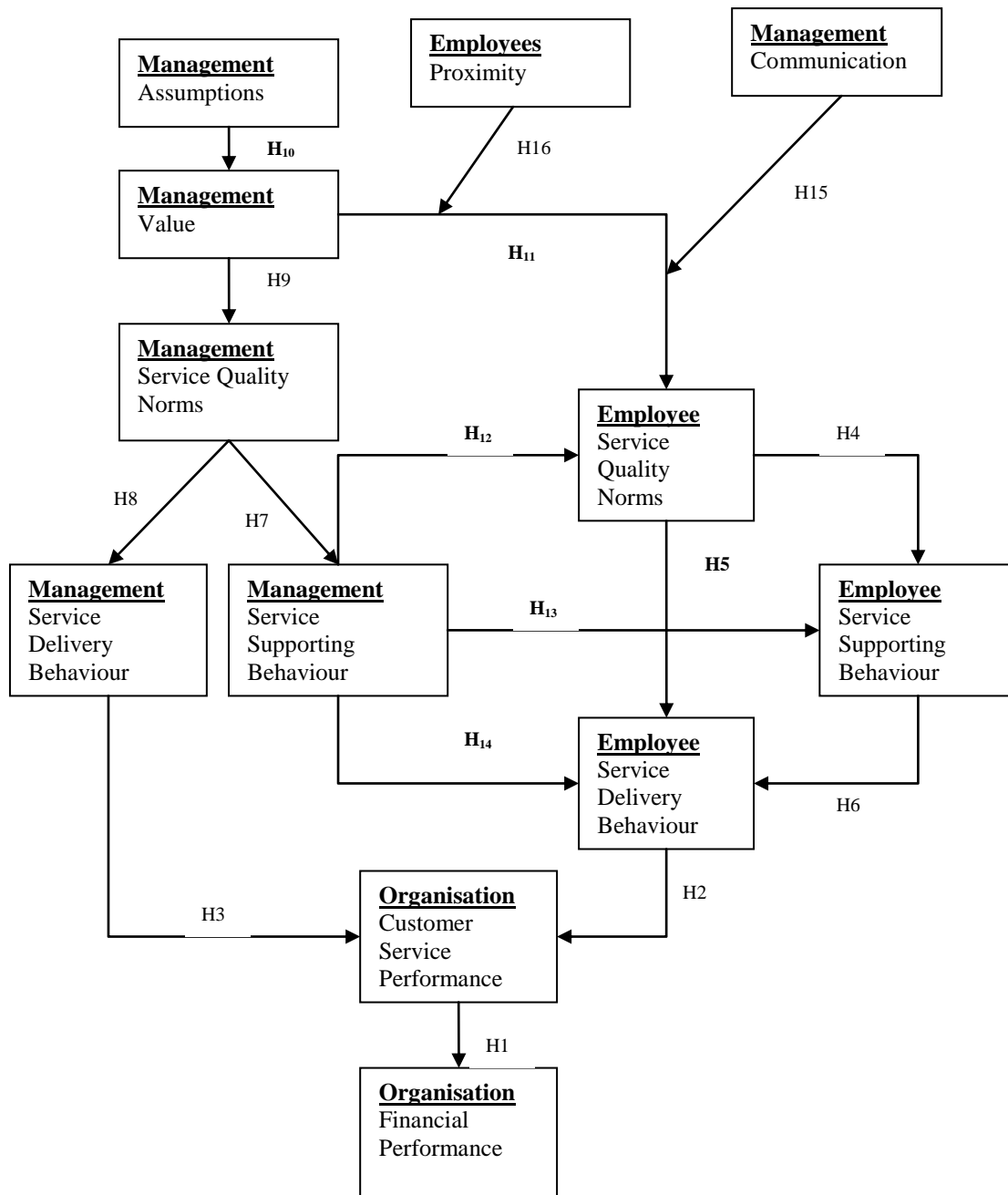


In general, the outlined model measures service culture within two hierarchical groups in the organisation. At the management level, cultural elements assessed consist of service quality assumptions, values, norms and behaviours. Cultural elements assessed at the employee level include service quality norms and behaviours.

The reason for limiting cultural elements at the employee group level to norms and behaviour is basically a theoretical one. In line with the culture literature, this study suggests that it is the assumptions and values of top management and not those of employees that drive organisational culture (Hofstede, 1988; Schein, 1990). In other words, the values of management act as the driving force from which the culture of an organisation derives its energy (Jaworski, 1988, Schein, 1990). However "culture is expressed…among employees through shared behavioural expectations and normative beliefs" (Glisson and James, 2002: 770). Because these norms relate to a specific aspect of organisational functioning ( i.e., service delivery to customers) which customer contact employees play a major part in, service norms are more likely to be organisationally determined. Therefore, in this study, service culture elements assessed at the employee group are limited to service norms and service behaviours.

First, hypotheses linking the two types of performance as well as those linking behaviours to customer service performance are presented. Thereafter, hypotheses specifying within-group linkages;  i.e., management values-norm-behaviour and employee norm-behaviour relationships are presented before presenting hypotheses that specify cross-group relationships ;  i.e., hypotheses that link service culture elements among management to service culture elements among employees. Finally hypotheses specifying the moderating effects of communication and proximity are presented.

### 3.3.1 Service Delivery Behaviours and Organisational Performance

The first set of hypotheses deal with the relationship between service delivery behaviours of both management and employees and organisational performance. This study suggests that the service delivery behaviours of management and employees both have a positive impact on organisational performance.

Two types of performance are assessed as represented by the model in Figure 3.2: customer service performance and financial performance. Customer service performance refers to perceptual measures of performance in terms of service quality and customer satisfaction while financial performance relates to the success of the business activities in relation to the resources employed in implementing them.

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Essentially, the argument presented is that, the greater the extent to which service delivery behaviours are consistently performed within an organisation, the more likely it is that customers will perceive that the service of the organisation is of high quality and the more satisfied with the organisation they are likely to be (Zeithaml et al, 2000). When customers are satisfied with an organisation's service they are likely to patronise the organisation as well as champion the organisation's causes through positive word-of mouth. The ultimate result is likely to be better financial performance. This assertion is in line with previous empirical work validating the service-profit chain (Kamakura et al., 2002; Homburg et al., 2008).

Therefore:

H1: Customer service performance is positively related to financial performance

H2: Management performance of service delivery behaviours is positively related to customer service performance

H3: Employee performance of service delivery behaviours is positively related to customer service performance

### 3.3.2 The Effect of Service Quality Norms on Service Quality Behaviours

Social Influence and Social Control theories (Hackman, 1992, Jaworski, 1988) stress the important role that norms play in influencing individual and group performance. Social control and social influence theories suggest that all groups have accepted standards of behavior that are shared by the group's members for a particular role (Jaworski, 1988).

In this study, the two groups of interest are customer-contact employees and management while the roles of interest are internal service roles and external service delivery roles. Two types of behaviours are related to these respective roles. These are internally directed service supporting behaviours and customer-oriented (service delivery) behaviours enacted by both employees and management. Hypotheses for the

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employee level are developed before developing hypotheses for the management level.

### 3.3.3 Employee Norms and Employee Behaviour

The services marketing and management literature suggests that employee service performance is not likely to occur unless there is some motivation to perform (Gwinner et al., 2005; Sussman and Vecchio, 1982). Extensive theoretical evidence exists to shore up the argument that organisational groups have an influence on the behaviours of organisational members. For instance, social information theory suggests that the social context within a group determines how group members behave (Salancik and Pfeffer, 1978). Social context refers to the specific sets of cultural expectations that frame social behaviour (Salancik and Pfeffer, 1978). A primary indicator of the social context within a group is the presence of norms and expectations which influence group members' behaviours. Norms generally specify socially accepted behaviours, which group members pressure and motivate one another to follow.

Among customer-contact employees, shared service norms help to clarify to them how to behave both towards customers and towards other organisational members in order to enhance customer perceptions of service quality (Feldman, 1984). The presence of norms prescribing high levels of service should be related to the degree to which positive service delivery behaviours are performed for customers. In other words the stronger these norms are, the more likely is it that employees will perform desirable service behaviours for customers. Similarly, because quality service for customers is the specific and ultimate object of service norms, and because supporting one another is likely to improve service delivery, service norms are also likely to be positively related to the extent to which employees help and support one another in service delivery. For example, a shared normative expectation which dictates that customers must be served promptly is likely to foster promptness in employees. Furthermore, it is likely that employees who share this expectation of promptness will assist one another to ensure that customers are always served promptly.

In line with the arguments above it is hypothesised that

H4: Service quality norms shared by customer-contact employees positively influence their service supporting behaviours

H5: Service quality norms shared by customer-contact employees positively influence their service delivery behaviours

## 3.3.4 Service Supporting Behaviour and Service Delivery Behaviours of Employees

The performance of service delivery behaviours is also likely to be affected by service supporting behaviours. Employee service supporting behaviours have been defined in this study as the internally directed behaviours of employees which support or enhance service delivery. The notion that these types of behaviours will have a positive impact upon service delivery has been recognised in the literature (Van Dyne et al, 1994). This is because, by their very nature, service supporting behaviours help to improve the ability of employees to serve customers.

For example, an experienced employee may teach a new or unskilled employee better ways to serve customers. This behaviour of the skilled employee helps to improve the skills of the inexperienced employee, enabling better service delivery performance from the inexperienced employee. In this way, service supporting behaviours indirectly affects customer perceptions of service quality (Van Dyne et al, 1994). Similarly, when employees share useful information with one another, they are more likely to be well-informed about how best to meet customer needs. This again helps in improving service delivery performance. Madjar (2005), for example, reveals that sharing of information and knowledge among employees has been found to trigger the development of novel ideas and the search for alternative solutions to customer problems.

Furthermore, employees' engagement in self-directed learning increases the likelihood that they will improve their range of work-related skills and customer knowledge beyond those gained through training. The resulting effect is that they will be more assuring, responsive and reliable in their service to customers. In like

manner, when employees give suggestions for service improvement, cooperate with one another, help one another and share information it is more likely that employees will be better equipped to deal with customers. The result is that the service delivery of employees will be enhanced.

Based on the arguments above, it is argued that the group service supporting behaviours of customer-contact employees impact positively on group service delivery performance of employees. More specifically,

H6: Employee performance of service supporting behaviours is positively related to employee performance of service delivery behaviours.

### 3.3.5 Management Norms and Management Behaviour

Two types of service behaviours of management have been detailed in several sections of this thesis and discussed in Chapter 2. These are service supporting behaviours directed at employees and customer-oriented (service delivery) behaviours.

It can be argued, based on the theory of organisational behavior (Katz and Kahn, 1978) that the extent to which service quality-enhancing organisational practices, procedures and structures are present in an organisation, is to some extent dependent on whether the social context among managers encourages managers to strive for service quality. Again, drawing upon social influence and social control theory, this study suggests that where there is little emphasis among managers about providing high levels of service, (Lytle and Timmerman, 2006), managers are less likely to enact service supporting behaviours to encourage employees to serve customers better. Similarly it is more likely that when a strong normative emphasis is placed on satisfying customers through achieving high levels of quality, managers will be more likely to enact positive service delivery behaviours towards customers. In line with the arguments advanced above, the following hypotheses are specified;

H7: The service quality norms shared by top managers positively influence their performance of service supporting behaviours.

H8: The service quality norms shared by top managers positively influence their performance of service delivery behaviours

### 3.3.6 The Relationship between Management Values and Norms

Social control and social influence theories advocate that all groups have accepted norms of behavior that are shared by the group's members (Sussman and Vecchio, 1982; Hackman, 1992; Jaworski, 1988). Katz and Kahn (1978:43) suggest that the norms shared by a group are a product of shared values; i.e., that values act as a sort of generalised rationale for the development of norms. Norms are therefore the rules by which values are operationalised (O'Reilly, 1989; Feldman, 1984).

Furthermore, Feldman (1984) suggests that one reason why norms develop in groups is to express the central values of the group and to ensure that actions necessary to attain the preferred end-state of the group are simplified. In simple terms, shared group values indicate a shared desire for a particular outcome. This shared desire leads to a need for social control, expressed through norms which detail what is expected from group members in order to achieve the desired end-state (Dewitt, 2004). According to Katz and Kahn, (1978:43), "values are the more generalised ideological justifications for ... norms and express the aspirations that allegedly inform the required activities."

Consistent with the literature, it might be argued that shared normative expectations among management for the performance of service behaviours would be related to the extent to which service quality is valued by management. In other words it is suggested that when managers value service quality, service norms are likely to be developed and enforced among managers to operationalise the aspiration for excellence in service quality and to ensure that actions of members are tailored towards achieving the desired goal.

Put more specifically:

H9: Management value for service quality is positively related to the service quality norms of management.

### 3.3.7 The Relationship between Management Assumptions and Values

Culture theorists variously suggest that human values are determined largely by ideas about how the world works (Hatch, 1991; Gordon, 1991). In other words, values are manifestations of cultural assumptions (Schein 1985; and Hatch 1993); i.e., the values of organisational members' are shaped by what they assume to reflect reality. This value-shaping "occurs through the processes of proactive manifestation, through which assumptions provide expectations" (Hatch 1993:662). The expectations generated, then influence perceptions, thoughts, and feelings about the world and the organisation (Hatch 1993:662).

In the context of organisational culture, the assumptions of top management are important because senior managers are the ones who direct the course of an organisation. Relevant assumptions within a service culture-performance framework should ideally centre on how service quality relates to key organisational goals. Such assumptions are most likely to relate to beliefs about how service quality and performance are related.

The extent to which management believe that service quality is important for organisational performance or expect that service quality will lead to outcomes such as improved financial performance, loyalty, and so on, is likely to be related to the extent to which management think of excellent service quality as an ideal end-state to strive for. In other words, when management assume that service quality leads to improved financial performance, they are likely to develop expectations that improving service quality will lead to better performance for their organisation. These expectations will lead them to view service quality as a desirable and therefore an end-state or outcome worth striving for.

Therefore

H10: Management assumptions about service quality positively influence the value management place on service quality

### 3.3.8 Culture Transmission from Management to Employees

The next set of hypotheses relate to the transmission of culture from management to customer-contact employees. The hypotheses detail the routes of diffusion as well as the impact points of the transmission at the employee level.

Two key paths are highlighted within this study. The first is through management values while the second route is through managerial service supporting behaviours. The two key impact points hypothesised at the employee level are norms and behaviours.

The arguments proposed suggest that both management values and management service supporting behaviours have a direct positive relationship with employee service norms. Furthermore management service supporting behaviours are hypothesised as directly and positively related to both types of employee service behaviours. Arguments and hypotheses in support of these proposed linkages are presented in the following sections.

### 3.3.8.1 The Relationship between Management Value and Employee Norms

Selznik (1957) suggests that shared values are essential for organisational survival because they provide the organisation with its distinct identity. Schein (1990) and Hofstede (1988) suggest that, in the context of organisations, the values of leaders are the most important in creating culture. Organisational culture therefore emanates from the values of founders and significant leaders of an organisation. Jaeger, (1983) suggests that the publicly advocated beliefs of management over time tend to have a homogenizing influence on the organisation. In other words, the values of top management guide the interpretations and perceptions of all organisational members (Hambrick and Mason, 1984).

Some researchers have shown that socially sanctioned and noncontroversial values (e.g., service quality, innovation) are easy to share (Fairholm, 1991) and can lead to close relationships, positive affect, and attachment (O'Reilly et al, 1991; Van Dyne et al 1994; Siehl, 1992). Overall, therefore, when employees perceive that socially

desirable values are espoused by senior management in their organisations they will be more likely to relate to it.

The mechanism through which management values impact upon the norms of employees can be explained by social contagion. Contagion effects occur when one party in an interaction is affected by the emotions or attitudes of the other party and subsequently assimilates the same attitude, idea or emotion (Howard et al, 2001). In social contagion, ideas, reactions and feelings are transferred to those who observed them and the same ideas, reactions and feelings are stimulated within these observers. Specifically, two types of contagion effects are suggested as explaining this relationship. These are cognitive and emotional contagion.

The theoretical rationale for social contagion accounting for the transmission of culture can be explained in the following manner. First, because employees and managers exist within the same broad social group (; i.e., the organisation) they are likely to have some form of contact. Furthermore, it has been shown that individuals are more likely to transmit their ideas and emotions to others when they are able to express these ideas and emotions (Hatfield, et al, 1984). In the same vein, individuals are likely to assimilate ideas of those to whom they pay attention to. This suggests that leaders and managers are more likely to transmit their ideas to employees who interact with them, because they have more time to express their thoughts and feelings. Employees are likely to attend to the thoughts, feelings and emotions of leaders because they depend more on their managers than vice-versa (Hatfield et al, 1994; Sy et al, 2005). In addition, senior management "represent the personal actualization… of the organisation" (Wieseke et al, 2009: 126) to employees and, as such, serve as a referent on which employees judge their attitudes and behaviour. In essence, managers are likely to be key referents (Festinger, 1954) whose ideas shape the ideas of employees. Managers' ideas are therefore likely to be "contagiously" transmitted to employees. Consequently, the ideas and feelings of employees about service are likely to be influenced by managers' ideas, thoughts and feelings about service quality.

Based on the arguments above, it is suggested that there would be a positive relationship between the value management place on excellent service quality and the presence of service quality norms among employees. More specifically

H11: The value placed by management on service quality positively influences employee service quality norms.

**3.3.8.2 Management Service Supporting Behaviours and Employee Norms**

The hypotheses developed earlier in this chapter suggest that when managers value service quality, it is likely to ultimately lead to service behaviours congruent with valuing service quality through the mediating effect of service quality norms. Valuing service quality ultimately determines the extent to which quality service is considered a priority; service quality is supported, communicated, encouraged and rewarded, as well as the extent to which organisational practices and procedures are created to facilitate quality service delivery for customers. This section details how these behaviours of management influence the norms of employees.

Norms, at a very basic level, relate to attitudes. For example, the presence of service quality norms indicates a positive attitude to service quality. There is ample research which suggests that the attitudes of employees are influenced by the actions of management (Schneider et al, 2006; Malhotra and Murkejhee 2004; Wilson and Frimpong 2004; Lewis and Gabrielsen 1998, Schneider and Bowen 1993; Yoon et al, 2001). The behaviour of management is one of the most vital inputs that shape the attitudes of employees. Tansuhaj et al (1988: 32) suggest that "managerial philosophies and actions in general have a powerful influence on employee attitudes..."

In the conceptual model, two types of management behaviours are identified. Service supporting behaviours are the actions of management, which are performed to facilitate employee action. These behaviours are more likely, than service delivery behaviours of management, to influence employees, as they facilitate the creation of a service climate (Andrews and Rogelberg, 2001; Schneider et al, 2009). Service supporting practices can reinforce the deeper layers of culture; i.e., norms because they signal to employees the strategic service focus of the organisation (Omstrom et

al, 2010). Consequently, employees may develop service quality norms to comply with managerial preference for service quality (Feldman, 1984). Managerial preferences are likely to be perceived by what leaders pay attention to (Schein, 1990). In essence, leaders embed their values by their actions (Schein, 1990).

When management performs service supporting behaviours, employees perceive this emphasis on service as evidence that management is committed to service quality (Lytle and Timmerman, 2006). In this way, management actions serve as a signal to employees, informing them of what is important to their managers and hence what is expected of them in the organisation.

For example, the more management put effort into training employees to deliver service, the more employees perceive that service quality is a preference for managers. In the same manner, the more managers reward good service, the more employees see service as a preference for managers. Therefore, norms may be formed to cater to these preferences and expectations of leaders. In other words, employees may create and enforce norms to achieve certain outcomes because they perceive that managers place importance on these outcomes (Feldman, 1984).

The more consistently these service supporting behaviours are performed by management, the stronger employee perceptions of the importance of service quality to management will be (Borucki and Burke, 1999). Consequently, employees are more likely to commit themselves, through the formation of norms to ensure that behaviours that lead to excellent service quality are performed. Service supporting behaviours of management should therefore exert a positive effect on service norms at the employee level

Therefore

H12: The performance of service quality supporting behaviours by management is positively related to employee service quality norms

### 3.3.8.3 Management Service Supporting Behaviours and Employee Service Behaviours

One way by which the relationship between management behaviours and employee behaviours can be explained is through social exchange theory (Bettencourt et al., 2005). Social exchange theory suggests that "a person for whom another has done a service is expected to express his gratitude and return a service when the occasion arises" (Blau, 1964: 4). While social exchange theory has mainly been studied at the individual level, Zafirovski (2003) suggests that social exchange mechanisms are relevant for group processes and intergroup relations. Social exchange theory dictates that customer contact employees who experience positive actions from their leaders in the form of service supporting behaviours should, by nature, seek to reciprocate this relationship by serving customers as well as their colleagues better (Bettencourt et al., 2005).

Management service supporting behaviours can also impact directly upon employee behaviours by improving employee ability to perform. Research has shown that internal marketing practices have a positive effect on employees' ability to perform service behaviours (Liao and Chuang, 2004). In other words, effective internal exchanges between the organisation and employees lead to effective external exchanges between employees and customers (Lings, 2004). For example, service-related training and the provision of service technology for employees has been found to improve employee ability to serve customers (Lytle and Timmerman, 2006). Improvement in employee ability is likely to improve employee service delivery. Therefore, the more management supports employees the more employees' service behaviours are enhanced.

Finally, this relationship may also be explained through conditioning effects (Skinner 1953). This is because certain management behaviours in support of service quality may have the effect of conditioning employees to act in particular ways (Skinner, 1953). For example, strong controls to prevent ethical violations and punishment of such violations may condition employees to act honestly towards customers and thereby improve service delivery and the customers' experience (Schwepker and Hartline, 2005).

In line with the arguments above, the following hypotheses are advanced.

H13: The performance of service supporting behaviours by management is positively related to employee performance of service supporting behaviours

H14: The performance of service supporting behaviours by management is positively related to employee performance of service delivery behaviours

### 3.3.8.4 The Moderating Influence of Communication

In hypothesis 11, it was argued that management values drive employee norms. The process by which this occurs was explained using social contagion theory. However, it is likely that there are boundary conditions which affect the culture transmission process. In other words, the influence of managerial values on employee norms may be affected by a number of factors. One such factor is communication. As mentioned in the literature review, the specific aspect of communication of interest is the extent to which service quality issues feature as part of the content of managerial communication to employees.

According to Cheney (1983), the content of managerial communication to employees may facilitate the process of employee identification with the organisation, because it reveals the goals, values, and achievements of an organisation. From managerial communication employees are likely to ascertain the salient characteristics and priorities that are important to managers and that distinguish their organisation (Smidts et al., 2001; Dutton et al., 1994).

It might therefore be expected that when service quality issues feature within the content of organisational communication, employees are likely to perceive that service quality is important to their organisation. This is because the salience of service quality is further highlighted when it is referenced in formal communication. This is likely to reinforce the internalisation process in that employees are likely to compare the ideas and ideals they perceive through informal interactions with managers with the messages they perceive from formal communication. In other

words, employees' service quality norms are likely to be more closely related to managerial values when managerial communications regularly include matters relating to service quality.

In line with the arguments presented above the following hypothesis is put forward

H15: The positive relationship between the value management place on service quality and employee service quality norms will be positively moderated by the extent to which service quality issues feature in organisational communication.

### 3.3.8.5 The Moderating Effect of Proximity (Dyadic Distance)

Another factor which might moderate the link between management values and employee norms is proximity. Theoretically, contagion effects are likely to be stronger when individuals or groups are in closer contact with one another (Strang and Soule, 1998; Ibarra and Andrews, 1996; Wangeheim et al., 2007). Therefore , the more opportunities there are for interaction between managers and customer-contact employees and the more accessible senior managers are to these employees, the more likely they are to perceive the values that underlie management actions and the more likely they are to assimilate through contagion the ideas and feelings of managers (Wieseke et al, 2009; Cardon, 2009). A lack of proximity may mean that opportunities for managerial influence are less likely. This is because employees are less likely to directly observe key value embedding mechanisms such as the way leaders react to critical service incidents, as well as leaders' feelings and emotive displays with respect to service issues. Consequently, the imbibing of leaders' values would also be less likely to happen.

The importance of proximity for contagion effects has been empirically supported in the study of Wangeheim et al (2007) who show that the effect of employee satisfaction on customer satisfaction which occurs through emotional contagion is strongest for employees who are in direct contact with customers, and weakest for employees who do not have contact at all with customers. It can therefore be argued that when there is more opportunity for and a greater frequency of interaction between

management and employees, it is more likely that the influence of the values of management on the shared norms of employees will be stronger.

Therefore

H16: The positive relationship between the value management place on service quality and employee service quality norms will be positively moderated by the proximity between management and employees.

## 3. 4 Chapter Summary

The primary research question addressed in this dissertation is "How is organisational culture related to service quality and organisational performance and how should this relationship be investigated? Furthermore, a related question in this study relates to how culture is transmitted and diffused from management to customer contact employees.

A theoretical model of service culture and organisational performance was presented, and a total of sixteen hypotheses proposed in this chapter to investigate these questions. In developing the model, it was argued that a facet-specific approach should be adopted for investigating the organisational culture antecedents to service quality and performance.  Furthermore, the group level was identified as the more appropriate unit for assessing service culture. The relevant groups for investigating service culture were determined as management and customer-contact employees. The model included within-group and cross-group linkages among culture elements and performance specified in the form of hypotheses. The next chapter describes the research design and methodology, showing how the proposed framework was operationalised.

# CHAPTER 4 RESEARCH METHODOLOGY

## 4.1 Introduction

This chapter describes the methodology employed in collecting data for hypotheses testing. The focus of the research design is based on the research objectives as outlined in Chapter 1. In this case, the broad objective is to investigate organisational culture antecedents to service quality and organisational performance. The first section of this chapter discusses the research design, including issues such as sampling and the design of the measurement instruments. After this, the data collection procedures are discussed, actual data collection summarised, and sample characteristics presented. The adoption of structural equation modelling for analytical purposes is then discussed giving reasons for the choice. Finally, a two stage approach to structural equation modelling is introduced with each of the stages outlined in detail.

## 4.2 General Data Collection Issues

### 4.2.1 Research Design

Research can generally be classified as either exploratory or conclusive (Malhotra and Birks, 2006). Exploratory research is concerned with the discovery of ideas and insights (Churchill, 1999) and is ideal for problems about which little is known (Churchill, 1999; Deshpande, 1983) or where problems cannot be measured in a quantitative manner (Malhotra and Birks, 2006). Conclusive research can take the form of descriptive research or causal research (Malhotra and Birks, 2006). Descriptive research aims to determine the frequency with which something occurs, or whether there is a relationship between two variables (Hair, et al, 2006a), while causal research assesses cause-and-effect relationships (Churchill, 1999). This study sets out to determine whether or not there are relationships among service culture elements, service performance measures and financial performance and so can be described as a descriptive study. However, causality is implied in the hypotheses advanced in this study.

It can argued that the literature review conducted and reported in Chapter 2 represents the exploratory stage of this project as it forms the basis for the descriptive study

detailed in this chapter. Furthermore, because the current work is based upon previous research, and is primarily concerned with verification, a quantitative approach is more appropriate (Deshpande, 1983; Malhotra and Birks, 2006).

Primary data is collected specifically for the purposes of answering the research question at hand while secondary data is that which has already been collected for reasons other than the present problem (Malhotra and Birks, 2006). In this instance, primary data was sought to enable the testing of the conceptual model presented in Chapter 3.

### 4.2.2 Cross Sectional versus Longitudinal Design

Churchill (1999) highlights the two main types of descriptive study available to researchers: cross sectional design and longitudinal design. A cross sectional design involves the collection of information from any given sample of population elements only once. In a longitudinal design, information is collected from a fixed sample (or samples) of the population repeatedly.

The advantages longitudinal design offers over cross sectional design are the quality of data collected and that it can be subjected to more rigorous analysis. One acknowledged weakness of the cross sectional approach, however, when compared with longitudinal is that it is difficult to establish time order; i.e., the sequence of occurrence of observed phenomena, which is an important prerequisite for inferring causality (Bollen 1989). Longitudinal design on the other hand affords the researcher the opportunity to assess changes over time, and therefore, to more easily infer causal effects.

The major drawbacks of a longitudinal design are that it is not representative, is more expensive and it also requires that the study be conducted over a long time period (Churchill, 1999). The financial and time constrains of this study meant that a longitudinal study design was not feasible and therefore a cross sectional design was adopted.

In cross-sectional research, the sequence of occurrence of observed phenomena can be partially established through theory and through past research findings (Rindfleisch et

al., 2008). In addition, it is possible, through careful design of the questionnaire, that a researcher can obtain current as well as the historical data so that inferences about causality can be made. This to some extent might mitigate some of the disadvantages cited earlier.

The appropriateness of cross sectional data for this study is predicated on the fact that organisational culture develops over a long time and changes slowly (Schein, 1986). As such, a measure taken once in a short period of time should be representative of the firm's culture over that period. Secondly, there is some evidence validating the value-norm-behaviour linkage (Homburg and Pflesser, 2000), which is the theoretical lens for this study. In fact, cross sectional design seems by far to be the most common method for generating data in research on culture and service quality. Through cross sectional studies, researchers are able to assess patterns of association between variables of interest, to see if they are in line with the theory.

### 4.2.3 Sampling Process

This section details issues relating to the sample from which information was gathered for the study. Stages that are followed in the sampling process include the definition of target population, determination of sampling frame and selection of sampling technique. Further stages include the determination of sample size and the execution of sampling process (Malhotra and Birks, 2006). These stages are covered in the next few subsections.

### 4.2.3.1 Definition of Target Population

Potentially, the population of firms for this study includes all service organisations. However, because service businesses in different sectors are different, it was decided to focus on a particular type of service in order to eliminate any contextual differences that might be present when different types of services are sampled (Drennan and McColl-Kennedy, 2003).

The context chosen for the proposed study was Estate Agencies in the UK. Estate agencies were chosen for this study for the following reasons. The first reason is that estate agents offer a 'pure service' with little differentiation in terms of products. The estate agency context also allows for moderate to high customer-contact as well as

multiple areas of service and multiple types of customer-contact. A second reason for this choice has to do with the way estate agents are traditionally structured in the UK. While there are some large corporate estate agencies, the majority of estate agent firms are run by their owners, partners or family members of original owners. As such estate agent firms serve as a suitable and simple context for the differentiation approach to the study of culture adopted in this study; i.e., owner or management service culture and employee service culture. Finally a practical reason for the choice of estate agencies is that a comprehensive and up to date list of estate agents in the UK is available and as such the respondents can be found more easily.

The choice of estate agents is particularly useful since not a lot of research has been done on service quality from the perspective of the estate agents (Dabholkar and Overby, 2006). Rather, most of the research has been from the perspective of their customers (Bishop and Megicks, 2002).

### 4.2.3.2 Estate Agents in the UK
There are approximately 17,000 estate agency offices in the UK (home.co.uk). The industry is fragmented with a large number of owner-operators. Overall, the activities of the major estate agent chains in the industry tend to influence the shape and direction of the industry.

The industry is largely cyclical, with success roughly in line with economic trends. The period since mid 2008 when the global economic crises hit led to the closure of many estate agencies in the UK. Analysts put the figure at about 16% (http://www.yourmortgage.co.uk/news/3626409). The core function of estate agents is to assist customers with housing issues. Their activities include house sales, rentals, management and conveyance. House sales, rentals and property management constitute the bulk of many estate agency businesses.

### 4.2.3.3 Choice of Respondents
The source of information for a study is crucial to the accuracy of the findings, and may determine the extent to which the results and conclusion drawn from the study can be relied upon. As outlined in the objectives, the study requires detailed information on the service culture and performance of all organisations surveyed.

In line with the research objectives, responses are needed from both the management and employees from the organisations surveyed. While this method has been acknowledged as both time consuming and expensive, and also particularly prone to yielding low response rates, due to the matched samples required from two or more parties involved in the studies (Goldberg, 2003), it was nevertheless decided that obtaining multiple responses was crucial to the objectives of the study.

In order to assess the service culture of top management, responses should ideally be sought from senior managers. For the purpose of this study, it was decided that surveys be directed at senior management such as the partners or directors of estate agent firms. In terms of the specific employee respondents, it was necessary to select staff that had a high level of contact with customers. Where organisations had multiple branches, it was decided that only the headquarter branch would be targeted. Where the headquarter branch served only as an administrative hub, the focal branch of the organisation would be targeted. Therefore, information would not be collected from multiple branches of a single firm. Collecting information from a single branch helps to control for certain extraneous sources of variance (Kerlinger and Lee, 2000). For example, employees of a common branch may be expected to have a similar understanding of norms than employees from different branches of the same firm.

### 4.2.3.4 Determination of Sampling Frame

After determining the population of interest, the next step involves developing a list of all eligible sampling units, which is referred to as a sampling frame (Hair et al, 2006a). Sample frame selection was based on several criteria. Firstly, it was necessary that the sample frame was comprehensive enough to be representative of UK Estate Agents. Secondly, to achieve a good response rate, it was desirable to personalise each letter. Therefore, only firms with named contacts would be ideally desirable. Thirdly, it was deemed important that the selected firms have at least three employees, so that culture constructs measured in this study could be captured accurately.

Since there was no computerised database which included all the information needed by the researcher, the researcher had to create a database of firms from the website of the National Directory of Estate Agents (www.ukpropertyshop.co.uk).This directory

lists every estate agent firm in the UK. From this directory, the researcher accessed the website of the firms and compiled all the relevant details to form a database of firms. At this stage, firms which did not meet the relevant criteria; for example those with less than two employees, were excluded from the database. Firms, for which it proved impossible to get a named management contact from the website, were included in a separate database. In this way a total sample of 1500 firms with all relevant details; i.e., address and named contacts was achieved. 250 firms had only addresses but did not have any named contacts. In order to ensure that the information presented on websites was up-to-date, phone calls were made to 100 firms. One firm had gone out of business but information relating to the other 99 was accurate.

### 4.2.3.5 Selection of Sampling Technique

The entire sampling frame was included in the data collection process. As a result, during the pilot study and main study, all firms were contacted. Therefore, sampling without replacement was used, since once a firm was contacted it was removed from the sampling frame (Malhotra and Birks, 2006).

### 4.2.3.6 Sampling and Nonsampling Error

Sampling error is the difference between the observed values of a variable and the long-run average of the observed values in repetitions of measurement (Churchill, 1999). In survey research, sampling error is the difference between the population defined by the researcher and the population as implied by the sample used in research (Malhotra and Birks, 2006). In this specific instance, it is the difference between the potential answers of the total population of estate agents in the United Kingdom, and the answers obtained from respondents. Sampling error is normally found to decrease as sample size increases because as the sample size increases, the sample becomes more representative of the population (Churchill, 1999; Hair et al., 2006). The goal of the research was therefore to try and generate as large a respondent sample as possible.

Nonsampling errors are those errors that do not relate to the sampling method or the sample size (Churchill, 1999). Nonsampling errors can arise in four main ways: respondent errors, measurement/design errors, faulty problem definition, or project administration errors (Hair et al, 2006a). While sampling error decreases as sample

size increases, nonsampling errors may actually increase (Churchill, 1999). Respondent errors most often take the form of non-response bias, which is when potential respondents do not complete or return the questionnaire (Malhotra and Birks, 2006). Non-response error is discussed in greater detail in a later section. Measurement and design errors can take the form of construct development error, scale measurement error, survey instrument error, or data analysis error (Hair et al, 2006a). Measurement error will be discussed in more detail later in this chapter. Survey instrument error involves misinterpretation of questionnaire items (Hair et al, 2006). Adequate pretesting procedures indicated that survey instrument error would not be a problem. Data analysis error is most often generated by the selection of an inappropriate analytical procedure (Hair et al, 2006a). Another section of this thesis discusses in detail the choice of SEM for this project. Faulty problem definition is reduced by the comprehensiveness of the literature review, enabling relevant constructs and relationships between constructs to be identified (Hair et al, 2006a). Finally, the likelihood of project administration errors was reduced by keeping detailed records of project stages, such as questionnaire mail out dates, return dates, and entry of data into relevant software applications.

### 4.2.3.7 Non-Response Error
Non-response bias is defined as "a type of non sampling error which occurs when some of the respondents included in the sample do not respond" (Malhotra 1993: 106). This issue is a concern for social science researchers who strive for representativeness from their chosen sample.

As this research is based on a carefully selected sampling frame, that provides an appropriate context for testing a model of service culture and performance, non-response bias is not considered a major issue. However, non-response error was still assessed. The way in which non-response error is accounted for in this thesis is covered in more detail later in this chapter

### 4.2.4 Data Collection Method
Several data collection methods were evaluated taking into account their advantages and disadvantages, and also taking into consideration the research objectives as outlined in the first chapter. The population of the study potentially includes all

service organisations and a representative sample drawn randomly from this population. It was considered important to obtain a large sample for two reasons. First a large sample increases the confidence that can be placed in the findings and also determines the extent to which the findings can be generalised to the whole population. Additionally, a large enough sample size ensures that the subsequent analysis of data would have enough statistical power. Given this set of requirements, it was deemed that a mail survey was the most suitable approach to data collection.

The high cost, in terms of traveling expenses and time constraints associated with personal interview, were the main reasons for ruling it out as the main method of data collection. Telephone interview was also considered but was rejected due to potential problems associated with the technique. First, since multiple responses were needed for each organisation phone interviews would have been difficult to accomplish and quite time consuming even if it were possible. In addition, asking respondents highly sensitive questions on such subjects as organisational performance may produce inaccurate results due to interview bias, especially when the survey is lengthy (Churchill 1999). These problems, which have been linked with personal and telephone interviews, can be overcome through administering the questionnaire by mail.

A mail survey is also a relatively cheaper method to adopt, especially when dealing with a widely dispersed population, like in the present research (Jobber 1989). In addition, a mail survey has the advantage of dealing with the problem of potential perception bias between interviewer and interviewee, which may be present in personal or telephone interviews. The anonymity associated with mail surveys can enable respondents to be more open when answering questions on sensitive issues (Churchill 1999; Diamantopoulos and Schlegelmilch 1996). An added advantage of this method is that respondents are allowed to complete the questionnaire at their own pace, or in their own leisure time. The major disadvantages of the mail questionnaire discussed in the literature are low response rates and non-response bias (Jobber et al., 2004). The effect of a low response rate may mean that not enough data is received. This invariably limits the types of analysis that can be performed and consequently reduces the statistical power of the analysis. Non-response bias may occur if those who responded to a survey are different in some important ways from those who did

not respond (Churchill, 1999). However, it has also been argued that non-response bias is still likely to be present somehow, regardless of administration techniques adopted (Daniel et al., 1982).

In order to overcome the inherent limitations associated with the mail survey technique, the measurement literature has recommended certain methodological techniques for researchers to use (see Armstrong and Overton 1977; Churchill 1999). These include a personalised cover letter, assurance of anonymity and confidentiality (Diamantopoulos and Schlegelmilch 1996), sending a follow up questionnaire, (Fox et al, 1998) and incentives (Jobber et al, 2004). Furthermore, it is possible to estimate non-response bias and correct it if necessary (Armstrong and Overton 1977).

## 4.3 Questionnaire Design

This section describes the questionnaire design in detail, following procedures outlined by Churchill (1999) as presented in Figure 4.1.

**Figure 4.1: Procedure for Developing the Questionnaire**

| Step 1 | Specify What Information Is to be Sought |
|--------|------------------------------------------|
| Step 2 | Determine Type of Questionnaire and Method of Administration |
| Step 3 | Determine Content of Individual Questions |
| Step 4 | Determine Form of Response to Each Question |
| Step 5 | Determine Wording to Each Question |
| Step 6 | Determine Sequence of Questions |
| Step 7 | Determine Physical Characteristics of Questionnaire |
| Step 8 | Re-examine Steps 1 – 7 and Revise if Necessary |
| Step 9 | Pre-test Pilot Questionnaire and Revise if Necessary |

Source: Churchill (1999)

## 4.3.1 Construct Operationalisation and Scale Development

Figure 4.2 below depicts the twelve major areas of information, which this study sought to collect. The conceptualisation and hypotheses developed from the literature,

as described in Chapter 2 and 3 form the basis for the development of the questionnaire items

**Figure 4.2: Information Sought**

- Service Culture
    - Management Assumptions about Service Quality
    - Service Quality Values Of Management
    - Service Quality Norms Of Management
    - Service Quality Norms Of Employees
    - Management Service Supporting Behaviour
    - Employee Service Supporting Behaviour
    - Management Service Delivery Behaviour
    - Employee Service Delivery Behaviour

- Service-related Communication
- Proximity

- Organisational performance
    - Customer Service Performance
    - Financial performance

The first stage of the scale development process involves defining individual constructs (Hair et al., 2006b). This stage must be underpinned by sound (measurement) development theory as poor construct conceptualisation can have serious consequences for the validity of research (Edwards and Bagozzi, 2000). Each construct under investigation needs to be operationalised through the selection of scale items and scale type. In this research, because there were no previously developed scales for some of the constructs, new scales were developed for these constructs.

In developing measures for this study, several rules and recommendations suggested in the literature by Churchill (1999), DeVellis (1991), Spector (1992) and Diamantopoulos and Winklhofer (2001) were followed. Specifying the domain of each construct was done in the literature review and served as the basis for developing measures. Scale development started as soon as the variables for the study could be conceptually defined. For each construct, the type of measurement was then defined. Reflective measures were seen as more appropriate for operationalising the

constructs. When measuring constructs using reflective items, the latent variable is considered as the cause of each of the item score. Consequently, there is an assumed correlation between the item scores and the true score of the latent variable (DeVellis, 1991). On the other hand the measurement perspective based on formative indicators views indicators as causing rather than been caused by the latent variable. All scales for this study were reflective.

To begin the process of scale development, a large pool of items was generated which in the researchers opinion reflected each construct of interest (Churchill, 1979). Following the recommendation of Spector (1992), several existing scales related to each construct were studied and items from such scales formed the starting point in writing the initial pool of items. For example, several measures of internally directed pro-social behaviours were consulted in the literature to arrive at items for measuring service supporting behaviours. All items were made short, with no jargon to avoid potential confusion of respondents (DeVellis, 1991). Regular meetings were held among the researcher and his two supervisors to discuss the scale items. At these meetings, the researcher and his two supervisors assessed each item measure to see if it correctly and accurately captured the construct it was supposed to reflect. This was a key aspect of establishing content validity.

When any of the researcher's supervisors expressed concern over an item, this item was either removed or rephrased depending on the cause of concern. Some concerns had to do with the possibility that respondents could interpret the questions in a way that was not intended by the researcher. Other concerns related to the possibility that a particular item may be measuring some related construct other than the construct it was intended to measure. This concern was particularly important as there are strong conceptual ties among the study's constructs. For example, at this stage it was important that "value" measures could be clearly distinguished just by reading them from measures of assumptions.

After items had been agreed upon, the researcher further sought the opinion of a doctoral student colleague who was involved in organisational culture research. Comments from this colleague were also taken into consideration in arriving at the scales used to measure the study's constructs. Furthermore, to receive guidance in

developing the scales, 5 senior managers of estate agencies were interviewed and asked for qualitative feedback on the clarity and appropriateness of the items. Based on this qualitative feedback, items were added or reworded.

The measure development process lasted for almost a year as it was undertaken simultaneously with other research activities related to the doctoral study such as creating the database of respondents. In the course of measure development, several items were developed as measures for each construct used in the study. Many of these initial measures were dropped and therefore not included in the final questionnaires. Two earlier versions of the questionnaires which include some items that were considered during the process of scale development are included as appendix 4.1.

Service delivery and service supporting behaviours have been operationalised as both uni-dimensional (Bettencourt and Brown, 2005) as well as multidimensional in the literature (e.g. Stock and Hoyer, 2004). As such items reflecting different dimensions such as responsiveness, empathy and reliability for service delivery and organisationally directed, colleague directed and personally directed service supporting behaviours were created. In addition to this, a global measure for each construct was included in the final questionnaire. However, while these multidimensional scale items are included in the questionnaire, only the global measures were used for the final data analysis and are the ones shown in this chapter. The reason for adopting the global measures is discussed in greater detail in Chapter 5.The list of all item measures used for confirmatory factor analysis are also included as appendix 4.2.

### 4.3.1.1 Culture Measurement Models

The direct consensus and referent-shift consensus models have been used to measure culture in previous research (Chan, 1998; Glisson and James, 2002). Although both models make use of individual responses to measure culture in different groups, in the referent-shift consensus approach, the referent is moved from the self to the collective before consensus assessment. Glisson and James (2002) identified the referent-shift consensus model as the more appropriate way to measure organisational culture. They argue that culture, at any level, is a property of the social system or work unit, not of

the individual, and as such this understanding should be reflected in the shift in referent from the individual to the collective (Chan, 1998). The use of the referent-shift model is also in line with the recommendation of Kozlowski and Klein (2000:38) that "researchers employ measures consistent with the conceptualization of their constructs, using unit-level referents, if possible, to assess shared unit-level constructs".

In assessing organisational culture using the referent-shift consensus model, the information the researcher seeks to obtain is the respondents understanding of the values, norms and behaviour of people in the respondent's group. The focus, therefore, is not on what the individual respondent accepts as a preferred way to behave, or thinks is expected of him or her personally but on what the individual perceives as the values, norms and behaviour shared by people in the respondent's group (Chan, 1998). Within-group consensus is then used to justify the aggregation of the individuals' opinion of the values and norms within the work unit as a representation of the unit-level construct; i.e., culture (Glisson and James, 2002).

When measuring the shared values, norms and behaviours of a group, a shift in referent from the individual to the group reflects the collective nature of the culture construct. Glisson and James (2002) reveal that previous research on organisational culture provides evidence to suggest that the wording of items to make this shift of reference explicit to respondents, contributes significantly to greater within-group consistency in individuals' descriptions of the culture in their work unit or group.

For all items measuring culture, the referent shift consensus is evident in the wording of all items. For example, in using the referent shift consensus, the statement "Employees in my unit expect one another to work hard to please customers" is more appropriate than "I am expected to try to work hard to please my customers".

### 4.3.1.2 Assumptions

The conceptual domain of assumptions follows that used in many culture studies; i.e., assumptions refer to fundamental beliefs about the nature of reality in a given context. Within this study assumptions about service quality refer to the beliefs held by top managers about the importance of service quality for the performance of their

organisations.  A 7-point six-item scale, which was developed specifically for the purpose of this study, was used to measure assumptions about service quality. Items were measured reflectively.

**Figure 4.3 Scale Items for Assumptions about Service Quality**

---

**Top Management in this organisation**

believe that high levels of service quality has a great impact on our ability to attract customers

believe that providing very high levels of service quality will improve our marketing effectiveness

believe that high levels of service quality will improve organisational performance

believe that this business' success depends significantly on providing high quality service to all customers

believe that a route to business success is through the provision of high levels of service quality

believe that is through providing excellent service that this business can achieve competitive advantage

---

Source: New Measure developed for this study

### 4.3.1.3 Service Quality Value

Two approaches have been used when measuring values in organisations (Meglino and Ravlin, 1998). The normative technique typically requires respondents to rate the extent to which their groups endorse a set of items describing a value or set of values. The ipsative technique on the other hand asks respondents to either rank order a set of values or to choose a value or value statement at the expense of another in a forced choice format e.g. competing values framework (Meglino and Ravlin, 1998).

According to Meglino and Ravlin (1998), normative measurement is appropriate when the researcher's objective is to understand respondents' assessment of an entity (e.g. group or organisations) with reference to a particular value. The objectives of this study clearly fall in line with this approach. Therefore, the service quality value construct is measured using the normative technique.

The conceptual domain of the service quality value relates to the idea of excellence in service as a desired outcome for the organisation (Rokeach, 1977). In simpler terms,

service quality value relates to the extent to which an appreciation for good service exists and where giving good service to customers is deemed an important end to aspire for (Grönroos 1990). In measuring the construct, respondents were asked to indicate the extent to which their organisation aspires for service quality. A 7-point seven-item scale, developed specifically for the purpose of this study was used to measure service quality value.

**Figure 4.4 Scale Items for Service Quality Value**

> **Top management in this organisation**
> …seek to delight customers with the quality of service provision.
> …aim to continuously improve service delivery …………...
> …aspire for excellence in service provision ………………..
> …aspire to outperform competitors in service delivery…....
> …desire to provide high levels of service ………………....
> …are keen on maintaining very high standards of service..
> …want customers to see our firm as the best in service   provision

Source: New Measure developed for this study

### 4.3.1.4 Service Quality Norms

Norms are the informal rules that guide behaviour within a given context. Service quality norms refer to shared expectations about the performance of service behaviours among group members. Service quality norms were assessed in terms of the extent to which group members expect, pressure and encourage one another to perform service quality behaviours. The measures used for service quality norms were developed for this study. The constructs for both management and employees were measured using identical 7-point three-item reflective scales.

**Figure 4.5 Scale Items for Service Quality Norms**

> **In this firm Top Management <u>pressure one another</u>**
>
> ...to ensure we deliver service of high standard to customers
> …to do everything possible to ensure that customers get high levels of service
> …to do everything possible to meet the expectations of customers

Source: New Measure developed for this study

**Figure 4.6 Scale Items for Service Quality Norms**

| **In this firm Customer- Contact Employees <u>expect one another</u>** |
|---|
| ...to ensure we deliver service of high standard to customers<br><br>…to do everything possible to ensure that customers get high levels of service<br><br>…to do everything possible to meet the expectations of customers |

Source: New Measure developed for this study

## 4.3.1.5 Service Delivery Behaviour

Service delivery behaviours are the customer directed service behaviours upon which customers base their judgments of an organisations service. Several types of these behaviours have been identified in the literature (e,g. Farrell and Souchon, 2001; Strong , 2006). The scale to measure service delivery behaviours was adapted from that reported in Bettencourt et al. (2005). The construct was measured for both managers and employees using a 7-point three-item reflective scale.

**Figure 4.7 Scale Items for Management Service Delivery Behaviours**

| We devote considerable resources to ensure that our *customers* receive high quality service |
|---|
| We go out of our way to ensure that every aspect of our *customer* service offering is of high standard |
| We work hard to ensure that *customers* evaluate our service provision positively |

Source: Adapted from Bettencourt et al, (2005)

**Figure 4.8 Scale Items for Service Delivery Behaviours (Employee)**

| Customer-contact employees put in significant effort to meet customer needs |
|---|
| Customer-contact employees go all-out to provide excellent service to customers |
| Customer-contact employees strive to ensure that our service is of high quality |

Source: Adapted from Bettencourt et al, (2005)

### 4.3.1.6 Service Supporting Behaviours

The conceptual domain of service supporting behaviours involves internally directed behaviours of management and employees which improve service delivery performance of employees. In essence, service supporting behaviours are not directed at customers but are directed at other service actors. Service supporting behaviours of management are primarily directed at customer-contact employees while service supporting behaviours of employees may be personally directed, directed at management or other employees. Several measures of internally directed pro-social behaviours were consulted in the literature to arrive at items for this construct. These measures included several measures for Organisational Citizenship Behaviours (OCB's) as well as the internal influence behaviours in the COBSB scale (Bettencourt and Brown, 2003). Two three-item reflective scales were developed to measure the service supporting behaviours of management and employees respectively.

**Figure 4.9 Scale Items for Service Supporting Behaviour (Management)**

| |
|---|
| **In this firm:** |
| We invest heavily in trying to improve the ability of our *employees* to serve customers |
| Much of management effort focuses on enhancing the quality of *employees'* service delivery |
| Our organisational policies are designed to make *employees* more willing to provide |

**Figure 4.10 Scale Items for Service Supporting Behaviour (Employee)**

| |
|---|
| **Besides providing service directly to customers, to what extent do customer-contact employees in this firm…?** |
| …make valuable indirect contributions that help the organisation deliver high quality service |
| …commit to finding ways of improving this firm's ability to deliver quality service to customers |
| ...play a significant role in ensuring that the organisation has all it needs to serve customers well |
| …undertake significant amounts of work behind-the-scenes to support the service efforts of this organisation |

Source: Bettencourt and Brown, (2003)

### 4.3.1.7 Service-related Communication

The conceptual domain of service-related communication is the extent to which service quality features as part of the content of formal organisation communication. This construct was measured by a four item, 7-point Likert scale. Items are included in Figure 4.11

### Figure 4.11 Scale Items for Service-Related Communication

| |
|---|
| Service quality goals are seldom mentioned in communications from top management to employee |
| Our communication with employees (e.g. newsletters, memos and bulletins) frequently include statements encouraging employees to strive for high levels of service quality |
| Information about the organisation's performance in terms of customer satisfaction is disseminated very frequently in the organisation |
| Communications with frontline service employees frequently include statements relating to the need for delivering high levels of service |

Source: New measure developed for this study

### 4.3.1.8 Proximity

Proximity in this study is addressed primarily in terms of the opportunity for interaction among employees and managers and the accessibility of managers to customer contact employees. This construct was measured by four items on a 7-point Likert scale. Items are included in Figure 4.12

### Figure 4.12 Scale Items for Proximity

| |
|---|
| There is very little face-to-face interaction between Top Management and customer-contact employees |
| In this organisation senior management rarely make time to speak with employees |
| Employees in this firm feel close to top management |
| Customer-contact employees have direct access to top management of this organisation |

### 4.3.1.9 Performance Measures

Organisational performance is a common component of many studies in the marketing area. However, research which incorporates organisational performance

must deal with the issues of how best to conceptualise organisational performance as well as how to accurately measure and operationalise the construct (Dess and Robinson, 1984). In this research, two types of performance are of interest: customer-based performance measures as well as financial or economic performance measures.

### 4.3.1.10 Customer Service Performance

Customer service performance relates to the extent to which an organisation meets the demands and needs of its customers. As discussed in Chapter 2, two key measures of customer-based performance are customer perceived service quality and customer satisfaction. These measures are typically obtained by asking customers to indicate their perceptions of an organisation's service or the extent to which they are satisfied with an organisation's offerings.

While obtaining these measures directly from customers is the best approach, there are methodological challenges associated with surveying both organisational personnel and their customers (Bolton and Drew, 1994; Zeithaml, 2000). This is likely to be particularly more difficult when multiple employee responses as well as managers' responses are needed as is the case with this study. One solution to this problem is to obtain information about customer-based performance from the organisation.

Schneider and Bowen (1985) have demonstrated empirically that front-line employee's perceptions of service quality correlate strongly with customer perceptions of service quality. As such they suggest that employee assessments of service quality may be used as a proxy for actual customer assessments. However, Young et al (2009) in a more recent study observed a lack of congruency between employee and customer service quality assessments.

Therefore, information about customer-based performance was collected by asking managers to rate the performance of their organisation along the lines of customer-perceived service quality, customer satisfaction and providing value for customers. This is because while higher-level managers may not interact as much with customers, they "have better access to survey data on customer attitudes and this may

attenuate the importance of direct interaction with customers" (Young et al., 2009:1134).

Customer Service Performance was measured by three items, which asked managers to indicate how well their firm had performed over the last three years relative to their competitors in terms of customer satisfaction, customer evaluations of service quality and providing value for customers. Items are included in table 4.13

**4.3.1.11 Perceptual Measures of Financial Performance**

While the customer-based performance measures discussed above are essentially assessed through customer perceptions, financial performance can be assessed in an objective manner from the financial records of organisations. However, as Dess and Robinson (1984:265) suggest, "obtaining accurate economic performance data is often a problem in two salient research settings: business units of multi-industry firms and privately-held firms". The authors suggest that the researcher investigating small firms is often confronted with an inability to obtain objective performance measures on a consistent basis. This is because in most small firms access to information about financial performance is restricted to the owners or leaders who are very sensitive about releasing such data. Secondly, differences in accounting procedures means that even if access to such information is obtained with a sample of privately-held firms, there is greater risk of error (Dess and Robnson, 1984).

Due to these limitations, many researchers are faced with either the option of removing performance from the research design or collecting subjective perceptual measures of performance from the organisation. The recommendation in such cases, where objective measures of performance are unobtainable, is for the researcher to collect subjective measures of performance. The seminal article of Dess and Robinson (1984) provides evidence that subjective perceptions of performance "strongly correlated with objective measures … over the same time period.

Because this study was conducted predominantly with privately held firms, objective performance data could not be gathered. Therefore in line with the recommendations above, subjective perceptual measures of performance were collected by asking

management to indicate how well their firm had performed relative to their competitors over a period of three years.

Financial performance was measured by including two items, which asked respondents to indicate how state how well their firm had performed over the last three years relative to their competitors in terms of profit before tax and return on investment.

**Figure 4.13 Item Measures for Organisational Performance**

| Compared to your competitors please indicate how well your firm has performed in the last three years | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Much worse than competitors** | | | **The same as competitors** | | | **Much better than competitors** |
| Customer satisfaction | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| Providing value for customers | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| Customer evaluations of service quality | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| Return on Investment | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| Profit before tax | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |

**4.3.1.12 Additional Variables**

A range of other variables were collected in the study. Some of these variables were collected to enable comparison of demographic characteristics of the sample with associated characteristics of the population under investigation, to confirm that the sample is representative. It also provides variables that can be controlled for in subsequent analysis, if so desired. Such variables collected in this study were age, gender, job, title, time in current position, time in current organisation, and time in current industry. Furthermore a range of variables which were not related to the study reported in this thesis were also included in the final questionnaire.

### 4.3.2 Response Form

The questionnaire items were mainly close-ended with the exception of a few profile questions. Several reasons are advanced for choosing closed-ended answers. First, closed-ended answers are easier to compare across multiple respondents and are particularly appropriate when the questionnaire is administered by mail (Churchill 1999). Second, the possibility that respondents will misinterpret questions is minimized with close-ended questions (Huber and Power 1985). Third, a closed-ended response format reduces the time taken by respondents to complete the questionnaire hence greatly reducing respondent fatigue. Finally, a close-ended response format makes for faster and less expensive data collection technique over open-ended responses (Malhotra and Birks, 2006).

To prevent monotony for respondents; which may lead to incomplete questionnaires, respondents were asked, for some questions, to fill the number into the boxes for each corresponding questions, while other questions required respondents to circle the number which best reflected their opinion.

Following the leading approach in the general business literature, and the services marketing and management literature in particular, an interval or rating scale was utilised for measuring most of the items in the questionnaire. This enables the use of parametric statistical analysis. As argued by Borgatta and Bohrnstedt (1980:160): "given that most constructs are conceptualised as continuous and can be thought of as reasonably distributed in the population using a bell-shaped curve as a model, we see no reason not to analyse the manifest data using parametric statistics, even though they are imperfect interval-level scale". This view is shared by a significant number of researchers in the marketing field.

The majority of the scales used in the questionnaire adopted a 7-point and a 5-point rating scale. The measurement literature suggests that using more rather than less response categories is more likely to produce measures that have high construct variance and low measurement error variance (Ping, 2004).

### 4.3.3 Question Sequence and Physical Characteristics

This section provides details on issues relating to the question sequence and physical characteristics of the survey instrument. Several researchers have suggested that the layout of the self-administered questionnaire may be critical to the success of a study (Churchill 1999; Malhotra and Birks 2006). There are several rules of thumb that need to be followed regarding question sequence. Churchill (1999) suggests that the initial questions need to be interesting; while Tull and Hawkins (1993) note that the first questions also need to be simple and objective.

In addition, Malhotra and Birks (2006) recommend that questions should be divided into several sections. The questionnaire should however move smoothly from one section to another, as sudden shifts in topic tend to confuse respondents. Consequently, the questionnaire was developed based on these recommendations. Questionnaire length was addressed by using double-sided printing, since this has no negative effects on response rates (Jobber, 1989). This resulted in an eight-page questionnaire for both management and employees inclusive of a cover page and all measures needed to answer the research objectives of the present study.

### 4.4 Data Collection

This section briefly describes the procedure for data collection used in this thesis. It describes two stages of data collection: the pilot study and the main survey.

### 4.4.1 Pre-Testing and Pilot Study

The research instrument was pre-tested before administering the questionnaire to the final sample. Diamantopoulos et al. (1994) suggest that pre-testing helps to identify fundamental problems with the instrument as well as to determine the potential effectiveness of the research instruments. Following Churchill (1999) the questionnaire was first pre-tested through a personal interview.

Personal interview pre-test can provide information on problematic and confusing questions and also formatting issues. However, Churchill (1999) also advises that instruments need to be tested using the actual method to be adopted in the main study.

Accordingly, it was decided that a mail pre-test would also be conducted in order to arrive at a final research instrument and also to get some preliminary feedback on probable response rates (Diamantopoulos, et al, 1994).

**4.4.1.1 Personal Interview Pre-tests**

The first stage of the pre-test in this study involved a review of the questionnaires by three colleagues who were involved in doctoral research in various fields at Loughborough University Business School. Their comments were general in nature and mostly related to problems in understanding the general instructions, typographical errors, and the layout. After taking into account their suggestions, the questionnaires were further reviewed by two academics with several years' experience in measures development. Apart from the newly measured items that required thorough evaluation, they also identified several inadequate items, some poorly worded or double-barreled questions, and also made useful comments regarding the clarity and ambiguity of questions as well as the overall design of the questionnaire.

The questionnaire for management was pre-tested through interviews with one senior management figure in each of 5 estate agency firms. Since the majority of questions in both management and employee questionnaires are similar it was deemed unnecessary to pre-test both with managers. Most of the meetings lasted for about 20-30 minutes as originally agreed. Respondents were given a questionnaire for a quick review and asked to give feedback on all or only on selected parts of the questionnaires depending on the time agreed for the interview. At the end of all 5 interviews, the entire questionnaire was fully covered for further refinement.

Following the preliminary pre-test, some changes were made to the layout of the questionnaire. Adjustments were made regarding spacing, font-size and layout. Spelling errors and double-barreled questions were also corrected.

**4.4.1.2 The Pilot Study**

Both questionnaires were revised on completion of the second stage of pre-testing. The revised questionnaires used in the next pre-test phase and of the study are shown in Appendix 4.3. The mail pilot pre-test was conducted to identify any administration problems, and also to indicate the possible response rate for the main survey. In order to get optimal results and so as to be representative of the actual target population (Hunt, et al., 1982), the same sample frame for the mail pre-test was the same as the main survey.

A randomly selected sample of 200 firms was chosen for the pilot study by using the first name of the named contact as sorting variable. These 200 firms were divided into two groups. For the first group, after pre-notification, a pack containing one management and three employee questionnaires were sent out at with a cover letter. Managers were asked in the cover letter to distribute the related surveys to employees. For the second group, management questionnaires were first sent out and employee questionnaires were then sent out to only those firms whose managers had responded either before or after reminders had been sent out.

The first approach; i.e., sending out both management and employee questionnaires at once provided a higher response rate in terms of completed dyads and was thus adopted as the method for the main study. At the end of the pre-test process, the following results included in table 4.1 were obtained. The effective response rate in terms of dyads obtained was thus 7%.

Ten organisations were randomly chosen for telephone follow up to determine reasons for not replying to the questionnaire. The major reason provided for non-response was that there was no time to fill questionnaires in the harsh economic climate they were experiencing. This was understandable, as, just when the questionnaires were being sent out the global economic crisis which began in 2008 was beginning to severely affect the UK housing market and thus estate agents business.

**Table 4.1: Response Rate for Pilot Study (By Firm)**

| Group 1 | | | Group 2 | | |
|---|---|---|---|---|---|
| Management | Employees | | Management | Employees | **TOTAL** |
| 11 | | **MATCHED** | 3 | | 14 |
| 2 | 6 | **UMMATCHED** | 13 | | 21 |

**4.4.1.3 Response Enhancement for the Main Study**

A major problem with industrial mail survey lies in the presumed bias in the data obtained due to low response rates (Jobber et al, 2004). Careful attention was therefore paid to methods for increasing the study's response rate. The key problem with low response rate is non-response bias; a situation where non-respondents may differ significantly from respondents. In this mail pre-testing, where possible, recommendations from the literature were adopted.

Researchers recommend the use of pre-notification and follow-up methods to enhance response rates (Harvey, 1987; Jobber and O'Reilly, 1998). Respondents were pre-notified and also sent a reminder letter two weeks after sending out the questionnaires. This was done in order to get a likely estimate of an average response rate, bearing in mind that the actual data collection would certainly utilise substantially improved techniques in order to generate better response rate as suggested in the literature.

The cover letter accompanying the questionnaire used university stationary in order to increase the credibility of the project and thus the response rate (Bruvold and Comer 1988). The letter was personalised, addressing the respondent by name and title (Diamantopoulos and Schlegelmilch, 1996). Personalisation has been shown to be particularly important when requesting responses from small businesses (Dennis 2003). In this case, it was quite easy to obtain the names of senior management from the websites of respondent firms.

The cover letter also emphasized the importance of the respondents' answers in making a difference between the success and failure of the study and hence the researcher's doctoral thesis (Diamantopoulos and Schlegelmilch, 1996). The letter guaranteed complete confidentiality throughout the entire data collection and data processing stages. Every cover letter was personally signed by the researcher.

First class stamps were used for sending out the questionnaires and a self-addressed freepost return envelope was provided for the return of the questionnaire. No monetary incentives were offered; however, each respondent was offered a summary copy of the findings if they included their email addresses at the end of the questionnaire. Please refer to Appendix 4.4 for a copy of the introductory letter.

In order to maximise response rates, the steps followed in the pilot study were as follows:

1) 13 October 2008: Introductory letter was mailed to partners and directors of estate agencies using numerous appeals, informing them of the purpose of the study, and informed them that in one week's time they would receive a questionnaire packet with further instructions (see Appendix 4.4)

2) 20 October 2008: Questionnaire packet was mailed which included cover letter, questionnaire and freepost reply envelope (see Appendices 4.5, 4.3, and 4.6, respectively)

3) 3rd November 2008: Reminder cover letter, questionnaire packet and freepost reply envelope was sent to firms that had not responded asking them to please complete and return the questionnaire if they had not already done so (see Appendix 4.7)

### 4.4.2 Main Survey

Taking into account the number of constructs, it was important to have a reasonable number of cases in order to ensure that there would be sufficient power in the statistical analysis. The literature highlights that at least 100 to 200 cases are necessary to adequately assess the reliability and validity of measures (Spector, 1992).

With a pre-test response rate of roughly 7%, it was decided that at least 1500 questionnaires would have to be sent out to at least arrive at a minimum of 100 complete dyads. The researcher therefore decided to telephone firms for which no named contact had been available in order to increase the sample. Through this method, 200 firms were added to bring the total sample to 1700. Since 200 firms had already been used for the pilot, the main study had a total sample of 1500 firms.

The questionnaires were sent out in three waves of 500 each. This whole process lasted a total of three months. Upon receiving the pre-notification letters, a total of 112 firms declined to participate in the study either by email or by postal mail. 10 other firms advised that they were no longer involved in estate agency while a further 36 were returned as undeliverable as the firms had recently closed business. The total number of firms to whom questionnaires were sent totalled 1342.

1) 12 November 2008; 6 January 2009 and 27 January 2009: Introductory letter was mailed to partners and directors of estate agencies using numerous appeals, informing them of the purpose of the study, and informed them that in one week's time they would receive a questionnaire packet with further instructions (see Appendix 4.4)

2) 19 November 2008; 13 January 2009 and 3 February 2009: Questionnaire packet was mailed which included cover letter, questionnaire and freepost reply envelope (see Appendices 4.5, 4.3, and 4.6, respectively)

3) 2 December 2008; 27 January 2009 and 17 February 2009: Reminder cover letter, questionnaire packet with applicable questionnaires and freepost reply envelope was sent to firms that had not responded asking them to please complete and return the questionnaire if they had not already done so (see Appendix 4.7)

**4.4.2.1 Response Rate Enhancement for Main Survey**

Several steps were taken to maximise the response rate. Most of these steps employed during the pre-testing stage were also taken during the main study. Several researchers suggest that follow-ups are important in encouraging response (Diamantopoulos and Schlegelmilch, 1996; Harvey 1987). An overview of the recommended methods to increase response rate is given in Figure 4.14. The list

includes suggestions from Fox et al. (1998), Chawla and Nataraajan (1994), Churchill (1999),) and Diamantopoulos and Schlegelmilch (1996).

**Figure 4.14: Factors Influencing Response Rate**

| |
|---|
| Telephone pre-notification |
| Follow-ups* |
| Monetary incentives |
| Non-monetary gifts |
| Faculty with English-Christian-sounding name* |
| Stamped address return envelope* |
| Second mailing of the questionnaire and letter* |
| Assurance of anonymity and confidentiality* |
| Appeals (e.g., egoistic, social utility, altruism)* |
| Personalisation (e.g., hand-signed, or personal cover letter)* |
| Interesting topic and not sensitive or controversial in nature* |
| Simple questions and layout* |
| Specification of return deadline |
| Questionnaire shorter than or equal to 4 page |

* Methods used in some form in the present study

### 4.4.3 Response Analysis

The number of firms that provided responses is included in the figures below

**Table 4.2 Usable Responses from Main Study Alone**

| | |
|---|---|
| **Firms with both Employee and Management Responses** | **95** |
| **Firms with Employee responses alone** | **8** |
| **Firms with Management responses alone** | **8** |
| **TOTAL** | **111** |

**Table 4.3: Usable Responses from Main Study and Pilot Study Combined**

| | |
|---|---|
| **Firms with both Employee and Management Responses** | **109** |
| **Firms with Employee responses alone** | **14** |
| **Firms with Management responses alone** | **23** |
| **TOTAL** | **146** |

In all, a total number of 146 firms provided some form of response. 132 firms provided responses from top management while 123 firms provided at least one employee response. Of all the questionnaires which were completed, only one management questionnaire was deemed unusable as only the first page was filled. This questionnaire was excluded from the final sample reported in Tables 4.2 and 4.3. The breakdown of number of employee response by firms is given in Table 4.4

**Table 4.4: Employee Responses by Firm**

| | Number of Employee Responses per firm | | | Number of Firms with employee responses | Total number of Employee Responses for all firms |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | | |
| **Firms** | 71 | 34 | 18 | **123** | |
| | | | | | **193** |

The effective response rate achieved in this study in terms of dyads achieved was about 7% (109/1542*100). This calculation was based on those who were contacted, were eligible and did not decline to participate in the study at the pre-notification phase. In terms of overall responses by firm the effective response rate is 9.5% (146/1542*100).

Despite some setbacks of the adopted method used in this study, the response rate achieved in this study seems satisfactory. While the response rate appears quite low, this study was conducted in the midst of an economic crisis. Estate agents were seriously affected and it is quite possible that many other firms contacted were either closing down or in the midst of closing down at the time the questionnaires were being sent out. Furthermore, in the light of the fact that most estate agencies are small

business which generally tend to yield low response rates (Dennis, 2003), and also because information was sought from multiple sources, the response rate was quite satisfactory.

### 4.4.4 Non Response Analysis

In order to establish whether the sample suffers from non-response bias, an extrapolation strategy was employed. It has been suggested that "[persons] who respond in later waves are assumed to have responded because of increased stimulus and are expected to be similar to non-respondents" (Armstrong and Overton 1977: 397). Thus non-respondents have characteristics more similar to late respondents than the early repliers.

The following strategies were employed to distinguish between the early and later respondents. Using Armstrong and Overton (1977) and Churchill (1999), those whose responses were received before reminder packs were sent out were considered as early respondents. Those whose responses were received after reminder packs were sent out were regarded as late respondents. Altogether, the sample sizes for the early respondents and late respondents were 70 and 39 respectively.

A series of independent t-tests were performed on four main firms' characteristics and four variables representing measures used in the final model. The results of the t-tests performed across all variables of interests are shown in Table 4.5. As can be seen, at 5% significant level across these variables, no significant differences were found across early and late respondents. Thus, following Armstrong and Overton (1977) and Churchill (1999), it can be concluded that the sample does not suffer from response bias.

### 4.4.5 Sample Characteristics

As mentioned previously, data for this study was collected from both employees and managers in estate agent firms. As a result, the descriptive analysis involves the examination of several patterns exhibited by the sample at the firm, managerial and employee levels. Sample characteristics related to the respondent firms are presented before sample characteristics related to managers and employees respectively.

**Table 4.5: Response Bias Analysis**

| Variable | Mean of Late Responses (N=39) | Mean of Early Responses (N=70) | Sig of T-value |
|---|---|---|---|
| Age of Firm | 13.02 | 14.93 | .303 |
| Number of Branches | 3.74 | 3.89 | .952 |
| Number of Branch Staff | 6.85 | 7.76 | .379 |
| Number in Top Management Team | 3.38 | 2.81 | .234 |
| Employee Service Quality Norms | 6.22 | 6.22 | .974 |
| Employee Service Delivery Behaviour | 4.56 | 4.51 | .567 |
| Mgt Service Supporting Behaviour | 4.20 | 4.15 | .792 |
| Mgt Service Delivery Behaviour | 4.71 | 4.61 | .585 |

### 4.4.5.1 Age of the Firm (Business Experience)

In this study business experience reflects how long a company has been involved in the estate agency business. The mean, median and mode of the age of firms were 38, 18 and 20 years respectively

**Figure 4.15: Age of Firm as a Cumulative Percent**
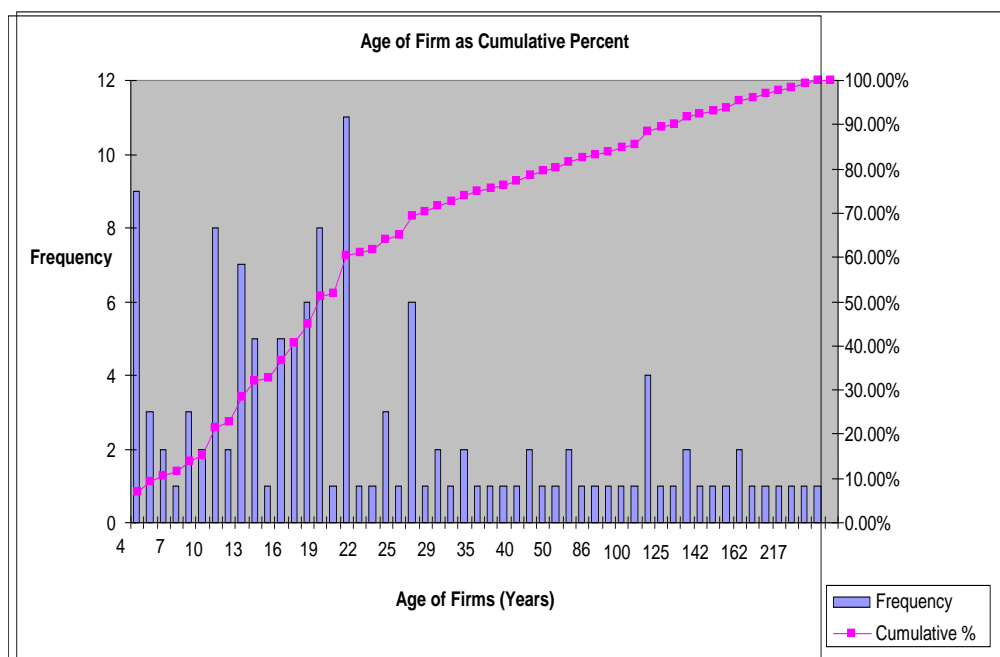
20% of the firms had been in business for l0 years and less while 60% of firms had been in business for less than 20 years. 80% of all firms sampled had been in business for less than 40 years. About 10% of the firms had been in business for over 100 years.

**4.4.5.2 Firm Size**

Firm size is measured by number of branches, the number of full-time employees in the particular branch and in the firm as a whole. Table 4.6 contains the descriptive statistics for the number of branches. Table 4.6 shows the number of branches as a cumulative percentage. More than 50% of the firms had only one branch. 90% of firms whose managers responded had 5 branches or less.

**Table 4.6 Descriptive for Firm Size (Number of Branches)**

| Mean | 3.54 |
|---|---|
| Median | 1 |
| Mode | 1 |
| Standard Deviation | 10.75 |
| Minimum | 1 |
| Maximum | 120 |

**Figure 4.16: Number of Branches as a Cumulative Frequency**
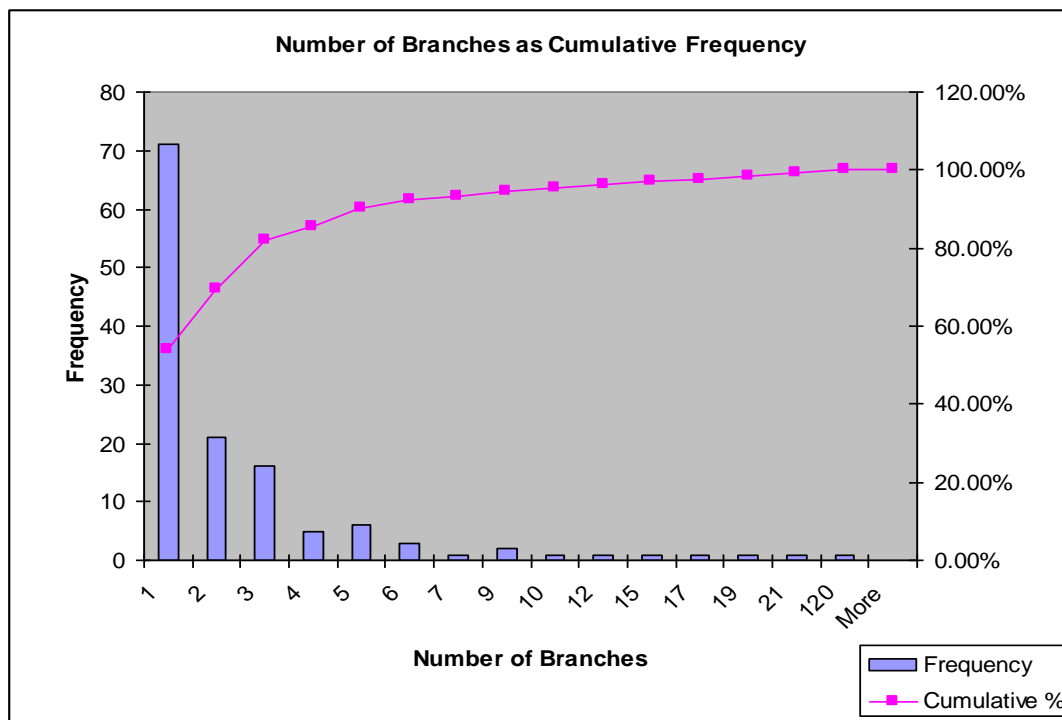
Table 4.7 contains the descriptive statistics for the number of employees in the branch as well as in all branches of the organisation.

**Table 4.7: Descriptive Statistics for Number of Employees**

|  | All Staff | Responding Branch Staff |
|---|---|---|
| Mean | 24.36 | 7.02 |
| Median | 8.00 | 5.00 |
| Mode | 5.00 | 5.00 |
| Standard Deviation | 66.33 | 5.02 |
| Minimum | 3.00 | 3.00 |
| Maximum | 600.00 | 34.00 |

Figure 4.17 shows the number of employees in all branches of the firm in terms of frequency and as a cumulative percentage. More than half of the firms had 8 employees or less in all branches. This was consistent with the fact that most of the firms sampled had a single branch. Figure 4.18 shows the number of employees in the respondent branch as a cumulative percentage. More than half of the branches surveyed had 5 employees or less

**Figure 4.17: Number of Employees per Firm**
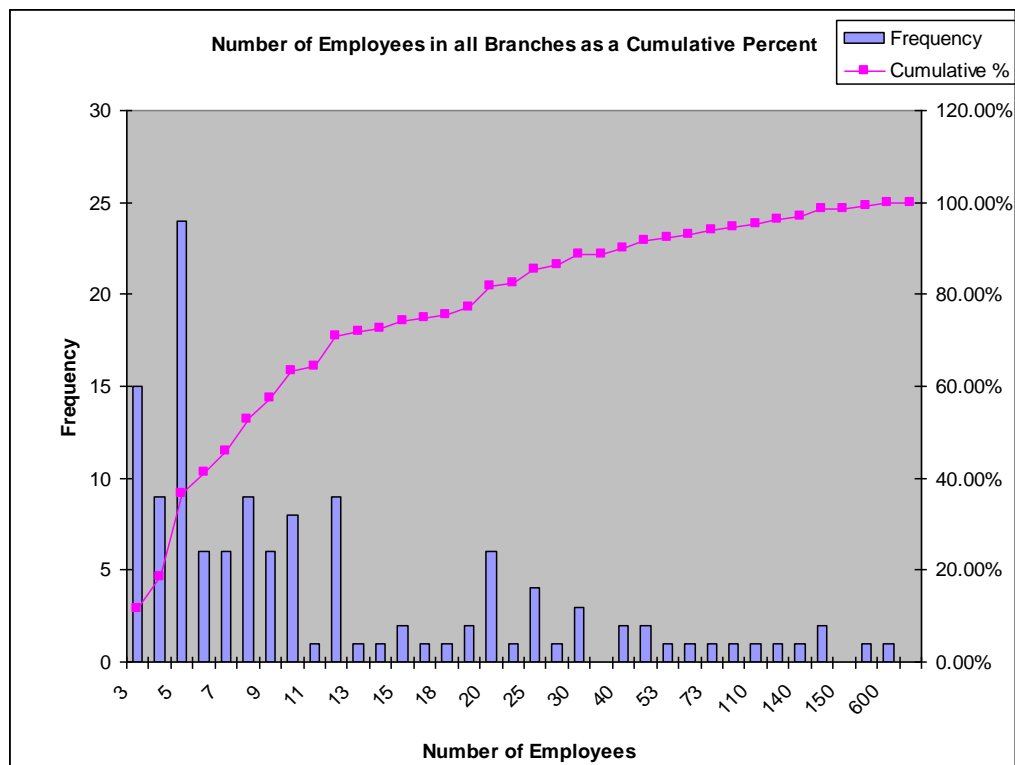
**Figure 4.18: Number of Employees in the Respondent Branch**
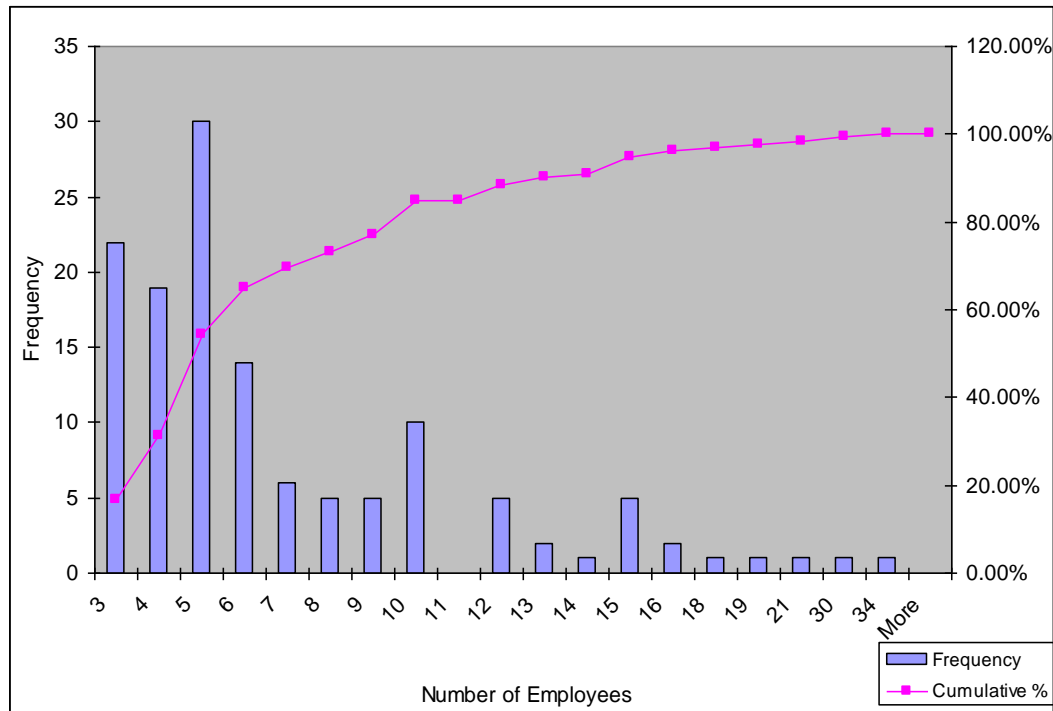


## 4.4.5.3 Number of Business Areas

Six business areas relevant to the estate agent context were included in the questionnaire and respondents were asked to indicate what percentage of their firms' turnover was attributable to these areas of business. The summary of the descriptive statistics for these six areas is shown in Table 4.8. The business area responsible for most of the firms' turnover was sales while legal services accounted for the least contribution to the turnover of the sampled firms.

**Table 4.8: Descriptive Statistics for Turnover attributable to Business Area**

|  | BUSINESS AREA | | | | | |
|---|---|---|---|---|---|---|
|  | Sales | Lettings | Survey &Valuation | Financial Services | Legal Services | Others |
| Mean (%) | 68.20 | 29.26 | 12.79 | 6.50 | 3.77 | 23.96 |
| Median (%) | 70.00 | 22.50 | 10.00 | 5.00 | 3.00 | 20.00 |
| Mode (%) | 100.00 | 10.00 | 5.00 | 5.00 | 2.00 | 10.00 |
| Std Deviation | 27.01 | 24.21 | 11.07 | 5.79 | 2.35 | 19.35 |
| Minimum (%) | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum (%) | 100.00 | 100.00 | 50.00 | 25.00 | 10.00 | 60.00 |
| Frequency | 129.00 | 96.00 | 52.00 | 34.00 | 13.00 | 23.00 |

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**4.4.5.4 Profile of Top Management Respondent**

The respondents were asked to indicate whether they were founders of the firm or not and also how long they had been members of the top management team. They were also asked to indicate their level of involvement in managing the business strategy of the firm.   Table 4.9 shows the number of respondents who are founders and those who are not for the organisations sampled. As can be seen more than half of the respondents identified themselves as founders while non-founders constitute about 37% of the respondents.

**Table 4.9: Status of Respondents**

| **Respondent** | Frequency | % |
|---|---|---|
| Founder | 45 | 37 |
| Non-Founder | 87 | 63 |

Figure 4.19 shows the length of time the respondent has been a member of the top management team in the firm. The mean number of years each respondent has been a member of the top management team is 14.5 years. About half of the respondents have been part of the top management teams of their firms for more than 13 years.

**Figure 4.19: Time Spent as Member of Top Management Team**



144
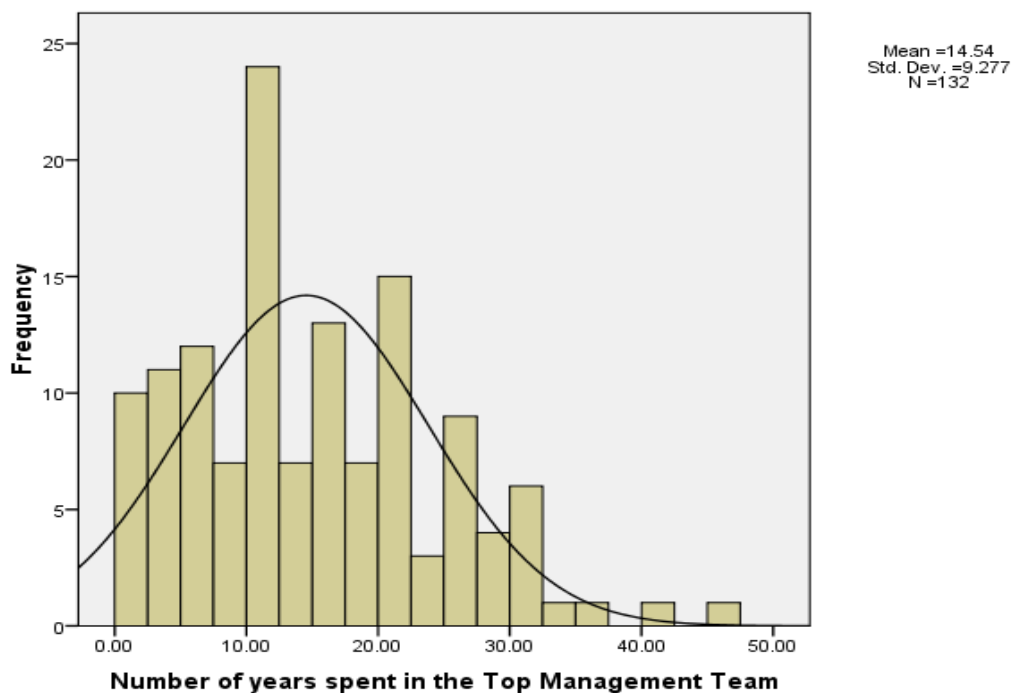
Table 4.10 details the level of involvement of the management respondent in managing the business of the firm.

**Table 4.10 Level of Involvement**

|  | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Slightly Involved | 1 | .8 | .8 |
| Moderately Involved | 5 | 3.7 | 4.5 |
| Very Involved | 64 | 48.5 | 53.0 |
| Make all decisions | 62 | 47.0 | 100.0 |
| Total | 132 | 100.0 | |

In terms of the level of involvement, only 6 out of 132 of the respondents claim to be moderately involved or slightly involved. The rest of the respondents claim to be very involved or to be the one who makes all decisions relating to business strategy.

**4.4.5.5 Respondents' Status (Employees)**

Employees were asked to indicate their gender and their ages, as well how long they had worked in their present firm and how long they had worked in the industry. All employees were also asked to indicate the areas of business in which they worked.

In terms of gender, the distribution between males and females is shown in the table below. The numbers show that almost two-thirds of respondents were female while just over one third of respondents were male.

**Table 4.11: Gender Distribution of Employees**

|  | Frequency | % |
|---|---|---|
| Male | 68 | 35.23 |
| Female | 125 | 64.77 |
| Total | 193 | 100% |

Descriptive statistics for the age of employees is presented in the Table 4.12.

**Table 4.12: Descriptive Statistics for Age of Employees**

| Mean | 39.04663 |
|---|---|
| Median | 37 |
| Mode | 34 |
| Standard Deviation | 11.3804 |
| Minimum | 20 |
| Maximum | 66 |

Number of years worked in the present firm for the 193 employees ranged from 9 months to 36 years. The average number of years worked for all employees was 6 years. About a third of the employees had worked for more than 6 years in their current employment. The number of years worked in the estate agency industry for the 193 employees ranged from 9.5 months to 40 years. The average number of years worked was 10.4 years for all employees. About half of the employees had worked for more than 8 years in the estate agency industry. Figure 4.20 shows the average number of years employee respondents have worked in the firm. Figure 4.21 shows he average number of years respondents have worked within the estate agency industry.

**Figure 4.20: Number of Years Worked in the Sampled Firm**
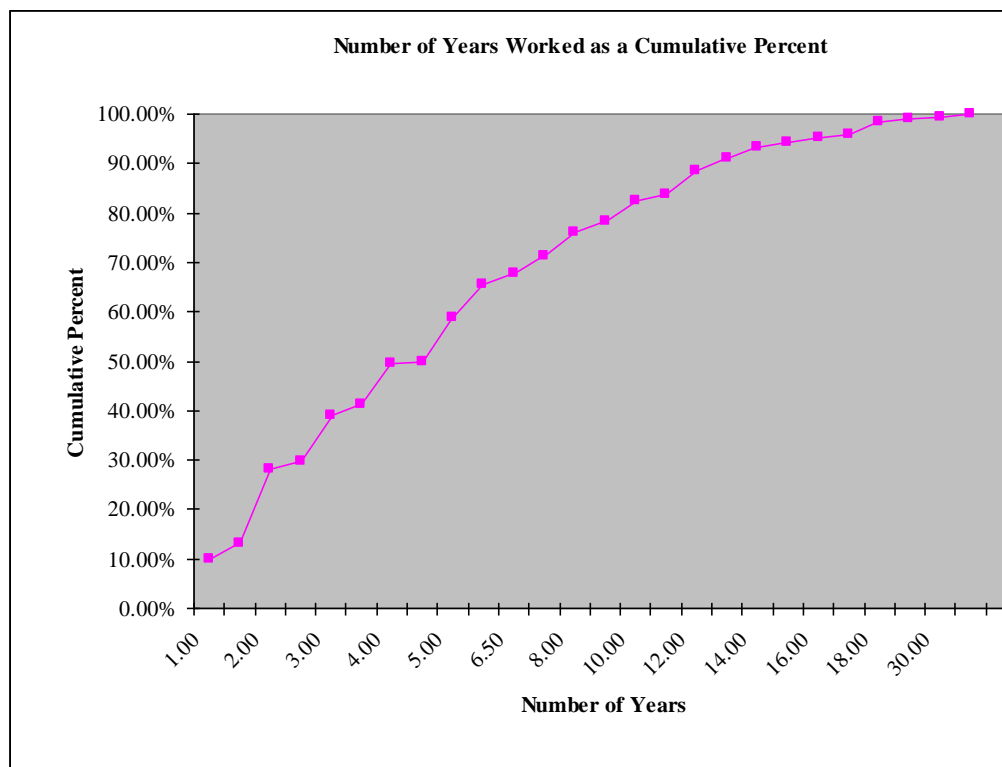
**Figure 4.21: Number of Years Worked in the Estate Agency Industry**
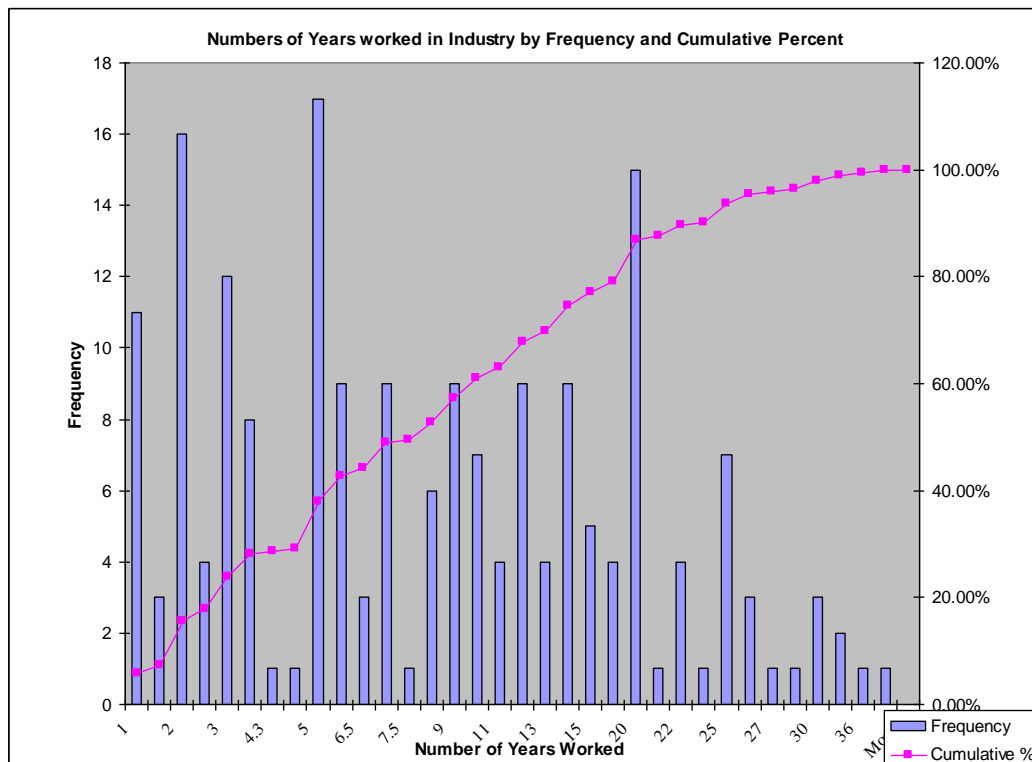


## 4.5 Analytical Procedures

Given that the model to be tested represents relationships between constructs, data analysis based upon some form of correlation is appropriate. However since temporal constraints (i.e., non-longitudinal work) render causal determination impossible, theoretical reasoning served as the basis for inferring relationships among constructs. For example, from the theory of organisational behaviour, we can infer that "behaviours are driven by norms prescribing and sanctioning these behaviours and values in which the norms are embedded" (Katz and Kahn, 1978:43).

### 4.5.1 Choice of an Analytical Technique

Hierarchical linear modelling (HLM) was initially considered for this study, as HLM techniques are appropriate for modelling the effect of group level variables on individual responses (Bryk and Raudenbush, 1992). Hierarchical linear model analysis (HLM) was designed specifically for cross-level inferences that link the characteristics of individuals to the characteristics of the groups in which they are nested (Bryk and Raudenbush, 1992).

However, because of the composition of the sample and the number of main effects to be investigated the technique was considered inappropriate for this study. More specifically, an optimal sample size for finding one main effect at the $p \leq .05$ level is approximately 20 groups, with each group containing at least 20 respondents (Raudenbush, et al, 2001). Therefore, it was concluded that the data obtained for this thesis would not demonstrate sufficient power to utilize HLM. Furthermore, all variables were measured at the group-level, rather than at the individual level, with the group as the referent. Since no group variables were hypothesised as related to individual level variables (no individual level variables were measured), HLM was deemed not particularly necessary.

The Partial Least Squares Approach (PLS) was also considered as an analytical technique for this study. PLS is a components-based structural equations modelling technique similar to regression, but models the measurement paths i.e., relationships between a latent variable and its indicators) while simultaneously modelling the structural paths (i.e., theoretical relationships among latent variables) (Chin, 1998). Instead of assuming equal weights for all indicators of a measurement scale, the PLS algorithm allows each indicator to vary in how much it contributes to the composite score of the latent construct. Therefore, in many ways, PLS is preferable to techniques such as regression, which assume error free measurement (Wold, 1982).

The impetus for the development of PLS was a desire to help researchers to obtain determinate variables for predictive purposes (Wold, 1982). Rather than modelling for the explanation of covariation for all of the indicators, the goal is to minimize the variance of all dependent variables. Therefore, parameter estimates are obtained based on the ability to minimize the residual variances of both latent and observed dependent variables.

While PLS can be used for theory confirmation, its strength lies in application and prediction as PLS assumes that all measured variance is useful variance to be explained (Wold, 1982). PLS was developed as an analytical alternative for situations where theory is weak and where the available manifest variables or measures would likely not conform to a rigorously specified measurement model. As such, PLS is

rooted in the data set, as opposed to the covariance-based approach, which adheres to the theoretical model. PLS is congruent with research that is relatively new or changing and when theoretical models are not well formed (Jöreskog and Wold 1982).

Structural equation modelling was considered as the most suitable technique for analysing the data collected in this research for a number of reasons. Firstly, SEM is suitable for testing theoretical models that contain multiple interrelated dependence relationships (Hair et al., 2006b). SEM enables researchers to estimate these relationships through separate equations for the endogenous constructs and to specify multiple dependence relationships that capture the effect of mediating constructs (Chin, 1998). Secondly, SEM allows for the estimation of both manifest variables and latent constructs (Bollen, 1989). Third, SEM enables researchers to capture the effects of measurement error (Hair et al., 2006). This ability to partition error variance and structural prediction errors is a key function of SEM. Parameter estimates can be severely biased when measurement error is not accounted for as measures are not deemed to be perfect (Bollen, 1989). Finally, SEM is driven by theory not data (Diamantopoulos and Siguaw, 2000). The research was undertaken with prior knowledge of the subject area, the aim being the support or further development of the current literature-based conceptualisation of the cultural antecedents to service quality and performance and therefore SEM was thought of as more suitable than PLS.

## 4.5.2 Structural Equation Modelling

Structural equation modelling (SEM) has become increasingly popular for data analysis in the social sciences in general (Chin, 1998; Kelloway, 1998), and in marketing in particular (Fornell and Larcker, 1981). The majority of published studies in leading marketing journals that use SEM have been conducted with cross-sectional data, as is the case in this study.

The technique of structural equation modelling emphasises the importance of theory as the basis for all research (Diamantopoulos and Siguaw, 2000). Structural equation modelling is more suitable than other statistical techniques, such as simple correlation

or regression for testing complex relationships. This is because correlation and regression typically deal with one relationship at a time, while structural equation modelling incorporates a range of statistical models to concurrently assess a number of relationships within a conceptual model (Byrne, 1998; Chin, 1998; Hair et al., 2006b).

The literature generally recommends that the evaluation of structural equation models should follow a two-step procedure (Anderson and Gerbing, 1988). The procedure involves assessing a measurement model and then subsequently assessing a structural model. Proper specification of the measurement model is crucial before significant meaning can be drawn from the analysis of the structural model (Anderson and Gerbing, 1982). A measurement model, or a confirmatory factor analysis (CFA) model specifies the relationships between observed (i.e., measured) variables and the latent variables they are associated with (Schumacker and Lomax, 2004). During this first stage of the two-step process, most of the modifications procedures are made, in order to obtain an acceptable fit to the data (Schumacker and Lomax, 2004). The measurement model generated in the first step is then used as a component of the full structural model, which specifies theoretical relationships among the latent constructs. This two-stage process has been respecified over the years, such that the process can now contain anything between one and eight stages (Kelloway, 1998; Schumacker and Lomax, 2004; Hair et al., 2006b; Kline, 1998; Diamantopoulos and Siguaw, 2000).

There is however some criticism against the two-stage approach to SEM. Hulland et al. (1996) suggest that the analysis of data and theory together is the real advantage of SEM over other multivariate techniques and so advocate the use of a one-stage approach to modelling. The key issue to the authors is the belief that theory and data are independent using a two-stage approach (Hulland et al., 1996). Despite this criticism, however, most researchers still favour the two-stage approach in SEM as first proposed by Anderson and Gerbing (1988). As such, this thesis adopts a general two stage approach to model estimation. Using this approach, a measurement model is developed and then assessed for its validity before specifying the structural model and then assessing the structural model validity.

**4.6 Stage One – The Measurement Model**

**4.6.1 Developing the Overall Measurement Model**

The first stage involves developing the overall measurement model (Hair et al., 2006b). This process often involves constructing a path diagram, which is; a visual representation of the relationships among the model constructs including observed and latent variables, disturbances, and errors. A path diagram makes it easier than relying on mathematical equations for the researcher to comprehend the hypotheses (Bollen, 1989). Path diagrams can also help to reduce the chances of specification error by highlighting omitted links and possible overlooked variables (Diamantopoulos and Siguaw, 2000).

The objective of the measurement model is to describe the extent to which the observed indicators (manifest variables) reflect the latent constructs (Bagozzi and Yi, 1988; Hair et al., 2006b). The measurement model is a helpful process in evaluating convergent validity and discriminant validity (Anderson and Gerbing, 1988). Furthermore, the measurement and structural model in conjunction with one another provide a confirmatory assessment of construct validity (Bentler, 1978; Anderson and Gerbing, 1988). If the indicators do not have sufficient validity, the SEM process cannot continue. Validity is discussed in more detail later in this chapter.

**4.6.1.1 SEM and Sample Size**

Sample size is an important element in SEM. The larger the sample size, the less the sampling error and the more likely that the results will be statistically significant. The number of observations required differs depending on the number of parameters in the model to be estimated.

While there is little united theoretical guidance as to what constitutes an adequate sample size, Bentler and Chou (1987) nevertheless suggest a rule of thumb that the ratio of sample size to free parameters should equal at least 5:1. They note that to improve the trustworthiness of a model this ratio should be increased to 10:1. Hair et al. (2006b) also back this ratio method, stating that as model complexity increases so also should sample size. Previous sample size recommendations include 50 plus the number of parameters to be estimated (Bagozzi, 1981), to 100 (Bollen, 1989), to 200

or more (Joreskog, 1981). It is generally suggested, however, that a larger sample size is better, with a minimum sample size of 100 to 150 (Ding et al 1995) and at least 200 observations recommended for a more complex model (Kelloway, 1998). However, in situations where less than 200 cases are analysed, relaxing the limitation imposed on the number of iterations run by the statistical software can help the software to provide an adequate solution (Jöreskog and Sörbom, 1996).

### 4.6.1.2 Computer Software Used

The computer software used to estimate the structural equations in this study is LISREL. While there are many other computer packages on the market: AMOS, AUFIT, CALIS, COSAN, EQS, MILS, MPLUS, RAMONA and SEPATH (Baumgartner and Homburg, 1996; Hayduk, 1996; Kline, 1998) and whilst it is theoretically possible to argue the virtues of one application over another, LISREL was chosen in this instance because it was the one available at Loughborough University and therefore, the one the researcher was familiar with.

### 4.6.1.3 Input Matrix for Analysis

This stage of the SEM process considers the choice of input matrix used for analysis. The type of data collected and the outcomes of tests performed on the data determine the matrix to be used. Data was collected in this study using 5-point and 7-point Likert-type scales, enabling the data to be treated as interval for the purposes of analysis. This is important because: a) it allows for the use of more powerful parametric statistics (Churchill, 1999) and b) most SEM analysis is conducted on variables at either the interval or ratio level of assessment (Kline, 1998).

Correlation matrices are sometimes used as model input (Baumgartner and Homburg, 1996) but a covariance matrix is strongly recommended in almost all situations (Kelloway, 1998; Kline, 1998). Both types of matrix have their negatives. Use of a covariance matrix eliminates differences related to the means of variables, whilst the use of a correlation matrix eliminates differences attributable to both variable means and the dispersion of the variables (Kelloway, 1998). In addition, use of a correlation matrix often results in inaccurate standard errors being generated (Bollen, 1989).

Hence, for this study a covariance matrix coupled with an item mean file was used to estimate the measurement and structural models (Joreskog and Sorbom, 1996).

**4.6.1.4 Preliminary Data Analysis: Data Screening**

One of the most important stages in SEM is the data screening process (Baumgartner and Homburg, 1996). Data screening should be performed prior to statistical analysis. Data screening in this research was carried out in SPSS following guidelines suggested by Baumgartner and Homburg (1996). The first step was to ensure that there were no errors in coding and that the responses were recorded correctly. The data was then screened for potential outliers and atypical cases. Out of range responses as well as cross contingency tables were used to identify unusual patterns in the data and to check for the distribution of the variables. The variables were also examined for skewness and kurtosis. The finding here was that the data were approximately univariate- and multivariate-normal. Since maximum likelihood (ML) estimation is fairly robust even under departures from normality, it was the estimation technique chosen in this research.

**4.6.1.5 Treatment of Missing Data**

One issue that is of relevance to sample size is the issue of missing data. The treatment of missing data is an important consideration as it has implications for the data analysis and the interpretation of the results (Gold and Bentler, 2000; Olinsky et al 2002). Three methods are commonly used to replace missing data; weighting, direct analysis of incomplete data, and imputation (Olinsky et al, 2002). The most common form of weighting, namely complete-case analysis or listwise deletion, involves the exclusion of any cases in the analysis that have missing observations (Kline, 1998). The advantage of listwise deletion is that it produces consistent estimates of the predicted covariance matrix as all analyses are conducted with the same cases (Bollen, 1989). The main disadvantage is that it can severely reduce the sample size, especially if the missing observations are scattered across many subjects (Kline, 1998). In direct analysis of incomplete data or pairwise deletion (Gold and Bentler, 2000), cases are excluded only if they have missing data on the variables involved for a particular computation (Kline, 1998). The main disadvantage of this

method is that differing sample sizes may be used for different calculations (Malhotra and Birks, 2006). The differing number of observations to cases in the sample size can also result in problems with interpretation of the chi-square statistic (Bollen, 1989).

The third and most sophisticated method of dealing with missing data is imputation. This can take a number of forms (Gold and Bentler, 2000). The overall goal of imputation methods is to maximise the effective sample size. The simplest way to impute is to substitute missing observations on a particular variable with the sample mean for that variable (Olinsky et al, 2002). Another procedure is to use hot-deck imputation (also called pattern matching), where each missing piece of data is replaced by a value from a statistically similar subject in the sample (Olinsky et al, 2002). A disadvantage of this method is that it can be difficult to define suitably similar cases for imputation purposes (Hair et al., 2006) and the technique is therefore more suited to very large data sets (Cohen et al, 2003). Yet another procedure is to use the Expectation-Maximisation (EM) algorithm (Olinsky et al, 2002). A possible disadvantage of missing value replacement is that the imputed values can produce variables with exaggerated variances and non-normal distributions (Bollen, 1989; Cohen et al, 2003).

Missing data in this study was treated using the EM algorithm, a version of which is included in the SPSS computer application. The superiority of the EM over other forms of imputation and deletion methods has been noted in the literature (Gold and Bentler, 2000). The EM approach has been found to produce efficient and consistent estimates of missing values even when the data are missing *completely* at random, as opposed to missing at random (Cohen et al., 2003). Furthermore, the EM method has been found to outperform other methods of data replacement, irrespective of sample size, percentage of data missing, and distributional characteristics of the sample (Gold and Bentler, 2000).

EM algorithm method was used to impute missing data points when the percentage of missing variables in the particular case remained low (i.e., less than 3%, as per Cohen et al, 2003). For one case with more than 3% of data missing, listwise deletion was used to remove the case from the dataset.

**4.9.1.6 Estimation Technique**

Estimation techniques for SEM can be classified as either limited information (e.g., instrumental variables or two-stage least squares) or full-information (e.g., unweighted least squares [ULS], generalised least squares [GLS], maximum likelihood [ML], generally weighted least squares [GWLS], or diagonally weighted least squares [DWLS]) (Diamantopoulos and Siguaw, 2000). Techniques such as two-stage least squares are better suited to nonrecursive (i.e., cyclical) models (Bollen, 1989; Kline, 1998), so limited information techniques are not considered appropriate for this study.

Maximum likelihood estimation is the most frequently used estimation technique (Diamantopoulos and Siguaw, 2000; Hair et al., 2006b; Kelloway, 1998). Maximum likelihood is an iterative procedure and is said to be theory oriented (Anderson and Gerbing, 1998). Maximum likelihood provides consistently efficient estimations of the parameters under multivariate normality and, as discussed earlier, is relatively robust against departures from normality (Diamantopoulos and Siguaw, 2000). ML was deemed to be most appropriate as it retains validity with fewer cases and was therefore used for this study (Hair et al., 2006b).

**4.6.1.7 Exploratory versus Confirmatory Factor Analysis**

Factor analysis is a statistical method used for data reduction and generally involves the study of relationships amongst items to attempt to determine a new and smaller set of variables than those in the original set (Hair et al., 2006b). Exploratory factor analysis (EFA) is typically employed in cases where the underlying factor structure of a set of data is unknown. In cases where relationships between observed variables and latent variables are hypothesised a priori, confirmatory factor analysis (CFA) is employed to ascertain if the factor structure present in the data matches that hypothesised one (Sharma, 1996; Stewart, 1981).

Since EFA is not theory-driven, it does not rely upon a priori assumptions regarding data structure. Hence, making sense of an EFA model can be problematic due to factor rotation and interpretation problems (Sharma, 1996). Generally, it is argued that

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CFA overcomes many of the limitations associated with the EFA technique. Also, CFA can be used in a more exploratory fashion (Long, 1983). CFA is useful in determining construct validity, since it enables the calculation of reliability coefficients, factor loadings, and variance extracted estimates (Hair et al., 2006b).

The CFA procedures provide "a stricter analysis and interpretation of unidimensionality than can be provided by more traditional methods such as coefficient alpha, item-total correlations, and exploratory factor analysis and thus generally will provide *different* conclusions about the acceptability of the scale" (Gerbing and Anderson 1988: 186, emphasis in original). Gerbing and Hamilton (1996: 63) state: "it is always preferable to begin an analysis as far along the confirmatory end of the continuum as possible". Likewise, Gerbing et al. (1994:863) argue that "data driven methods such as exploratory data analysis lack the rigor of the specification of a priori models required by the "confirmatory" alternatives" to provide rigorous assessments of the unidimensionality of constructs". However because the study involved some measure development, both EFA and CFA were used for this study.

### 4.6.2 Assessing the Measurement Model

### 4.6.2.1 The Overall Measurement Model

The measurement model specifies the causal relationships between the observed variables (i.e., questionnaire items) and the latent constructs under investigation (Hunter and Gerbing, 1982). Tests of model acceptability are necessary because there is normally assumed to be some form of measurement error present (Hunter and Gerbing, 1982). When considering measurement model fit, it has been suggested that the best guide to assessing model fit is strong substantive theory (Diamantopolous and Sigauw, 2000). Furthermore authors recommend using a variety of fit indices as this helps to avoid incidences of Type I and Type II errors when reporting results (Hair et al., 2006; Kelloway, 1998; Marsh et al, 1988). Furthermore it is considered best practice to compare the relative fit of several competing models (Kelloway, 1998)

When assessing the measurement model, one needs to see if factor loadings are high and significant and if reliabilities of constructs and indicators are acceptable (Sharma, 1996). Measurement model validity is also assessed through the evaluation of three major types of fit indices: absolute fit indices, incremental fit indices, and parsimonious fit indices (Hair et al., 2006b). Absolute fit is concerned with the ability of the model to reproduce the actual covariance matrix; comparative fit is concerned with comparing two or more competing models to assess which provides the better fit to the data; and parsimonious fit recognises that one can always obtain a better fitting model by estimating more parameters (Kelloway, 1998). While there are a number of different indices available for the three types of measurement fit, it is common for researchers to only calculate and report a subset of the available measures (Hulland et al, 1996). The more commonly reported fit measures in each of the three categories as well as their advantages and disadvantages of the various measures are discussed subsequently.

### 4.6.2.2 Absolute Fit Measures

Absolute fit measures assess the overall fit of a SEM to a set of empirical observations. The key advantage of these overall fit measures is that they evaluate the whole model and can reveal inadequacies not shown by the fit of the model components (Bollen, 1989). Limitations of absolute fit measures include their inability to apply to exactly identified models and that they can differ from the fit of the components of the model. In other words, the overall fit of the model may be good, but if any of the absolute fit measures do not fit the data well they do not identify what is wrong with the model or which part of the model is wrong (Bollen, 1986; Diamantopoulos and Siguaw, 2000). It is for these reasons that absolute fit measures should not be used in isolation but should be reported with the incremental fit measures as well. Examples of the absolute fit measures include the standardised residuals, chi-square test statistic, the standardised root mean square residual (SRMR), the root mean square error of approximation (RMSEA) and the goodness-of-fit index (GFI).

The residual matrix is the simplest absolute fit measure to report (Bollen, 1989). The fitted residuals describe the difference between the sample covariance matrix and the

covariance matrix calculated from the model (Byrne, 1998; Diamantopoulos and Siguaw, 2000). A positive residual indicates that the model under-predicts the covariance between two observed variables. A negative residual indicates that the predicted covariance is too high between the observed variables. When the covariance matrix of fitted residuals is a zero matrix, the estimated model can be described as fitting the sample data (Bollen, 1989).

Three important factors influence the interpretation of the fitted residuals. These are the difference between the population covariance matrix and the model implied matrix, the scales of the observed variables, and sampling fluctuations (Bollen, 1989). Because of these, the fitted residual matrix is seldom used. Instead, the standardised fitted residuals matrix is inspected (Joreskog and Sorbom, 1996). Standardised residuals overcome problems due to sample size effects and those associated with the interpretation of the scales of the observed variables. Standardised residuals are estimates of the number of standard deviations away from zero (perfectly fitting) that observed residuals lie. Therefore, if only random errors are present in a model, most of the standardised residuals should have an absolute value of less than 2.58 (Joreskog and Sorbom, 1996). Standardised residuals were analysed in this research to identify possible misspecification in the measurement model and to assess overall fit of the structural model.

The most popular fit index for assessing absolute goodness of fit of a model is the chi-square statistic (Baumgartner and Homburg, 1996; Diamantopoulos and Siguaw 2000). The chi-square statistics provides a test of perfect fit in which the null hypothesis is that the model fits the population data perfectly. Smaller chi-square values indicate better model fit, and a non-significant chi-square value indicates that the model's predicted and observed sample matrices are sufficiently close that differences are assumed to be the result of sampling fluctuations (Baumgartner and Homburg, 1996; Diamantopoulos and Siguaw 2000). A statistically significant chi-square causes rejection of the null hypothesis, implying imperfect model fit and possible rejection of the model (Diamantopoulos and Siguaw 2000). However, Marsh and Hocevar (1985) caution that in large and complex problems with many variables

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and large degrees of freedom, the observed chi-square will nearly always be statistically significant, even when there is a reasonably good fit to the data.

A normed chi-square is often used to overcome this issue of increased model complexity. The normed chi-square is the chi-square value divided by the degrees of freedom for the model. The normed chi-square statistic is also seen as a measure of model parsimony. Generally, a normed chi-square value in the region of 3:1 or less indicates better model fit, although this can be influenced by sample size and model complexity (Hair et al., 2006). For a reasonable fit, Marsh and Hocevar (1985) recommend that the ratio of the chi-square to the degree of freedom be as low as 2 or as high as 5 to indicate a reasonable model fit.

Due to the limitations of the chi-square statistic outlined above, researchers usually analyse other absolute fit measures in addition to the chi-square statistic. One measure often reported is the standardised root mean square residual (SRMR). The SRMR is a standardised summary of the average covariance residuals (Kline, 1998). It therefore represents the average amount of covariance not accounted for by the model (Diamantopoulos and Siguaw, 2000). The SRMR is used to analyse the fit of competing models and is best suited to the analysis of standardised observed variables as it must be interpreted in relation to the sizes of the observed variances and covariances (Joreskog and Sorbom, 1996). Because the SRMR, like the chi-square statistic, is an absolute fit measurement, it does not indicate problem areas of the model (Diamantopoulos and Siguaw, 2000). There is no absolute threshold established for SRMR values, however values less than 0.10 indicate a good fit to the data (Kline, 1998), while values less than 0.05 suggest that the model fits the data better (Byrne, 1998; Hulland et al, 1996). The SRMR is reported in this research for each of the models estimated in the data analysis.

The root mean square error of approximation (RMSEA) is another measure that attempts to correct for the propensity to reject any specified model with a sufficiently large sample (Hair et al., 2006b). The RMSEA is based on noncentrality, resulting in an estimation of how well the model approximates the population covariance matrix per degree of freedom (Baumgartner and Homburg, 1996). An RMSEA equal to zero indicates that the model fits perfectly with the population. However, values less than

0.05 are indicative of good fit, while values between 0.08 and 0.10 indicate mediocre fit (Kelloway, 1998). The RMSEA values are reported for each of the models estimated in this research.

Another absolute fit measure that is commonly reported is the goodness-of-fit index (GFI). The GFI is similar to a squared multiple correlation, as it indicates the proportion of the sample-implied covariances explained by the model-implied covariances (Kline, 1998). Unlike the RMSEA, the GFI is not adjusted for degrees of freedom which results in sample size limitations and, in addition, the GFI value can be inflated by increasing the number of estimated model parameters (Gerbing and Anderson, 1993). Despite sample size constraints, research has shown that the GFI is generally less influenced by sample size than other measures of fit, such as the adjusted goodness-of-fit (AGFI) or the chi-square statistic (Marsh et al., 1988). GFI values range from zero to one with smaller values suggesting poor fit and larger values suggesting good fit. Although no absolute threshold levels have been established, Hulland et al. (1996) and Kline (1998) propose that values equal to or greater than 0.90 indicate that the model fits the sample data well. Despite its limitations, the GFI is the second most commonly reported fit measure (Baumgartner and Homburg, 1996), and so is reported for all models in this research.

### 4.6.2.3 Incremental Fit Indices

Incremental fit measures compare the maintained model to a baseline model, often termed the null model (Bagozzi and Baumgartner, 1994; Hair et al., 2006b). Bollen (1989: 269-270) describes a baseline model as "the simplest, most restrictive model that is a reasonable standard to which to compare the less restrictive maintained model". In the baseline model the observed variables are assumed to be uncorrelated with each other (Kelloway, 1998; Kline, 1998). There are three measures of incremental fit reported in this research. They are the comparative-fit-index (CFI), the incremental-fit-index (IF) and the non-normed fit index (NNFI).

The IFI tests the relative improvement in fit of the proposed model over the baseline model (Byrne, 1998). Like the CFI, it is scaled so that values fall between zero and

one. It takes into account model parsimony, so that degrees of freedom in the model are factored into its calculation (Byrne, 1998).

CFI assesses the relative reduction in lack of fit as estimated by the noncentral chi square of a target model versus a baseline model (Bentler, 1990). Among the incremental fit indices, the CFI seems to hold the greatest potential for assessment of overall model fit as the CFI measure has been designed to take sample size into account (Byrne, 1998; Kline, 1989).

Non-normed fit index (NNFI) or Tucker Lewis fit index (TLI) (Bentler and Bonett, 1980) compares the lack of fit of a target model to the lack of a fit of a baseline model. The value estimates the relative improvement per degree of freedom of the target model over a base model. Some limitations of the NNFI are: it is possible that when using small samples the NNFI value can be much lower than the value of other fit indices; it is not restricted to fall between 0 and 1; its sampling variability is greater than that of the CFI; and it may produce inaccurate results when the null model is approximately true, representing an underestimate of model fit (Bagozzi and Baumgartner, 1994; Byrne, 1998; Kline, 1998). However, the NNFI appears to be more resistant to sample size restrictions than the GFI (Gerbing and Anderson, 1993) and appears more stable when evaluating more complex models (Sharma et al, 2005). The IFI, NNFI and CFI generally increase as model fit improves, and values over 0.9 are considered to indicate good model fit (Kelloway, 1998; Ping 2004). It is generally recommended in the literature that the CFI and NNFI ought to be relied upon for model fit assessment (Diamantopoulos and Siguaw, 2000).

### 4.6.2.4 Parsimonious Fit Indices

The final group of measures used for assessing fit of SEMs are parsimonious fit measures. Parsimonious fit measures allow for the comparison of competing models. To be useful, a model should be both parsimonious and easily understood (Browne and Cudeck, 1993). Parsimonious fit measures take into account not only the fit of the model but also the parsimony of the model (Schumacker and Lomax, 2004). The basic objective of parsimonious fit measures is to assess whether the fit of the model has been achieved by overestimating the number of parameters of the model (Hair et

al., 2006). The use of parsimonious fit measures is mainly restricted to the comparison of competing models as no statistical tests are associated with these measures (Hair et al., 2006b).

The normed chi-square test, discussed previously as an absolute fit measure, is also deemed an evaluation of model parsimony and is a commonly reported measure (Hair et al., 2006b). In terms of model parsimony, the normed chi-square can help to identify "two kinds of inappropriate models: (a) a model that is overidentified and capitalises on chance and (b) a model that does not fit the observed data and needs improvement" (Schumacker and Lomax, 2004: 105).

The parsimonious normed fit index (PNFI) is another measure of model parsimony. The PNFI takes into account the number of degrees of freedom used to achieve a level of fit (Schumacker and Lomax, 2004). Parsimony is described as having higher degrees of fit per degree of freedom used (one degree of freedom per estimated parameter) (Hair et al., 2006b). Although no absolute threshold levels exist for the PNFI, parsimonious fit statistics of greater than or equal to 0.5 could be adequate (Byrne, 1998).

Another parsimonious fit measure is the parsimonious goodness-of-fit index (PGFI). The PGFI adjusts the GFI based on the parsimony of the estimated model (Hair et al., 2006b). The PGFI attempts to perform the job of two separate indices as it takes goodness-of-fit and model parsimony into account (Byrne, 1998). However, more significance may be attached to one of these dimensions given that low parsimony implies evidence of goodness-of-fit. Similar to the PNFI, the PGFI is unlikely to return a result of 0.9 or greater; rather values of 0.5 or greater are probably adequate (Byrne, 1998). The PNFI and PGFI should instead be used to compare one or more competing models, and the model that returns higher PNFI and PGFI figures demonstrates better fit to the data (Kelloway, 1998).

One final parsimonious fit measure is the Akaike information criteria (AIC). The AIC is a comparative measure between models with differing numbers of constructs (Hair et al., 2006b). It is generally held that smaller AIC values indicate better fit to the data, although no guidelines currently exist as to what small actually means

(Kelloway, 1998). As mentioned above parsimonious fit measures are used to compare the fit of two or more models that differ substantially in terms of the number of free and fixed parameters. Except for the normed chi-square test parsimonious fit measures are not reported in this study. This is because use of absolute and incremental fit indices are preferable since the characteristics of good model fit are more easily identifiable using these two types of indices.

## 4.6.2.5 Reliability and Validity of Measures

Data is checked for reliability and validity because some degree of error is involved in any measurement (DeVellis, 1991). Measurement error comprises inaccuracies in measuring subjects' true scores on latent constructs, because of shortcomings in the measuring instrument (Lee and Hooley, 2005). Measurement error can either be systematic or random in nature (Churchill, 1999).

Systematic error is also known as constant error, since it affects the measurement process in a constant way (Churchill, 1999). This relates mostly to the concept of measure reliability. Reliability is the extent to which a test, an experiment, or any measuring procedure generates the same results on repeated applications (Carmines and Zeller, 1979; Churchill, 1979). Random error on the other hand relates more to the validity of a measure (Churchill, 1999). Validity is important because theoretical constructs are not observable, and relationships among unobservable constructs are tested indirectly via observed variables (Ping, 2004). Thus, validity reveals how well a measure reflects its unobservable construct. It is established using the relationships between observed variables' with other sets of observed variables (Ping 2004). Ideally, measures should be both reliable and valid, and reliability is a necessary, but not sufficient, condition for validity (Nunnally and Bernstein, 1994). It is also important to note that a measure may be reliable without being valid. Furthermore, reliability and validity assessments should never be based solely upon empirical analysis of data, but should also be interpreted in light of a priori theoretical assumptions (Peter, 1981).

**4.6.2.6 Reliability**

Reliability can be thought of as the correlation between the one measure of a variable, and another, equivalent measure of the same variable (Cohen et al, 2003; Peter, 1981). A number of different ways exist for assessing reliability: test-retest reliability, alternative-form method and internal consistency (Carmines and Zeller, 1979). Test-retest reliability refers involves administering a test at two different points in time and comparing responses (Carmines and Zeller, 1979). Using alternative-forms tests, two different tests are administered and their results are compared for consistency (Nunnally and Bernstein, 1994).

However, because these methods require longitudinal work, or increased questionnaire length, and are generally more cost-intensive, they were ruled out for this study. In the case of internal consistency, items measuring a construct are correlated with one another to calculate an index of reliability (Carmines and Zeller, 1979). As such, internal consistency investigates the degree of inter-relatedness among the items in a scale (Cortina, 1993). The calculation of the coefficient alpha (Cronbach's alpha) of a scale has been suggested as a way to assess its internal consistency. Nunnaly (1978) recommends a value of 0.70 as the threshold for the lowest acceptable level for alpha, while DeVellis (1991) suggests that, where possible, scales be shortened if alpha values exceed 0.90. Another way by which the reliability of a scale can be examined is through composite reliability (CR). A calculation of composite reliability is possible if scales are assessed through confirmatory factor analysis (CFA).

Some disadvantages of coefficient alpha are that it underestimates reliability for congeneric measures (Jöreskog and Sörbom, 1996), and the more items a scale has the larger the coefficient alpha, all other things being equal (Bollen, 1989; Hair et al., 2006b). Some researchers suggest that a high Cronbach's alpha for a construct is one of two rules for determining if a construct is unidimensional (Hunter and Gerbing, 1982; Peter, 1981). The second rule is the criterion of external consistency, whereby items related to a construct should also correlate with a related construct, though to a lesser degree than that to which they correlate with their hypothesised construct

(Bollen and Lennox, 1991; Hunter and Gerbing, 1982). However, others (e.g., Bollen and Lennox, 1991; Gerbing and Anderson, 1988) argue that reliability does not imply unidimensionality.

There are some limitations of traditional methods of assessing reliability (and validity). Firstly, these methods are based on correlations between observed variables and do not account for the possible effects of the latent constructs, and for measurement error (Bollen, 1989). As such, estimates of, for example, internal consistency reliability should not be solely relied upon as a form of measure assessment, especially unidimensionality.

However, structural equation modelling overcomes many of the limitations of these traditional methods (Baumgartner and Homburg, 1996). In addition to assessing item reliability, methods exist for assessing scale reliability in SEM. These methods for establishing scale reliability are based on parameter estimates. Construct reliability (also referred to as composite reliability) captures the size of the relationship between a latent construct and the indicators that relate to the construct (Steenkamp and van Trijp, 1991). The advantage of this method is that a structural equations framework corrects for random error (Bagozzi, 1994). Baumgartner and Homburg (1996) state that researchers should report an estimation of construct reliability that is based on the parameters of the model. Construct reliability measures the internal consistency of a set of indicators rather than the reliability of a single indicator. Construct reliability estimates of 0.7 or greater are desirable (Hair et al., 2006).

Scale reliability in SEM can also be assessed via analysis of the average variance extracted (AVE) for each construct, where an AVE greater than 0.5 supports the reliability of the measure (Fornell and Larcker, 1981). The AVE demonstrates the amount of variance in indicators that is accounted for by its associated construct, as opposed to the amount of variance accounted for by measurement error (Fornell and Larcker, 1981). An AVE of 0.5 or greater indicates that more than 50% of the variance in each individual item is explained by its associated construct, indicating good reliability (Fornell and Larcker, 1981). In this study, internal consistency reliability (i.e., Cronbach's alpha), construct (composite) reliability and AVE estimates for each construct are reported.

**4.6.2.7 Validity**

Validity of measurement scales is concerned with whether or not scales meet the following criteria: content validity, criterion-related validity, construct validity, convergent validity, and discriminant validity (Churchill, 1999; Hair et al., 2006b).

Content validity relates to whether a specified domain of content has been sampled sufficiently (Nunnally and Bernstein, 1994). Content validity is most easily assured through employment of a well-defined research plan and adoption of necessary procedures for test construction (e.g., Churchill, 1999; DeVellis, 1991; Spector, 1992). Content validity is best determined prior to the administration of a test, rather than afterwards (Nunnally and Bernstein, 1994). All scales used in this study are considered to have content validity because all the items were developed based on the literature and some were adapted from scales in the literature. Furthermore, all items used in this study were assessed by knowledgeable academics for content validity (Gerbing, et al, 1994).

Criterion-related validity is concerned with the correlation between a measure and some criterion variable of interest (Hair et al., 2006b). Criterion-validity is most easily assessed by examining the correlation matrix between constructs after they have been purified, where, constructs that are expected to correlate should do so. In this regard, criterion-related validity is similar to the notion of nomological validity (Peter, 1981) and predictive validity (Nunnally and Bernstein, 1994). Nomological validity is defined as "assessment of how well one construct theoretically fits within a network of other established constructs that are related yet different" (Hair et al, 2006a: 356) and predictive validity refers to a construct's ability to forecast a subsequent criterion (Malhotra and Birks, 2006).

Construct validity is concerned with the degree of relationship between a measure and other constructs (Ping, 2004). Construct validity can be assumed when all measures of interests (the tested and target measures) show plausible correlations (i.e., their significance, direction, and magnitude). Construct validity is performed as a three-stage process (Carmines and Zeller, 1979). Firstly, theoretical relationships between

the concepts themselves are specified (as they were in Chapter 3). Second, the empirical relationships between the constructs must be examined and, finally, the empirical evidence must be interpreted as it relates to confirming the validity of the particular construct (Carmines and Zeller, 1979). In other words, a "social scientist can assess the construct validity of an empirical measurement if the measure can be placed in theoretical context" (Carmines and Zeller, 1979: 27). However, the correlation among the observed variables may not be a good indicator of whether the observed variable measures the latent construct. The observed variable correlation can also be influenced by the correlation of the latent constructs, the reliability of the measures for the other constructs, measurement error for each variable, and the effect of other latent constructs (Bollen, 1989). Construct validity is generally seen as an ongoing process, with no single study able to validate a construct (Peter, 1982).

If measures display convergent validity, then different measures of the same construct should be highly correlated (Bagozzi, 1981; Bagozzi and Phillips, 1982). In order to fully examine convergent validity, a researcher must use different measurement approaches to evaluate the same construct (Hair et al, 2006).

Discriminant validity is the degree to which measures of distinct constructs differ from each other (Bagozzi and Phillips, 1982; Churchill, 1999; Fornell and Larcker, 1981). Discriminant validity is present when a measure has low correlation with "other measures that are supposedly not measuring the same variable or concept" (Heeler and Ray 1972: 362).

Generally, intercorrelations between items forming one construct should exceed intercorrelations between items that measure different constructs (Bollen and Lennox, 1991). Assessing discriminant validity is especially important where the constructs are interrelated. One of the most widely-known methods for assessing discriminant validity is the multitrait-multimethod matrix (Carmines and Zeller, 1979). This method entails measuring each construct with multiple methods and comparing correlations between methods in order to determine convergent and discriminant validity. One of the criticisms of using a single method to represent a construct is that it does not take into account measurement error (Bagozzi, Yi and Phillips, 1991). However, structural equation modelling allows measurement error to be taken into

account (Bollen, 1989), so the limitation of single measures of constructs is lessened in this study. Furthermore, the multitrait-multimethod technique is resource intensive and essentially requires the lengthening of the questionnaire instrument, so its use is sporadic in the literature (Bagozzi and Phillips, 1982).

Confirmatory factor analysis is useful for assessing convergent and discriminant validity (Bagozzi and Phillips, 1982; Fornell and Larcker, 1981). Convergent validity is inferred if item loadings on factors are statistically significant (Hair et al., 2006b). Discriminant validity can be assessed statistically in two ways: by comparing pairs of constructs in a CFA or by comparing the AVE values of constructs to squared correlations between constructs (Hair et al., 2006b). In the first method, items for two constructs can be entered into a CFA and forced to load on a single factor (Bagozzi and Phillips, 1982). Then they can be "freed" to load on their hypothesised factors (Hair et al., 2006b). If the two-factor free model demonstrates a significantly better fit to the data (i.e., a reduction in the chi-square statistic > 3.84 with a change of one degree of freedom), then the constructs can be said to demonstrate discriminant validity.

The second, and more robust, method compares the AVE scores of constructs with the square of correlations between constructs (Fornell and Larcker, 1981). When, the AVE for a construct; i.e., the average amount of variance that the construct explains in its items is greater than the shared variance of that construct and any other construct used in the analysis (i.e., the amount of variance that the construct is able to explain in items that are associated with another construct), discriminant validity is proven.

The methods used to assess reliability and validity in structural equation modelling help to overcome some of the limitations associated with the traditional methods of assessing reliability and validity. Structural equation modelling enables researchers to investigate reliability and validity based on parameter estimates, thus incorporating error (Fornell and Larcker, 1981). Moreover, it allows the assessment of the strength of the direct link between indicators and latent constructs and provides researchers with an empirical means of partitioning the error variances of the indicators (Bollen, 1989). Structural equation modelling techniques are used in this research to assess

measures of reliability and validity based on parameter estimates. Consistent with guidelines suggested by Baumgartner and Homburg (1996), the measures of reliability and validity based on parameter estimates are reported in Chapter 5. Estimates of convergent and discriminant validity based on CFA are also reported in Chapter 5.

### 4.6.2.8 Unidimensionality of Measures

A basic assumption of measurement theory is that each scale measures only one underlying concept (Hattie, 1985). Furthermore, a scale "is meaningful only if… the [measure] is acceptably unidimensional" and hence "the scale development process must include an assessment of whether the multiple measures that define a scale can be acceptably regarded as alternative indicators of the same construct" (Gerbing and Anderson 1988: 186). Achieving unidimensionality is a fundamental requisite for estimating structural equation models. To achieve unidimensionality is to say that a set of indicators represents only one construct and that measurement error terms are independent (Kline, 1998). Unidimensional models are useful in the interpretation of latent constructs as these models allow for more precise tests of reliability and validity of the indicators than multidimensional models, where indicators load on more than one construct or where measurement error terms covary (Kline, 1998). The term "congeneric measurement model" refers to a unidimensional measurement model with one or more latent constructs, multiple indicators each related to only a single construct; and no correlated error variance (Joreskog and Sorbom, 1996).

### 4.6.2.9 Measure Purification

According to Churchill (1979), a desirable outcome when developing measures is when scales produce a satisfactory alpha coefficient and the items load on their respective constructs. However, in most research instances, this is rarely the case. Therefore, researchers tend to perform what is termed "measure purification". This is where items which do not contribute to the reliability of a scale, or do not load satisfactorily on their hypothesised construct are removed from further analysis. Such iterative procedures continue until the measures have been developed to such a standard as to render them useful for subsequent analysis (Churchill, 1979). More

specific detailing of the measure purification process used in this study is contained in Chapter 5.

## 4.7 Stage Two – The Structural Model

## 4.7.1 Specifying the Structural Model

This step involves the specification of relationships among the constructs under investigation (Hair et al., 2006b). Whilst the measurement model deals with the relationships between questionnaire items (indicators) and their respective constructs, the structural model models the expected relationships among the constructs themselves. Chapter 3 provides the theoretical reasoning for the relationships between constructs in the form of the hypotheses. These hypotheses are relied upon when specifying the relationships between constructs in the structural model.

This stage of the SEM process is primarily concerned with what is termed model identification.

"Identification is concerned with whether the parameters of the model are **uniquely** determined. If a model is not identified, it is impossible to uniquely determine the parameters even if the values for each observed variable are known for the entire population. In the confirmatory factor model this means that even if the entire population covariance matrix were known (i.e., did not have to be estimated with a sample matrix), it would be impossible to uniquely solve the covariance equation." (Long, 1983: 35, emphasis in original).

An identification problem occurs when the proposed model is unable to generate unique estimates (Hair et al., 2006b). A basic requirement for identification is that there must be at least as many distinct elements in the variance-covariance matrix of the observed variables (data points) as there are model parameters (Baumgartner and Homburg, 1996). The one necessary rule for assessing model identification is the order condition (the *t*-rule) (Bollen, 1989). The order condition states that the degrees of freedom of the model must be greater than or equal to zero (Hair et al., 2006b). The degrees of freedom in SEM refer to the differences between the number of distinct

covariance or correlation elements in the relevant matrix and the number of parameters to be estimated in the proposed model. Unlike other multivariate techniques, sample size has no effect on the degrees of freedom in SEM (Hair et al., 2006b).

If a unique solution for the structural parameters of a model can be found, the model is considered identifiable, the parameters can be estimated, and the model can be tested (Byrne, 1998; Long, 1983). On the contrary, if a model cannot be identified, it indicates that many sets of very different parameter estimates could fit the data equally well (Byrne, 1998).

In addition to being identified, a model may be just-identified, underidentified, or overidentified (Diamantopoulos and Siguaw, 2000). A just-identified or a saturated model has zero degrees of freedom and has equal numbers of parameters and observations (Byrne, 1998; Hayduk, 1987; Long, 1983; Kline, 1998). As this kind of model has no degrees of freedom it can never be rejected (Byrne, 1998). Results from just-identified models cannot be generalised to any other context except that of the specific case in which the model is tested. As such, they are not particularly useful. An under-identified model has negative degrees of freedom. In this instance, the number of parameters to be estimated in the model exceeds the number of data points that are available (Byrne, 1998; Kline, 1998). As such, an under-identified model does not contain enough information to be able to obtain a solution for parameter estimates; or an infinite number of solutions are obtainable (Byrne, 1998). An under-identified model can only be estimated if some of the parameters are constrained or fixed, so that the number of parameters to be estimated is less than the number of data points available (Bentler and Chou, 1987; Diamantopoulos and Siguaw, 2000; Hair et al., 2006). The chance of having an under-identified model increases if latent constructs are measured by less than three indicators (Bentler and Chou, 1987).

Over-identification is usually considered a positive outcome and occurs where there are fewer parameters to be estimated in the model than there are data points (Bentler and Chou, 1987; Byrne, 1998). An over-identified model has positive degrees of freedom (Hair et al., 2006b). When a model has positive degrees of freedom it means that it is open to rejection, thus rendering it scientifically useful (Byrne, 1998). A

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greater number of degrees of freedom, when combined with acceptable model fit, means that the model is as generalisable as possible (Hair et al., 2006b). Therefore, it is the goal of SEM research to specify a model such that it has positive degrees of freedom, thus meeting the criterion of over-identification (Byrne, 1998).

The order conditions above, although necessary, do not alone establish model identification (Byrne, 1998). Alternative rules exist to determine whether a model is identified. These rules are sufficient but not necessary as in the case of the order conditions (Bollen, 1989). The first rule is the recursive model rule, which states that recursive models with identified constructs (the three indicator rule mentioned above) will always be identified (Hayduk, 1987). A second rule states that there are no covariances between the measurement error terms and that each item relates to only one construct (Hair et al., 2006). In addition to these, certain other activities can help a researcher to present an identified model. It is helpful for identification purposes for each latent variable (i.e., construct) to have its measurement scale determined (Byrne, 1998). This means that for each construct in the model, one of the indicators that makes up that construct should have its loading set to equal one (Hayduk, 1987). This helps to determine the measurement scale of latent variables (Byrne, 1998) and also helps to reduce the number of parameters to be estimated in the model, aiding identification (Hayduk, 1987).

The two-step rule (Anderson and Gerbing, 1988) can be used to establish that the structural models are identified This two-step process involves the estimation (and respecification) of a measurement model containing all of the latent constructs and their indicators prior to the estimation of the structural model (Anderson and Gerbing, 1988). One of the advantages of this approach is that it enables the researcher to explicitly assess the theoretical meaning of the latent constructs and prevents a situation where observed variables are related to latent constructs other than those they were intended to relate to (Anderson and Gerbing, 1988).

### 4.7.2 Assessing Structural Model Validity

Assessment of the structural model follows roughly the same procedures as those for the assessment of the measurement model. In addition to the assessment of fit indices,

however, the validity of structural models should also be compared on the basis of competitive fit, and via the assessment of structural relationship parameters (Hair et al., 2006). Further assessment should also be made of hypothesised structural paths to determine if they are significant (Byrne, 1998). Consideration should also be given to the variance explained by the structural equations to assess whether it is sufficient (Sharma, 1996). Typically, an estimate of a structural path coefficient is accompanied by the following: an unstandardised parameter estimate, a standard error, a *t*-value, an error variance term, and a squared multiple correlation ($R^2$) which indicates variance explained (Diamantopoulos and Siguaw, 2000).

An unstandardised parameter estimate is interpreted in a similar fashion to a regression coefficient (Kline, 1998). The significance of this parameter estimate is determined by two things: its standard error and its *t*-value. The standard error shows how precisely the parameter coefficient has been estimated; as such it is desirable to have relatively small standard errors (Diamantopoulos and Siguaw, 2000). The *t*-value determines the statistical significance of the structural coefficient, and is obtained by dividing the value of the parameter by its standard error (Joreskog and Sorbom, 1996). Hence, if the standard error is too small, it can lead to difficulties in obtaining the *t*-value (Diamantopoulos and Siguaw, 2000). The *t*-value provides the number of sampling distribution standard deviations that the parameter estimate is away from zero, and hence gives an indication of the likelihood of the estimate having been generated by chance (Hayduk, 1987). In essence, a higher *t*-value means that there is a lower chance of the parameter estimate having been generated by chance.

Therefore, if a *t*-value is greater than a certain value, the structural path coefficient is said to be significant at a particular level of significance. For a one-tailed (i.e., directional) hypothesis, a *t*-value greater than or equal to the following is necessary for significance at the listed levels: 1.28 (10% level), 1.645 (5% level), 2.326 (1% level) and 3.090 (0.1% level) (Churchill, 1999; Sharma, 1996). For a two-tailed hypothesis, a *t*-value greater than or equal to the following is necessary for significance at the listed levels: 1.645 (10% level), 1.96 (5% level), 2.58 (1% level) and 3.291 (0.1% level) (Cohen et al, 2003; Hair et al., 2006b). The *t*-value is a useful statistic when interpreting a structural model, as it indicates the significance (or non-significance) of a range of values, such as error terms and structural path coefficients.

As such, it is generally desirable to have significant $t$-values for error terms and for structural (i.e., hypothesised) path coefficients. An important fact to note is that a non-significant coefficient with large magnitude could indicate that the sample size is not large enough to recognise important relationships (Hayduk, 1987).

The error variance associated with the structural path reflects errors in the residual terms (Diamantopoulos and Siguaw, 2000). As endogenous variables in a structural model are rarely measured perfectly, each will be accompanied by an error term (or residual). This error variance term is also accompanied by a $t$-value. A significant $t$-value associated with a residual in effect demonstrates that the error associated with the measurement has been taken into consideration. A non-significant $t$-value associated with an error term indicates that the researcher does not have a reasonable understanding of the error associated with the measurement. Any interpretations of relationships relating to the construct in question are, as a consequence, open to criticism.

Variance explained is an indicator of how much of the variance in a dependent variable is explained by the independent variables in the structural model (Diamantopoulos and Siguaw, 2000). As a result, it is desirable to obtain large $R^2$ values for each endogenous variable. For example, an $R^2$ value of 1.0 would indicate that it is possible to explain 100% of the variance in a dependent variable using the independent variables in the structural model (an extremely unlikely, and somewhat suspicious, scenario). From a brief canvassing of the literature $R^2$ values can be interpreted as: 0.10 – 0.29 (reasonable prediction of endogenous variable), 0.30 – 0.49 (good prediction of endogenous variable), 0.50 – 0.69 (very good prediction of endogenous variable) or 0.7 and above (superior – and possibly suspicious – prediction of the endogenous variable). Generally, a variance explained value will be reported for each endogenous construct in a structural model.

### 4.7.3 Interpreting and Modifying the Model

Interpretation of the structural model involves the assessment each of the structural coefficients presented to see if they make theoretical sense. Model respecification or modification is mostly undertaken when the tested model shows evidence of

misspecification. A model is assumed to be misspecified when there is poor model fit or lack of unidimensionality (Schumacker and Lomax, 2004). LISREL provides key inputs for model modification and this can be undertaken in several ways. The goal of model respecification is to improve either the parsimony or the fit of a model (Kelloway, 1998).

One way to respecify a model is by deleting non-significant paths from the model (Diamantopoulos and Siguaw, 2000). However, it is suggested that any modifications made must be substantially meaningful and theoretically justified (Kelloway 1998). The objective of respecification is to define a set of nested, or hierarchical, models. Two models are said to be nested if one model is a subset of the other (Hayduk, 1996; Kline, 1998). Therefore, a series of nested models should all have in common one particular model of which they are a subset. In this manner the selection of models are investigated in terms of their levels of parsimony for the same underlying theory (Hair et al., 2006b).

Non significant $t$-values can also be used to help respecify the model (Diamantopoulos and Siguaw, 2000). An aim of model development is parsimony. Having a parameter that contributes little in terms of explanatory power to the model reduces model parsimony. Restricting such non-significant parameters to zero will influence the estimation of the remaining parameters and may improve model fit (Diamantopoulos and Siguaw, 2000). If, however, the underlying theory states that a parameter should be included, even if it is non-significant in the particular case, it is better to retain the parameter (Joreskog and Sorbom, 1996).

Model modification can also be undertaken in several other ways. The residual matrix can be assessed, where large values suggest that the model is unable to adequately explain the relationships hypothesised in the model (Sharma 1996). A standardised residual of equal or greater than 2.58 indicates a substantial prediction error for a pair of indicators in the covariance or correlation matrix (Byrne, 1998). To overcome this problem, the researcher may choose to delete the most troublesome indicators; i.e., those equal or greater than 2.58. After the deletion of an indicator, the standardised residuals must be reassessed before any further adjustments are made.

Modification indices in CFA outputs provide the approximate decrease in chi square when a given fixed parameter is freed (Sharma, 1996). Any modification index larger than 3.84 is considered to be 'large' since this value is the critical value of the chi-square statistic with one degree of freedom at 5% significance level.

A model can also be modified by freeing one or more of the error terms. However freeing one or more errors, (due to high modification indices), means that errors are allowed to correlate thus violating the unidimensionality assumption of measurement theory. Thus, to ensure unidimensionality, it is necessary that observed scale items with correlated errors are deleted (see Gerbing and Anderson 1988).

The squared multiple correlation values for the model demonstrate how much variance is explained in each endogenous variable (Schumacker and Lomax, 2004). Hence, a low $R^2$ value may be indicative of a poorly measured latent variable, and a model may be improved by leaving the variable out of subsequent analysis. A final area that may aid in model fit improvement is the expected parameter change statistics (Hair et al., 2006b). An expected change parameter signifies the level and direction of each fixed parameter were it to become freed (Schumacker and Lomax, 2004). Unlike the modification indices, this does not indicate changes in absolute model fit, but rather indicates the change in the actual parameter value (Hair et al., 2006b). Hence, it provides guidelines for structural parameters that could be estimated (freed) in an attempt to improve model fit.

After each model modification is made, the researcher must repeat his or her assessment of the structural model's fit (Hair et al., 2006b). Again, as indicated above, any modifications in the model through respecification must have theoretical, rather than solely empirical, justification (Bentler and Chou, 1993). If a change to a model makes little or no theoretical sense, it should not be made solely in the interests of improving model fit (Hayduk, 1987).

Following these guidelines, the analysis reported in the Chapter 6 will detail structural relationship parameters in the conceptual model and will also provide information on the amount of variance explained in each of the endogenous constructs under

investigation. Furthermore, consideration will be given to the residual matrix, modification indices, $R^2$ values, and expected parameter changes.

### 4.7.4 Testing Moderator Hypotheses

Applied researchers often estimate interaction terms to infer how the effect of one independent variable on the dependent variable depends on the magnitude of another independent variable. There are various methods of deriving interaction terms and testing their effects. In this study, residual centering (Lance, 1988) was chosen as the preferred method for deriving the interaction term for testing the moderating effects of communication and proximity on the relationship between management values and employee norms. The following section discusses the technique of residual centering to represent interaction effects in latent variable models.

### 4.7.4.1 Residual Centering

A major issue for researchers, when testing interaction effects, is the fundamental problem that the product term may be highly correlated with the predictor variables from which it is derived (Little et al, 2006). When predictor variables are correlated, problems may arise when estimating regression coefficients in that it can create instability in the values for the estimated regression weights (Little et al, 2006).

Under most circumstances, mean centering is an adequate solution to the collinearity problem. Mean centering involves the subtraction of the mean value of a descriptor from all values of that descriptor so that the mean for each variable is 0. At times, however, the mean-centred product may still be correlated with its first-order variables that can influence the partial regression coefficients.

Due to this lack of complete orthogonality with the mean-centering approach, a simple two-step regression technique called residual centering has been proposed as an alternative (Lance, 1988).Residual centering is essentially a two-stage OLS procedure in which a product term (i.e., the product of the predictor variables) is regressed onto its respective first-order effect(s) (Lance, 1988). The residuals of this regression are then used to represent the interaction effect.

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Residual centering has a number of key advantages. First, the coefficients for orthogonalised product or powered terms are stable. Second, the significance of the product or powered term is unaffected by the orthogonalising process. Third, unlike mean centering, residual centering ensures full independence between the product term and the main effects from which it is derived (Little et al, 2006).

Under orthogonal conditions, when the interaction term is entered into a model, the partial regression coefficients representing the magnitudes, directions, and significances of the main effect variables remain precisely the same as they were before the interaction was included.

Furthermore, residual centering yields a coefficient for the orthogonalised cross-product term that can directly be interpreted as the effect of the interaction on the dependent variable (Lance, 1988:164). This replaces the assessment of the increase in the $R^2$ due to the inclusion of the interaction term.

## 4.8 Limitations of Structural Equation Modelling

Despite the advantages of structural equation modelling over other multivariate techniques, the technique has its own limitations. Though the predicted model may fit the sample data well, there may be alternative models that fit the data equally well. Structural equation models can be thought of as equivalent when they yield the same predicted correlations or covariances as other models, but do so with different configurations of the paths of the model parameters (Kline, 1998). There may be any number of equivalent variations of the model and it is the researcher's responsibility to state why one model is chosen over another equivalent one. To defend a chosen model, substantial theoretical support is needed as well as the ability to interpret the parameter estimates and the meaningfulness of the model (MacCallum, 1993). By ignoring equivalent models researchers run the risk of overlooking different and better theoretical explanations.

Another limitation associated with the use of structural equation modelling is the term "causation". Structural equation modelling has often been termed causal modelling

(e.g., Hulland et al, 1996). However, the use of structural equation modelling does not necessarily imply causation (Brannick, 1995; Schumacker and Lomax, 2004; Williams, 1995). Rather, to imply causation substantive theoretical support as well as the design of the data collection procedure is fundamental, as it is in any other statistical technique (Brannick, 1995; Kelloway, 1998). The more commonly used conditions for making causal inferences are the demonstration of temporal ordering of variables and the incorporation of all relevant causes (Kelloway, 1998). While there is strong theoretical reasoning behind the hypotheses in this study, the use of cross-sectional data somehow restricts the ability to specify the temporal ordering of the variables in the model – thus limiting the strength of inferences of causation.

## 4.9 Chapter Summary

This Chapter has outlined the methodological approach used in this thesis. The research design was discussed in the early part of the chapter. Following this, the data collection procedures were discussed, actual data collection summarised, and sample characteristics were presented. The adoption of structural equation modelling for analytical purposes was then discussed. A two stage approach to structural equation modelling was introduced with each of the stages outlined in detail. The estimation of reliability and validity was also discussed, as well as issues more specific to structural equation modelling, such as identification and interpretation of structural path estimates. The Chapter then concluded with a brief examination of the potential limitations of SEM. Chapter 5 now presents analysis of the measurement model which is used to determine the psychometric soundness of the items and constructs used in this study.

# CHAPTER 5 – THE MEASUREMENT MODEL

## 5.1 Introduction

This Chapter outlines the process undertaken in this study to assess the properties of the measurement model. The measurement model deals with the assessment of the psychometric soundness of the scales used in the study to measure the constructs under investigation. Discussion in this Chapter centres on the application of exploratory and confirmatory factor analysis techniques and structural equation modelling. The Chapter begins with an explanation of the techniques used and the reasons for their selection. The next section of the Chapter details the assessment of the scales used in this thesis. This section shows in detail how the scales are refined and purified prior to presentation of the final scales used in subsequent analysis. Once each of the relevant scales has been evaluated and its final version presented, the Chapter concludes with some summary remarks.

## 5.2 Exploratory Analysis

Exploratory factor analysis (EFA) is a data reduction technique which is mainly employed, when details regarding the structure of items in a measurement scale is unknown or when suspected groupings among items require identification (DeVellis, 1991; Hurley et al., 1997; MacCallum, 1998; Sharma, 1996; Spector, 1992; Stewart, 1981). It can be used when researchers "have hunches, perhaps implicitly, about at least some of the underlying factors, but these may not be completely firm" (Nunnally and Bernstein, 1994: 450).

In this study, EFA was also used to identify potentially poorly performing items so that, if they also performed poorly during CFA, could be removed from subsequent analysis. Exploratory factor analysis was performed on each construct to investigate its unidimensionality and underlying factor structure. Theoretically, items that group together can be assumed to have some form of common cause (such as a latent variable).

In order to test the appropriateness of the data for factor analysing, the Kaiser-Meyer-Olkin measure of sampling accuracy (MSA) was estimated for each EFA run (Kaiser, 1970). All EFA runs produced KMO statistics of greater than 0.7. Due to the expected strong relationships between items an oblique factor rotation scheme was employed (DeVellis, 1991; MacCallum, 1998). In order to make the resulting output easier to interpret, a decision was made for factor loadings of less than 0.5 to be suppressed. Structural matrices of the EFA undertaken are included as appendix 5.1.

As mentioned in the previous chapter, service delivery and service supporting behaviours were assessed both with a global scale as well as multidimensional scales. However, when subjected to EFA, all items reflecting the multidimensional scales loaded onto a single factor. When SPSS was instructed to produce the desired number of factors, items loaded on separate factors. However, cross-loadings were generally high.

When all service delivery behaviour items were assessed together, two factors were achieved with items reflecting the global measure having the highest loadings on the first factor (see appendix 5.1). The second factor could not be interpreted theoretically. For service supporting behaviour, when all items were assessed together, one factor was achieved with the items for the global measure loading very strongly on this factor. Based on the results of the EFA, it was decided in the interest of parsimony that the global measures for these constructs be adopted and used for subsequent analysis.

Each scale was then assessed for its dimensionality. The EFA of the individual scales revealed no problems with the data and each scale was unidimensional. Next, all the management scales and all employee scales were entered into two respective EFA's. The reason was to see if any items cross-loaded at this stage. Such items would then be noted and assessed again at the CFA stage. When multiple scales were assessed together, some items relating to assumptions and management values cross-loaded on other factors. These items were noted and further scrutinised at the CFA stage.

## 5.3 The Measurement Model

As noted earlier, the measurement model is essentially the application of confirmatory factor analysis (CFA) upon a given data set. It is similar to exploratory factor analysis (EFA) in that both techniques are designed to provide an understanding of the structure amongst variables used in analysis. However, the key difference between the two is that, while EFA does not attempt to impose structure on the data prior to assessment, CFA specifies the number of factors in the data and the item loadings (in terms of which items load upon which factor). In other words, CFA is used to confirm prior expectations of data structure.

CFA procedures provide "a stricter analysis and interpretation of unidimensionality than can be provided by more traditional methods such as coefficient alpha, item-total correlations, and exploratory factor analysis and thus generally will provide *different* conclusions about the acceptability of the scale" (Gerbing and Anderson 1988:186, emphasis in original).

Gerbing and Hamilton (1996:63) also state "it is always preferable to begin an analysis as far along the confirmatory end of the continuum as possible". Gerbing et al (1994: 863) also argue that "data driven methods such as exploratory data analysis lack the rigor of the specification of a priori models required by the "confirmatory" alternatives" to provide rigorous assessments of the unidimensionality of constructs". Based on these recommendations, CFA was chosen for further assessment of the measurement scales.

## 5.4 Initial Data Entry into SPSS

As stated in Chapter 4, initial data entry was performed using the SPSS software package. Data from the 146 firms that provided responses was entered into SPSS spreadsheets. One spreadsheet contained the raw data for all responses, arranged by firm. The second and third sheets contained responses from managers and employees respectively. Negatively worded items in the questionnaire were then recoded so that their values corresponded to the remainder of items. Following recoding, missing value analysis was carried out on all management and employee responses. After this a fourth spreadsheet was created for firms that had both employee and management

responses. As discussed in Chapter 4, the EM algorithm in the SPSS program was used for missing value replacement, since it appears to be the best method given the sample size and percentage of data missing (Gold and Bentler, 2000). For the purposes of missing value replacement, the data is considered to be missing completely at random, as there is no discernable pattern of missed responses. In total, there were about 122 missing values in the data set. This constitutes a very small percentage since typically, less than 5% missing data is considered a low amount (c.f., Gold and Bentler, 2000).

The next step involved assessing the distributional properties of the data to determine if any problems would be present at a later stage of analysis. The mean and standard deviation of all items were inspected. The standard deviation score for items with high mean values mean was inspected more closely. From the analysis of the standard deviations it was considered that each of the variables would retain sufficient variation for further analysis. The means and standard deviation scores for all variables are included in appendix 5.2. This mini-analysis concluded the data preparation, and the SPSS spreadsheets were now imported into the LISREL program in order to begin CFA.

## 5.5 Initial Data Preparation using LISREL

Once the SPSS spreadsheet was imported into LISREL, all variables were set to be interpreted at the interval scale of measurement, and then LISREL was asked to provide a covariance matrix and a means file for further analysis..

## 5.6 Confirmatory Factor Analysis

One consideration at the start of the CFA was the size of the sample. Structural equation modelling requires minimum sample sizes in order for interpretation of test statistics to be done with any degree of confidence. A general rule to follow is that there should be around five cases for each parameter to be estimated in a model, although if there are 300 or more cases this rule can generally be ignored. In terms of a CFA, an estimable parameter is represented either by an item's loading on its intended construct or the error term that is associated with a particular item.

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Given the firm sample size of 109, employee sample size of 123 and managerial sample of 132, this means that between 22 and 26 parameters can be estimated with confidence. As a result of this, it was not possible to assess all items in one overall CFA. Therefore, following convention, constructs were split into three groups for CFA analysis. The three CFA models consisted of sets of theoretically related variables (see Doney and Cannon, 1997).

### 5.6.1 Group One: Management Service Culture

The first CFA model consists of five constructs with 22 indicators. The constructs are assumptions, management service values, management service quality norms, management service delivery behaviours and management service supporting behaviours.

### 5.6.2 Group Two: Employee Service Culture

The second CFA model consists of three constructs with 10 indicators. The constructs are employee service quality norms, employee service delivery behaviours and employee service supporting behaviours. These constructs were all measured through employee responses and so were entered into the same CFA.

### 5.6.3 Group Three: Organisational Performance

The third CFA consists of three performance measures. The hypothesised constructs are customer service performance, market performance and financial performance. These constructs were all measured through management responses and so were entered into the same CFA. Market performance was not included in the hypotheses but was measured in the study and utilised for the CFA.

### 5.6.4 Effective Sample Sizes for Measurement Models

Because the study comprised responses from both managers and employees, there are three different meaningful samples which can be used for CFA measurement as well as hypotheses testing (structural model).

The first and third CFA measurement models were assessed using all 132 management responses. For the measurement model which included variables measured through employee responses, the effective sample size was 123; i.e., the number of firms that provided at least one employee response. Where there was more than one employee response per firm, intra-class coefficients (ICC) were first calculated in SPSS using the two-way mixed model to assess inter-rater reliability. ICC is recommended in the literature as a criterion for judging the extent to which data aggregation across respondents is adequate (Shrout and Fleiss 1979; James 1982). The average measure ICC for all groups with multiple employee responses was within the range of 0.84 to 0.92. This result justifies data aggregation. The mean of employee responses on each item measure was calculated and used as the firm score on that item.

### 5.6.5 Procedure for Assessing the Measurement Models

The following section focuses upon the procedure undertaken for the CFA measurement models, giving a detailed account of the step-by-step analysis that was carried out to first assess and then purify the scales prior to their inclusion in the structural model. The procedure undertaken for assessing the measurement models is described in detail for the first CFA model (management CFA) for illustrative purposes.

LISREL syntax was used to define the relationships between individual items and their respective constructs. Observed variables in the input covariance matrix are listed in order so that when LISREL reads syntax input referring to these items it knows exactly where to draw the data from. In keeping with structural equation modelling etiquette, items are named using capital letters. The next lines of the syntax indicate the location of the covariance matrix and the means file that LISREL is to use for the analysis. Following this, the names of the latent variables in the analysis are provided, in lower case lettering. Relationships between the items and the latent constructs are then included. When indicating a relationship between an item and its hypothesised latent variable, the following template was used:

OBSERVED VARIABLE = latent variable

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In special cases of the first observed variable to be assigned to a construct, the following is used instead:

OBSERVED VARIABLE = 1*latent variable

LISREL was asked to provide the following output options:

SE – This asks LISREL to supply standard error estimates
TV – This asks LISREL to supply *t*-values for each standard error estimate
MI – This asks LISREL to supply modification indices for the estimated model
ND=3 – This asks LISREL to set the number of decimal places for numbers to three
RS – This asks LISREL to supply residuals and standardised residuals
SS – This asks LISREL to supply the standardised solution of factor loadings
SC – This asks LISREL to supply the completely standardised solution of factor loadings
AD=OFF – This asks LISREL to ignore the admissibility of solutions and to simply report all outputs as they are
IT=OFF – This asks LISREL to cycle through an unlimited number of iterations until a solution is arrived at

The full LISREL syntax for the original Management CFA model is included in Appendix 5.3, and it was this syntax that was initially run. In the next few sections, a discussion of the output of this CFA is presented.

**5.6.6 Selected LISREL Output: General Model Fit**

Prior to beginning the analysis of the LISREL output, it is important to highlight a common misconception among researchers using structural equation modelling, regarding the size of structural path coefficients in models. The misconception is that all such loadings or coefficients should not be larger than one. However, in any structural analysis where factors are correlated (i.e., oblique, as is the case with the factors employed in this study) the "factor loadings are regression coefficients and not correlations and as such they can be larger than one in magnitude" (Jöreskog, 1999:

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1). This can actually happen for any factor loading or structural coefficient in any LISREL model, and a standardised coefficient of 1.04, 1.40, or even 2.80 does not necessarily indicate that something is wrong (Jöreskog, 1999).

When assessing model fit, the primary concern is with how well the covariance matrix generated by the sample of respondents matches the covariance matrix that is implied by the input (Diamantopoulos and Siguaw, 2000). In other words by matching the implied covariance matrix with the covariance matrix that is generated from the data collected, certain goodness of fit measures can be arrived at. It is these measures that are the focus of the following section.

The first section of the output to be considered is the Measurement Equations. A sample measurement equation is shown below while the full list of the measurement equations is contained in appendix 5.4

$ASS3 = 0.821*ass$, Errorvar.$= 0.298$ , $R^2 = 0.314$
         (0.120)                      (0.040)
          5.848                        7.434

The measurement equations indicate how strongly an item loads on its intended latent variable. Poor loadings of less than 0.5 may mean that an item does not adequately reflect its latent construct and thus the item may be a candidate for deletion. The measurement equations also provide information as to whether the path coefficient (loading) is statistically significant, as indicated by the $t$ value. For a coefficient to be significant, the $t$ value must have an absolute value greater than 1.96. Furthermore, error variances associated with each item are provided. Significant error variance indicates that measurement error has been taken into account in the measurement equation (Diamantopoulos and Siguaw, 2000). Finally, the $R^2$ figure shows how much of the variation in the item is accounted for by the latent variable. .

Regarding all 22 items in the management CFA analysis, coefficients ranged between 0.793 and 1.296 and all were significant (lowest $t$ value was 5.848). Error terms ranged between 0.052 and 0.497, and all but one were significant. Finally, the

proportion of variance explained in the observed variables, due to the latent constructs, ranged from 0.314 through to 0.896.

The next section of the output shows the goodness-of-fit statistics. These were covered in detail in Chapter 4 and so discussion from this point onwards focuses upon a selection of the most commonly reported fit statistics, namely: the Chi-Square value, and its significance, the Root Mean Square Error of Approximation (RMSEA), the Goodness-of-Fit statistic (GFI), the Non-Normed Fit Index (NNFI), the Comparative Fit Index (CFI) and the Incremental Fit Index (IFI). The full goodness-of-fit statistics are listed below. The goodness-of-fit statistics are also provided in Appendix 5.5

**Goodness of Fit Statistics**

Degrees of Freedom = 199
Minimum Fit Function Chi-Square = 448.908 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 448.029 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 249.029
90 Percent Confidence Interval for NCP = (191.438 ; 314.347)
Minimum Fit Function Value = 3.680
Population Discrepancy Function Value (F0) = 2.041
90 Percent Confidence Interval for F0 = (1.569 ; 2.577)
Root Mean Square Error of Approximation (RMSEA) = 0.101
90 Percent Confidence Interval for RMSEA = (0.0888 ; 0.114)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.000
Expected Cross-Validation Index (ECVI) = 4.558
90 Percent Confidence Interval for ECVI = (4.086 ; 5.093)
ECVI for Saturated Model = 4.148
ECVI for Independence Model = 40.450
Chi-Square for Independence Model with 231 Degrees of Freedom = 4890.961
Independence AIC = 4934.961
Model AIC = 556.029
Saturated AIC = 506.000
Independence CAIC = 5018.829
Model CAIC = 761.887
Saturated CAIC = 1470.483
Normed Fit Index (NFI) = 0.908
Non-Normed Fit Index (NNFI) = 0.938
Parsimony Normed Fit Index (PNFI) = 0.782
Comparative Fit Index (CFI) = 0.946
Incremental Fit Index (IFI) = 0.947
Relative Fit Index (RFI) = 0.893
Critical N (CN) = 68.488
Root Mean Square Residual (RMR) = 0.0401
Standardized RMR = 0.0721
Goodness of Fit Index (GFI) = 0.750
Adjusted Goodness of Fit Index (AGFI) = 0.682
Parsimony Goodness of Fit Index (PGFI) = 0.590

As can be seen in the output, the chi-square statistic is large and significant ($X^2 = 448.908$, $p = 0.0$) which indicates bad fit, although it should be remembered that the chi-square statistic is sensitive to sample size and also makes assumptions that the assumed model perfectly fits the population under study (Diamantopoulos and Siguaw, 2000). Generally, large $X^2$ values indicate poor fit, and small $X^2$ values indicate good fit, with a general rule of thumb that $X^2$ divided by degrees of freedom should be less than five-to- one, or even less than two-to-one (Diamantopoulos and Siguaw, 2000). Here, the ratio is 2.25:1 which indicates that the model fit is reasonable. The NNFI (0.908), the CFI (0.946) and IFI (0.947) are all above the recommended threshold of 0.90, but the RMSEA (0.101), the GFI (0.750) and the SRMR (0.113) demonstrate relatively poor fit.

In addition to the standard RMSEA statistic, LISREL also provides a 90% confidence interval for the statistic. In the example here, the 90% confidence interval lies between 0.088 and 0.114. In other words, acceptable levels for the RMSEA (less than 0.080) are not contained with the 90% confidence interval, adding further credence to the argument that the current CFA does not perform well.

These overall fit statistics for the model suggest that modifications are required in order for the model to present acceptable fit statistics. This process is termed measure purification, where poorly performing items are excluded from further analysis. Further reading of the LISREL output enables the identification of potential candidate items for removal.

### 5.6.7 Identification of Poorly Performing Items

The next section of the LISREL output shows the standardised residuals. Residuals represent the extent to which the model overestimates or underestimates the covariance between two observed variables (Diamantopoulos and Siguaw, 2000). Standardised residuals can be interpreted as standard normal deviates so any residual with an absolute value of greater than 2.58 is considered large as it is greater than one standard deviation away from an "acceptable" score (Byrne, 1998; Diamantopoulos

and Siguaw, 2000). A negative standardised residual indicates that the implied model overestimates the amount of covariance found between the two observed variables.

However, as well as noting how often a particular item presents a sizeable residual, it is important to note the absolute size of the residuals. Observed variables which are most associated with large residuals are candidates for deletion (Diamantopoulos and Siguaw, 2000). Table 5.1 contains a sample of the standardised residuals table. The full output is included as appendix 5.6

**Table 5.1: Sample Standardised Residuals**

```
Standardized Residuals


                ASS1       ASS2       ASS3       ASS4       ASS5       ASS6
              --------   --------   --------   --------   --------   --------
     ASS1       - -
     ASS2       6.032       - -
     ASS3       3.114      2.269       - -
     ASS4      -3.355     -2.999     -0.381       - -
     ASS5      -4.101     -3.082     -0.991      7.367       - -
     ASS6       0.513      0.822     -3.099     -0.721     -0.244       - -
      MV1       0.523     -0.006      0.512     -2.039     -1.969      0.451
      MV2       1.430      2.674      0.633     -1.804     -1.983      1.116
      MV3       0.806     -0.436     -0.143     -3.083     -1.852      0.762
      MV4       0.952     -0.705      0.366     -1.912     -2.357      0.097
      MV5       0.790      0.388      0.567      0.230      0.526      2.429
      MV6      -0.227     -0.095      0.990     -0.343     -0.594      2.350
      MV7       2.005      0.063      2.743     -0.728     -0.360      1.284
    MSQN1       0.386      0.023     -0.250     -0.730     -1.971     -0.156
    MSQN2       1.220      1.493      0.595     -0.580     -2.638      0.687
    MSQN3       1.601      2.298      1.466      0.216      1.690      1.742
    MSDB1       1.798      0.208      0.981     -0.831     -1.547     -0.202
    MSDB2       2.218     -0.239      2.213     -0.138     -1.185      1.133
    MSDB3       0.050     -1.751      1.586     -0.966     -0.275     -1.768
    MSSB1       2.194      0.696      0.949      0.183     -1.568     -0.540
    MSSB2       2.306      1.180      2.361     -0.357     -2.232     -0.299
    MSSB3       1.331     -1.002      1.653      0.534     -0.928     -2.169
```

By looking at the table above it can be seen that ASS1 and ASS4 present the strongest cases for removal from subsequent analysis, since they represent the cases that include the greatest overestimation or underestimation of relationships between items in our hypothesised CFA model.

Following the standardised residuals matrix is a summary of the largest negative and positive standardised residuals (see appendix 5.7). The stem leaf plot associated with this section of the output would ideally show a large number of small residuals which

are evenly distributed. In this particular case, the residuals are clustered around the middle of the stem leaf plot, but show some values that have an absolute value of greater than or equal to 2.58. LISREL also presents lists of largest negative and positive standardised residuals that immediately follow in the output. Essentially, this listing provides exactly the same data as is presented in the Standardised Residuals matrix, but it is easier to read. Items appearing more often can be regarded as more poorly performing than items that do not feature as much.

The LISREL output also presents the Q-Plot of standardised residuals, which effectively represents the residuals in graphical form. Ideally, the Q-Plot should closely match the line of best fit that runs from the bottom-left of the graph to the top-right. In the current case (see Appendix 5.8) there is a slight deviation from this dashed line of best fit, indicating that some parameters in the CFA model may be misspecified (Byrne, 1998).

The next section of the LISREL output concerns the modification indices. A modification index shows "the minimum decrease in the model's chi-square value if a previously fixed parameter is set free and the model re-estimated" (Diamantopoulos and Siguaw, 2000: 108). In this particular case, the output contains modification indices for the structural matrix known as LAMBDA-X (mathematically this is known as $\lambda x$ and in LISREL notation it is known as LX).

This particular matrix suggests a path that could be added to the current model in order to try to improve model fit. The path is from Mssb to MV5 (see appendix 5.9). However, in this particular case, since CFA is theory-led, any change based upon the results of a modification index should only be made "*if this parameter can be interpreted substantively*" (Jöreskog, 1993: 312, emphasis in original). Changes made to a structural equation model based purely upon the suggestions of output files are likely to lack any substantive, theoretical or conceptual strength, and should therefore be regarded as suspect. The addition of this path does not make theoretical or conceptual sense and so this output is ignored.

Due to the lack of any meaningful suggestions from investigation of the LAMBDA-X matrix, the following sections of the output were skipped: Modification Indices for

LAMBDA-X, Expected Change for LAMBDA-X, Standardised Expected Change for LAMBDA-X, Completely Standardised Expected Change for LAMBDA-X and Non-Zero Modification Indices for PHI. For reasons similar to those given above, the PHI matrix ($\Phi$ in mathematical notation or PH in LISREL notation) is not considered because it deals with error covariances. Changes made to measurement errors are generally viewed with suspicion because correlated measurement errors imply that there is an omitted variable that is causing the common variation in the measurement error (Bagozzi, 1983; Gerbing and Anderson, 1988).

The next section of the LISREL output is the Modification Indices for THETA-DELTA ($\theta\delta$ in mathematical notation or TD in LISREL notation). THETA-DELTA concerns relates to the error terms among the observed variables. It reports the covariances between the error terms associated with pairs of observed variables. Essentially, it gives further indication of which observed variables have the least (most) amount of measurement error in them and which therefore serve as good (bad) items in the CFA model. The THETA-DELTA section of the LISREL output contains three main sections: Modification Indices for THETA-DELTA, Expected Change for THETA-DELTA and Completely Standardised Expected Change for THETA-DELTA. In this instance, the section of interest is the Modification Indices for THETA-DELTA, and an extract from the first few lines of the Modification Indices for THETA-DELTA matrix (the full matrix is viewable in Appendix 5.10) is included in table 5.2.

An easy way to deal with analysis of the THETA-DELTA matrix is to consider the total of the error covariance associated with each observed variable. That is, by adding up each of the error terms in the row and column that corresponds to each variable. Variables with very large total error variance are candidates for deletion. From the above table, it is obvious that some observed variables (e.g. ASS1 and ASS4) are stronger candidates for removal in order to improve model fit.

The next section of interest is the Standardised Solution and Completely Standardised Solution sections. There are three basic sections to the Completely Standardised Solution: the LAMBDA-X matrix, the PHI matrix and the THETA-DELTA matrix. The LAMBDA-X matrix represents the relationships between observed variables and

the latent constructs that are hypothesised to cause variance in them. The PHI matrix indicates the correlations between the latent variables represented by the observed variables.

**Table 5.2 Modification Indices for Theta-Delta**

|        | ASS1   | ASS2   | ASS3   | ASS4   | ASS5   | ASS6   |
|--------|--------|--------|--------|--------|--------|--------|
| ASS1   | - -    |        |        |        |        |        |
| ASS2   | 36.385 | - -    |        |        |        |        |
| ASS3   | 9.699  | 5.150  | - -    |        |        |        |
| ASS4   | 11.254 | 8.993  | 0.146  | - -    |        |        |
| ASS5   | 16.817 | 9.500  | 0.982  | 54.280 | - -    |        |
| ASS6   | 0.263  | 0.676  | 9.607  | 0.520  | 0.059  | - -    |
| MV1    | 0.336  | 0.228  | 0.219  | 1.332  | 1.252  | 0.081  |
| MV2    | 1.657  | 15.270 | 0.012  | 3.158  | 4.479  | 0.035  |
| MV3    | 1.160  | 0.001  | 0.350  | 5.330  | 0.015  | 0.468  |
| MV4    | 1.726  | 0.181  | 0.109  | 0.180  | 1.929  | 0.055  |
| MV5    | 0.988  | 0.866  | 1.488  | 2.380  | 4.253  | 0.003  |
| MV6    | 6.367  | 1.507  | 0.020  | 1.981  | 0.356  | 0.986  |
| MV7    | 2.932  | 0.319  | 6.952  | 1.239  | 0.207  | 0.062  |
| MSQN1  | 0.031  | 0.886  | 0.465  | 0.339  | 0.003  | 0.002  |
| MSQN2  | 0.307  | 1.767  | 0.016  | 0.916  | 8.280  | 0.044  |
| MSQN3  | 0.061  | 0.311  | 0.160  | 5.243  | 10.042 | 0.020  |
| MSDB1  | 0.521  | 1.735  | 1.209  | 0.012  | 0.032  | 0.023  |
| MSDB2  | 0.190  | 1.799  | 0.681  | 0.102  | 0.811  | 2.721  |
| MSDB3  | 1.348  | 3.482  | 1.522  | 0.091  | 7.006  | 5.336  |
| MSSB1  | 1.337  | 0.367  | 1.194  | 0.817  | 0.202  | 0.000  |
| MSSB2  | 0.094  | 4.423  | 1.715  | 3.412  | 3.475  | 1.378  |
| MSSB3  | 0.025  | 5.712  | 0.237  | 5.498  | 2.270  | 10.201 |

Finally, the THETA-DELTA matrix, as before, provides information regarding the error associated with each observed variable. Essentially, each observed variable has a portion of its variance accounted for by the respective latent variable that is supposed to "cause" it, and each observed variable also has measurement error associated with it. This is because there is a certain portion of the variance of the observed variable that isn't accounted for by the latent variable (i.e., construct).

A portion of the Completely Standardised Solution output is included in Table 5.3 below (the full output is contained in Appendix 5.11). The corresponding section of the THETA-DELTA output is included in Table 5.4 below (the full THETA-DELTA output is contained in Appendix 5.12).

**Table 5.3: Lambda-X for Completely Standardised Solution**

|      | Ass   | Mv    |
|------|-------|-------|
| ASS1 | 0.633 | - -   |
| ASS2 | 0.708 | - -   |
| ASS3 | 0.560 | - -   |
| ASS4 | 0.843 | - -   |
| ASS5 | 0.821 | - -   |
| ASS6 | 0.820 | - -   |
| MV1  | - -   | 0.725 |
| MV2  | - -   | 0.770 |
| MV3  | - -   | 0.836 |
| MV4  | - -   | 0.769 |
| MV5  | - -   | 0.905 |
| MV6  | - -   | 0.904 |
| MV7  | - -   | 0.614 |

**Table 5.4: Theta-Delta for Completely Standardised Solution**

| ASS1  | ASS2  | ASS3  | ASS4  | ASS5  | ASS6  |
|-------|-------|-------|-------|-------|-------|
| 0.600 | 0.499 | 0.686 | 0.289 | 0.326 | 0.328 |

| MV1   | MV2   | MV3   | MV4   | MV5   | MV6   |
|-------|-------|-------|-------|-------|-------|
| 0.474 | 0.407 | 0.302 | 0.409 | 0.180 | 0.183 |

Essentially, when interpreting tables 5.3 and 5.4, large numbers on the LAMBDA-X matrix, would indicate observed variables with strong loadings on their respective latent constructs and low numbers on the THETA-DELTA matrix suggest that variables are measured with as little error as possible. From the tables, it is clear that ASS1 And ASS3 are likely candidates for deletion as they have lower loadings on their respective factor and larger error terms than other observed variables.

Essentially, this details the first iteration of the CFA procedure followed in this thesis. Based on all available information, a decision must be made regarding which item to remove from further analysis. Once this item is removed, the CFA is run once more, the results interpreted, and another item removed if applicable. This iterative

procedure continues until such time as the fit indices of the overall CFA model (e.g., RMSEA, GFI) exceed recommended minimum thresholds. This is to ensure that the measurement model is psychometrically sound before proceeding on to the evaluation of the structural portion of the analysis.

### 5.6.8 Further Iterations of CFA Analysis

Based on the procedures above several iterations of the CFA model were undertaken These iterations and the results associated with them are presented in table 5.5

### 5.7 Finalisation of Constructs

Once the CFA for the management culture items had been completed, the other CFAs were also assessed. The same process of running an initial CFA, studying the LISREL outputs for identification of poorly performing items (via, for example, Standardised Residuals, THETA-DELTA matrices and LAMBDA-X readings), and then running further iterations of the CFA procedure was followed. This resulted in a finalised pool of items that could be used to represent the constructs under investigation in the thesis. It is important to note that even though items have been removed from certain constructs, examination of their remaining items indicates that their substantive meaning has not changed (Nunnally and Bernstein, 1994). Hence, the constructs still retain face validity (Churchill, 1999; Malhotra and Birks, 2006). The finalised sets of items from all CFA analysis are included in the following sections.

### 5.7.1 Management Service Culture

Assumptions (ASS) is represented by ASS2, ASS5 and ASS6

Management Service Value (MV) is represented by MV1, MV3 and MV4

Management Service Quality Norms (MSQN) is represented by MSQN1, MSQN2 and MSQN3

Management Service Supporting Behaviour (MSSB) is represented by MSSB1, MSSB2 and MSSB3

Management Service Delivery Behaviour (MSDB) is represented by MSDB1, MSDB2 and MSDB3

# Table 5.5: Selected Statistics for Management CFA Iterations

Step 1: All Items

| $X^2$/ d.f | 2.25 |
|---|---|
| RMSEA | 0.101 |
| NNFI | 0.938 |
| CFI | 0.946 |
| IFI | 0.947 |
| GFI | 0.750 |
| SRMR | 0.072 |
| Worst Items | ASS1, ASS4 |

Step 2: ASS1 removed

| $X^2$/ d.f | 2.01 |
|---|---|
| RMSEA | 0.091 |
| NNFI | 0.946 |
| CFI | 0.954 |
| IFI | 0.954 |
| GFI | 0.778 |
| SRMR | 0.072 |
| Worst Items | ASS4, MV7 |

Step 3: ASS4 removed

| $X^2$/ d.f | 1.88 |
|---|---|
| RMSEA | 0.080 |
| NNFI | 0.955 |
| CFI | 0.962 |
| IFI | 0.962 |
| GFI | 0.778 |
| SRMR | 0.072 |
| Worst Items | MV7, ASS3 |

Step 4: MV7 Removed

| $X^2$/ d.f | 1.72 |
|---|---|
| RMSEA | 0.077 |
| NNFI | 0.969 |
| CFI | 0.975 |
| IFI | 0.975 |
| GFI | 0.835 |
| SRMR | 0.056 |
| Worst Items | ASS3, MV6 |

Step 5: ASS3 Removed

| $X^2$/ d.f | 1.72 |
|---|---|
| RMSEA | 0.077 |
| NNFI | 0.969 |
| CFI | 0.975 |
| IFI | 0.975 |
| GFI | 0.835 |
| SRMR | 0.056 |
| Worst Items | MV6, MV5 |

Step 6: MV6 Removed

| $X^2$/ d.f | 1.57 |
|---|---|
| RMSEA | 0.069 |
| NNFI | 0.972 |
| CFI | 0.977 |
| IFI | 0.977 |
| GFI | 0.857 |
| SRMR | 0.053 |
| Worst Items | MV5, MV2 |

Step 7: MV5 Removed

| $X^2$/ d.f | 1.46 |
|---|---|
| RMSEA | 0.062 |
| NNFI | 0.976 |
| CFI | 0.982 |
| IFI | 0.982 |
| GFI | 0.876 |
| SRMR | 0.050 |
| Worst Items | MV2 |

Step 8: MV2 Removed

| $X^2$/ d.f | 1.34 |
|---|---|
| RMSEA | 0.053 |
| NNFI | 0.980 |
| CFI | 0.985 |
| IFI | 0.985 |
| GFI | 0.895 |
| SRMR | 0.046 |
| Worst Items | N/A |

### 5.7.2 Employee Service Culture

Employee Service Quality Norms (ESQN) is represented by ESQN1, ESQN2 and ESQN3

Employee Service Delivery Behaviour (ESDB) is represented by ESDB1, ESDB2 and ESDB3

Employee Service Supporting Behaviour (ESSB) is represented by ESSB1, ESSB2 and ESSB3

### 5.9.2 Performance Constructs

Customer Service Performance is represented by CUSTSAT and CUSTSQ

Financial Performance is represented by ROI and PBT

### 5.8 Fit Statistics for Confirmatory Factor Analyses

At the conclusion of the CFA analyses, there are a total of 28 items representing ten latent variables. The fit statistics for all three groups of CFA iterations that were performed are summarised in Table 5.6 below.

**Table 5.6: Fit Statistics for Confirmatory Factor Analyses**

|  | X2 / d.f. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|---|---|---|---|---|---|---|---|---|
| Management | 1.33 | 0.053 | 0.02-0.077 | 0.980 | 0.985 | 0.985 | 0.90 | 0.046 |
| Employee | 1.54 | 0.058 | 0.0- 0.095 | 0.989 | 0.992 | 0.992 | 0.9310 | 0.036 |
| Performance | 1.84 | 0.08 | 0.0-0.14 | 0.98 | 0.99 | 0.99 | 0.90 | 0.020 |

### 5.9 Nomological Validity

Nomological validity refers to whether or not the correlations between constructs in a measurement theory make sense (Hair et al., 2006b). The most useful way of examining this is to review a correlation matrix of the constructs under investigation. Table 5.7 presents the full correlation matrix of constructs in this study. As can be

seen from the Table, the correlations between constructs are in the expected directions. As such, review of the correlation matrix indicates that the constructs display appropriate nomological validity.

**Table 5.7: Correlations among the Study Constructs**

|            | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9    | 10 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|------|----|
| **ASS (1)**    | 1     |       |       |       |       |       |       |       |      |    |
| **MV(2)**      | 0.67  | 1     |       |       |       |       |       |       |      |    |
| **MSQN(3)**    | 0.31  | 0.52  | 1     |       |       |       |       |       |      |    |
| **MSDB(4)**    | 0.41  | 0.64  | 0.58  | 1     |       |       |       |       |      |    |
| **MSSB(5)**    | 0.3   | 0.52  | 0.42  | 0.76  | 1     |       |       |       |      |    |
| **ESQN(6)**    | 0.1   | 0.298 | 0.061 | 0.065 | 0.155 | 1     |       |       |      |    |
| **ESDB(7)**    | 0.128 | 0.296 | 0.195 | 0.242 | 0.223 | 0.7   | 1     |       |      |    |
| **ESSB(8)**    | 0.142 | 0.141 | 0.139 | 0.166 | 0.184 | 0.64  | 0.73  | 1     |      |    |
| **CUSTPERF(9)**| 0.153 | 0.399 | 0.209 | 0.321 | 0.312 | 0.118 | 0.224 | 0.053 | 1    |    |
| **FINPERF(10)**| 0.085 | 0.298 | 0.087 | 0.224 | 0.299 | 0.138 | 0.222 | 0.097 | 0.55 | 1  |

## 5.10 Convergent Validity

Once constructs have been assessed through CFA, there are further tests that need to be applied in order to test their psychometric soundness. Firstly, it is necessary to test the convergent validity of measures. Convergent validity assesses whether items that pertain to measure the same construct converge or share a high proportion of variance in common (Hair et al., 2006b). Convergent validity can be assessed by examining the factor loadings of observed variables associated with each construct, measuring the reliability of each construct and determining the average variance shared by each construct.

### 5.10.1 Factor Loadings of Observed Variables

The first consideration when assessing factor loadings is that they should be statistically significant (Anderson and Gerbing, 1988). Furthermore, Hair et al. (2006)

recommend that factor loadings should be at least 0.5 but preferably 0.7 or greater. Examination of the completely standardised LAMBDA-X tables for each final CFA allows us to view the factor loadings for each item. Tables 5.8 to 5.10 show the final completely standardised LAMBDA-X loadings and THETA-DELTA error terms for all observed variables retained from the CFA. The examination of these tables indicates that all loadings are greater than 0.6, with the majority of them being greater than 0.7.

**Table 5.8 Final CFA for Management Culture Variables**

| Factor Loading LAMBDA-X (Error Term: THETA-DELTA ) | | | | | |
|---|---|---|---|---|---|
| Items | ASS | MV | MSQN | MSDB | MSSB |
| ASS1 | 0.667(0.555) | | | | |
| ASS2 | 0.726(0.473) | | | | |
| ASS3 | 0.916(0.161) | | | | |
| MV1 | | 0.810(0.344) | | | |
| MV2 | | 0.849(0.278) | | | |
| MV3 | | 0.798(0.363) | | | |
| MSQN1 | | | 0.805(0.353) | | |
| MSQN2 | | | 0.975(0.146) | | |
| MSQN3 | | | 0.759(0.424) | | |
| MSDB1 | | | | 0.879(0.228) | |
| MSDB2 | | | | 0.916(0.162) | |
| MSDB3 | | | | 0.731(0.465) | |
| MSSB1 | | | | | 0.805(0.352) |
| MSSB2 | | | | | 0.945(0.107) |
| MSSB3 | | | | | 0.801(0.359) |

**Table 5.9 Final CFA for Employee Culture Variables**

| Factor Loading LAMBDA-X (Error Term: THETA-DELTA ) | | | |
|---|---|---|---|
| Items | ESQN | ESDB | ESSB |
| ESQN1 | 0.914(0.165) | | |
| ESQN2 | 0.994(0.101) | | |
| ESQN3 | 0.83 (0.324) | | |
| ESDB1 | | 0.889 (0.210) | |
| ESDB2 | | 0.948 (0.101) | |
| ESDB3 | | 0.925 (0.144) | |
| ESSB1 | | | 0.929(0.137) |
| ESSB2 | | | 0.944(0.109) |
| ESSB3 | | | 0.936(0.124) |

**Table 5.10 Final CFA for Performance Variables**

| Factor Loading LAMBDA-X (Error Term: THETA-DELTA ) | | | |
|---|---|---|---|
| Items | | | |
| CUSTSAT | 0.791(0.374) | | |
| CUSTSQ | 0.821(0.326) | | |
| GROWTH | | 0.777(0.396) | |
| MKTSHARE | | 0.930(0.135) | |
| ROI | | | 0.839 (0.295) |
| PBT | | | 0.968(0.164) |

### 5.10.2 Reliability of Constructs

Reliability can be assessed using two separate indices: Cronbach's alpha (α) and Composite Reliability (CR). Cronbach's alpha gives us an indication of how well items within a particular scale have some form of common core (i.e., latent variable). If items are reliably measuring the same concept, then they should produce a high Cronbach alpha score (Churchill, 1999). A recommended threshold for Cronbach's alpha is 0.7 (Nunnally and Bernstein, 1994). However, Cronbach's alpha has been subject to criticism and misapplication in research (Cortina, 1993).

Therefore, Composite Reliability was calculated. Composite Reliability (CR) is roughly equivalent to Cronbach's alpha but is more generally associated with structural equation modelling. The formula for Composite Reliability presented in equation 5.1. This formula is basically the sum of the factor loadings of items (LAMBDA, or λ), squared, divided by the sum of each item's factor loading, squared, plus the sum of the items' error terms (DELTA, or δ). Bagozzi and Yi (1988) recommend a threshold of 0.6 for a composite reliability of score as desirable.

**EQUATION 5.1: COMPOSITE RELIABILITY**

$$CR = \frac{\left( \sum_{i=1}^{n} \lambda_i \right)^2}{\left( \sum_{i=1}^{n} \lambda_i \right)^2 + \left( \sum_{i=1}^{n} \delta_i \right)}$$

Table 5.11 below indicates the Composite Reliability score for each construct examined in this thesis. As can be seen from Table 5.11, the composite reliability score of each construct comfortably exceeds the recommended minimum of 0.6 (Bagozzi and Yi, 1988).

**Table 5.11: Reliability of Study Constructs**

|  | CR |
|---|---|
| **Ass** | 0.82 |
| **Mv** | 0.86 |
| **Msqn** | 0.87 |
| **Msdb** | 0.88 |
| **Mssb** | 0.89 |
| **Esqn** | 0.93 |
| **Esdb** | 0.84 |
| **Essb** | 0.96 |
| **Custperf** | 0.79 |
| **Finperf** | 0.88 |

**5.10.3 Average Variance Extracted**

The convergent validity of a construct can be explained by assessing its average variance extracted, AVE (Fornell and Larcker 1981). Fornell and Larcker (1981) also suggest that there is evidence of discriminant validity for a construct if its average variance extracted (AVE) is greater than the square of the correlation between the construct and every other construct in a model; i.e., the shared variance between the construct and other constructs.

AVE measures the percentage of variance captured by a construct by showing the ratio of the sum of the variance captured by the construct and its measurement variance. It can be computed using the formula in equation 5.2. Bagozzi and Yi (1988), Fornell and Larcker (1981), and Ping (2004) all suggest a minimum score of 0.5 for an acceptable AVE score.

**EQUATION 5.2: AVERAGE VARIANCE EXTRACTED**

$$AVE = \frac{\sum_{i=1}^{n} \lambda_i^2}{\left(\sum_{i=1}^{n} \lambda_i^2\right) + \left(\sum_{i=1}^{n} \delta_i\right)}$$

This formula is basically the sum of the squared factor loadings of the items (LAMBDA$^2$, or $\lambda^2$), divided by the sum of the squared factor loadings of the items plus the sum of the items' error terms (DELTA, or $\delta$).

The AVE's of the study's constructs can be seen in table 5.12. As can be seen in from the table, the AVE for each construct reaches the minimum recommended threshold of 0.5 (Fornell and Larcker, 1981; Hair et al., 2006b), with the majority of constructs comfortably exceeding this benchmark. Overall, the results of the factor loading, reliability analysis and AVE tests provide strong evidence of the convergent validity of the constructs used in the study.

**Table 5.12: Average Variance Extracted of Study Constructs**

| Construct | AVE |
|-----------|-------|
| Ass | 0.604 |
| Mv | 0.671 |
| Msqn | 0.702 |
| Msdb | 0.719 |
| Mssb | 0.727 |
| Esqn | 0.809 |
| Esdb | 0.848 |
| Essb | 0.876 |
| Custperf | 0.649 |
| Finperf | 0.781 |

**5.11 Discriminant Validity**

Discriminant validity assesses the extent to which each construct in a study is distinct from every other construct employed in the study (Hair et al., 2006b). There are two

ways to assess the discriminant validity of constructs. First, one can use CFA and specify pairs of constructs as having a correlation fixed to one. This makes the assumption that the constructs, which are hypothesised to be measuring two separate constructs, could be measuring one construct. The CFA model is then be run again, with the correlation between the constructs estimated freely. If there is a significant change in the chi-square statistic, it can be assumed that the freely estimated CFA model provides a better fit to the data than the fixed one-factor CFA model. This means substantively that the two constructs are measuring two distinct constructs. For the chi square statistic to be significant, a change of greater than 3.84 is required, since there is a change in the degrees of freedom of the CFA of one.

The second method is to compare the Average Variance Extracted (AVE) score of each construct with the square of the correlation between that construct and any other construct employed in the analysis (Hair et al., 2006b). The square of the correlation between any two constructs shows how much variance they share. The ideal result is for the AVE for each construct to be greater than the square of any correlation between that construct and another. This indicates that a latent construct explains more of the variance in its own observed variables than it does in the observed variables hypothesised to be related to any other construct (Hair et al., 2006b). Both methods were used in this study to assess discriminant validity.

**Table 5.13: Paired Construct Tests for Validity**

|  | ASS | MV | MSQN | MSDB | MSSB | ESQN | ESDB | ESSB | CUSTPERF | FINPERF |
|---|---|---|---|---|---|---|---|---|---|---|
| ASS | 1 |  |  |  |  |  |  |  |  |  |
| MV | 62 | 1 |  |  |  |  |  |  |  |  |
| MSQN | 49.42 | 38.39 | 1 |  |  |  |  |  |  |  |
| MSDB | 60.1 | 44.24 | 18.02 | 1 |  |  |  |  |  |  |
| MSSB | 55.3 | 37.33 | 19.92 | 8.16 | 1 |  |  |  |  |  |
| ESQN | 91.81 | 67.47 | 53.48 | 60.89 | 47.03 | 1 |  |  |  |  |
| ESDB | 86.18 | 67.88 | 41.09 | 49.96 | 39.7 | 31.08 | 1 |  |  |  |
| ESSB | 66.45 | 60.91 | 30.81 | 37.82 | 29.07 | 19.67 | 16.27 | 1 |  |  |
| CUSTPERF | 112.28 | 60.35 | 30.89 | 31.62 | 21.78 | 56.16 | 57.01 | 50.49 | 1 |  |
| FINPERF | 35.75 | 37.88 | 12.25 | 18.91 | 12.41 | 34.71 | 28.2 | 22 | 38.43 | 1 |

*Below diagonals represent Change in Chi-Square for one degree of freedom

As can be seen in the table, there are no cases where the difference in the chi square statistic is non-significant (i.e., less than 3.84 with a change in degrees of freedom of one), indicating that the discriminant validity of constructs is not problematic. The results of the second discriminant validity assessment, the average variance extracted comparison to the inter-construct squared correlation, are now shown in Tables 5.14, 5.15 and 5.16 below.

**Table 5.14: Validity (AVE vs. Squared Correlations): Management Culture**

|      | **AVE** | ASS | MV | MSQN | MSDB | MSSB |
|------|---------|-----|-----|------|------|------|
| ASS  | **0.604** | 1 | 0.384 | 0.099 | 0.139 | 0.068 |
| MV   | **0.671** | 0.620 | 1 | 0.191 | 0.324 | 0.250 |
| MSQN | **0.702** | 0.316 | 0.438 | 1 | 0.237 | 0.106 |
| MSDB | **0.719** | 0.374 | 0.570 | 0.487 | 1 | 0.501 |
| MSSB | **0.727** | 0.261 | 0.500 | 0.327 | 0.708 | 1 |

Below the Diagonal: Construct inter-correlations

Above the Diagonal: Squares of construct inter-correlations

**Table 5.15: Validity (AVE vs. Squared Correlations): Employee Culture**

|      | **AVE** | ESQN | ESDB | ESSB |
|------|---------|------|------|------|
| ESQN | **0.809** | 1 | 0.434 | 0.364 |
| ESDB | **0.848** | 0.659 | 1 | 0.518 |
| ESSB | **0.876** | 0.604 | 0.720 | 1 |

Below the Diagonal: Construct inter-correlations

Above the Diagonal: Squares of construct inter-correlations

**Table 5.16: Validity AVE vs. Squared Correlations: Performance**

|          | **AVE** | CUSTPERF | FINPERF |
|----------|---------|----------|---------|
| CUSTPERF | **0.649** | 1 | 0.292 |
| FINPERF  | **0.781** | 0.541 | 1 |

Below the Diagonal: Construct inter-correlations

Above the Diagonal: Squares of construct inter-correlations

## 5.12 Common Method Variance

A test was also carried out to see if correlations observed among variables were due to common method variance or bias (Podsakoff et al, 2003). This test was deemed necessary since the correlation between some variables exceeded 0.5.

Different reasons have been suggested in the literature for common method bias (Podsakoff et al, 2003). As much as possible, in the data collection process, procedural remedies suggested by Podsakoff et al (2003) for reducing common method bias were followed. These included obtaining measures from different sources (management and employees) as well as having multiple employee responses. Furthermore measures which the researchers believed were likely to be particularly prone to some form of method bias where separated from one another in the questionnaire.

These methods are however insufficient to conclude that method bias does not exist (Podsakoff et al, 2003). As such a statistical technique for testing for method bias was also utilised. To estimate if common method bias existed, two method bias models were run; one for management culture variables and another for employee culture variables. The techniques used involved adding a first-order method factor to all the three CFA models (Podsakoff et al 2003). As such, a null model containing the hypothesised constructs was first run, then another with the method factor included. Items were allowed to load on their theoretical constructs as well as on the latent method factor. The structural parameters of the null and method factor models were examined.

The presence of method factors can be seen if the method model produces a better fit than the null model. High method factor loadings indicate that method variance may be contaminating observed scores (Cote and Buckley, 1987). The square of the method factor loadings indicates the amount of variance due to methods (Widaman, 1985).

Results from the analyses indicated that while the method factor did improve model fit for all both CFA models, the maximum amount of variance it accounted for was

about 11% of the total variance which is less than half of that accounted for by Williams, Cote and Buckley (1989). Furthermore, for both CFA method models run, all the items loaded poorly and none of the items loaded significantly (t-value>1.645) on the method factor. The results of these tests suggest that common method variance is not a serious problem in this study.

## 5.12 Summary

This chapter discussed the rationale behind choosing CFA for developing measures for the constructs in this study. Following this, the iterative CFA procedure used to develop measures of the constructs in this study was presented. The fit statistics of the final CFA models show that the models display good fit to the data. The nomological validity of the constructs was assessed through a review of a table of inter-construct correlations for all constructs in the study. All relationships between constructs were in the expected directions. Tests of convergent validity in the form of assessment of Composite Reliability scores and Average Variance Extracted estimates showed that the observed variables measuring each construct shared variance with each other consistent with a latent variable influencing them.

Furthermore, tests of discriminant validity showed that the variance explained by constructs in their respective observed variables was greater than that in observed variables related to other constructs. In summary, the results of the measurement model testing indicate that the constructs under investigation have been measured in a reliable and valid manner. The next chapter presents the structural model, describing the relationships between these constructs, in order to empirically test the hypotheses formulated in Chapter 3.

# CHAPTER 6 – STRUCTURAL MODEL

## 6.1 Introduction

In Chapter 5 all the constructs under investigation were ascertained to have been measured reliably and validly. The next stage of the structural equation modelling process is to test the structural model (Anderson and Gerbing, 1988), which depicts the relationships between constructs (Hair et al., 2006b). This study contains twelve constructs, as listed in Table 6.1 below. These abbreviations will feature in this Chapter where necessary in the interests of saving space (i.e., when preparing a table of results).

**Table 6.1: Constructs In the Study**

| Construct | Abbreviation |
|---|---|
| Service Quality Assumptions | Ass |
| Service Values of Management | Mv |
| Service Quality Norms of Management | Msqn |
| Management Service Delivery Behaviour | Msdb |
| Management Service Supporting Behaviour | Mssb |
| Employee Service Quality Norms | Esqn |
| Employee Service Delivery Behaviour | Esdb |
| Employee Service Supporting Behaviour | Essb |
| Customer Service Performance | Custperf |
| Financial Performance | Finperf |
| Communication | Com |
| Proximity | Prox |

## 6.2 Item Parcelling

For assessing the structural model, it was decided that the effective sample to use was the 109 firms which provided both management and employee responses.

When carrying out structural equation modelling it is important to consider both model identification and sample size constraints. It is recommended that for a structural equation model, it is best to have a ratio of sample cases to parameters to be estimated at around the 5:1 mark. In the current study, with ten constructs measured by 28 observed variables, there are a large number of parameters to be estimated within the main structural model, as follows:

18 observed variable loading on their respective latent variables (10 observed variables serve as indicators and have their loadings set to 1.0),

18 error terms associated with each observed variable (the 13 observed variables with set factor loadings are assumed to be measured without error also)

24 parameters to be estimated in order to test the study's hypotheses

Therefore, there are at least 60 parameters to be estimated, which would necessitate a sample size of 300 (60 x 5). Given that the sample size for assessing the structural model is 109, this could create a problem. One solution to this problem is the practice of item parcelling (Bandalos, 2002), which has been used successfully in recent marketing studies (e.g., Cadogan et al, 2005). In this study, an averaged summed score is used to represent a construct consisting of more than one observed variable (Little et al, 2002). The error variance of the composite indicator can also be calculated prior to estimating the structural model. Hence, using item parcelling, each latent variable is reflected by one composite indicator, which has its error variance calculated before analysis begins. This reduces the number of variable loading and error variance parameters to be estimated. By using item parcelling, the number of parameters to estimate is reduced to 24 and the ratio of sample cases to parameters to be estimated is approximately 5:1.

The first stage of the structural model, therefore, consisted of generating the composite indicators that would be used to model the latent variables. This was done using the SPSS program, to compute a new variable. This new variable was computed as the average of the observed variables retained from the CFA measurement models. Once this was completed, error variance terms for each latent construct were calcualted, using a method presented in previous studies (e.g., Cadogan et al, 2005; Ping, 1995).

The formula is denoted by Equation 6.1:

Error Variance = $([1 - \rho] \times \delta^2)$

In this equation, $\rho$ is the Composite Reliability of the construct (calculated in the previous Chapter), and $\delta$ is the standard deviation of the average summed construct and $\delta^2$ is the variance of the construct.

**Table 6.2: Summated Scale Operationalisation Statistics**

| Measure | Reliability | Variance | Error Variance |
|---|---|---|---|
| Assumptions | 0.82 | 0.336 | 0.06 |
| Value | 0.86 | 0.303 | 0.04 |
| Management Service Quality Norms | 0.87 | 1.1 | 0.14 |
| Employee Service Quality Norms | 0.94 | 0.546 | 0.03 |
| Management Service Delivery Behaviour | 0.88 | 0.75 | 0.09 |
| Management Service Supporting Behaviour | 0.89 | 1.02 | 0.11 |
| Employee Service Delivery Behaviour | 0.94 | 0.48 | 0.03 |
| Employee Service Supporting Behaviour | 0.96 | 1.03 | 0.04 |
| Customer Service Performance | 0.79 | 0.84 | 0.18 |
| Financial Performance | 0.88 | 1.71 | 0.21 |
| Service Related Communication | 0.84 | 1.11 | 0.16 |
| Proximity | 0.88 | 1.20 | 0.13 |

## 6.3 Estimating the Main Structural Model

Once composite indicators had been created, and their respective error variances had been calculated, it was now possible to begin estimation of the structural model. Once more, LISREL was used. Firstly, the SPSS data file containing the summed composite indicators was imported into the LISREL program. Then, LISREL was asked to provide a covariance matrix and a means output file for analysis. Once this was done, syntax was entered for analysis of the structural model.

## 6.4 The Structural Model – Iteration One

After the initial running of the structural model, LISREL provides detailed output indicating how well the covariance matrix implied by the study's hypothesised model matches the covariance matrix that is generated from the data collected

### 6.4.1 Model Assessment

LISREL provides a range of fit statistics that can be used to interpret the fit of the implied covariance matrix to the actual covariance matrix. In addition to fit indices, LISREL also provides structural equations which can be interpreted in a similar manner to regression equations, in that they may be used to argue for the acceptance

or rejection of research hypotheses. LISREL also provides modification indices for the structural model, advising which particular paths may be added to or deleted from the model, as well as the expected improvement in the chi square statistic if these recommendations are followed.

As with the measurement model, any modifications made to the structural model, must be based upon strong theoretical and substantive grounds rather than purely statistical ones. Also worth reiterating here is the common misconception regarding statistical coefficient results of greater than one. In the case of interpretation of such things as structural equations, the coefficients are to be interpreted as regression coefficients rather than correlation coefficients, so cases of their being greater than 1.0 do not necessarily imply problems in the model (Jöreskog, 1999).

The next section details the initial assessment of the first iteration of the final model.

### 6.4.2 Model Fit Statistics

The fit statistics for the first running of the structural model are presented in Table 6.3 below. For complete fit statistics, see Appendix 6.1.

**Table 6.3: Fit Statistics for First Iteration**

| X2 / d.f. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|-----------|-------|------------------------|------|-----|-----|-----|------|
| 1.221 | 0.045 | 0.0-0.0891 | 0.975 | 0.983 | 0.984 | 0.935 | 0.0803 |

As can be seen from the Table above, the ratio of the chi square to the degrees of freedom is lower than the recommended 5:1 (Diamantopoulos and Siguaw, 2000), and the NNFI, CFI, IFI and GFI exceed the recommended threshold of 0.9 (Nunnally and Bernstein, 1994). The Standardised RMR statistic (SRMR) is 0.08, less than the recommended 0.1 level (Byrne, 1998; Kline, 1998). The RMSEA is also less than the recommended threshold of 0.05 for a good fit. The results of this initial review of the structural model's fit statistics indicate that model fit is actually quite good. However, it is necessary to investigate the LISREL output further to identify potential changes that may be required in order to improve the model's fit.

### 6.4.3 LISREL Output – Structural Equations

The review of the LISREL output for the first run of the structural model begins with an examination of the input covariance matrix (see Appendix 6.2). From looking at this matrix, there do not appear to be any covariance values which might indicate a significant departure from the norm and hence a strangely performing variable. All covariance values fall between 0.016 and 1.126, and there are no double-digit covariance values. Secondly, the measurement equations are reproduced in the output (see Appendix 6.3). This simply confirms the first section of relationships from the syntax, where each composite indicator is hypothesised to load upon its latent construct perfectly. This section does not reveal any problems, which might occur from errors in the typing of the syntax.

The next section of the output presents the structural equations (see Appendix 6.4). This is an important section of the output for model discussion purposes, as it is these values that are later used to inform hypothesis interpretation and (dis)confirmation. The structural equation relating to Employee Service Delivery Behaviour is presented

$$Esdb = 0.148*Essb + 0.645*Esqn - 0.038*Mssb \quad Errorvar = 0.199 \quad R^2 = 0.598$$
$$(0.070) \qquad (0.111) \qquad (0.057) \qquad (0.037)$$
$$2.100 \qquad 5.803 \qquad -0.662 \qquad 5.375$$

There are three important aspects in this equation. Firstly, hypothesised antecedents to employee service delivery behaviour are included in the equation, namely Employee Service Quality Norms, Employee Service Supporting Behaviour and Management Service Supporting Behaviour. In addition, there is an error variance associated with the equation, which indicates variance associated with the Employee Service Delivery Behaviour construct that is not explained by any of the three antecedents. Finally, there is an $R^2$ statistic which indicates how much variance in the Employee Service Delivery Behaviour construct is explained by the overall structural model.

The relationship between Employee Service Supporting Behaviour (Essb) and Employee Service Delivery Behaviour (Esdb) is used here for illustration. There are

three numbers to consider. The first (0.148) is the coefficient indicating the relationship between the two variables (i.e., positive/negative, strong/weak), the second (0.070) is the standard error associated with the coefficient and finally the third number (2.100) is the t value associated with the coefficient, which gives an indication of the significance of the coefficient (Kelloway, 1998). The standard error indicates how accurately the value of the coefficient has been estimated, with smaller standard errors indicating more precise estimation (Diamantopoulos and Siguaw, 2000). The t-value is the coefficient divided by the standard error term. The relationship with the other antecedents can be interpreted in a similar fashion.

There is also an error term associated with the equation, which is read in the same way as each of the coefficients relating to the antecedents. Error terms in a structural model represent residual terms in the equation (Diamantopoulos and Siguaw, 2000). Residuals represent variance in the focal construct that is not accounted for by any of the antecedent constructs. So the error term has a coefficient of 0.199, a standard error of 0.037 and a $t$ value of 5.375. Finally, the $R^2$ estimate indicates that the structural model accounts for 0.598 (59.8%) of the variance in the Employee Service Delivery Behaviour construct.

Because each of the hypotheses in this study is directional in nature, a coefficient needs to have an associated absolute $t$-value of greater than 1.645 in order to be significant at the 5% level. Hence Employee Service Quality Norms and Employee Service Supporting Behaviour have a significant influence on Employee Service Delivery Behaviour. However, Management Service Supporting Behaviour which has a $t$-value of -0.662 is not significant. The error term is significant ($t$-value = 5.375), which indicates that residual variance in Employee Service Delivery Behaviour has been accurately estimated by the structural model (Diamantopoulos and Siguaw, 2000). The error term does not have directionality implied in the model (unlike the hypotheses) and so it needs an associated $t$ value of greater than 1.96 in order to be significant at the 5% level.

Reviewing the remaining structural equations, there are no concerns as all the other equations have significant error variances.

### 6.4.4 LISREL Output – Residuals and Modification Indices

The LISREL output also contains information about the residuals associated with the structural model. There are two types of residuals, fitted and standardised. The stem-leaf plots for both sets of residuals are evenly distributed about a mean of zero, with a slight favouring of negative residuals, which indicates that overall the structural model overestimates the covariance among the observed variables (Diamantopoulos and Siguaw, 2000). However, the small number of large residuals in comparison to the amount clustered about the mean of zero does not create problems. The Q-Plot of standardised residuals also appears to be close to a best fit scenario, where all residuals are lying in a straight line. In the current Q-Plot, the residuals are generally clustered at either the left or right-hand side of the graph, in vertical lines, indicating very good fit.

The modification indices are not considered to be particularly useful in this instance (appendix 6.5). For example, in the section of modification indices relating to the LAMBDA-X ($\Lambda$x) matrix, LISREL suggests adding paths from observed composite variables to latent variables to which the observed variables are unrelated. This does not make much sense, so this section of the modification indices is ignored. The same occurs when inspecting the modification indices relating to the BETA (B in mathematical notation, BE in LISREL notation) matrix. Here, LISREL is suggesting the addition of paths linking observed composite variables to other observed composite variables. Once again, this does not make substantive sense as an observed composite variable only reflects one latent variable (the one to which it has been assigned). Similar suggestions are observed in the next section of the modification indices relating to the GAMMA matrix. Therefore, the suggestions referring to the BETA and GAMMA matrices are ignored.

The modification indices do not make suggestions regarding the adding of error covariances. This is good, because allowing measurement errors to covary in order to improve model fit is not generally recommended, as it violates one of the assumptions of structural equation modelling, namely that error terms are uncorrelated (Diamantopoulos and Siguaw, 2000).

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Finally, the LISREL output presents a standardised and a completely standardised solution for review. The first part of the completely standardised solution presents the factor loadings of the observed composite indicators upon their respective latent constructs (see Appendix 6.6). This is represented in the LAMBDA-X and LAMBDA-Y matrices. The loadings range from 0.885 to 0.982 indicating excellent results (although this is to be expected when composite indicators are used).

The next section of the completely standardised output presents the BETA and GAMMA matrices for consideration (see Appendix 6.7). These matrices indicate effects between the latent variables. The GAMMA matrix indicates the effects of exogenous variables upon endogenous variables while the BETA matrix details effects of endogenous variables upon other endogenous variables. Once again, these matrices indicate that all effects but one are in the expected directions (i.e., positive) in conjunction with the hypotheses.

### 6.4.5 Testing the Moderator Hypotheses

The first step taken in order to test hypotheses 15 and 16 was to run a CFA of all the constructs related to testing these hypotheses. The CFA produced excellent fit results (Chi-square = 78, dof = 48, RMSEA = 0.08., GFI = 0.90, NNFI = 0.92, IFI = 0.93, CFI = 0.93, SRMR = 0.06). The items retained from the CFA are listed in Table 6.4. Correlations among the constructs as well as reliabilities and discriminant validity statistics are included in Table 6.5. After the CFA was run, single indicators for all predictor variables (management value for service quality, communication and proximity) were created through the item parcelling technique explained earlier.

The next step was the creation of the interaction terms. The residual-centred interaction terms used for the estimation of the interaction effect were created in SPSS following the process described by Little et al (2006). For example to create the interaction term for testing the moderating effect of proximity, the single indicators of the predictor variables (management value and proximity) obtained by item parcelling were multiplied to create a product term. The product term was then regressed on the two predictor variables from which it was derived and SPSS was asked to save the

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residuals. In this way residual-centred interaction terms were created and saved as Respagg and Rescagg for proximity and communication, respectively.

**Table 6.4 Final CFA of Items for Testing Moderator Hypotheses**

| Items | MV | ESQN | COM | PROX |
|---|---|---|---|---|
| MV1 | 0.810(0.344) | | | |
| MV3 | 0.849(0.278) | | | |
| MV4 | 0.798(0.363) | | | |
| ESQN1 | | 0.914(0.165) | | |
| ESQN2 | | 0.994(0.101) | | |
| ESQN3 | | 0.83 (0.324) | | |
| COM2 | | | 0.81(0.34) | |
| COM3 | | | 0.75(0.44) | |
| COM4 | | | 0.86 (0.47) | |
| PROX2 | | | | 0.90(0.21) |
| PROX3 | | | | 0.70(0.25) |
| PROX4 | | | | 0.80(0.28) |

**Table 6.5: Correlation and Discriminant Validity Statistics**

| | CR | AVE | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| Management Value | 0.86 | 0.67 | **0.81** | | | |
| Employee Service Delivery Norms | 0.93 | 0.81 | 0.298 | **0.90** | | |
| Proximity | 0.88 | 0.72 | 0.10 | 0.378 | **0.93** | |
| Communication | 0.84 | 0.65 | 0.457 | 0.235 | 0.146 | **0.80** |

*Diagonals are square roots of AVE

To calculate the error variance for Respagg and Rescagg, the following procedure was followed. First, each item measure of the moderator variables retained from CFA measurement model was multiplied with each indicators of management value to create a first-order product term (e.g. the three items of value were multiplied with the three items of proximity to create nine product terms and the three items of value were multiplied with the three items of communication to create nine product terms). Each product term was then regressed on the respective items from which it was derived to create nine residual-centred observed items which were then set to load on respective latent constructs.

The factor loadings and error variances of the nine residual-centred indicators on their respective latent constructs (i.e. proximity and communication) were used to calculate

the composite reliability of the multi-item interaction scales using equation 5.1. The composite reliabilities (CR) for the interaction latent variables were 0.90 and 0.88 for communication and proximity respectively. These CR scores and the variance from the residual-centred interaction terms (Respagg and Rescagg) were used to compute the error variance of Respagg and Rescagg using equation 6.1.

Two separate structural models were then run to test the moderation hypotheses. The first structural model included the single indicators of management value for service and proximity obtained by item parcelling, the residual centred interaction term derived from these items (Respagg) and the outcome variable employee service quality norms (esqn). The second CFA model included the single indicators of management value for service and communication obtained by item parcelling, the residual-centred interaction term derived from these items (Rescagg) and the outcome variable; employee service quality norms (esqn). In order to achieve identification in the structural model, the outcome variable, employee service quality norms (esqn) was represented by its three indicators. The structural models were then run with the predictor items, the interaction item and the outcome variable included.

As mentioned in chapter 5, under orthogonal conditions, when the interaction term is entered into a model, the partial regression coefficients representing the magnitudes, directions, and significances of the main effect variables remain precisely the same as they were before the interaction was included. Furthermore, residual centering yields a coefficient for the orthogonalised cross-product term that can directly be interpreted as the effect of the interaction on the dependent variable (Lance, 1988:164). This replaces the assessment of the increase in the $R^2$ due to the inclusion of the interaction term. Figure 6.6 shows the results of the tests.

**Table 6.6: Results of Hypotheses Testing**

| Hypothesis | Antecedent | Outcome | Coefficient | t value | Sig |
|------------|------------|---------|-------------|---------|-----|
| H15 | Mv*Com | Esqn | -0.12 | 1.76 | 0.05 |
| H16 | Mv*Prox | Esqn | 0.13 | 1.93 | 0.05 |

The results support the hypothesis that proximity among managers and employees moderates the relationship between the value management place on service quality

and the shared service quality norms of employees. However, the hypothesis relating to the moderating effect of communication on the relationship between the value management place on service quality and the shared service quality norms of employees was not supported. Contrary to what was expected the result was actually significant but in the opposite direction to that hypothesised. This result is contrary to expectation as it might be expected that communication would be important in the creation of a service culture at the employee level. One possible reason for the lack of support for this hypothesis may be that communication is actually a mediator rather than a moderator. This assertion makes sense because the coefficient for the link between communication and employee service quality norms actually returned a significant effect (0.14, t= 1.74). This possibility is explored further in the next section.

## 6.5 Competing Models and Structural Model Modification

 "*Using structural equation modelling to investigate a research question, the simplest strategy would involve constructing just a single model corresponding to the hypotheses, test it against empirical data, and use a model fit test and other fit criteria to judge the underlying hypotheses*" (Werner and Schermelleh-Engel, 2010).

However, there are instances where it may be appropriate to analyse several competing models and compare the results. An example is when the favourite model fits the data well, but it is possible to specify a competing model based on different hypotheses which may explain the observed relationships as well. Another instance is where there are several competing models which are all theoretically plausible. Differences in model fit would be the only criteria to decide which model to prefer. Finally, a competing model may be specified when the original, presumed model did not fit the data well. It has been modified and it is to be shown that the modifications actually result in better model fit (Werner and Schermelleh-Engel, 2010).

In terms of this study, the model fit the data well and so an argument could be made to avoid model modifications altogether. However as noted above, there could be competing models. One way a competing model can be specified is by assuming a relationship between latent variables compared to a model where these latent variables are presumed to be unrelated (Werner and Schermelleh-Engel, 2010). A

competing model may also be one with an additional path compared to an otherwise identical model without this path.

In specifying a competing model based on the former approach; i.e., assuming a new relationship between two latent variables, the first consideration for the researcher is to ascertain if a theoretically important hypothesis has been omitted from the structural model. Therefore, a decision was made to ascertain whether any meaningful suggestions indicating any overlooked hypotheses were suggested by the modification indices of the main structural model.

The modification indices suggested that a path linking management service supporting behaviour to customer performance should be added. In order to determine whether to include this hypothesis and thus specify a competing model, theoretical assertions about the link between managerial support and performance were considered.

Theory suggests that the link between management support and customer service performance of a firm is likely to be indirect rather than direct. An increase in training for example is unlikely to directly affect customer perceptions but more likely to directly affect employee service delivery which in turn influences customer performance.

Dean (2004:345) in a comprehensive review of studies linking organisations and customers state that "the most compelling evidence links organisational features to employee attitudes, employee attitudes to service quality and customer satisfaction and customer loyalty to financial outcomes". In essence the literature suggests the following link: organisational activities influence employee perceptions and behaviours which in turn influence customer perceptions and behaviours, and, ultimately, impact the organisation's bottom line (Borucki and Burke, 1999; Heskett, et al., 1997). Based on theoretical considerations; i.e., that the addition of this path does not offer any additional theoretical explanation, this hypothesis was not tested.

Secondly, as mentioned earlier the non-significant moderating effect of service-related communication and the positive and significant relationship between

communication and employee service norms may suggest that the variable be specified as a mediator of employee service quality norms rather than as a moderator of the link between management value and employee norms. An alternative structural model was therefore estimated with the initial hypotheses but now including communication as a direct antecedent of both employee service quality norms as well as employee service delivery behaviours. Management value for service quality was hypothesised as a direct antecedent of service quality-related communication.

Two of the three paths created as a result of this (see Table 6.7) returned non-significant statistics without affecting the directionality and significance of the originally hypothesised paths. Only the path from management values to communication was positive and significant. The fit statistics for this model were also substantially poorer than the original model estimated as shown in Table 6.8. Because this model fit the data worse compared to the original model, it was rejected.

**Table 6.7 Hypotheses for Competing Model**

| Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|
| Mv | Com | 0.48 | 4.82 | 0.001 |
| Com | Esqn | 0.11 | 0.93 | ns |
| Com | Esdb | 0.06 | 0.77 | ns |

**Table 6.8 Fit Statistics of Competing Model**

| X2/ df. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|---|---|---|---|---|---|---|---|
| 2.03 | 0.09 | 0.0609 - 0.134 | 0.886 | 0.929 | 0.932 | 0.906 | 0.094 |

**6.6 Further Iterations of the Main Structural Model**

The next step involved a more detailed review of the LISREL outputs. A close look at output suggests that the structural equations may represent a source of modification suggestions for the model. This is in line with recommendations from Byrne (1998) as well as Baumgartner and Homburg, (1996) that researchers should, in the interests of parsimony, consider the extent to which initially hypothesised paths might be irrelevant to the structural model. If paths are non-significant, they can be removed

from the structural model, the structural model can be re-estimated, and the fit statistics of the revised model can be reviewed to indicate if the removal of the path improved the fit of the structural model. This process is known as a specification search (Jöreskog and Sörbom, 1996), and broadly follows the pattern of an unrestricted specification search (MacCallum, 1986).

In the case of the initial estimation of the hypothesised structural model, there are 4 structural parameters that return a non-significant $t$ value (see Structural Equations, Appendix 6.4). This represents 4 possible areas to improve the model in the interests of parsimony.

However, as indicated above, any modifications to be made to the model through respecification must have a theoretical justification, rather than solely empirical reasons (Bentler and Chou, 1993). If the underlying theory states that a parameter should be included, even if it is non-significant in the particular case, it is better to retain the parameter (Joreskog and Sorbom, 1996). As such any change to a model must make theoretical sense and should not be made solely in the interests of improving model fit (Hayduk, 1987).

Both theoretical reasoning as well as parameter estimates served as the basis for deciding what parameters to remove before the next iteration. The paths first considered for deletion were from management service supporting behaviours (mssb) to employee service delivery behaviours (esdb) and from management service supporting behaviours (mssb) to employee service supporting behaviours (essb) which were both non-significant. It can be argued theoretically that, management service supporting behaviours may have only an indirect effect rather than a direct effect on employee behaviours. In other words, as argued in the hypotheses, management service supporting behaviours may exert a direct positive influence on employee service quality norms, which then exerts a positive influence on employee behaviours. This mediated effect may be the reason why the paths returned non-significant results. These two paths were therefore deleted and a second iteration run. The other two non-significant paths from the main model were deemed important to retain at this stage and so were not deleted.

### 6.6.1 The Structural Model – Iteration Two

The paths that were no longer estimated in the second iteration of the structural model are listed in Table 6.9 below. The Table also indicates the implications that the removal of these structural paths has for the study's hypotheses.

**Table 6.9: Deleted Paths**

| Antecedent | Outcome | Coefficient | t value | Sig. | Hypothesis | Supported |
|---|---|---|---|---|---|---|
| Mssb | Esdb | -0.038 | -0.66 | n.s | 13 | No |
| Mssb | Essb | 0.010 | 0.08 | n.s | 14 | No |

The fit statistics for the second iteration of the structural model are presented in Table 6.10 below.

**Table 6.10: Fit Statistics for the Second Iteration**

| X2 / d.f. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|---|---|---|---|---|---|---|---|
| 1.148 | 0.037 | 0.0-0.0826 | 0.982 | 0.987 | 0.987 | 0.935 | 0.0790 |

As shown in the Table above, the normed chi square statistic reduces for the second estimation of the structural model. However, the chi-square figure itself actually increases slightly from 37.853 to 37.904. This indicates that the second estimation of the structural has not made a significant improvement on the first. However, it should be mentioned that the chi square statistic is often regarded as an unreliable indicator of model performance when sample sizes are small (Marsh et al, 1988; Sharma, Mukherjee, Kumar and Dillon, 2005). There are small improvements in the RMSEA, NNFI, CFI, IFI and SRMR statistics. The GFI essentially remains the same. Overall, the result of the second iteration suggests that the removal of parameters with small $t$ values does lead to minor improvements in model fit. However, the removal of these two paths did not have any effect on the remaining hypotheses. The other two non-significant paths after the first iteration were still non-significant after the second iteration.

## 6.6.2 The Structural Model – Iteration Three

In further interest of parsimony, a third iteration of the structural model was undertaken. The path deleted for this iteration was the path from msdb to cust which details the positive effect of management service delivery behaviour on customer based performance. This path represented by hypothesis 3 was non-significant with a t-value of 0.89. The results of this iteration are presented in Table 6.11

**Table 6.11: Fit Statistics for the Third Iteration**

| X2 / d.f. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|-----------|-------|------------------------|------|-----|-----|-----|------|
| 1.160 | 0.0337 | 0.0-0.0801 | 0.983 | 0.987 | 0.987 | 0.934 | 0.0746 |

The normed chi square statistic reduces for the third iteration of the structural model. This indicates that the second estimation of the structural has not made a significant improvement on the first. There are small improvements in the RMSEA, NNFI and SRMR statistics. The CFI, IFI and GFI essentially remain the same.

## 6.8 Results of Model Testing

After three iterations of the structural model aimed at producing a more parsimonious estimation (Byrne, 1998), the best fitting model was found to be that produced by the third iteration. The results from the three iterations are included and compared in Table 6.12

**Table 6.12: Comparison of Fit Statistics for the Three Iterations**

| Iteration | X2 / d.f. | RMSEA | 90% Interval for RMSEA | NNFI | CFI | IFI | GFI | SRMR |
|-----------|-----------|-------|------------------------|------|-----|-----|-----|------|
| 1 | 1.221 | 0.045 | 0.0-0.0891 | 0.975 | 0.983 | 0.984 | 0.935 | 0.0803 |
| 2 | 1.148 | 0.037 | 0.0-0.0826 | 0.982 | 0.987 | 0.987 | 0.935 | 0.0790 |
| 3 | 1.160 | 0.0337 | 0.0-0.0801 | 0.983 | 0.987 | 0.987 | 0.934 | 0.0746 |

However, because the fit of the initial model was quite good, and because the second and third iterations of the structural did not make a significant improvement when

compared to the original, the results of the initially hypothesised model and the hypotheses associated with this model are presented.

**Table 6.13 Results of the Hypothesised Relationships**

| Hypotheses | Path | Standardised Parameter Estimates | t-value | Sig level | Support for hypotheses |
|---|---|---|---|---|---|
| H1 (+) | Cust→FinPerf | 0.62 | 6.21 | 0.001 | Supported |
| H2 (+) | Esdb→Cust | 0.29 | 2.65 | 0.01 | Supported |
| H3 (+) | Msdb→Cust | 0.10 | 0.89 | n.s | **Not Supported** |
| H4 (+) | Esqn→ Essb | 0.67 | 8.50 | 0.001 | Supported |
| H5 (+) | Esqn→ Esdb | 0.62 | 5.87 | 0.001 | Supported |
| H6 (+) | Essb→ Esdb | 0.21 | 2.10 | 0.05 | Supported |
| H7 (+) | Msqn→ Mssb | 0.75 | 9.13 | 0.001 | Supported |
| H8 (+) | Msqn→ Msdb | 0.51 | 5.22 | 0.001 | Supported |
| H9 (+) | Mv→ Msqn | 0.58 | 6.27 | 0.001 | Supported |
| H10 (+) | Ass→ Mv | 0.61 | 6.87 | 0.001 | Supported |
| H11 (+) | Mv→ Esqn | 0.27 | 2.41 | 0.01 | Supported |
| H12 (+) | Mssb→ Esqn | 0.12 | 1.02 | n.s | **Not Supported** |
| H13 (+) | Mssb→ Essb | 0.01 | 0.08 | n.s | **Not Supported** |
| H14 (+) | Mssb→ Esdb | -0.04 | 0.66 | n.s | **Not Supported** |
| H15(+) | Mv*Com →Esqn | -0.12 | 1.76 | 0.05 | **Not Supported** |
| H16(+) | Mv*Prox → Esqn | 0.13 | 1.93 | 0.05 | **Supported** |

Hypotheses are either confirmed or disconfirmed based on whether the t-value associated with each path loading exceeds the criterion of practical significance for the 5% significance level (critical value = + 1.645). A one tailed t-test is deemed appropriate when there is a preferred direction in the relationship and is deemed to be more powerful statistically than a two-tailed test (Churchill, 1987). Therefore, any t-value equal to or greater than 1.645 is significant at the 0.05 level and indicates that a specific hypothesis is confirmed by the data.

Next, the error variance and variance explained ($R^2$) figures associated with the endogenous constructs are presented in Table 6.14.

**Table 6.14: $R^2$ Values for All Constructs**

| Construct | Error Variance | *t value* | Sig | $R^2$ |
|---|---|---|---|---|
| Management Value for Service | 0.172 | 5.553 | 0.001 | 0.368 |
| Service Quality Norms of Management | 0.433 | 5.793 | 0.001 | 0.337 |
| Management Service Delivery Behaviour | 0.62 | 6.017 | 0.001 | 0.260 |
| Management Service Supporting Behaviour | 0.396 | 5.037 | 0.001 | 0.568 |
| Employee Service Quality Norms | 0.404 | 6.781 | 0.001 | 0.114 |
| Employee Service Delivery Behaviour | 0.199 | 5.375 | 0.001 | 0.598 |
| Employee Service Supporting Behaviour | 0.575 | 6.526 | 0.001 | 0.464 |
| Customer Service Performance | 1.015 | 5.606 | 0.001 | 0.098 |
| Financial Performance | 0.365 | 4.359 | 0.001 | 0.451 |

**6.9 Chapter Summary**

This chapter has detailed the testing of the main structural model, a competing model as well as two further iterations of the main structural model. However, because the competing models as well as the second and third iterations of the main structural model did not make a significant improvement on the first, the significant relationships contained within the original model have been presented, along with the non-significant parameters. The next chapter presents results for each of the hypotheses presented in the original conceptualisation (Chapter 3), along with discussion of possible reasons for their significance or non-significance.

# CHAPTER 7 RESULTS AND DISCUSSION

## 7.1 Introduction

This study set out to examine service culture antecedents of organisational performance. In Chapter 3, hypotheses were developed and a conceptualisation of relationships presented. The methodology and measure development results were discussed in Chapters 4 and 5, and in Chapter 6, the conceptual framework was formally tested. The results of this testing were also presented in Chapter 6. This Chapter now seeks to interpret these results, presenting the findings in a non-technical manner. Firstly, significant hypotheses will be presented and discussed. Following this, non significant hypotheses will be presented and discussed. Next, indirect relationships will be highlighted and discussed. The next section after this will comment on the $R^2$ values for the constructs employed in the study, discussing possible reasons, for, as well as the implications of, the amount of variance explained. The chapter will then conclude by introducing the final chapter of this thesis, which focuses upon the academic and practical implications of this work, its limitations, and future directions that subsequent researchers may choose to follow.

## 7.2 Significant Relationships

The pattern of significant relationships present in the study gives a clear indication of the overall importance of the constructs investigated. Generally it is expected that valuing service quality would have a positive impact on service quality norms which would then exert a positive influence on service behaviours. This is in line with the theory of organisational behaviour (Katz and Kahn, 1978). As many previous studies have shown service behaviours should impact positively on performance (Bettencourt and Brown, 2003). Significant relationships indicating supported hypotheses are shown in Figure 7.1

### 7.2.1 Customer Service Performance and Financial Performance

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H1 | Cust | FinPerf | 0.62 | 6.21 | 0.001 |

Customer service performance was found to be positively related to financial performance. The result is as expected and further supports the several studies which have shown that customer service performance should ultimately have a positive impact on financial performance. The result is in line with findings from previous research that suggest the provision of high-quality service to customers is a key determinant of superior organisational performance (Boulding et al.1993; Bove and Johnson, 2006; Sureshchandar et al., 2002). Service quality is likely to be particularly important in the estate agency context since it is a pure service and as such service is likely to be the key area through which firms can distinguish themselves. Firms which excel at service delivery are likely to benefit from customer word of mouth, loyalty and repurchase which would lead to better organisational performance.

### 7.2.2. Employee Service Delivery Behaviour and Customer Service Performance

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H2 | Esdb | Cust | 0.29 | 2.65 | 0.01 |

Hypotheses 2 proposed a positive relationship between service delivery behaviours of employees and customer service performance; i.e., customer perceptions of service quality and customer satisfaction. A direct positive relationship was demonstrated in this study between service delivery behaviours and customer service performance, adding to the considerable wealth of research on this topic. The results here are in line with existing theory which suggests that the customer-directed actions of customer-contact employees affect customers' perceptions about an organisations service performance. Employee behaviours are thus a crucial element of customers' formulations of service quality and satisfaction perceptions (Bitner, et al, 1990; Brady and Cronin, 2001a; Hartline and Ferrell, 1996).

### 7.2.3. Employee Service Supporting Behaviour and Employee Service Delivery Behaviour

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H6 | Essb | Esdb | 0.21 | 2.10 | 0.05 |

Employee service supporting behaviours were found to have a direct positive relationship with employee service delivery behaviours. This relationship was not surprising, as it has been suggested in a large amount of previous research. Previous work has indicated that the internally directed helping behaviours of employees could have an influence upon the performance of externally directed behaviours of service employees (Bienstock, et al., 2003). The basic argument for this is that when employees support and help one another, service delivery capacity of all employees is likely to be enhanced. This enhanced capacity leads to better service delivery from employees.

**7.2.4 Employee Service Norms and Employee Service Behaviours**

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|-----------|---------|-------------|---------|-----|
| H4 | Esqn | Essb | 0.67 | 8.50 | 0.001 |
| H5 | | Esdb | 0.62 | 5.87 | 0.001 |

In this section, the hypotheses relating to antecedents of service quality behaviours at the employee-level and at the management level are discussed. Hypotheses 4 proposed a positive relationship between employee service quality norms and employee service supporting behaviour. Consistent with this hypothesis, a positive relationship was found between the two constructs. Hypotheses 5 proposed a positive relationship between employee service quality norms and employee service delivery behaviour. Also consistent with the hypothesis, a positive relationship was found between the two constructs.

This relationship is in line with expectations, since service norms relate to the standards that employees accept and hold one another accountable to, with respect to meeting customer needs (Feldman, 1984). Service norms help to clarify to customer-contact employees what kinds of behaviours are expected and what outcomes are expected from their interactions with customers and other organisational members in order to enhance customer perceptions of service quality. Among customer-contact employees therefore, the presence of norms having service quality as their primary

focus should be related to the degree to which positive service behaviours are performed.

Weak norms suggest that employees do not hold one another accountable for service quality. On the other hand strong norms point to evidence of stronger social control, where expectations concerning service quality are clear and emphasised. The results of this hypothesis further lend evidence to the assertion that the interpretation of customer contact employees of what is the accepted way to behave and what outcomes are expected from them by their colleagues determines the likelihood that they will engage in the types of behaviors that provide such outcomes (Hackman, 1992).

### 7.2.5 Management Service Norms and Management Service Behaviours

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H7 | Msqn | Mssb | 0.75 | 9.13 | 0.001 |
| H8 | | Msdb | 0.51 | 5.22 | 0.001 |

Hypotheses 7 proposed a positive relationship between management service quality norms and management service supporting behaviour. In line with expectations, a positive relationship was found between the two constructs. Hypotheses 8 proposed a positive relationship between management service quality norms and management service delivery behaviour. A direct positive relationship was also demonstrated in this study between management service quality norms and management service delivery behaviour. As with the hypotheses related to employee norms and employee behaviour, this relationship was expected.

The presence of service norms suggest that managers consistently encourage one another to both support employees and provide quality for customers. Service norms among managers express the importance placed on service quality. Consequently, it is more likely that positive managerial service supporting as well as service delivery behaviours would be more readily performed where managerial norms that stress the need to achieve high levels of service quality are present among managers.

### 7.2.6 Antecedents of Service Quality Norms: Values

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H9 | Mv | Msqn | 0.58 | 6.27 | 0.001 |

Hypotheses 9 proposed a positive relationship between management service quality value and management service quality norms. In line with the hypothesis, a positive relationship was found between the two constructs.

Norms develop in groups to express the central values of the group and to ensure that actions necessary to attain the preferred end-state of the group are simplified (Feldman, 1984). In simple terms, shared values indicate a mutual desire for a particular end-state or outcome for the organisation. The commitment towards achieving this desired end-state creates the need for social control which is expressed through norms of performance within a group (Dewitt, 2004). According to Katz and Kahn, (1978: 43), "values are the more generalised ideological justifications for ... norms and express the aspirations that allegedly inform the required activities." It is therefore not surprising that service values of management are positively related to the service quality norms of managers.

Hypotheses 11 examined the direct relationship between management values and employee service quality norms. The relationship was also found to be positive as hypothesised. The direct relationship between values held by managers and the norms of employees was explained using social contagion theory (Blumer, 1951). A social contagion theory perspective suggests that, because leaders and employees exist within the same distal social group, and because leaders are key referents for employees (Hatfield, et al., 1994; Wieseke et al., 2009), their thoughts and ideas as well as their expressed emotions, which reflect the importance or valence they place on service (Feather, 1995) are likely to be perceived by employees. Employees are likely to be influenced by and assimilate or "catch" the ideas and emotions of managers and develop norms in accordance with their perceptions.

The results of the hypotheses also support theoretical work describing the external norm formation process which suggests that the values and beliefs of leaders

ultimately permeate the organisations they lead and may result in the formation of norms among employee groups aimed at achieving the outcomes implied by employees' perceptions of management's expressions (Feldman, 1984). Work in the area of leadership also suggests that leaders' emotions or beliefs can have a positive effect on the emotions and beliefs of their followers (Ilies, et al, 2005). The positive relationship between the two constructs was therefore not unexpected.

### 7.2.6.1 The Moderating Role of Proximity

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H16 | Mv*Prox | Esqn | 0.13 | 1.93 | 0.05 |

Hypothesis 16 suggested that proximity among managers and employees would moderate the influence of managerial value for service quality on employee adoption of service quality norms. As hypothesised the relationship was found to be positive. The result highlights the importance of managerial proximity to employees in ensuring that managerial ideals are transferred of disseminated effectively. Furthermore, the results buttress the idea that proximity is important in the leadership influencing process.

### 7.2.6.2 The Moderating Role of Service-related Communication

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|---|
| H15 | Mv*Com | Esqn | -0.12 | 1.76 | 0.05 |

Hypothesis 15 suggested that the extent to which service quality features in organisational communication from managers to employees would moderate the influence of managerial value for service quality on employee adoption of service quality norms. Contrary to expectation, this hypothesis was not supported. Furthermore, the coefficient was significant but in the opposite direction to the one hypothesised.

Based on the results, it would appear that communication about service quality issues is not significantly important in ensuring that employees develop service norms. This

assertion seems to be counter-intuitive. One plausible explanation for the results obtained may be that the relationship is more complex than hypothesised. In other words, it is possible that, it is only when managers highly value service quality that the extent to which service quality features as part of managerial communication becomes important. Conversely, when employees do not perceive managers as highly valuing service quality, communication becomes of little effect. This is because employees may not perceive the emphasis on service quality in managerial communication be perceived by as congruent with their values.

### 7.2.7 Antecedents of Service Value

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|-----------|---------|-------------|---------|-----|
| H10 | Ass | Mv | 0.61 | 6.87 | 0.001 |

Hypothesis 10 suggested that at the management group level, assumptions about service quality are positively related to how much value management place on service quality. As hypothesised the relationship was found to be positive. This relationship suggests that when managers have positive expectations about service quality; i.e., when they believe that service quality is important for the success of their business, they are more likely to see excellence in service as an important outcome to strive for. This value for service quality will be expressed as aspirations for excellent service. The result validates the close link between assumptions and values in the culture literature (Hatch, 1993).

### 7.3 Non Significant Relationships

In this section the non-significant hypotheses are presented and discussed in detail

### 7.3.1 Management Service Supporting Behaviour and Employee Service Norms

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|-----------|---------|-------------|---------|-----|
| H12 | Mssb | Esqn | 0.12 | 1.02 | n.s |

n.s denotes not significant at 0.10 level

Hypothesis 12 detailed a positive relationship between management service supporting behaviours and employee service quality norms. In accordance with

expectations, the hypothesised relationship was positive with a path coefficient of 0.12. The relationship was however not significant with a t-value of only 1.02. Contrary to expectation therefore the hypothesis was not supported.

**Figure 7.1 Supported Hypotheses**
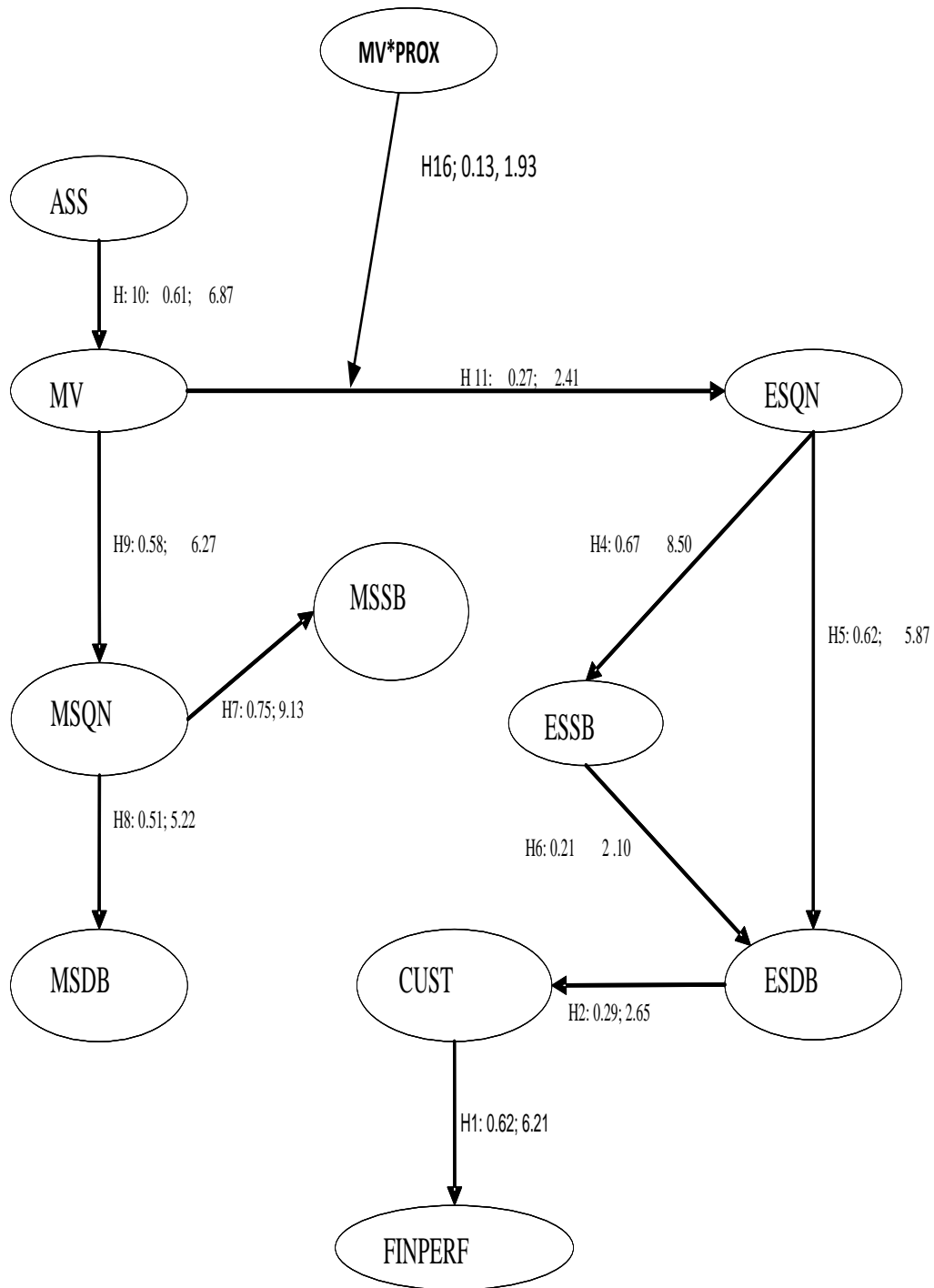
In light of the result of the hypothesis, it may be suggested that managerial support for customer-contact employees may not be particularly important for the formation of service quality norms among employees in the estate agency industry.

The non-significant results suggest that managerial support for employees is not the key determinant of employee service norms. However, the positive relationship leads one to think that managerial support for service has a supporting part to play in the formation of employee service quality norms. The results most likely suggest that, while managerial support has a part to play in the formation of employee service quality norms, the social contagion and social influence route of transfer; i.e., the direct link from managerial values to employee norms may be more important in this context than the behavioural route. In other words, cognitive and emotional contagion processes account for a greater part of culture transmission.

It is also likely that there are some other variables which mediate or moderate the link between managerial support and employee norms. For example employee perceptions of managerial support or commitment to quality (Babakus et al, 2003) may be the link between these two variables. In this study, there was no explicit reference to or measurement of the perceptions of employees about management's support for service quality. Another very plausible explanation is that the non-significant result may be due to sample size effects especially as the coefficient was sizable. It is possible to suggest that a bigger sample size may have shown a significant relationship between management service supporting behaviour and employee service norms.

### 7.3.2 Management Support for Service and Employee Behaviour

| H | Antecedent | Outcome | Coefficient | t value | Sig |
|---|-----------|---------|-------------|---------|-----|
| H13 | Mssb | Essb | 0.01 | 0.08 | n.s |
| H14 | | Esdb | -0.04 | 0.66 | n.s |

Hypothesis 13 suggests a positive relationship between management service supporting behaviour and employee service supporting behaviour. This relationship can be explained, among other theories, through social exchange theory (Zafirovski,

2003; Blau;, 1964). A social exchange theory perspective suggests that employees' service behaviours will be driven by the support they receive from management (Bettencourt et al. 2005; Bell and Menguc, 2003). A direct positive relationship was demonstrated in this study between management service supporting behaviour and employee service supporting behaviour. While the relationship was in the hypothesised direction, the relationship was however not significant at the 0.05 level and so the hypothesis is not supported. One plausible explanation is that the relationship is mediated by employee service quality norms. In other words, management support leads to the formation of norms which then influence employee behaviour. This is discussed in more detail in the section on indirect effects.

Hypotheses 14 suggested a positive relationship between management service supporting behaviour and employee service delivery behaviour. Contrary to expectation this hypothesis is not supported, as the path between the two constructs is negative and not significant.

While some previous research has found no support for the effect of managerial behaviours such as training on employee service performance (e.g. Liao and Chuang, 2004), there is a lot of research which suggests that when customer- contact employees are provided with support, they are likely to be more willing to carry out prosocial forms of behaviour, especially service delivery behaviours (Yoon et al., 2003; Bell and Menguc 2002). However this was not supported by the results. Several reasons may be suggested for this unexpected finding.

Firstly, it is possible that the relationship between management support and employee service delivery behaviour may not be linear at all. Instead, this relationship could be hypothesised as inverted-U shaped (e.g., quadratic). In other words, low levels of support from management may result in employees not performing up to standard. When support levels increase, performance might be improved up to an optimal level of support, beyond which there may be a decline in its effect. Very high levels of support may mean that management may be involved with helping employees to an extent where employee creativity is hampered and so service delivery suffers.

Another explanation however is that managerial support for customer-contact employees may be less important or relevant to customer contact employees in the estate agency industry. This may be explained from a motivation theory perspective. Customer contact persons in estate agencies may have higher levels of intrinsic motivation compared to customer-contact persons in similar roles in some other service industries. Essentially, intrinsic motivation originates from within an individual (Walker et al., 2006) and intrinsic motivation theories contend that employees will be motivated to perform work tasks because they want to and enjoy performing them.

Higher levels of intrinsic motivation may be present among customer-facing employees in the estate agency industry because customer-contact positions in professional services such as estate agency are likely to represent a stage in an individual's professional career, rather than a temporary role not related to the career aspirations of the individual. As a consequence, employees' service delivery may not depend too strongly on the actions of management. They may view their work for customers as personally important for their future careers rather than of sole benefit to the organisation and as such their behaviour may not depend to a considerable degree on managerial support. Instead, because their current position represents a stage in their career track, how their work is evaluated by peers may be important. Their behaviour may therefore draw more upon shared expectations and norms among colleagues in the firm about service delivery.

However, in industries where customer-contact positions are often filled by personnel who are not interested in the profession in the long term; and where most employees view their position as a temporary situation before moving on to a more lucrative career in another industry (Hartline and Ferrell 1996), service behaviours, as well as service norms, may be more influenced by management's supportive actions.

Another explanation may be the way in which the variable was measured. This variable; i.e., management service supporting behaviours was measured at a global level. However, management service support relates to actions of management which support employee service delivery and includes different types of behaviours e.g. training, service-based rewards, empowerment etcetera. It is possible that specifically

measuring these variables and relating them individually to employee behaviours may have provided different results from what was obtained.

It is also possible that the relationship is wholly mediated by employee service norms. In other words, management support leads to the formation of norms which then influence employee behaviour. The possibility of this is discussed more in Section 7.4.1. Furthermore, it is equally possible that the addition of other mediating variables such as employee perceptions of managerial actions may have provided results more in line with the hypothesis.

### 7.3.3 Management Service Delivery Behaviour and Customer Service Performance

The path between management service delivery behaviour and customer service performance was not significant in this study. Management service delivery actions are the actions of management specifically and directly tailored to improve the service experiences of their customers. Based on the findings of this study, customers in the estate agency industry may be less influenced by management service delivery. Rather the results suggest that their perceptions are largely informed by the actions of customer-contact employees.

"In many cases, customer contact service employees are the first and only representation of a service firm. Therefore, customers often base their impressions of the firm largely on the service received from customer contact employees"
(Hartline, et al 2000: 35).

### 7.4 Indirect Relationships

Indirect relationships can be calculated by LISREL through requesting the term EF in the output section of the syntax (as noted in Chapter 5). They are interpreted in the same way as direct relationships, as they include a parameter estimate, a standard error and a *t* value. Appendix 7.1 presents selected output from the LISREL file which is used to calculate indirect effects. In particular, we are interested in the following

matrix: Indirect Effects of ETA on ETA. ETA is the technical name given to endogenous constructs in the model.

### 7.4.1 Indirect Relationships: Management Behaviour and Employee Behaviour

| Antecedent | Outcome | Coefficient | t value | Sig |
|---|---|---|---|---|
| | Essb | 0.06 | 0.820 | n.s |
| Mssb | Esdb | 0.05 | 0.829 | n.s |

In addition to the direct relationship between management service supporting behaviour and the two types of employee behaviours, an indirect relationship can be shown where employee service quality norms mediates the links. However, none of the indirect relationships between management service supporting behaviour and employee behaviour were found to be statistically significant in the context of this study. This is quite worrying and may lead to the question of whether managerial support behaviours are irrelevant.

As discussed previously, these results may simply highlight the peculiarity of the service setting studied. However, it is equally appropriate to suggest, based on the path coefficient between the two variables, that the relationship between management service supporting behaviour and employee service quality norms may have been positive if a larger sample size was used for the analysis. This may have had an effect on the indirect relationship between management service supporting behaviour and the two types of employee behaviours.

### 7.5 Total Effects in the Structural Model

Total effects take into account all influences present in the model. As such, they represent the sum of direct and indirect effects with respect to a particular variable. However, "caution must be applied in the interpretation of the "total effects" output generated by LISREL software" (Howell, 1987: 124). Primarily this is because to concentrate solely upon total effects, which present only a single parameter estimate, may obscure the contributions of mediating variables (Bollen, 1989). For full results of total effects, including both significant and non significant relationships, please

refer to Appendix 7.2 ("Total Effects of KSI on ETA" and "Total Effects of ETA on ETA").

**7.6 Explained Variance in Endogenous Constructs**

In Chapter 6 $R^2$ statistics were presented indicating the amount of explained variance in the endogenous constructs. The most important endogenous constructs of interest here are the two types of employee behaviours assessed in this study.

Service supporting behaviours of employees is a new scale developed for this study. It is similar in many ways to internal influence behaviours (Bettencourt and Brown, 2005) so its $R^2$ statistic is reported and compared with $R^2$ statistics for studies measuring internal influence behaviours.

The structural model also explained 46.3% of the variance in Employee Service Supporting Behaviour. Bettencourt et al (2001) explained 39% and 57% of the variance in internal influence behaviours their two-sample study. The explained variance of the current model thus compares well with that obtained in past research.

Finally, the model accounted for 59% of the variance in Service Delivery behaviours. Bettencourt et al (2001) accounted for 23% and 40% of the variance in Service Delivery behaviours in their two-sample study, which once more identified the current model as improving markedly over previous research. It should be noted here that other work to study Customer-Oriented Boundary-Spanning Behaviours (e.g., Bettencourt and Brown, 2003; Bettencourt et al, 2005; Maxham et al, 2008; Netemeyer and Maxham, 2007) do not report $R^2$ statistics for the behaviours.

In terms of the explained variance in the performance constructs, there are a number of studies that detail the effect of service employee behaviours on customer based performance. The structural model explained about 10% of the variance in customer service performance. While this figure is acceptable, it is smaller than should be expected when compared with similar studies. For example, Hartline and Ferrell, (1997) report an $R^2$ of 0.532 for customer perceived service quality. However, it is instructive to note that they collected performance information from customers.

Finally, the model explained 45% in the variance in financial performance. This suggests that 45% of the variance in financial performance on estate agents was accounted for by variables included in the model. This figure is quite high when compared with $R^2$ statistics from similar studies. For example, Caruana and Pitt, 1997 record an $R^2$ of 0.08 while Lytle and Timmerman (2006) report an $R^2 =$ of 0.12 in a study linking service orientation to profitability. However Hallowell (1996) report an $R^2$ of 0.40 in a study linking customer satisfaction, loyalty and profitability.

While the $R^2$ obtained for financial performance suggests that the model explains a significant proportion of the financial success of estate agents, the relatively weaker explained variance in customer service performance when compared to financial performance merits some discussion.

The performance measures were designed to ascertain how managers assessed their firm's performance relative to their competitors. This entails some degree of social categorization. Theory suggests that social categorisation judgements are made with only a subset of information and such information is likely to be the most accessible in memory rather than the most diagnostic (Wyer and Srull, 1989; Clark and Montgomery, 1998). This may have had a bearing on the results since for small firms such as estate agents, managerial perceptions of their competitors may vary across organisations (Clark and Montgomery, 1998).

According to Dess and Robinson, (1984:268)

"It is difficult to ensure that members of the TMT… *across* firms have a similar 'referent' or 'peer' set of organisations. For example, some managers may compare their firm to other 'similar' firms within a rather narrow geographical area, whereas, other managers may use industry results published in trade association literature as their basis for comparison".

Therefore, it is possible that, depending on their respective referent, a manager in one firm may have overestimated their performance while a manager in another firm with a similar level of performance may have underestimated their performance. This scenario is unlikely to affect the relationship between both performance constructs as

the referent for both assessments remain the same. However, the influence of employee service delivery behaviour on customer service performance may have been biased.

Furthermore, it is possible that some firms may not be fully aware of their competitors' customer-based performance. This may be because they may not have gathered such information about competitors, which is more likely to be the case among small firms. However, it is possible that they may be more interested in financial performance and may therefore have a better idea of competitors' financial performance. As such there is also a possibility that the responses obtained reflect less accurately the relative customer service performance of firms compared to financial performance.

These issues, taken together, may account for the relatively smaller explained variance of customer service performance compared to financial performance. However, it is also instructive to suggest here that there are other factors that should theoretically predict customer-based performance which were not included in this study and therefore, the $R^2$ of customer-based performance is not so unusual. On the other hand, while the $R^2$ figure for financial performance is high, it is not wholly unexpected, as estate agents are pure services whose product offerings as well as operating costs may not differ much from one firm to another. As a consequence, financial performance is therefore likely to be highly influenced by customer-based performance (Anderson et al, 1997).

Furthermore, there are not many studies which have included and linked both customer-based performance and financial performance in a model including a similar number of constructs as in this study. More studies include either customer-based performance or financial performance as the outcome variable (e.g. Hartline and Ferrell, 1996; Lytle and Timmerman, 2006). In the few studies where both types of performance are included (Schneider et al, 2009) $R^2$ values are not reported.

The explained variance in financial performance by other variables except customer-based performance, (i.e., when the model is assessed with financial performance as the sole performance variable by linking employee and management service delivery

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directly to financial performance, while restricting the paths related to customer based performance) is 0.14. This figure is comparable to results from studies such as Lytle and Timmerman (2006).

Overall, the explanation of explained variance in the variables for this study show $R^2$ values much greater than those previously reported in the literature. Most likely, this result is due to the number of variables in the structural model. However, it is worth noting that of the extant studies included in this thesis, only a few report $R^2$ statistics in their work.

## 7.7 Summary Remarks

This chapter presented the statistical results and findings from hypothesis testing detailing the direction and significance of hypothesised relationships as well as the amount of variance accounted for each dependent variable by the model.

Support was found for eleven out of the sixteen hypotheses tested as part of this dissertation. As expected, assumptions about service quality were found to have a positive influence on management values. In like manner, support was found for a direct effect of management service values on both management service quality norms as well as employee service quality norms. Statistical support was also found for the positive relationships hypothesised between service quality norms and the two types of service behaviours described in this thesis; both at the management as well as the employee level. Employee service supporting behaviours were also shown to have a positive influence on employee service delivery behaviour as hypothesised. Furthermore, employee service delivery behaviours were found to be positively related to customer service performance while customer service performance was also found to be positively related to financial performance. Proximity was also found to be a significant moderator of the relationship between management values and employee norms

Statistical support was not found the effect of management service delivery on customer service performance. While the relationship was positive as hypothesised, it was not significant. Statistical support was also not found for three of the four cross-

group linkages hypothesised. Management service supporting behaviour was found to be positively related to employee service quality norms but the relationship was not significant at the 0.10 level. Likewise management service supporting behaviour was found to be positively related to employee service supporting behaviour but the relationship was not significant. Thus, while directional support existed for these hypothesised relationships, statistical evidence was not strong enough to support the hypotheses. Contrary to expectation management service supporting behaviour was found to be negatively related to employee service delivery behaviour. This finding is at odds with expectation and with findings in many previous studies. Finally statistical support was also not found for the moderating impact of communication; i.e., the extent to which managerial communication reference service quality issues on the relationship between management values and employee norms

The next and final chapter of this thesis summarises the study, presenting the major theoretical and practical implications, limitations of the study, and future avenues that researchers may choose to follow, based upon the results reported here.

# CHAPTER 8 CONCLUSIONS

## 8.1 Introduction

This dissertation has developed and empirically tested a model of service culture and organisational performance in the estate agency industry. The empirical study provides interesting results for discussion, while also extending prior research in the area of services marketing and management. In addition, implications can also be drawn from the study for use by managers. However, the study is not without its limitations and several opportunities for future research. This chapter addresses each of these topics in detail.

The next section restates the research problem while the section after this explains the results in relation to the key conclusions, prior research, and the contributions made by this study. The next section discusses managerial implications. The section after this discusses the limitations of the empirical study and the final section provides directions for future research.

## 8.2 Restatement of the Problem

For most service customers, their overall assessment of the firm is based largely on the interactions that they have with contact service employees and with the systems and tangibles of the organisation. The importance of service delivery in the formation of positive customer perceptions of the firm has been widely recognised by practitioners and researchers alike, with considerable attention given in examining the organisational, group and individual level variables that drive positive customer service delivery. However, the antecedent role of group-level culture in service delivery has been largely under-explored.

This dissertation provides empirical insight into how the service culture of a firm drives performance and offers a framework on which to develop possible actions to be taken by managers in creating and managing service culture. Of particular importance is the focus on culture transmission and transfer routes. The aim of a service culture is ultimately to ensure that behaviours which improve performance are performed in the organisation. Therefore understanding how management-level service culture is

disseminated to the employee level and what the impact points of this transmission are should provide useful information for management in decision making.

## 8.3 Summary of Research Findings

As mentioned earlier, the purpose of this dissertation was to empirically test a model of service culture and organisational performance. Sixteen hypotheses were tested in support of this goal. These hypotheses are restated in table 8.1. Of the sixteen hypothesised relationships, support was found for eleven hypotheses.

### 8.3.1 Service Delivery Behaviours and Performance

The theoretical foundation for the relationship between employee service delivery behaviours and customer service performance measures is based on research stressing the importance of contact-employee behaviours to customer perceptions of service quality and customer satisfaction (Bettencourt and Brown 1997; Bitner et al. 1990; Brady and Cronin 2001; Hartline and Ferrell 1996). The findings show that employee service delivery behaviours have a strong and positive association with perceptual measures of firm performance. Service delivery behaviours of employees are critical for organisational success as many previous studies have shown.

The theoretical basis for the relationship between management service delivery behaviours and customer service performance measures is based on research stressing the importance of management controlled service-related elements to customer perceptions of service quality and customer satisfaction (Deruyter et al, 1998; Chiou et al, 2002; Baker et al 1996, 2002; Bitner 1992; Reimer and Kuehn; 2005 ).

A statistically significant relationship between management service delivery behaviour and customer service performance was noticeably absent in the context of this study. A lack of a significant relationship between these constructs may be explained by the fact that estate agency businesses are pure services and so customer perceptions may depend to a larger extent on their interaction with sales and customer facing employees and to a lesser extent on service delivery elements under management control.

**Table 8.1: Summary of Hypotheses**

| Hypotheses | Support for Hypotheses |
|---|---|
| H1: Customer service performance is positively related to financial performance | Supported |
| H2: Management performance of service delivery behaviours is positively related to customer service performance | **Not Supported** |
| H3: Employee performance of service delivery behaviours is positively related to customer service performance | Supported |
| H4: Service quality norms shared by customer-contact employees positively influence their service supporting behaviours | Supported |
| H5: Service quality norms shared by customer-contact employees positively influence their service delivery behaviours | Supported |
| H6: Employee performance of service supporting behaviours is positively related to employee performance of service delivery behaviours. | Supported |
| H7: The service quality norms shared by top managers positively influence their performance of service supporting behaviours. | Supported |
| H8: The service quality norms shared by top managers positively influence their performance of service delivery behaviours | Supported |
| H9: Management value for service quality is positively related to the service quality norms of management. | Supported |
| H10: Management assumptions about service quality positively influence the value management place on service quality | Supported |
| H11: Management value for service quality is positively related to employee service quality norms | Supported |
| H12: The performance of service quality supporting behaviours by management is positively related to employee service quality norms | **Supported** |
| H13: The performance of service supporting behaviours by management positively influences employee performance of service supporting behaviours | **Not Supported** |
| H14: The performance of service supporting behaviours by management is positively related to employee performance of service delivery behaviours | **Not Supported** |
| H15: Service-related communication positively moderates the relationship between management value for service and employee service quality norms | **Not Supported** |
| H16: Proximity positively moderates the relationship between management values and employee service quality norms | **Supported** |

### 8.3.2 Norms and Behaviour

In line with the theory of organisational behaviour (Katz and Kahn, 1978), all norm-to-behaviour hypotheses were supported. The findings show that the internal and

customer-oriented service behaviours of employees are highly dependent on the presence of service quality norms among employees (Castro et al, 2005). In similar fashion, service quality norms of management positively influence management service behaviours.

**8.3.3 The Relationship between Management Values and Management Norms**

The hypotheses relating to the influence of management service values on service norms at the management level was also fully supported. This finding reveals that when management value service quality, they are more likely to encourage one another to act in ways that help deliver service quality. In other words a shared value of service is positively associated with shared norms for service.

**8.3.4 Cross- Group Linkages**

One of the key purposes of the study was to investigate routes of culture transmission or diffusion mechanisms. Two impact points of diffusion were employee norms and employee behaviours.

It was hypothesised that management values had a direct effect on employee norms through social contagion processes. In addition, management service supporting behaviours were hypothesised as impacting on both employee norms and employee behaviours.

This study found a direct link between management values and employee service quality norms. This relationship was found to be statistically significant, and suggests that when management value service quality, employees are likely to perceive this and develop associated norms to operationalise the values of management. These findings are in line with theoretical work describing the external norm formation process (Feldman, 1984), which suggests that the values of leaders ultimately permeate the organisations they lead. The permeation of management values is highlighted by the presence of service quality norms.

Directional support was also found for the relationship between management service supporting behaviours and employee service supporting behaviours as well as for the relationship between management service supporting behaviours and employee service quality norms. However for both relationships ; i.e., between management

service supporting behaviour and employee service quality norms and between management service supporting behaviour and employee service supporting behaviour, a statistically significant effect was noticeably absent in the context of this study. Both results were surprising and contrary to expectation.

However the most surprising result was a negative and statistically non-significant relationship between management service supporting behaviour and employee service delivery behaviour.

One explanation for this may be that management service supporting behaviours do not affect employee behaviour directly. The relationship could be mediated by service quality norms. In other words, management service supporting behaviours affect employee behaviours by encouraging employees to develop and enforce norms of service quality. However the statistically non-significant relationship with service quality norms further complicates this assertion. Another plausible explanation is that some other mediating structural variables, relating to employee perceptions, which were not included in this study, could be mediators of this relationship. Finally, it is equally possible that the size of the sample may have affected the ability of the statistical technique used to produce significant effects.

### 8.3.5 The Moderating Influence of Proximity and Communication

The study found support for the moderating effect of proximity on the link between managerial value for service quality and employee service quality norms. This finding further highlights the importance of proximity as a key factor in the leadership influencing process. However, the finding with respect to the moderating impact of communication was quite surprising. As discussed in the previous chapter, the relationship might be more complex than as hypothesised in this study. In other words, the congruence, as perceived by employees between managerial values and how much managers communicate about service quality might be more important than the inclusion of service quality issues within managerial communication. However, sample size restrictions limited the extent to which more complex analysis could be performed on the data.

**8.4 Academic and Theoretical Implications**

Organisational researchers have provided "compelling evidence" that internal organisational attributes, such as culture and climate, link to customer experiences and financial outcomes (Dean, 2004, p. 245). However, "although many bivariate correlations have been demonstrated between variables …there are few causal models that provide a holistic view in particular industries". This study addressed recent calls for such holistic models by testing several paths from managerial variables to employee variables and customer outcomes (Dean, 2004) and doing this on the basis of multiple data sources (Homburg et al; 2008).

 The study has highlighted the importance of service culture for organisational performance. Previous empirical research linking culture, service quality and organisational performance has very rarely accounted for different elements and facets of organisational culture as well as culture transmission. In addition, while some previous studies have examined the relationship between service culture and performance at the group level (Wilson, 1997), this study is one of the first to develop a comprehensive model that includes, and simultaneously assesses both management and employee levels. Drawing upon organisational culture theory, as well as social influence, social control and social exchange theories, this study has developed a model of service culture that includes assumptions, values, norms and behaviours at two different organisational levels, as well as two types of performance.

Another contribution of this study relates to performance implications of a service culture. The results show that a service culture is important for customer service performance and financial performance, at least within the estate agency industry. The fact that the model accounted for about 45% of the variation in financial performance highlights the importance of the constructs used in this study. In view of the assertion that "one would be hard pressed to cite published empirical studies that establish the linkage between service culture and either customer satisfaction or financial success" (Omstrom et al, 2010), this study is a welcome addition to the literature

It is worth stressing that this study found strong evidence of discriminant validity among the different layers of service culture (i.e.; assumptions, value for service, service quality norms and service behaviours). Thus, though interrelated, these different elements of culture are both conceptually and empirically distinct. This study therefore provides a more detailed conceptualisation of service culture and shows how relationships among its elements contribute to service delivery and organisational performance.

The study found support for the fundamental theory of organisational behaviour which suggests that behaviours are driven by norms and norms are driven by values (Katz and Kahn, 1978). Service behaviours of organisational members are strongly influenced by group service quality norms in the context of this study. In fact, the only significant driver of employee service behaviours in this study is employee service norms. This finding highlights the important role of social control for directing behaviour in organisations. The social context in which organisational members work helps to determine how they behave by influencing how they think and feel about their work (Salancik and Pfeffer 1978).

The relationships found among variables at the management level and at the employee level also provide some interesting theoretical contributions. The model for this study highlighted two paths that link culture at the management and employee levels. The first path based on Social Influence Theory linked management values directly to employee norms through social contagion processes (Barsade, 2002) while the second path linked management behaviours to employee norms and behaviours based on a Social Exchange Theory perspective.

In the context of this study, the Social Contagion path was found to possess more explanatory power than the path accounted for by Social Exchange Theory and other theories linking management behaviours to employee behaviours. The implication of this is that Social Exchange Theory, while providing a sound theoretical underpinning for identifying antecedents to service delivery, is perhaps too simplistic in nature to fully explain the complexity of the processes that lead to excellent service delivery from employees.

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The findings of this research also show that employee service norms are more likely to develop as a result of employees' internalisation of management values than as a result of social exchange considerations. In other words, the social influence path shows incremental explanatory power over and above the influence of managerial behaviours. This leads to a number of important suggestions for managerial practice which will be discussed in the next section.

However, given that our study was conducted within a single industry, it is important to suggest that researchers should not discount the effect of managerial service supporting behaviours and hence social exchange as a theoretical explanatory concept for employee service behaviour. Nevertheless, considering that the social influence path has more explanatory power in this study, than the social exchange path, additional research on both paths and additional paths is highly needed. Recently there has been an increase in studies that identify social identity routes that account for employee actions (e.g. Homburg, Wieseke and Hoyer, 2009; Wieseke et al, 2009; Wieseke et al, 2007). Work which includes these differential paths could improve knowledge about the various antecedents of excellent service.

Finally, this research also contributes to knowledge development in the marketing discipline by developing scales for service culture that assess assumptions, values, norms, and behaviours. The development of valid measures for the components of service culture extends the existing knowledge in this area of research. It can be argued that the measures presented in this study provide an important contribution to studies linking culture and service quality as the scales reflect the emphasis given to the service context of organisational functioning. The measures might be used in further empirical research in this area.

## 8.5 Managerial Implications

As well as academic and theoretical implications, there are also a number of practical implications.

From an organisational culture perspective, this research presents a comprehensive model,  of the processes that drive employee behaviours. Essentially, the study gives

service managers an idea of how their own values and behaviours can influence different aspects of employee performance. In addition it shows how employee level variables lead to desirable service outcomes.

The results of this study provide management with a better understanding of important routes in creating a service culture among employees. Theoretically, a service culture where employee norms emphasise excellent service can be created at the employee level in a variety of ways. It can be transmitted through the service supporting behaviours of management. It can also be transmitted directly through social contagion which occurs in the interaction between management and employees.

In this study, the significant path linking management culture and employee culture was from management values to employee norms.  The fact that the path from management values to employee norms was the only significant path linking management culture and employee culture provides some interesting implications for managers**.**

Previous research has rarely focused on how organisational values may drive service quality. To quote Wieseke et al, (2009:139); "there is little empirical research in the internal marketing literature that emphasizes the diffusion of organisational values". Instead, more of the research has centred on exchange-focused activities; i.e., on how management behaviours influence employee behaviours, particularly through social exchange mechanisms. In essence, much of internal marketing thought focuses on influencing employee behaviours through managerial practices.

However, the non-significant relationship between managerial behaviour and employee behaviour suggests that more managerial energy be focused on influencing employee beliefs and ideas. The results also highlight the dangers of what has been referred to as culture bypass (Cooke and Szumal, 2000); i.e., management instituting practices or attempting to influence behaviour without adequate attention being paid to influencing the beliefs and norms among employees. In essence, it is possible to argue that unless employees connect at a deeper level with the organisation and its goals, managerial behaviours and formal control mechanisms may not ensure that employees behave in value congruent ways. For example, changing employee reward

systems may lead to service-oriented behaviours in the short term, but it may not guarantee a genuine change in the deeper cultural mind-set that is truly sustainable.
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On the other hand, if the study's results are to be taken as they are, it is likely that independent of management service supporting behaviours, employees may still develop norms that help them perform service-enhancing behaviours. The contagious transmission of service ideals of management to employees through interaction might be sufficient to instil a service –mindedness, independent of the effect of management service supporting behaviours. This suggests that employees are likely to be inspired or moved by more than what managers do. They are likely to be inspired by ideas and ideals. Employees are more likely to derive joy and meaning from serving customers well when they internalise the value of service quality. A related implication therefore concerns the beliefs that managers have about service quality. It is important that managers hold the right assumptions and values as these are likely to influence employees to a greater degree than what they actually do. In other words, informal mechanisms for influence seem to account for more of service culture diffusion than formal means.

Furthermore, just as customers are becoming more difficult to satisfy, the same may be happening for employees. Therefore, managers operating from a social exchange perspective, and focusing only on satisfying employees or creating a service climate in order to generate positive service behaviours from employees may find that they may not always be able to provide the standard of support desired by employees. There are natural limits and constraints to what management can offer in order to satisfy employees or to create a service climate. For example, in bad economic times, management may not be able to support employees as much as they would desire e.g. management may no longer be able to offer service-based rewards due to financial problems.

These limits naturally necessitate that more lasting and effective ways of ensuring that employees perform desirable service-oriented behaviours must be identified. One way is for managers to ensure that employees internalise the organisation's values. A social influence perspective suggests that managers would focus on raising the salience of the values of the organisation. In other words, management may focus on

ensuring that employees buy into the service ideals of management. Employees' identification with the service values of management may be enough to ensure that employees perform in a service-oriented manner. It is likely that employees, operating in an environment where there are strongly shared norms and expectations relating to providing high quality service, will consistently serve customers well because they may be less concerned about the "balance" of exchanges (Cropanzano and Mitchell, 2005) needed to trigger reciprocal action. Such employees will serve customers because they believe that serving customers well is inherently right.

The results should however not be interpreted to mean that managerial practices or measures to ensure employee service delivery are unimportant. Rather, these findings suggest that more attention be given by managers to influencing employee beliefs and attitudes. While influencing employees at these deeper levels is not as easy for managers as influencing behaviours, it is vital that organisational leaders remain in a position to ensure that employees connect or identify with organisational goals and ideals at a deeper level. When employees buy into organisational goals, it is more likely that norms will be established within employee groups which will continually guarantee long run performance. Consequently, their performance may not be so easily affected when there are fluctuations in managerial practices.

The findings from this study also show the importance of service quality norms for service delivery and, thereby, underscore the importance of group mechanisms in employee service delivery. When employees have shared expectations about service quality, they are likely to monitor one another to ensure that there are no deviations from accepted standards.

Because service quality norms have been shown to be a key driver of employee behaviour, managers may need to be aware of what the norms are among employees and seek for ways to ensure that these norms favour the continual performance of service. In order to do this effectively, it is important to measure this construct in employee surveys.

The measures developed for this study can be used by managers to measure their firms' service culture. This should prove particularly useful for the management of culture in multi-service organisations where different functional groups provide different aspects of service. In such organisations, the quality of service provided by each group will be dependent on the service quality norms within the group. The measures can assist management in monitoring service norms and its fluctuations in different organisational groups. Management can thus direct their discretionary efforts towards groups where inconsistencies exist to ensure that customer perceptions of the organisations' service quality are not negatively affected.

In order to ensure that employees develop strong service norms managers must ensure that they remain in a position to influence employees. The creation and manipulation of culture is a crucial leadership function and as such leaders must play a vital role in disseminating and shaping their organisations culture (Schein, 1985). The effect of proximity is particularly important here because proximity ensures that managers are in a position for employees to interact more closely, observe them and thus assimilate their values more readily. Managerial proximity ensures that managers can influence customer-contact employee culture beyond the performance of individual tasks to encouraging contact employees to take ownership of the organisation's ideals. Furthermore, in order to reinforce the service culture, service champions among employees must be identified, encouraged and acknowledged throughout the organisation (Ahmed, 1998). These champions can assist management in continually embedding service ideals among employees.

Finally, the findings of this study regarding performance implications of service culture are managerially relevant. The findings show that a service-oriented culture influences financial performance indirectly through customer perceptions of performance. Therefore developing a service culture has financial benefits.

## 8.6 Limitations of the Study

As with any study of this nature, it is prudent to consider the limitations of the work. There are two areas into which limitations can be grouped: conceptual and methodological. Each of these will now be discussed in turn.

**8.6.1 Conceptual Limitations**

As with most social science studies, there is a possibility to identify variables which could (or should) have been included in the research. This study is no exception, and the list of potential variables is long, given the rich history of research into organisational culture.

In the current study, variables were included as a result of their fit within both the nomological net of organisational culture as well as their suitability for assessment as a group level phenomenon. However, as often occurs in research, there was a trade-off between model comprehensiveness and parsimony, which allows for the identification of future variables for consideration.

Moving on from variables not included in the study, perhaps those that were investigated could have been investigated in greater detail. For example, service quality norms may be of different types. The role-specific nature of norms may mean that there are norms which relate to service delivery as well as norms which relate to internal service. The same argument could be made that service behaviours are comprised of different types of actions (Parasuraman et al, 1985; Farrell et al, 2001). For example, service supporting behaviours could be directed at other employees or could be personally directed as well as directed towards the organisation. Perhaps, some of these individual dimensions may be influenced more greatly than others by managerial actions.

However while a researcher must identify variables which could have been added to improve a study, it is simply not possible to attempt to include every possible variable in a given model, because of time and funding constraints. A researcher has to balance collecting enough information with the costs of collecting this information. Therefore, while there is a long list of possible variables to include, at some point a decision has to be made regarding which variables are most pertinent to include, and which variables must be shelved for potential use in another study.

### 8.6.1 Methodological Limitations

There are also a number of methodological considerations for this study.

First the study is conducted in a single industry and there may be questions as to its appropriateness for generalisation. While a study sample in one industry can help to overcome potential extraneous effects (Bell and Menguc, 2002; Liao and Chuang, 2007), it limits the extent to which findings can be generalised. According to Drennan and McColl-Kennedy (2003:298), "businesses in the service industry cannot and must not be regarded as the same".

The model should be tested in a number of diverse service settings to further test its external validity. Group dynamics vary across industry settings and, as such, both the form and the degree of the relationship between constructs may differ due to contextual differences and the amount of interaction between contact employee and the customer. For example, some hypotheses may hold in professional services such as estate agency, as contact positions in professional services are more likely to represent a stage in an individual's career track. As a result, employees may be more inclined to work in certain ways. However, in some other contexts, contact employees may simply not think in the long term because they may not have career aspirations and so their performance may be different. Two of the hypotheses linking managerial level constructs to employee behaviours in this study are non-significant. These non-significant effects may be due to the context.

Secondly, there are limitations concerning the sample itself. The sample size is relatively small and so any of the results presented here, and indeed the recommendations based upon those results, should be interpreted or viewed with caution. It is important to note as part of this discussion that some of the results obtained in this study were non-significant although in the hypothesised direction. These findings may be due to a lack of statistical power due to a smaller sample size.

Another methodological limitation is that only one management response was obtained per firm. Similarly, for some firms, only one employee response was obtained. For all firms therefore, the assessment of management culture was based on the view of only one member of the top management team, while for firms that

provided one employee response, the assessment of customer-contact employee service culture was based on the view of only one employee. Although, the questions were framed in such a way as to make the group the referent, it is impossible to ascertain if in those firms, a single view fully represented the group's view.

A further limitation is the use of cross–sectional data. While the methodology parallels most research in marketing and management and appears to be reasonable, it is difficult to determine which variables cause changes in other variables since variables need to be measured at a minimum of two different time periods for this. While longitudinal study can assess causality between constructs, time and financial constraints prevented the use of longitudinal work for this study. Therefore, any causal ordering among variables is based purely upon conceptual and theoretical arguments from the literature. The causal ordering among variables used in the study is based on sound theory and as such this limitation is mitigated to some extent.

The method of using parcelled indicators could also have affected the statistical significance of the results presented here. Item parcelling has received minimal attention in the literature and there currently appears to be no substantive conclusions regarding how items should be parcelled (Bandalos, 2008). The method adopted here was a direct response to the smaller than desirable sample size, but it would be interesting to see if larger samples, using the same measures and different approaches to item parcelling, present similar results.

The issue of common method variance was not totally controlled in this dissertation. While measures taken in survey design, such as obtaining responses from both managers and employees, as well as from multiple employees, limit the effect of common method variance, it may not be possible to suggest that common method variance was not at all present.

This study may have been susceptible to social desirability bias in the completion of many of the self-reported items used in this study. In particular, respondents may have been inclined to answer the questions regarding behaviours and performance in a socially desirable way. Several measures were taken to minimize the possibility of social desirability bias. Multiple assurances of anonymity were provided in both the

cover letter and the survey instrument itself. Employee respondents were also assured that the study results would not be shared with their employer. In addition a method factor model was run to test for incidence of method bias. While these measures were employed to attempt to reduce the potential influence of bias in the study, there is no certainty that bias was removed altogether.

## 8.7 Recommendations for Future Research

The value norm-behaviour linkage has been proven to be a valid explanation for organisational behaviour in many studies. While, in the light of this study, these linkages were confirmed, it is possible that there may be factors, which could affect the relationship among the elements of culture. Indeed researchers have suggested that it is possible that inconsistencies may exist in the relationships among the components within this link. This line of thinking arises from studies where a weak relationship was found between management service values and the provision of a service climate; i.e., service supporting behaviours (e.g. Andrews and Rogelberg, 2001). Future studies may include moderators such as resource constraints and lack of awareness among managers about service supporting practices.

Furthermore the effects of management perceptions about employees may be important. For instance, schema theory suggests that when making judgments or predictions about others, individuals sometimes project their beliefs and values on others; i.e., the false consensus effect (Marks and Miller, 1987). For top management and business owners, this line of thinking can be extended to their beliefs about their employees (Andrews and Rogelberg, 2001) and may influence how they attempt to deal with employees. Future studies can ascertain whether managers' perceptions about their employees affect their attempts to influence employees and whether such perceptions affect the relationship between management values and management actions.

There are also likely to be some other moderating influences on the culture diffusion process through contagion. In essence, the level of permeation of service quality culture; i.e., the relationship between management values and shared norms of employees may be moderated by organisational conditions (Schein, 1985; Martin, 1992). Such conditions may relate to the quality of interactions, hierarchies as well as

factors such as dyadic tenure among groups (Strang and Soule, 1998; Martin, 1992; Sackman, 1992; Glisson and James, 2002; Wieseke et al, 2009).

As explained earlier, one plausible reason for finding non-significant paths between management service supporting behaviour and the two types of employee service behaviour may be that some mediating variables were not included. The model can thus be tested with other variables as mediators or moderators. One important variable here may be employee perceptions of management commitment to quality (Babakus et al, 2003).

Some studies have also shown that characteristics of groups such as group cohesiveness may be important both for the formation and enforcement of group norms (Horne, 2001; Dewitt, 2004). None of these group characteristics were included in this study. Future studies in the area of service culture may take group characteristics into account either as predictors of some of the constructs or as moderators of some relationships identified in this study.

In this study, service culture has been shown to influence performance; therefore maintaining a service culture is important. Future studies can, therefore, focus on how an organisation can perpetuate a service culture, especially in the face of internal and external changes. The role that leaders play in the creation and maintenance of service culture is one possible area of fruitful research. For example, are customer contact employees likely to be more service-minded when their managers primarily exhibit a strong transformational leadership style or a transactional leadership style? Transformational management advocates inspirational leadership towards a common goal (Garman et al. 2003). On the other hand, a transactional form of leadership advocates an approach that focuses primarily on service processes and the accomplishment of day-today goals (Yammarino and Bass 1990). Future research should investigate whether one means of leadership is more effective than another in creating strong service culture.

As mentioned in the limitations, customer responses were not collected for this study. As such, customer service performance was measured from a management perspective. This meant that service quality perceptions could not be assessed in great

detail, in terms of perceptions of interaction, outcome and physical environment quality. In the same way, customer satisfaction judgements could not be obtained. Future studies can improve on this work by including responses from management, employees as well as customers. These studies can show more accurately how service delivery behaviours impact on perceptions of service quality.

Further, research may also focus on alternative measures to the constructs included in this study. Formative indicators of the constructs specified in the study may be useful in this regard, as they can shed more light on the constructs. While for years, the traditional paradigm of construct measurement has been that of reflective indicators, formative measurement is gaining more and more support in the literature (Cadogan, Souchon and Proctor, 2008; Diamantopoulos and Winklhofer, 2001). It is possible that a formative modelling of some constructs may provide different results from the ones obtained in this study and further improve knowledge about key links. For example it is possible that there are different types of service norms (i.e., internal service norms, service delivery norms) which relate to the different types of service behaviours. Highlighting this may be useful for a better assessment of service culture within groups.

In this study, one component of culture (artifacts) was not explicitly included. Artifacts have been found to be vital in ensuring market-oriented behaviours (Homburg and Pflesser, 2000). Within a service culture context, artifacts and symbols may be important in the diffusion of culture from managerial levels to employee levels. Including this component in further research may improve knowledge of how service culture is transmitted in organisations.

The unit of analysis in this study was the organisational group and as such all constructs were assessed at the group level. Further studies can include more comprehensive models that account simultaneously for both group antecedents as well as individual antecedents of behaviour. This can highlight, in greater detail, the relative extent to which group mechanisms contribute to service delivery.

Finally, all hypothesised links between variables at the management level and at the employee level indicated a management to employee effect. It is possible that there

may be bottom-up effects (i.e., employees influences on management) not accounted for in this study. Future studies can investigate whether such relationships exist.

In conclusion, this study demonstrated the highly complex nature of organisational culture antecedents to service delivery, and hopefully it will serve to stimulate further work in this interesting area of services marketing and organisational behaviour.

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# APPENDICES

**APPENDIX 4.1**
**OLD VERSIONS OF QUESTIONNAIRE**

# APPENDIX 4.1
## OLD VERSIONS OF QUESTIONNAIRE

# ORGANISATIONAL CULTURE IN SERVICE

# ORGANISATIONS

# A MANAGEMENT SURVEY



**KEMEFASU IFIE**

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*The following sets of questions measure your opinion of the values and norms shared by senior management in this organisation. Please use the scale below the questions to indicate in the box what number best describes your opinion*

| Very Strongly Agree | | | | Neither Agree nor Disagree | | | | Very Strongly Disagree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

2.

3. **SECTION 1: VALUES**

Management agree that customer perceived service quality is an important way by which we should evaluate our organisations marketing success…………………………………………….

A top priority of management is for our organisation to excel in service provision………………

Management believe that providing very high levels of service quality will significantly improve our marketing effectiveness……………………………………………………………………….

Management desires that our customers see us as the best in service provision…………………...

Management place great value on being flexible in service delivery……………………………

Management aspire to a high level of creativity in this organisation…………………………………

Respect for customers is a core guiding principle shared by management…………………………

We place significant importance on been seen as a trustworthy organisation by customers………

We aim to see in this organisation that we maintain the highest possible standards in all aspects of service…………………………………………………………………………………………………

We value highly that our customers see us as a reliable service provider…………………………..

Management value highly that customers see us as easy to do business with ……………………

Management place great importance on continuous learning in this organisation…………………

Management value very highly that employees see themselves as and act like entrepreneurs……..

Teamwork is a core principle shared by management in this organisation…………………………..

*SECTION 2: NORMS*

It is regularly emphasised that all our policies and practices be designed to improve employee ability to deliver high quality service to customers……………………………………………….

Management place considerable emphasis on the quality of our service employees ………………

Management pressure one another to adopt practices that increase employees' identification with the organisation's goals………………………………………………………………………..

Managers encourage putting customer needs above short-term profits when making decisions about service…………………………………………………………………………………………….

Management constantly stress that customer requirements be given top priority when making service-related decisions……………………………………………………………………………

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| Very Strongly Agree | | | | Neither Agree nor Disagree | | | Very Strongly Disagree | | [ ] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

We expect management to ensure that all tangible aspects of our service (i.e. products and service environment) portray high quality to customers…………………………………………………….. [ ]

Management frequently emphasise adjusting aspects of our service when necessary to meet customer demands……………………………………………………………………………………. [ ]

Management often emphasise the need to speed up customer service processes…………….. [ ]

Constantly developing and improving service processes and methods for service delivery is a core shared expectation of management………………………………………………………………… [ ]

Management constantly stress the need to make customers feel valued and important …………… [ ]

An unwritten rule among management is that customer trust should be seen as more important than profits…………………………………………………………………………………………….. [ ]

Managers pressure one another to ensure that customers can rely on us to perform as promised…… [ ]

Managers pressure one another to continuously improve our service by watching out for best practices in our service industry and implementing them………………………………………….. [ ]

It is expected in this organisation that managers allow service employees assume responsibility for service quality issues by involving them in service quality decision-making……………………….. [ ]

Managers are pressured to always ensure that employee skills and knowledge are continuously being improved upon……………………………………………………………………………… [ ]

Senior managers encourage one another to monitor the levels of cooperation and information sharing among service employees…………………………………………………………………… [ ]

*SECTION 3. The next set of statements relate to different **SERVICE RELATED ACTIONS** of Management. Using the scale above please how much you agree with the statements below.*

We spend considerable sums of money to ensure that customers receive high quality service ……... [ ]

In this organisation we go to great lengths to ensure that our service is of high standard…………… [ ]

We go the extra mile to provide a very high level of service quality to customers………………… [ ]

In this organisation we spend considerable sums of money to ensure that our employees are fully equipped to deliver service of the highest quality…………………………………………………….. [ ]

We provide a work environment where employees can use their initiative in delivering service… [ ]

We adopt policies, which facilitates employee identification with organisational goals and priorities [ ]

Management regularly communicates verbally to employees the core values of the organisation…. [ ]

Management frequently refer to organisational values in newsletters, bulletins and notice boards… [ ]

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| To a very large extent | | | | To a moderate extent | | | | To very |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

*Using the scale above please indicate the extent to which these statements describe the **actual** practice or situation in your organisation. To what extent does management in this organisation:*

Adapt service to fit customer activity patterns or requirements…………………………………… ☐

Provide up to date technology for customers to improve the speed at which they do business with you……………………………………………………………………………………………………… ☐

Have systems or personnel in place to deal with specific customer requests and queries………….. ☐

Develop or adopt innovative methods of delivering service to customers…………………………... ☐

Maintain all ethical standards in your industry………………………………………………………… ☐

Invest in the physical environment to ensure greater comfort for customers………………………… ☐

Provide products of high standard for customers……………………………………………………….. ☐

Succeed at honouring commitments, promises or offers made to your customers………………….. ☐

Give employees control over how to deliver service and solve customer problems…………………. ☐

Provide information to employees to help them make responsible service decisions……………….. ☐

Use teams as focal points of responsibility and accountability for employees……………………… ☐

Provide modern technology to support the efforts of staff on the front-line………………………… ☐

Provide an effective system for gathering, analysing, retrieving and disseminating service information among organisational members …………………………………………………………… ☐

Provide extensive training for frontline employees on general and specific areas of service………... ☐

Enforce a code of ethics to guide employee behaviour towards customers………………………….. ☐

Collect information about best practices in your industry and implement them…………………… ☐

Reward employees for delivering high levels of service quality…………………………………….. ☐

## SECTION 4: PERFORMANCE

Compared to your competitors on a scale of 1-5(*1 = much worse 5= much better*) how would you rate the performance of this organisation over the last three years in terms of

Achieving customer satisfaction……… ☐     Attracting new customers……… ☐

Attaining desired market share……… ☐     Keeping existing customers…… ☐

**Thank you for your time. Your contribution to this study is greatly appreciated**

# ORGANISATIONAL CULTURE IN SERVICE

# ORGANISATIONS

# AN EMPLOYEE SURVEY

**KEMEFASU IFIE**

**(DOCTORAL CANDIDATE)**

**AND**

**PROFESSOR JOHN CADOGAN**

**DR CHANAKA JAYAWARDHENA**

**Business School**
**Loughborough University**
**Leicestershire,**
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The following sets of questions measure your opinion of the beliefs, norms and behaviours of **service employees** in this organisation. It does not measure your personal values or behaviour but what in your opinion reflects the beliefs of employees in this organisation. Please use the scale that appears below to indicate in the box what number best describes your opinion

| Very Strongly Agree | | | | Neither Agree nor Disagree | | | | Very Strongly Disagree |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

# SECTION 1: VALUES

Employees share the belief that delivering very high standards of service quality is a worthwhile goal for them to strive for……………………………………………………………………

Providing high levels of service is a major desire of employees in this organisation…………..

Employees collectively appreciate the need to provide high levels of service quality…………….

Employee's top priority is that our customers see us as the best in service provision……………

Employees believe it is necessary for them to be flexible towards customers……………………

Employees are generally open to new methods to solve customer related issues…………………

A core principle shared by employees in this firm is respect for customers ………………

Employees believe in being honest and fair with customers…………………………………..

Employees place great value on being seen as responsive by customers………………………

Employees deem it important to continuously strive for highest standards………………………

A major desire of employees is to be seen as reliable by customers……………………………

Employees believe it is necessary to think and act like owners of this organisation………………

Employees place high value on personal competence and knowledge……………………………

Employees place significant importance on interpersonal cooperation……………………………

# SECTION 2: NORMS

Employees consistently place demands on one another to deliver high levels of service…………

Employees normally pressure each other to focus on meeting customer needs……………………

Employees who strive for high levels of service are greatly appreciated by other employees……..

Employees generally disapprove of colleagues who do not treat customer needs seriously………

Employees expect each other to act quickly when serving customers……………………………

Employees fully expect that all employees should be creative in finding solutions to customer needs……………………………………………………………………………………………..

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Very

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|

Employees generally agree that we should adjust service processes or our behaviour where necessary to meet varying customer requirements……………………………………………………….

An unwritten rule among employees in this organisation to be truthful and fair to our customers...

Employees regularly emphasise to one another the need for error-free service……………………

It is a shared expectation among employees that we make customers feel valued and important…

Employees constantly demand of one another continuous improvement in service delivery………

Employees' demand of one other that general service quality matters be treated with personal concern……………………………………………………………………………………………

Employees pressure one another to act always in the best interest of overall service quality of the organisation and not just in the interest of their own service performance………………………

Employees encourage one another to show commitment to service quality issues beyond their specific job roles………………………………………………………………………………………

It is an unwritten rule among employees that we help each other deliver high levels of service…

Employees emphasise very strongly high levels of cooperation and information sharing among one another………………………………………………………………………………………………

Employees pressure one other to take the initiative in improving their personal service skills…...

Employees pressure one another to take responsibility for organisational service quality i.e. by offering suggestions for improvement……………………………………………………………...

**SECTION 3** *The next set of statements relate to different **SERVICE BEHAVIOURS** of employees. Using the same scale please indicate the extent to which these statements describe the actual practice among service employees in your organisation*

Employees are quick to adjust service offerings or their behaviour where necessary to meet customer needs………………………………………………………………………………………...

Employees act promptly when delivering service to customers………………………….

Employees always meet implicit or explicit commitments made to customers…………………

Employees regularly generate and use new ideas and approaches for delivering service…………

Employees are always courteous and polite towards customers………………………………..

Employees relate with customers in a professional manner ………………………………………

Employees anticipate customer needs and meet them even before customers ask…………………

| Very Strongly Agree | | | | Neither Agree nor Disagree | | | Very Disagree | Strongly |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Employees respond very quickly to service failures and rectify them………………………….. ☐

Employees rarely go out of their way to serve customers…………………………………….. ☐

Employees put in a lot of effort to ensure customer needs are met……………………………… ☐

Employees constantly search for ways to delight customers by delivering a little more than customers would expect……………………………………………………………………………. ☐

Employees are quick to share information and creative solutions to customer problems with colleagues…………………………………………………………………………………….. ☐

Employees spend their personal time to improve their service knowledge and skills…………… ☐

Employees regularly make constructive suggestions for service improvement……………………. ☐

Employees help each other by serving each other's customers when colleagues are absent……… ☐

Experienced employees take time to voluntarily teach others how to better deliver service……… ☐

Employees go out of their way to ensure that their colleagues can provide service more effectively…………………………………………………………………………………… ☐

Employees strive to improve the quality of service-related interactions among themselves……… ☐

Employees constantly seek for ways to ensure that service delivery runs smoothly ……………… ☐

## SECTION 4: MANAGEMENT SUPPORT

Management puts in a lot of effort to ensure that employees are fully equipped to deliver service of the highest quality…………………………………………………………………………….. ☐

In this organisation employees can use their initiative in delivering service………………………. ☐

Management policies facilitates employee identification with organisational goals and priorities... ☐

## SECTION 5: PERFORMANCE

*Compared to that of your competitors on a scale of 1-5 (1= much worse and 5= much better) how would you rate*

The service performance of this organisation … ☐

Levels of customer satisfaction achieved……… ☐

     **4.**

**5.**       **Thank you for your time and participation. Your contribution to this study is greatly appreciated**

## SCALE ITEMS OF ALL CONSTRUCTS USED FOR CFA ANALYSIS

### ASSUMPTIONS ABOUT SERVICE QUALITY

**Top Management in this Organisation…**

…believe that high levels of service quality has a great impact on our ability to attract customers
…believe that providing very high levels of service quality will improve our marketing effectiveness
…believe that high levels of service quality will improve organisational performance
…believe that this business' success depends significantly on providing high quality service to all customers
…believe that a route to business success is through the provision of high levels of service quality
…believe that is through providing excellent service that this business can achieve competitive advantage

### SERVICE QUALITY VALUE

**Top management in this organisation**
…seek to delight customers with the quality of service provision.
…aim to continuously improve service delivery
…aspire for excellence in service provision
…aspire to outperform competitors in service delivery
…desire to provide high levels of service
…are keen on maintaining very high standards of service
…want customers to see our firm as the best in service   provision

### SERVICE QUALITY NORMS

**In this firm Top Management pressure one another**
...to ensure we deliver service of high standard to customers …..……………………………..
…to do everything possible to ensure that customers get high levels of service
…to do everything possible to meet the expectations of customers

**In this firm Customer- Contact Employees expect one another**
...to ensure we deliver service of high standard to customers …..……………………………..
…to do everything possible to ensure that customers get high levels of service
…to do everything possible to meet the expectations of customers

### SERVICE DELIVERY BEHAVIOUR (MANAGEMENT)

We devote considerable resources to ensure that our customers receive high quality service…
We go out of our way to ensure that every aspect of our customer service offering is of high standard
We work hard to ensure that customers evaluate our service provision positively

### SERVICE DELIVERY BEHAVIOUR (EMPLOYEES)
Customer-contact employees put in significant effort to meet customer needs
Customer-contact employees go all-out to provide excellent service to customers……
Customer-contact employees strive to ensure that our service is of high quality

## SERVICE SUPPORTING BEHAVIOUR (MANAGEMENT)

**In this firm:**
We invest heavily in trying to improve the ability of our employees to serve customers
Much of management effort focuses on enhancing the quality of employees' service delivery
Our organisational policies are designed to make employees more willing to provide good service


## SERVICE SUPPORTING BEHAVIOUR (EMPLOYEE)

**Besides providing service directly to customers, to what extent do customer-contact employees in this firm…?**
…make valuable indirect contributions that help the organisation deliver high quality service
…commit to finding ways of improving this firm's ability to deliver quality service to customers
...play a significant role in ensuring that the organisation has all it needs to serve customers well
…undertake significant amounts of work behind-the-scenes to support the service efforts of this organisation


## PERFORMANCE MEASURES

| Compared to your competitors please indicate how well your firm has performed in the last three years | Much worse than competitors | | | The same as competitors | | | Much better than competitors |
|---|---|---|---|---|---|---|---|
| Customer satisfaction | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Providing value for customers | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Customer evaluations of service quality | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Return on Investment | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Profit before tax | -3 | -2 | -1 | 0 | 1 | 2 | 3 |

# APPENDIX 4-3

## QUESTIONNAIRES

Code:

# SERVICE CULTURE SURVEY

# TOP MANAGEMENT QUESTIONNAIRE

**IMPORTANT:** The questions in this questionnaire are directed at <u>Top Management</u> (i.e. <u>those with responsibility for managing the business strategy of your organization</u>). If you are one of the top management in this organization, (e.g. proprietor, principal, partner or director), kindly fill in this questionnaire. If not, please pass it on to a member of the top management team.

**Information on confidentiality**: This is a confidential questionnaire - under no circumstance will the data you provide be made available to anyone apart from the research team (see below). When the data collection is completed, the name of your organization will be removed from the database, eliminating any possibility that the data you provide can be matched to you.

**RESEARCH TEAM**

Prof John Cadogan
Dr Chanaka Jayawardhena
Mr Kemefasu Ifie

To contact us please email enquiries to **k.ifie@lboro.ac.uk** or call 01509223646

Please use the freepost envelope provided to return your completed survey. If your envelope has been misplaced please use the following address. No stamp is necessary

**Freepost RLUT-STKE-EYXY**
**LOUGHBOROUGH UNIVERSITY**
**Kemefasu Ifie**
**Marketing & Retailing Group**
**Business School**
**LOUGHBOROUGH**
**LE11 3TU**

**About you**

How many people make up the top management team in this organisation?.............................................................................. ☐ people

How long have you been a member of the top management team?................ ☐ years

Are you one of the founders of this firm? (Tick one box)……………………… ☐ yes ☐ no

How long has your firm been in business?...................................................... ☐ years

How many branches does your firm have?...................................................... ☐ branches

Approximately, about how many employees does this firm have? (all branches)....................................................................................................... ☐ employees

How many employees work in this branch?..................................................... ☐ employees

| Please circle one number | Not at all involved | Slightly involved | Moderately involved | Very involved | Make all decisions |
|---|---|---|---|---|---|
| How involved are you in managing the business strategy of this firm? | 1 | 2 | 3 | 4 | 5 |

**Compared to your competitors please rate (by circling one number), the:**

| | Don't offer service | Much lower than competitors | | | The same as competitors | | | Much higher than competitors |
|---|---|---|---|---|---|---|---|---|
| Average price of properties for sale on your books | x | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Average value of rental properties on your books | x | -3 | -2 | -1 | 0 | 1 | 2 | 3 |

**Over the last three years, approximately what percentage of your turnover is attributable to the following:**

| | | |
|---|---|---|
| Property Sales | ☐ | % |
| Property Lettings | ☐ | % |
| Surveys/Valuations | ☐ | % |
| Financial Services | ☐ | % |
| Legal Services | ☐ | % |
| Others | ☐ | |
| **TOTAL** | **100** | % |

**Please indicate the extent to which the statements below relate to <u>Top Management</u> in this firm. The term "<u>customers</u>" refers to those you consider your "<u>principally served market</u>". When answering please consider the views and opinions of <u>all</u> members of your Top Management Team and provide the answer you believe represents the <u>collective viewpoint rather than your personal view.</u>**

**Please circle one number**

| Top management in this organisation… | Not at all | To some extent | To a moderate extent | To a great extent | To an extreme extent |
|---|---|---|---|---|---|
| …believe that high quality service has an impact on our ability to attract customers…………………………………... | 1 | 2 | 3 | 4 | 5 |
| …believe that providing high levels of service quality will improve our marketing effectiveness………………………… | 1 | 2 | 3 | 4 | 5 |
| …believe that high levels of service quality will improve organisational performance…………………………........ | 1 | 2 | 3 | 4 | 5 |
| …believe that this business' financial success depends on providing high quality service to all customers. ………. | 1 | 2 | 3 | 4 | 5 |
| …believe that a route to business success is through the provision of high quality service to all customers………… | 1 | 2 | 3 | 4 | 5 |
| …believe that it is through providing excellent service that this business can achieve competitive advantage............. | 1 | 2 | 3 | 4 | 5 |

| Top management in this organisation… | | | | | |
|---|---|---|---|---|---|
| …seek to delight customers with the quality of service provision............................................................................ | 1 | 2 | 3 | 4 | 5 |
| …aim to continuously improve service delivery …………... | 1 | 2 | 3 | 4 | 5 |
| …aspire for excellence in service provision ……………….. | 1 | 2 | 3 | 4 | 5 |
| …aspire to outperform competitors in service delivery…... | 1 | 2 | 3 | 4 | 5 |
| …desire to provide high levels of service …………….….... | 1 | 2 | 3 | 4 | 5 |
| …are keen on maintaining very high standards of service.. | 1 | 2 | 3 | 4 | 5 |
| …want customers to see our firm as the best in service provision…………………………………………………….... | 1 | 2 | 3 | 4 | 5 |

| Very Strongly Disagree | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Very Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**In this firm Top Management <u>pressure one another</u>** …

...to ensure we deliver service of high standard to customers …..……………………………………..

…to do everything possible to ensure that customers get high levels of service…………………………

…to do everything possible to meet the expectations of customers……………………………………...

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| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Top Management in this firm agree** …

…that we ought to go to any length to keep promises made to our customers……………………………...

…that we ought to work hard to ensure that customers can rely on our service delivery………………...

…that we must go out of our way to ensure that our service to customers is error-free…………………

**It is a standard among Top Management that in dealings with customers** …

…all services issues should be viewed in terms of how they can benefit the customer………………….

…every effort should be made to make the individual customer feel special…………………………….

…every one of us should make effort to understand the needs of our customers………………………...

**To what extent are the following principles generally accepted among top management?**

Tangible aspects of our service (e.g. bulletins, websites etc) should be of excellent quality…………...

Every visible representation, (to customers), of our service provision should be of high quality…………

Emphasis should be placed on the quality of all physical symbols of our firm (e.g. offices, vehicles etc)

**The Top Management Team in this firm emphasise to one another...**

…the need to make adjustments to our service to if this will better meet our customers needs ………...

…that we should be willing to modify services if they need improving to enhance customers' service experience …………………………………………………………………………………………………………

…that effort should be made to deal promptly with unanticipated customer problems…………………..

**Members of the Top Management Team in this firm accept that…**

…we must strive to ensure that all our customers feel safe when dealing with us………………………

…we ought to do whatever we can to improve the confidence of customers in our service ……………...

…we should do everything possible to ensure that customers can fully trust our service processes........

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The following statements ask about the <u>standards</u> established by Top Management for dealing with <u>customer-contact employees</u> (i.e. the individuals in your firm who are <u>not part of top management</u> and who are <u>directly responsible for serving</u> customers). You may refer to them as customer advisors, sales consultants, sales advisors, negotiators etc. in your firm.

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Top Management Team in this firm <u>pressure one another</u> to…**

…commit to programmes that benefit our sales and service employees even if the direct benefits to the organisation are not obvious ………………………………………………………………………………………….

…emphasise service delivery as the joint responsibility of every organisational member rather than the responsibility of sales or service employees alone…………………………………………………………………………..

…provide employees with every help possible to ensure that can provide quality service……….................

**To what extent do the Top Management Team in this firm <u>agree</u>…?**

…that information should be freely disseminated to employees at all levels in this organisation? ……….

…to provide customer-related information freely to all employees? …………………………………….......

…to keep sales employees in this firm abreast of any changes that might affect their work? ………..........

**In this firm the Top Management Team <u>encourage one another</u> to…**

…be flexible towards employees' requests for changes concerning organisational issues………………..

…be willing to make internal adjustments to cope with changing needs of our employees ………………

…encourage employees to seek for new ways to handle unexpected situations when they occur………

**To what extent do the Top Management Team in this firm <u>pressure one another</u> to…?**

…do everything possible to increase our employees' ability to deliver high levels of service? ................

…focus on ways to improve the willingness of employees to provide high quality service? ……………….

…pay attention to how we can help employees deliver quality service? …………………….. ………………

| Please circle the number that best describes the extent to which… | Not at all | To some extent | To a moderate extent | To a great extent | To an extreme extent |
|:---|:---:|:---:|:---:|:---:|:---:|
| …your firm engages in marketing research…………….. | 1 | 2 | 3 | 4 | 5 |
| …your marketing research focuses on service quality matters…………………………………………………… | 1 | 2 | 3 | 4 | 5 |
| …top management interact directly with customers…… | 1 | 2 | 3 | 4 | 5 |

**The following questions relate to <u>actions</u> of top management. Using the scale below please indicate the extent to which these behaviours <u>reflect the actual practice in your organisation.</u>**

| Very Strongly Disagree | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Very Strongly Agree |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Regarding the actions of Top Management towards <u>customer-contact employees</u> please state how much you agree with the statements below**

We provide support for employees in non-job related matters……………………………………………….

We actively recognise and appreciate the efforts of our employees in meeting customer needs………

We try to offer explanation to employees when changes are to be made in this organisation…………

We always consider the opinions of our service employees when making decisions in this firm………

**How well do you agree or disagree that the statements below reflect the behaviour of Top Management in your firm?**

We provide extensive training for frontline service employees on general and specific areas of service……………………………………………………………………………………………………….

We provide timely information to employees to help them make responsible service decisions…………

We have up-to-date technology to support the work efforts of frontline service employees………………

Our employees are given clear guidelines on how to meet customer needs……………………………….

We devote significant resources to our hiring and selection process to ensure employee-job fit……….

We evaluate employees more on output quantity rather than how they behave to customers…………

**To what extent do you agree that the statements below reflect the actions of Top Management in your firm towards <u>customers</u>?**

We devote considerable resources to ensure that our *customers* receive high quality service…………

We go out of our way to ensure that every aspect of our *customer* service offering is of high standard

We work hard to ensure that *customers* evaluate our service provision positively………………………

**Regarding our communication with <u>customer-contact employees</u>:**

Service quality goals are seldom mentioned in communications from top management to employees…

Our communication with employees (e.g. newsletters, memos and bulletins) frequently include statements encouraging employees to strive for high levels of service……………………………………

Information about the organisation's performance in terms of customer satisfaction is disseminated very frequently in the organisation……………………………………………………………………………..

Communications with frontline service employees frequently include statements relating to the need for delivering high levels of service ……………………………………………………………………………..

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| Much less than competitors | Less than competitors | A bit less than competitors | The same as competitors | A bit more than competitors | More than competitors | Much more than competitors |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Compared to our competitors, top management in this firm…**

…devote effort to improving the reliability of our service ……………………………………………..

…put systems in place to ensure that our service delivery is always reliable………………...………...

…ensure we fulfil commitments made to customers even in the face of difficulties………………………

**In this firm…**

…we make adjustments to our service when necessary to meet the requirements of customers ……

…we have adequate human and physical resources to respond to customer concerns………………

…we are quick to respond to customer-related problems ………………………………………………….

**In comparison with your competitors, to what extent do you…**

…create facilities to ensure that every one of your customers receives individual attention? ………....

…put in place provisions to accommodate the preferences of individual customers? ……………….....

…put measures in place to ensure that you understand the preferences of each customer? ……………

**In this firm…**

…we provide structures to dispel customers' fears when they transact business with us…...................

…we provide ways to reassure our customers that their resources (e.g. property and finances) are secure when doing business with us……………………………………………………………………………

…we present our customers with some form of assurance about the quality of our service…………......

**Compared to our competitors, in this firm…**

…we dedicate resources to maintain the appearance of our service environment i.e. our offices……...

…we invest in improving tangible representations of our business (e.g. websites, bulletins, adverts etc)

…the physical and visual elements of our business (e.g. logos, smartness of sales employees etc) project an image of high quality…………………………………………………………………………………..

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| Very Strongly Disagree | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Very Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**In this firm:**

We invest heavily in trying to improve the ability of our *employees* to serve customers …………........

Much of management effort focuses on enhancing the quality of *employees'* service delivery…………

Our organisational policies make *employees* more willing to provide good service………………………

**Compared to your competitors, please state how well your firm has performed over the last three years. Please circle one number**

| | Much worse than competitors | | | The same as competitors | | | Much better than competitors |
|---|---|---|---|---|---|---|---|
| Customer satisfaction | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Providing value for customers | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Customer evaluations of service quality | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Keeping Current Customers | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Repeat Customers | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Total Sales Revenue | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Attaining desired Growth | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Securing desired market share | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Turnover ranking | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Return on Investment | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Profit before tax | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Your firm's ability to manage within the current economic crisis | -3 | -2 | -1 | 0 | 1 | 2 | 3 |

*If you would like to receive a summary of the results please provide your email address below:*

_____

**THANK YOU FOR YOUR TIME AND VALUABLE CONTRIBUTION TO THE STUDY**

# SERVICE CULTURE SURVEY
# EMPLOYEE QUESTIONNAIRE

**Instructions**: This questionnaire is for employees whose jobs involves direct contact with customers e.g. customer advisor; sales negotiators etc. We refer to all such employees who serve customers directly as **"customer-contact employees"**.

The term "customer" refers to both clients and customers i.e. sellers and buyers

**Information on confidentiality**: This is a confidential questionnaire - under no circumstance will the data you provide be made available to anyone apart from the research team

**RESEARCH TEAM**

**Prof John Cadogan**
**Dr Chanaka Jayawardhena**
**Mr Kemefasu Ifie**

**To contact us please email enquiries to k.ifie@lboro.ac.uk or call 01509223646**

Please use the freepost envelope provided to return your completed survey. If your envelope has been misplaced please use the following address. No stamp is necessary

**Freepost RLUT-STKE-EYXY**
**LOUGHBOROUGH UNIVERSITY**
**Kemefasu Ifie**
**Marketing & Retailing Group**
**Business School**
**LOUGHBOROUGH**
**LE11 3TU**

**Please circle one number**

| Concerning all customer-contact employees in this firm… | Not at all | To some extent | To a moderate extent | To a great extent | To an extreme extent |
|---|---|---|---|---|---|
| We want our customers to see us as the best in service provision…………………………………………………………….. | 1 | 2 | 3 | 4 | 5 |
| We place importance in delighting customers with the quality of our service............................................................ | 1 | 2 | 3 | 4 | 5 |
| We aim to continuously improve service delivery ………….. | 1 | 2 | 3 | 4 | 5 |
| We aspire to excellence in service provision ………………. | 1 | 2 | 3 | 4 | 5 |
| We aspire to outperform competitors in service delivery…… | 1 | 2 | 3 | 4 | 5 |
| We desire to provide high levels of service ……………....... | 1 | 2 | 3 | 4 | 5 |
| We are keen on maintaining very high standards of service. | 1 | 2 | 3 | 4 | 5 |

| Very Strongly Disagree | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Very Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**In this firm Customer-contact Employees <u>expect one another</u>** …

...to go out of our way to ensure we deliver service of high standard to customers ……………………….

…to do everything possible to ensure that customers get high levels of service…………………………..

…to do everything possible to meet the expectations of customers…………………………………………

**To what extent do <u>customer-contact employees</u> agree with the following statements?**

The actions of top management towards employees show a high level of commitment to service quality……......................................................................................................................

The top management of this organisation care a lot about service quality……………………………....

Top management actions show they really care about the quality of service delivered by this organisation..........................................................................................................................

Organisational policies put in place by top management suggest that service quality is very important to them...........................................................................................................

The way in which management supports employees suggests that customer service is a top priority to them……………………………………………………………………………………

**Please indicate the extent to which the following statements apply to <u>customer-contact</u> employees in this firm**

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Customer-contact employees in this firm <u>agree</u>** …

…that we ought to go to any length to keep promises made to our customers…………………………...

…that we ought to work hard to ensure that customers can rely on our service delivery…………………

…that we ought to go out of our way to ensure that our service is error-free……………………………….

**To what extent are the following principles <u>generally accepted</u> among customer-contact employees?**

Tangible aspects of our service (e.g. our physical appearance) should portray high quality to customers…………………………………………………………………………………………………….

Every visible representation, (to customers), of our service provision should be of high quality…………

We ought to place significant emphasis on the quality of the physical service environment……………...

**When dealing with customers, customer-contact employees <u>share the view</u> that…**

…we should all work hard to identify how our services can benefit the customer…………………………

…all of us need to make an effort to make the individual customer feel special …………………………..

…every one of us should make an effort to understand the needs of our customers……………………

**Customer-contact Employees in this firm <u>recognise that we should</u>...**

…make adjustments to our service to if this will better meet our customers' needs ………………………

…be willing to modify services if they need improving to enhance customers' service experiences…….

…try to respond promptly to unanticipated customer problems………………………………………..

**Customer-contact Employees in this firm <u>accept</u> that:**

We must strive to ensure that all our customers feel safe when dealing with us…………………….....

We ought to do whatever we can to improve the confidence of customers in our service ……………....

We should do everything possible to ensure that customers can fully trust our service processes.........

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**The statements below relate to the <u>expectations</u> of Customer-contact employees of how they <u>should act</u> towards one another and to management. When answering please think about what employees <u>expect from one another</u> rather than what employees <u>actually do</u>**

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**In this firm it is <u>an unwritten rule</u> that:**

We should commit to improvements that will benefit the whole organisation and not just those that benefit our individual performance…………………………………………………………………………………...

We should treat all service-related issues as a joint responsibility rather than the responsibility of individuals…………………………………………………………………………………………………

We should assist one another in providing service.....................................................................

**To what extent do customer-contact employees in this firm <u>agree</u> that:**

We should share any information which can help our colleagues serve customers better…...……………

We should share with everyone any ideas or suggestions that can help this organisation deliver better service ………………………………………………………………………………………….............

Management should be informed about issues that may affect this firm's ability to deliver quality service………………………………………………………………………………………….…

**In this firm the customer-contact employees <u>encourage one another</u> to be:**

Flexible to internal requests for changes (i.e. from management or employee) …………………………….

Ready to seek new ways to solve any unexpected problems that may occur in this organisation…….

Ready to make adjustments (e.g. to hours worked) to cope with changing organisational needs…………

**To what extent do the customer-contact employees in this firm <u>expect one another…?</u>**

…to see any matter that can impact on the quality of this firms service as a personal concern? …………

…to be dedicated to improving our organisations' ability to deliver service? ……………………………..

…to be committed to any issue that improves the ability of our organisation to deliver high quality service?..……………………………………………………………………………………………..

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## With respect to serving customers:

Customer-contact employees put in significant effort to meet customer needs…………………………… ☐

Customer-contact employees go all-out to provide excellent service to customers……………………. ☐

Customer-contact employees strive to ensure that our service is of high quality…………..................... ☐

## Besides providing service directly to customers, to what extent do customer-contact employees in this firm…?

…make valuable indirect contributions that help this organisation deliver high quality service…………… ☐

…commit to finding ways of improving this firm's ability to deliver quality service to customers………… ☐

...play a significant role in ensuring that the organisation has all it needs to serve customers well…... ☐

…undertake significant amounts of work behind-the-scenes to support the service efforts of this organisation…..................................................................................................................... ☐

> **Please circle the number that best indicates your strength of feeling about the following statements**

| In this firm | Not at all | To some extent | To a moderate extent | To a great extent | To an extreme extent |
|:---|:---:|:---:|:---:|:---:|:---:|
| We are very clear about our duties and responsibilities… | 1 | 2 | 3 | 4 | 5 |
| We are often not sure what aspects of our work will lead to positive evaluations………………………...................... | 1 | 2 | 3 | 4 | 5 |
| We know the expected results of our work……………… | 1 | 2 | 3 | 4 | 5 |
| We are clear about how to divide our time among the tasks required of our jobs………………………………… | 1 | 2 | 3 | 4 | 5 |
| We know the appropriate procedures for each work task | 1 | 2 | 3 | 4 | 5 |
| We know the best way to do our jobs……………............. | 1 | 2 | 3 | 4 | 5 |
| We have the skills necessary to excel at service delivery... | 1 | 2 | 3 | 4 | 5 |
| We are confident about our ability to serve customers well………………………………………………….. | 1 | 2 | 3 | 4 | 5 |
| We are self-assured about our capabilities to perform our work activities…………………………………………… | 1 | 2 | 3 | 4 | 5 |

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**The next set of questions relate to the <u>behaviours directed at customers</u>. Using the scale below please indicate the extent to which these behaviours are <u>actually performed</u> by customer-contact employees in this organisation**

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Employees in this firm…**

…work to ensure that service is performed in line with customer requirements…………………………

…work to ensure that all commitments to customers are met on time ………………………….............

…ensure that no mistakes are made when delivering service to customers……………………………….

**Employees in this firm…**

…give individual attention to the concerns of every customer……………………………………………

…try to accommodate the preferences of individual customers …………………………………………

…make effort to understand the preferences of each customer ……………………………………………

**To what extent do customer-contact employees in this firm…**

…make adjustments when necessary to meet the requirements of customers? ………………………

…utilise different strategies to ensure they meet customer needs? ……………………………………..

…look for creative ways to solve customer problems? ……………………………………………………

**Employees in this firm…**

…make effort to look smart in their physical appearance……………………………………………..

…make effort to keep the service environment well organised…………………………………………

…ensure that all tangible representations of the firm's service (e.g. office, website) are visually appealing……………………………………………………………………………………………………

…ensure that all tangible representations of the firm (e.g. office, websites etc) are consistent with the firms image…………………………………………………………………………………………………

**Employees in this firm…**

…act in a manner that inspires customer confidence………………………………………………............

…act in a trustworthy way when dealing with customers …………………………………………………..

…act to assure customers that their resources (e.g. property and finances) are secure when dealing with us……...........................................................................................................................

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## With respect to dealings with other employees:

Customer-contact employees assist colleagues in providing service to customers……………………….

Customer-contact employees teach less experienced colleagues how to deliver service better…………

Customer-contact employees share creative solutions to customer problems with one another……….

## Customer-contact employees in this firm…

…make personal efforts to improve their service knowledge and skills……......................................

…make an effort to improve their personal service competence……....................................................

…strive to improve their knowledge of the organisations customers……………………………….……

…make effort to improve their understanding of matters of importance to this firm……………………….

## With respect to dealings with management:

Customer-contact employees make suggestions to management for service improvement……………..

Customer-contact employees contribute ideas for customer promotions and communications………..

Customer-contact employees advise managers about issues that might affect customer service………

| Very Strongly Disagree | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree | Very Strongly Agree |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## With respect to our relationship with Top Management:

There is very little face-to-face interaction between Top Management and customer-contact employees……………………………………………………………………………………………………

In this organization senior management rarely make time to speak with employees…………………….

Employees in this firm feel close to top management………………………………………………………

Customer-contact employees have direct access to top management of this organisation………………

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**About You**

| | |
|---|---|
| How long have you worked in this firm? | ☐ years |
| How long have you worked within this industry? | ☐ years |
| Do you work in the head office of this firm? (Tick one) | ☐ yes  ☐ no |

| | **Male** | **Female** |
|---|---|---|
| Gender  (Tick one) | ☐ | ☐ |

How old are you?  ☐ years

**In which of these areas do you work (Tick all that apply)**

| | | | |
|---|---|---|---|
| Sales | ☐ | Lettings/Rentals | ☐ |
| Surveys/Valuations | ☐ | Land | ☐ |
| Auctions | ☐ | Mortgages/Financial | ☐ |
| Legal services | ☐ | Others | ☐ |

| Not at all | To a very slight extent | To a small extent | To a moderate extent | To a considerable extent | To a great extent | To an extreme extent |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

My job involves dealing with customers directly……………………………………………………………...  ☐

The questionnaire deals with issues I am very knowledgeable about…………………………………………….  ☐

My answers to the questions in this questionnaire are very accurate………………………………………..  ☐

**THANK YOU FOR YOUR TIME AND VALUABLE CONTRIBUTION TO THE STUDY**

# APPENDIX 4-4

# PRE-NOTIFICATION LETTER

Loughborough
University

Email: k.ifie@lboro.ac.uk

Mr Adrian Loak
Peachey Loak,
3 Braid Court, Wellingborough,
NN8 6PF

26th January, 2009

Dear Sir

I am undertaking research into service culture and its relevance to the performance of UK firms. My current focus is on UK estate agencies, and I would very much appreciate your help with this study. I am contacting you because <u>you and your staff</u> have the requisite knowledge to provide answers which are critical for the success of this study. Responses from both <u>top management</u> and <u>employees</u> are essential in this respect.

I would be most grateful therefore, if as well as completing a questionnaire, you could distribute some questionnaires to customer-contact employees in any branch of your firm and encourage them to respond. <u>I will post the questionnaires to you next week</u>.

While I understand that this represents an additional demand on your schedule, I am sure you appreciate that this study can help in shaping opinion about estate agents' business operations. This may be particularly useful in these trying times for the property and housing markets.

This study is funded solely by Loughborough University Business School and is independent of any commercial organisation. Please be assured that your answers will remain <u>strictly confidential</u> and at no time will you or your organisation be identified in the analysis.

If you would like to discuss any issue relating to this research, please contact me on the email address stated above. Thank you very much in advance. Your support is greatly appreciated.

Yours sincerely


Kemefasu Ifie
Doctoral (PhD) Candidate

# APPENDIX 4.5

## COVER LETTER

**Loughborough University**

E-mail: k.ifie@lboro.ac.uk

«AddressBlock»

19th November, 2008

Dear Sir

**<u>Service Culture Survey</u>**

As promised in my letter last week, I enclose the Service Culture questionnaires and Freepost return envelopes. This survey is a key component of research into the relevance of service culture to the performance of UK firms. I would be most grateful if, as well as completing the questionnaire for <u>top management</u>, you could distribute the other questionnaires in the pack to <u>customer-contact employees</u> in any branch of your firm and encourage them to respond. The questionnaires are boldly labelled to distinguish those of <u>management</u> from those for <u>employees</u>.

I am contacting you because <u>your firm</u> has the requisite knowledge to provide answers which are critical for the success of this study. Responses from both <u>top management</u> and <u>employees</u> are <u>essential</u> in this regard. I am aware that this represents an additional demand on your schedule, but I am sure that you appreciate the potential of the study to help shape business opinion.

In recognition of your kindness in assisting us, I will send you a summary of the survey's findings. Should you wish to receive this summary please indicate this on the questionnaire.

The study is funded by Loughborough University Business School, and is completely independent of any commercial entity. Please be assured that your answers will remain <u>strictly confidential</u> and at no time will you or your firm be identified, ensuring your <u>anonymity</u>. The code on the questionnaire is used for noting those who have responded so that they do not receive follow-up reminders or telephone calls.

I am more than happy to discuss any questions you have about this project and can be contacted at the e-mail address given above. Thank you very much for your cooperation. Your support is greatly appreciated.

Yours Sincerely


Kemefasu Ifie
Doctoral (PhD) Candidate

**APPENDIX 4.6**

**FREEPOST RETURN ENVELOPE**

Freepost  RLUT - STKE - EYXY
LOUGHBOROUGH UNIVERSITY
Marketing & Retailing Group
Business School
LOUGHBOROUGH
LE11 3TU

**APPENDIX 4.7**

**REMINDER LETTER**

**Loughborough University**

E-mail: k.ifie@lboro.ac.uk

Address Block

27th January, 2009

Dear Sir

**Reminder – Service Culture Survey**

I recently requested your help with our Service Culture Survey. I have now received responses from your employees and I thank you very much for your help. However I am yet to receive your own questionnaire. If you have already returned the questionnaire I would like to thank you for your time and effort, and apologise for contacting you again. If you have not had the opportunity to complete, I would be most grateful if you could do so.

I am writing again because this survey is a key component of research into the relevance of service culture to the performance of UK Estate Agents and your answers could determine the success of this study. You and your employees have the expert knowledge to respond with the accuracy that we need to draw precise conclusions from the survey.

To encourage your participation and in recognition of your generosity in assisting us, I will send you a summary of the survey's findings. Should you wish to receive this summary please follow the instructions on the questionnaire. If you did not receive the original set of questionnaires or they have been mislaid I enclose another set with Freepost envelopes.

The study is funded by Loughborough University Business School, and is completely independent of any commercial entity. Please rest assured that your answers will remain strictly confidential and at no time will you or your firm be identified. The code on the questionnaire is only used for noting those who have responded so that they do not receive follow-up reminders or telephone calls.

I am more than happy to discuss any questions you have about this project and can be contacted at the e-mail address given above. Thank you very much for your cooperation. Your support is greatly appreciated.

Yours sincerely

Mr Kemefasu Ifie
Doctoral (PhD) Candidate

Loughborough University Leicestershire LE11 3TU UK

Switchboard: +44 (0) 1509 263171 www.lboro.ac.uk/businessschool

**Loughborough University**

E-mail: k.ifie@lboro.ac.uk

Address Block

27th January, 2009

Dear Sir

**Reminder – Service Culture Survey**

I recently requested your help with our Service Culture Survey. I would like to thank you for your time and effort, and apologise for contacting you again.

I am writing again because I am yet to receive any <u>employee</u> responses from your firm. This survey is a key component of research into the relevance of service culture to the performance of UK firms and your answers could determine the success of this study. The responses of both management and customer-contact employees are vital to arrive at meaningful conclusions.

I would be most grateful if, you could encourage <u>customer-contact employees</u> to respond. If the questionnaires have been mislaid I enclose another set with Freepost envelopes.

The study is funded by Loughborough University Business School, and is completely independent of any commercial entity. Please rest assured that your answers will remain <u>strictly confidential</u> and at no time will you or your firm be identified. The code on the questionnaire is only used for noting those who have responded so that they do not receive follow-up reminders or telephone calls.

I am more than happy to discuss any questions you have about this project and can be contacted at the e-mail address given above. Thank you very much for your cooperation. Your support is greatly appreciated.

Yours sincerely

Mr Kemefasu Ifie
Doctoral (PhD) Candidate

Mr Kemefasu Ifie
Doctoral (PhD) Candidate

# EXPLORATORY FACTOR ANALYSIS

**Component Matrix[a]**

|      | Component |
|------|-----------|
|      | 1         |
| Ass1 | .753      |
| Ass2 | .813      |
| Ass3 | .670      |
| Ass4 | .839      |
| Ass5 | .814      |
| Ass6 | .823      |

**Component Matrix[a]**

|     | Component |
|-----|-----------|
|     | 1         |
| MV1 | .796      |
| MV2 | .800      |
| MV3 | .886      |
| MV4 | .823      |
| MV5 | .892      |
| MV6 | .892      |
| MV7 | .668      |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| MSQN1 | .884 |
| MSQN2 | .943 |
| MSQN3 | .863 |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| MSDB1 | .915 |
| MSDB2 | .921 |
| MSDB3 | .858 |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| MSSB1 | .876 |
| MSSB2 | .944 |
| MSSB3 | .872 |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| ESSB3 | .951 |
| ESSB2 | .950 |
| ESSB1 | .944 |
| ESSB4 | .917 |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| ESDB2 | .961 |
| ESDB3 | .947 |
| ESDB1 | .933 |

**Component Matrix<sup>a</sup>**

| | Component |
|---|---|
| | 1 |
| ESSN3 | .939 |
| ESSN2 | .939 |
| ESSN1 | .860 |

**Component Matrix[a]**

| | Component |
|---|---|
| | 1 |
| COM2 | .873 |
| COM4 | .854 |
| COM3 | .769 |
| COM1 | .634 |

**Structure Matrix**

| | Component | |
|---|---|---|
| | 1 | 2 |
| PROX2 | .987 | |
| PROX1 | | .987 |
| PROX3 | .903 | |
| PROX4 | .903 | |

**Structure Matrix of Management Variables**

| | Component | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| MV3 | .889 | | | | |
| MV5 | .884 | | | | |
| MV6 | .881 | | | | |
| MV4 | .821 | | | | |
| MV2 | .815 | | | .600 | |
| MV1 | .811 | | | .575 | |
| MV7 | .614 | | | | |
| MSSB2 | | .887 | | | |
| MSSB1 | | .857 | | | |
| MSSB3 | | .820 | | | |
| MSDB1 | | | | | .804 |
| MSDB2 | | | | | .758 |
| MSDB3 | | | | | .622 |
| MSDN2 | | | .944 | | |
| MSDN1 | | | .888 | | |
| MSDN3 | | | .842 | | |
| Ass4 | | | | .871 | |
| Ass5 | | | | .862 | |
| Ass6 | | | | .800 | |
| Ass2 | | | | .749 | |
| Ass1 | . 504 | | | .686 | |
| Ass3 | .604 | | | .664 | |

**Structure Matrix of Employee Service**

**Delivery Behaviour: all items**

| | Component | |
|---|---|---|
| | 1 | 2 |
| ESDB1 | .883 | |
| ESDB2 | .873 | |
| ESDB3 | .865 | |
| EBEM1 | .843 | -.763 |
| EBAS2 | .827 | |
| EBEM3 | .811 | -.810 |
| EBEM2 | .803 | -.771 |
| EBREL2 | .803 | -.733 |
| EBRES1 | .789 | |
| EBREL1 | .783 | |
| EBAS3 | .768 | |
| ENRES1 | .737 | |
| EBTAN4 | | -.903 |
| EBTAN2 | | -.894 |
| EBTAN3 | | -.884 |
| EBAS1 | .789 | -.806 |
| EBTAN1 | | -.789 |
| EBRES2 | .764 | -.780 |
| EBRES3 | .726 | -.769 |
| EBREL3 | .732 | -.739 |

**Structure Matrix for Employee Variables**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| ESSB3 | .946 | | |
| ESSB2 | .942 | | |
| ESSB1 | .938 | | |
| ESSB4 | .930 | | |
| ESDN2 | | .972 | |
| ESDN1 | | .935 | |
| ESDN3 | | .898 | |
| ESDB2 | | | .961 |
| ESDB3 | | | .944 |
| ESDB1 | | | .934 |

**Structure Matrix for Employee Service**

**Supporting Behaviour : Multi-dimensional scales**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| EBPD2 | .950 | | .753 |
| EBPD4 | .932 | .769 | |
| EBPD3 | .931 | .711 | |
| EBPD1 | .931 | | .746 |
| EBOD2 | | .965 | |
| EBOD3 | .742 | .945 | |
| EBOD1 | | .924 | |
| EBCD2 | | | .941 |
| EBCD1 | .721 | | .897 |
| EBCD3 | .824 | | .881 |

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**Component Matrix for Employee Service Delivery Behaviour: all items**

|        | Component |
|--------|-----------|
|        | 1         |
| ESSB2  | .893      |
| ESSB3  | .877      |
| ESSB1  | .875      |
| EBPD1  | .873      |
| EBCD3  | .872      |
| ESSB4  | .870      |
| EBPD3  | .869      |
| EBOD3  | .837      |
| EBOD1  | .829      |
| EBOD2  | .818      |
| EBPD2  | .810      |
| EBCD1  | .801      |
| EBCD2  | .794      |

**MEANS AND STANDARD DEVIATIONS OF ITEMS**

|  | Mean | Std. Deviation |
|---|---|---|
| CUSTSAT | 6.00 | .857 |
| CUSTVAL | 5.78 | .937 |
| CUSTSQ | 5.63 | 1.163 |
| ROI | 5.32 | 1.346 |
| PBT | 5.28 | 1.391 |
| Employee Service Quality Norm 1 | 6.1781 | .79473 |
| Employee Service Quality Norm 2 | 6.2445 | .75438 |
| Employee Service Quality Norm 3 | 6.2035 | .83554 |
| Employee Service Delivery Behaviour 1 | 6.1291 | .76534 |
| Employee Service Delivery Behaviour 2 | 6.1480 | .78002 |
| Employee Service Delivery Behaviour 3 | 6.2651 | .65623 |
| Employee Service Supporting Behaviour 1 | 5.5838 | 1.04403 |
| Employee Service Supporting Behaviour 2 | 5.5680 | 1.07475 |
| Employee Service Supporting Behaviour 3 | 5.5947 | 1.07080 |
| Employee Service Supporting Behaviour 4 | 5.4771 | 1.29105 |

| | | |
|---|---|---|
| Assumptions 1 | 4.35 | .599 |
| Assumptions 2 | 4.23 | .675 |
| Assumptions 3 | 4.17 | .701 |
| Assumptions 4 | 4.25 | .735 |
| Assumptions 5 | 4.31 | .729 |
| Assumptions 6 | 4.40 | .638 |
| Management Value 1 | 4.24 | .652 |
| Management Value 2 | 4.34 | .656 |
| Management Value 3 | 4.38 | .619 |
| Management Value 4 | 4.41 | .596 |
| Management Value 5 | 4.47 | .570 |
| Management Value 6 | 4.47 | .570 |
| Management Value 7 | 4.65 | .614 |
| Management Service Quality Norm 1 | 5.32 | 1.224 |
| Management Service Quality Norm 2 | 5.72 | 1.000 |
| Management Service Quality Norm 3 | 5.76 | 1.038 |
| Management Service Delivery Behaviour 1 | 5.64 | .917 |
| Management Service Delivery Behaviour 2 | 5.74 | .908 |
| Management Service Delivery Behaviour 3 | 5.59 | 1.084 |
| Management  Service Supporting Behaviour 1 | 5.07 | 1.204 |
| Management  Service Supporting Behaviour 2 | 5.16 | 1.108 |
| Management  Service Supporting Behaviour 3 | 5.28 | 1.077 |

**LISREL SYNTAX**

```
Covariance Matrix from File F:\PhD\John-3rdSeptember\keme.cov

Sample Size = 132

Latent Variables: Ass Mv Msqn Msdb Mssb

Relationships

ASS1 = Ass
ASS2 = 1*Ass
ASS3 = Ass
ASS4 = Ass
ASS5 = Ass
ASS6 = Ass


MV1 = 1*Mv
MV2 = Mv
MV3 = Mv
MV4 = Mv
MV5 = Mv
MV6 = Mv
MV7 = Mv


MSQN1 = 1*Msqn
MSQN2 = Msqn
MSQN3 = Msqn


MSDB1 = 1*Msdb
MSDB2 = Msdb
MSDB3 = Msdb


MSSB1 = 1*Mssb
MSSB2 = Mssb
MSSB3 = Mssb


Path Diagram
Wide Print
Print Residuals
Number of Decimals = 3
Method of Estimation: Maximum Likelihood
LISREL OUTPUT: SE TV RS MI SS SC TO AD=OFF
```

# APPENDIX 5.4

```
    Measurement Equations


 ASS1 = 0.79*ASS, Errorvar.= 0.19  , R² = 0.40
      (0.12)               (0.026)
       6.60                  7.30


 ASS2 = 1.00*ASS, Errorvar.= 0.20  , R² = 0.50
                             (0.029)
                              7.01


 ASS3 = 0.82*ASS, Errorvar.= 0.30  , R² = 0.31
      (0.12)               (0.040)
       5.85                  7.43


 ASS4 = 1.30*ASS, Errorvar.= 0.14  , R² = 0.71
      (0.15)               (0.024)
       8.72                  5.75


 ASS5 = 1.26*ASS, Errorvar.= 0.15  , R² = 0.68
      (0.15)               (0.025)
       8.51                  6.08


 ASS6 = 1.09*ASS, Errorvar.= 0.12  , R² = 0.67
      (0.13)               (0.019)
       8.48                  6.12


  MV1 = 1.00*MV, Errorvar.= 0.18  , R² = 0.53
                           (0.024)
                            7.32


  MV2 = 1.08*MV, Errorvar.= 0.15  , R² = 0.61
       (0.13)             (0.021)
        8.61               7.11


  MV3 = 1.09*MV, Errorvar.= 0.11  , R² = 0.69
       (0.12)             (0.016)
        9.18               6.80


  MV4 = 0.96*MV, Errorvar.= 0.13  , R² = 0.58
       (0.11)             (0.018)
        8.43               7.18


  MV5 = 1.10*MV, Errorvar.= 0.049  , R² = 0.83
       (0.11)             (0.0089)
        10.13              5.50


  MV6 = 1.09*MV, Errorvar.= 0.052  , R² = 0.82
       (0.11)             (0.0092)
        10.07              5.64


MSQN1 = 1.00*MSDN, Errorvar.= 0.42 , R² = 0.68
                             (0.12)
                              3.65


MSQN2 = 0.94*MSDN, Errorvar.= 0.082 , R² = 0.91
        (0.12)              (0.091)
         7.63                0.90
```

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```
MSQN3 = 0.90*MSDN, Errorvar.= 0.082 , R² = 0.90
       (0.12)                  (0.091)
        7.53                    0.90


MSDB1 = 1.00*MSDB, Errorvar.= 0.17  , R² = 0.77
                            (0.033)
                             5.17


MSDB2 = 1.04*MSDB, Errorvar.= 0.11  , R² = 0.85
       (0.077)                (0.030)
        13.52                  3.68


MSDB3 = 0.99*MSDB, Errorvar.= 0.48  , R² = 0.53
       (0.10)                 (0.069)
        9.55                   7.02


MSSB1 = 1.00*MSSB, Errorvar.= 0.45  , R² = 0.65
                            (0.070)
                             6.37


MSSB2 = 1.08*MSSB, Errorvar.= 0.11  , R² = 0.90
       (0.091)                (0.047)
        11.84                  2.41


MSSB3 = 0.89*MSSB, Errorvar.= 0.37  , R² = 0.64
       (0.089)                (0.057)
        10.02                  6.47
```

# APPENDIX 5.4

```
                    Degrees of Freedom = 199
        Minimum Fit Function Chi-Square = 448.908 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 448.029 (P = 0.0)
           Estimated Non-centrality Parameter (NCP) = 249.029
      90 Percent Confidence Interval for NCP = (191.438 ; 314.347)
                  Minimum Fit Function Value = 3.680
       Population Discrepancy Function Value (F0) = 2.041
        90 Percent Confidence Interval for F0 = (1.569 ; 2.577)
      Root Mean Square Error of Approximation (RMSEA) = 0.101
      90 Percent Confidence Interval for RMSEA = (0.0888 ; 0.114)
         P-Value for Test of Close Fit (RMSEA < 0.05) = 0.000
            Expected Cross-Validation Index (ECVI) = 4.558
       90 Percent Confidence Interval for ECVI = (4.086 ; 5.093)
                 ECVI for Saturated Model = 4.148
                ECVI for Independence Model = 40.450
Chi-Square for Independence Model with 231 Degrees of Freedom = 4890.961
                 Independence AIC = 4934.961
                     Model AIC = 556.029
                   Saturated AIC = 506.000
                Independence CAIC = 5018.829
                    Model CAIC = 761.887
                  Saturated CAIC = 1470.483
                 Normed Fit Index (NFI) = 0.908
               Non-Normed Fit Index (NNFI) = 0.938
          Parsimony Normed Fit Index (PNFI) = 0.782
             Comparative Fit Index (CFI) = 0.946
             Incremental Fit Index (IFI) = 0.947
              Relative Fit Index (RFI) = 0.893
                   Critical N (CN) = 68.488
          Root Mean Square Residual (RMR) = 0.0401
                 Standardized RMR = 0.0721
             Goodness of Fit Index (GFI) = 0.750
        Adjusted Goodness of Fit Index (AGFI) = 0.682
        Parsimony Goodness of Fit Index (PGFI) = 0.590
```

# Appendix 5.5

Standardized Residuals

|        | ASS1   | ASS2   | ASS3   | ASS4   | ASS5   | ASS6   |
|--------|--------|--------|--------|--------|--------|--------|
| ASS1   | - -    |        |        |        |        |        |
| ASS2   | 6.032  | - -    |        |        |        |        |
| ASS3   | 3.114  | 2.269  | - -    |        |        |        |
| ASS4   | -3.355 | -2.999 | -0.381 | - -    |        |        |
| ASS5   | -4.101 | -3.082 | -0.991 | 7.367  | - -    |        |
| ASS6   | 0.513  | 0.822  | -3.099 | -0.721 | -0.244 | - -    |
| MV1    | 0.523  | -0.006 | 0.512  | -2.039 | -1.969 | 0.451  |
| MV2    | 1.430  | 2.674  | 0.633  | -1.804 | -1.983 | 1.116  |
| MV3    | 0.806  | -0.436 | -0.143 | -3.083 | -1.852 | 0.762  |
| MV4    | 0.952  | -0.705 | 0.366  | -1.912 | -2.357 | 0.097  |
| MV5    | 0.790  | 0.388  | 0.567  | 0.230  | 0.526  | 2.429  |
| MV6    | -0.227 | -0.095 | 0.990  | -0.343 | -0.594 | 2.350  |
| MV7    | 2.005  | 0.063  | 2.743  | -0.728 | -0.360 | 1.284  |
| MSQN1  | 0.386  | 0.023  | -0.250 | -0.730 | -1.971 | -0.156 |
| MSQN2  | 1.220  | 1.493  | 0.595  | -0.580 | -2.638 | 0.687  |
| MSQN3  | 1.601  | 2.298  | 1.466  | 0.216  | 1.690  | 1.742  |
| MSDB1  | 1.798  | 0.208  | 0.981  | -0.831 | -1.547 | -0.202 |
| MSDB2  | 2.218  | -0.239 | 2.213  | -0.138 | -1.185 | 1.133  |
| MSDB3  | 0.050  | -1.751 | 1.586  | -0.966 | -0.275 | -1.768 |
| MSSB1  | 2.194  | 0.696  | 0.949  | 0.183  | -1.568 | -0.540 |
| MSSB2  | 2.306  | 1.180  | 2.361  | -0.357 | -2.232 | -0.299 |
| MSSB3  | 1.331  | -1.002 | 1.653  | 0.534  | -0.928 | -2.169 |

Standardized Residuals

|        | MV1    | MV2    | MV3    | MV4    | MV5    | MV6    |
|--------|--------|--------|--------|--------|--------|--------|
| MV1    | - -    |        |        |        |        |        |
| MV2    | 1.978  | - -    |        |        |        |        |
| MV3    | 2.754  | 1.170  | - -    |        |        |        |
| MV4    | 2.473  | -1.613 | 1.183  | - -    |        |        |
| MV5    | -1.899 | 0.710  | -0.961 | -2.337 | - -    |        |
| MV6    | -2.986 | -0.518 | -2.548 | 0.600  | 4.082  | - -    |
| MV7    | -0.622 | -3.041 | 2.307  | 1.194  | -1.314 | -0.204 |
| MSQN1  | 0.103  | -0.845 | -0.694 | 0.412  | -1.392 | -1.180 |
| MSQN2  | 0.643  | -0.061 | -0.951 | 0.975  | -0.907 | -0.464 |
| MSQN3  | 1.197  | 1.658  | 1.930  | 1.043  | 1.497  | 1.643  |
| MSDB1  | 1.069  | -0.130 | -0.810 | 0.686  | -2.321 | -1.828 |
| MSDB2  | 0.969  | 0.443  | 0.426  | 1.656  | -0.710 | 1.520  |
| MSDB3  | 0.701  | -1.362 | 0.438  | 0.308  | -2.546 | -0.851 |
| MSSB1  | 1.021  | 0.669  | -0.225 | -0.615 | -2.926 | -2.106 |
| MSSB2  | 2.434  | 2.320  | 1.333  | 0.891  | -2.087 | -0.678 |
| MSSB3  | 0.699  | -0.359 | 1.254  | 1.586  | -1.503 | -0.317 |

Standardized Residuals

|        | MV7    | MSQN1  | MSQN2  | MSQN3  | MSDB1  | MSDB2  |
|--------|--------|--------|--------|--------|--------|--------|
| MV7    | - -    |        |        |        |        |        |
| MSQN1  | 1.115  | - -    |        |        |        |        |
| MSQN2  | 1.704  | 1.011  | - -    |        |        |        |
| MSQN3  | 1.155  | -1.029 | 0.307  | - -    |        |        |
| MSDB1  | 0.180  | 0.780  | -1.552 | -0.817 | - -    |        |
| MSDB2  | 2.764  | 1.338  | 1.494  | 0.232  | -1.158 | - -    |
| MSDB3  | 3.734  | 0.400  | -0.727 | -0.065 | 1.001  | -0.004 |
| MSSB1  | -0.539 | 0.790  | -0.297 | -0.033 | 2.066  | 0.902  |
| MSSB2  | 1.077  | 0.203  | -0.037 | 0.877  | 0.347  | -2.188 |
| MSSB3  | 1.342  | -0.404 | -0.269 | 1.090  | 2.188  | 0.755  |

```
Standardized Residuals

              MSDB3       MSSB1       MSSB2       MSSB3
            --------    --------    --------    --------
   MSDB3       - -
   MSSB1      0.433        - -
   MSSB2     -1.357       1.606        - -
   MSSB3      1.192      -2.524       1.186        - -

Summary Statistics for Standardized Residuals

Smallest Standardized Residual =    -4.101
  Median Standardized Residual =     0.050
 Largest Standardized Residual =     7.367
```

```
Largest Negative Standardized Residuals
Residual for      ASS4 and      ASS1  -3.355
Residual for      ASS4 and      ASS2  -2.999
Residual for      ASS5 and      ASS1  -4.101
Residual for      ASS5 and      ASS2  -3.082
Residual for      ASS6 and      ASS3  -3.099
Residual for       MV3 and      ASS4  -3.083
Residual for       MV6 and       MV1  -2.986
Residual for       MV7 and       MV2  -3.041
Residual for      MSQN2 and      ASS5  -2.638
Residual for      MSSB1 and       MV5  -2.926
Largest Positive Standardized Residuals
Residual for      ASS2 and      ASS1   6.032
Residual for      ASS3 and      ASS1   3.114
Residual for      ASS5 and      ASS4   7.367
Residual for       MV2 and      ASS2   2.674
Residual for       MV3 and       MV1   2.754
Residual for       MV6 and       MV5   4.082
Residual for       MV7 and      ASS3   2.743
Residual for      MSDB2 and       MV7   2.764
Residual for      MSDB3 and       MV7   3.734
```

# Appendix 5.7

## Qplot of Standardized Residuals

```
      3.5.............................................................
         .                                                       ..
         .                                                      . .
         .                                                   .    .
         .                                                 .      .
         .                                               .        .
         .                                             .        x .
         .                                           .          x .
         .                                         .            x .
         .                                       .              x .
         .                                     .        x     x   .
         .                                   .             *      .
         .                                 .           x x        .
         .                               .           *           .
         .                             .          x*x            .
   N     .                           .        x*  xxx            .
   o     .                         .        *x                   .
   r     .                       .       xxx                     .
   m     .                     .       *xx                       .
   a     .                   .       x**                         .
   l     .                 .       *x*                           .
         .               .       xx*                             .
   Q     .             .       *xx                               .
   u     .           .       xx*x                                .
   a     .                 *xx                                   .
   n     .               .*x                                     .
   t     .             x*xx                                      .
   i     .           *xx                                         .
   l     .         xxx xx                                        .
   e     .       * *x*          .                                .
   s     .      x*x           .                                  .
         .    x*x           .                                    .
         .   x x          .                                      .
         .  x x*         .                                       .
         .   *         .                                         .
         . xx        .                                           .
         . x        .                                            .
         . x      .                                              .
         .x     .                                                .
        x     .                                                  .
         .  .                                                    .
         . .                                                     .
         ..                                                      .
     -3.5.............................................................
       -3.5                                                    3.5
```
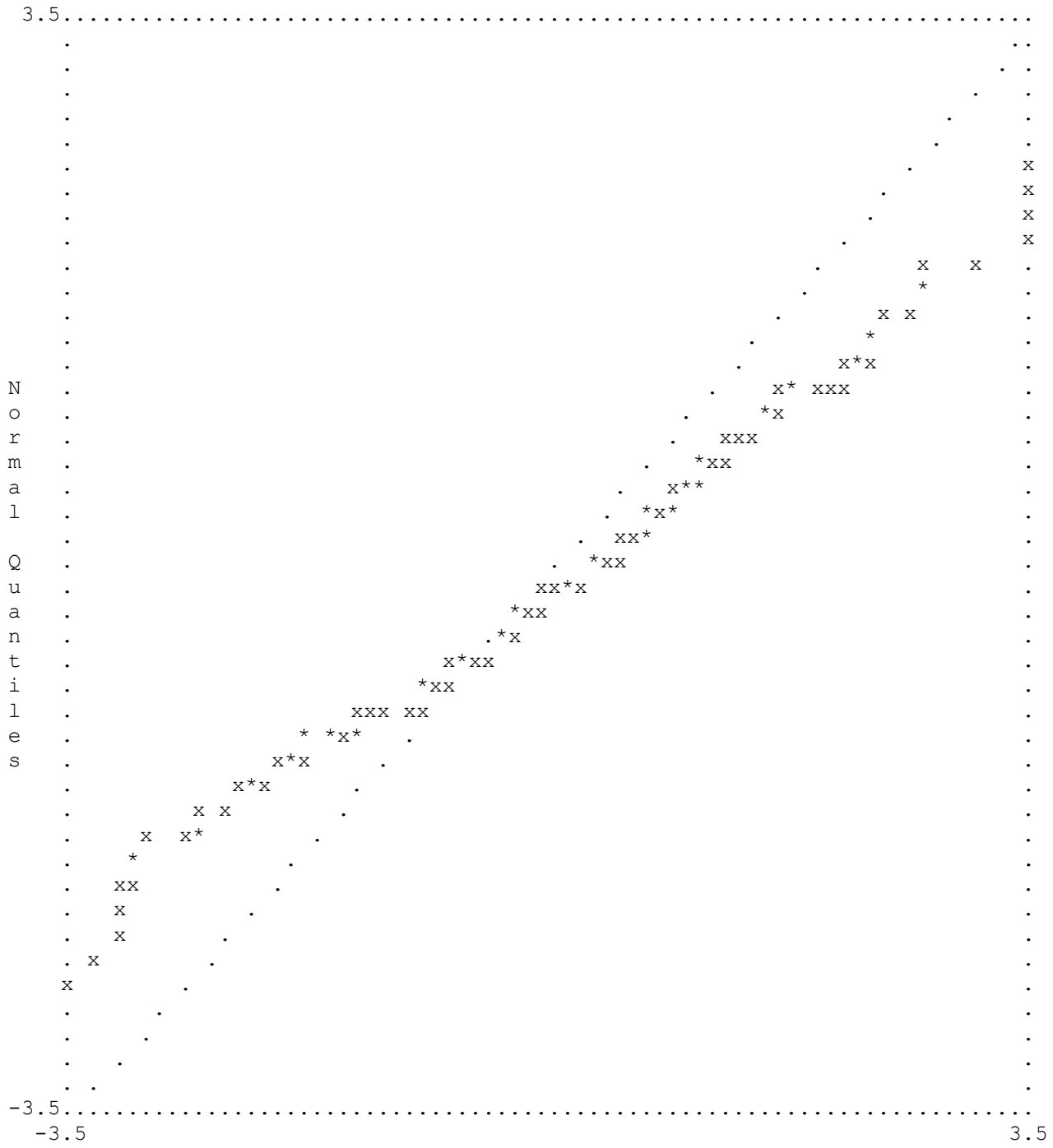
## Modification Indices and Expected Change

The Modification Indices Suggest to Add the

| Path to | from | Decrease in Chi-Square | New Estimate |
|---------|------|------------------------|--------------|
| MV5 | Mssb | 14.46 | -0.10 |

# APPENDIX 5.9

Modification Indices for THETA-DELTA

|        | ASS1   | ASS2   | ASS3   | ASS4   | ASS5   | ASS6   |
|--------|--------|--------|--------|--------|--------|--------|
| ASS1   | - -    |        |        |        |        |        |
| ASS2   | 36.385 | - -    |        |        |        |        |
| ASS3   | 9.699  | 5.150  | - -    |        |        |        |
| ASS4   | 11.254 | 8.993  | 0.146  | - -    |        |        |
| ASS5   | 16.817 | 9.500  | 0.982  | 54.280 | - -    |        |
| ASS6   | 0.263  | 0.676  | 9.607  | 0.520  | 0.059  | - -    |
| MV1    | 0.336  | 0.228  | 0.219  | 1.332  | 1.252  | 0.081  |
| MV2    | 1.657  | 15.270 | 0.012  | 3.158  | 4.479  | 0.035  |
| MV3    | 1.160  | 0.001  | 0.350  | 5.330  | 0.015  | 0.468  |
| MV4    | 1.726  | 0.181  | 0.109  | 0.180  | 1.929  | 0.055  |
| MV5    | 0.988  | 0.866  | 1.488  | 2.380  | 4.253  | 0.003  |
| MV6    | 6.367  | 1.507  | 0.020  | 1.981  | 0.356  | 0.986  |
| MV7    | 2.932  | 0.319  | 6.952  | 1.239  | 0.207  | 0.062  |
| MSQN1  | 0.031  | 0.886  | 0.465  | 0.339  | 0.003  | 0.002  |
| MSQN2  | 0.307  | 1.767  | 0.016  | 0.916  | 8.280  | 0.044  |
| MSQN3  | 0.061  | 0.311  | 0.160  | 5.243  | 10.042 | 0.020  |
| MSDB1  | 0.521  | 1.735  | 1.209  | 0.012  | 0.032  | 0.023  |
| MSDB2  | 0.190  | 1.799  | 0.681  | 0.102  | 0.811  | 2.721  |
| MSDB3  | 1.348  | 3.482  | 1.522  | 0.091  | 7.006  | 5.336  |
| MSSB1  | 1.337  | 0.367  | 1.194  | 0.817  | 0.202  | 0.000  |
| MSSB2  | 0.094  | 4.423  | 1.715  | 3.412  | 3.475  | 1.378  |
| MSSB3  | 0.025  | 5.712  | 0.237  | 5.498  | 2.270  | 10.201 |

Modification Indices for THETA-DELTA

|        | MV1    | MV2    | MV3    | MV4    | MV5    | MV6    |
|--------|--------|--------|--------|--------|--------|--------|
| MV1    | - -    |        |        |        |        |        |
| MV2    | 3.913  | - -    |        |        |        |        |
| MV3    | 7.585  | 1.368  | - -    |        |        |        |
| MV4    | 6.114  | 2.603  | 1.399  | - -    |        |        |
| MV5    | 3.606  | 0.504  | 0.924  | 5.463  | - -    |        |
| MV6    | 8.919  | 0.268  | 6.492  | 0.360  | 16.659 | - -    |
| MV7    | 0.387  | 9.245  | 5.320  | 1.425  | 1.728  | 0.041  |
| MSQN1  | 0.049  | 0.422  | 0.448  | 0.334  | 0.559  | 0.561  |
| MSQN2  | 0.160  | 0.000  | 3.770  | 0.600  | 0.036  | 0.010  |
| MSQN3  | 0.305  | 0.666  | 3.255  | 1.855  | 0.161  | 0.102  |
| MSDB1  | 2.117  | 0.730  | 0.107  | 0.544  | 0.162  | 3.557  |
| MSDB2  | 3.385  | 0.602  | 1.499  | 0.003  | 0.198  | 5.850  |
| MSDB3  | 0.546  | 2.795  | 3.334  | 0.031  | 6.047  | 0.052  |
| MSSB1  | 0.629  | 0.894  | 0.050  | 0.510  | 1.133  | 1.040  |
| MSSB2  | 2.493  | 7.550  | 0.000  | 0.585  | 0.052  | 0.407  |
| MSSB3  | 1.600  | 7.765  | 1.669  | 4.040  | 0.365  | 0.250  |

Modification Indices for THETA-DELTA

|        | MV7    | MSQN1  | MSQN2  | MSQN3  | MSDB1  | MSDB2  |
|--------|--------|--------|--------|--------|--------|--------|
| MV7    | - -    |        |        |        |        |        |
| MSQN1  | 0.245  | - -    |        |        |        |        |
| MSQN2  | 1.089  | 1.023  | - -    |        |        |        |
| MSQN3  | 1.739  | 1.060  | 0.094  | - -    |        |        |
| MSDB1  | 6.617  | 2.351  | 1.411  | 0.443  | - -    |        |
| MSDB2  | 1.744  | 0.096  | 1.868  | 0.714  | 1.342  | - -    |
| MSDB3  | 17.858 | 0.226  | 0.713  | 0.200  | 1.003  | 0.000  |
| MSSB1  | 1.627  | 2.283  | 0.287  | 0.940  | 1.147  | 0.230  |
| MSSB2  | 0.035  | 0.381  | 0.231  | 0.193  | 0.240  | 0.632  |
| MSSB3  | 1.170  | 1.136  | 0.182  | 1.755  | 1.110  | 0.110  |

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Modification Indices for THETA-DELTA

```
             MSDB3      MSSB1      MSSB2      MSSB3
           --------   --------   --------   --------
   MSDB3      - -
   MSSB1     0.141       - -
   MSSB2     2.627      2.579       - -
   MSSB3     1.972      6.370      1.406       - -
```

Modification Indices for THETA-DELTA

```
             MSDB3
           --------
```

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# APPENDIX 5-10

```
Completely Standardized Solution

LAMBDA-X

              Ass         Mv        Msqn       Msdb       Mssb
           --------   --------   --------   --------   --------
    ASS1      0.633       - -        - -        - -        - -
    ASS2      0.708       - -        - -        - -        - -
    ASS3      0.560       - -        - -        - -        - -
    ASS4      0.843       - -        - -        - -        - -
    ASS5      0.821       - -        - -        - -        - -
    ASS6      0.820       - -        - -        - -        - -
     MV1       - -       0.725       - -        - -        - -
     MV2       - -       0.770       - -        - -        - -
     MV3       - -       0.836       - -        - -        - -
     MV4       - -       0.769       - -        - -        - -
     MV5       - -       0.905       - -        - -        - -
     MV6       - -       0.904       - -        - -        - -
     MV7       - -       0.614       - -        - -        - -
   MSQN1       - -        - -       0.803       - -        - -
   MSQN2       - -        - -       0.977       - -        - -
   MSQN3       - -        - -       0.758       - -        - -
   MSDB1       - -        - -        - -       0.874       - -
   MSDB2       - -        - -        - -       0.921       - -
   MSDB3       - -        - -        - -       0.730       - -
   MSSB1       - -        - -        - -        - -       0.806
   MSSB2       - -        - -        - -        - -       0.947
   MSSB3       - -        - -        - -        - -       0.798
```

# APPENDIX 5-11

```
THETA-DELTA

     ASS1        ASS2        ASS3        ASS4        ASS5        ASS6
   --------    --------    --------    --------    --------    --------
    0.600       0.499       0.686       0.289       0.326       0.328


      MV1         MV2         MV3         MV4         MV5         MV6
   --------    --------    --------    --------    --------    --------
    0.474       0.407       0.302       0.409       0.180       0.183


      MV7        MSQN1       MSQN2       MSQN3       MSDB1       MSDB2
   --------    --------    --------    --------    --------    --------
    0.623       0.355       0.146       0.425       0.237       0.152


     MSDB3       MSSB1       MSSB2       MSSB3
   --------    --------    --------    --------
    0.468       0.351       0.104       0.363
```

```
                      Degrees of Freedom = 31
            Minimum Fit Function Chi-Square = 38.211 (P = 0.175)
  Normal Theory Weighted Least Squares Chi-Square = 37.853 (P = 0.185)
            Estimated Non-centrality Parameter (NCP) = 6.853
          90 Percent Confidence Interval for NCP = (0.0 ; 26.597)
                  Minimum Fit Function Value = 0.354
          Population Discrepancy Function Value (F0) = 0.0635
            90 Percent Confidence Interval for F0 = (0.0 ; 0.246)
        Root Mean Square Error of Approximation (RMSEA) = 0.0452
        90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0891)
            P-Value for Test of Close Fit (RMSEA < 0.05) = 0.530
              Expected Cross-Validation Index (ECVI) = 0.795
          90 Percent Confidence Interval for ECVI = (0.731 ; 0.978)
                  ECVI for Saturated Model = 1.019
                  ECVI for Independence Model = 4.543
  Chi-Square for Independence Model with 45 Degrees of Freedom = 470.640
                      Independence AIC = 490.640
                        Model AIC = 85.853
                      Saturated AIC = 110.000
                    Independence CAIC = 527.554
                      Model CAIC = 174.445
                    Saturated CAIC = 313.024
                  Normed Fit Index (NFI) = 0.919
                Non-Normed Fit Index (NNFI) = 0.975
            Parsimony Normed Fit Index (PNFI) = 0.633
              Comparative Fit Index (CFI) = 0.983
              Incremental Fit Index (IFI) = 0.984
                Relative Fit Index (RFI) = 0.882
                      Critical N (CN) = 148.524
              Root Mean Square Residual (RMR) = 0.0680
                      Standardized RMR = 0.0803
                Goodness of Fit Index (GFI) = 0.935
          Adjusted Goodness of Fit Index (AGFI) = 0.884
          Parsimony Goodness of Fit Index (PGFI) = 0.527
```

Covariance Matrix

|      | Mv    | Msqn  | Msdb  | Mssb  | Esqn  | Esdb  |
|------|-------|-------|-------|-------|-------|-------|
| Mv   | 0.273 |       |       |       |       |       |
| Msqn | 0.245 | 0.653 |       |       |       |       |
| Msdb | 0.141 | 0.377 | 0.838 |       |       |       |
| Mssb | 0.219 | 0.583 | 0.337 | 0.917 |       |       |
| Esqn | 0.113 | 0.133 | 0.077 | 0.151 | 0.456 |       |
| Esdb | 0.083 | 0.085 | 0.049 | 0.087 | 0.359 | 0.495 |
| Essb | 0.120 | 0.143 | 0.083 | 0.164 | 0.476 | 0.459 |
| Cust | 0.052 | 0.080 | 0.117 | 0.076 | 0.166 | 0.222 |
| Fin  | 0.027 | 0.041 | 0.060 | 0.040 | 0.085 | 0.115 |
| Ass  | 0.163 | 0.147 | 0.085 | 0.131 | 0.068 | 0.049 |

|      | Essb  | Cust  | Fin   | Ass   |
|------|-------|-------|-------|-------|
| Essb | 1.073 |       |       |       |
| Cust | 0.210 | 1.126 |       |       |
| Fin  | 0.108 | 0.581 | 0.666 |       |
| Ass  | 0.072 | 0.031 | 0.016 | 0.266 |

ASS = 1.000*ass, Errorvar.= 0.066, $R^2$ = 0.791

MV = 1.000*mv, Errorvar.= 0.033, $R^2$ = 0.901

MSQN = 1.000*msqn, Errorvar.= 0.099, $R^2$ = 0.867

MSDB= 1.000*msdb, Errorvar.= 0.034, $R^2$ = 0.884

MSSB= 1.000*mssb, Errorvar.= 0.105, $R^2$ = 0.893

ESQN= 1.000*esqn, Errorvar.= 0.121, $R^2$ = 0.938

ESDB= 1.000*esdb, Errorvar.= 0.057, $R^2$ = 0.892

ESSB= 1.000*essb, Errorvar.= 0.041, $R^2$ = 0.964

CUSTPERF = 1.000*custperf, Errorvar.= 0.327, $R^2$ = 0.797

FINPERF = 1.000*finperf, Errorvar.= 0.171, $R^2$ = 0.784

# APPENDIX 6.4

Structural Equations


Mv = 0.614*Ass, Errorvar.= 0.172  , R² = 0.368
   (0.101)              (0.031)
    6.066               5.553


Msqn = 0.899*Mv, Errorvar.= 0.433  , R² = 0.337
     (0.143)             (0.075)
      6.266              5.793


Msdb = 0.577*Msqn, Errorvar.= 0.62 , R² = 0.260
     (0.111)               (0.103)
      5.225                6.017


Mssb = 0.893*Msqn, Errorvar.= 0.396  , R² = 0.568
     (0.098)               (0.079)
      9.125                5.037


Esqn = 0.351*Mv - 0.082*Mssb, Errorvar.= 0.404  , R² = 0.114
     (0.16)      (0.080)                 (0.060)
      2.406       1.022                   6.781


Esdb = 0.038*Mssb + 0.645*Esqn + 0.148*Essb, Errorvar.= 0.199  , R² = 0.598
     (0.057)        (0.111)       (0.070)                (0.037)
     -0.662          5.803         2.100                  5.375


Essb = 0.007*Mssb + 1.042*Esqn, Errorvar.= 0.575  , R² = 0.464
     (0.088)        (0.123)                 (0.088)
      0.077          8.503                   6.526


Cust = 0.114*Msdb + 0.437*Esdb, Errorvar.= 1.015 , R² = 0.098
     (0.127)        (0.165)                 (0.181)
      1.03           2.655                   5.606


Fin = 0.516*Cust, Errorvar.= 0.365  , R² = 0.451
     (0.081)              (0.084)
      6.346               4.359

# APPENDIX 6.5

```
The Modification Indices Suggest to Add the
  Path to   from      Decrease in Chi-Square    New Estimate
 ESDBAGG    Mssb             8.5                   -4.31
 Cust       Mssb             8.5                    0.40
```

The Modification Indices Suggest to Add the
  Path to   from      Decrease in Chi-Square    New Estimate
 ESDBAGG    Mssb             8.5                   -4.31

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Completely Standardized Solution

LAMBDA-Y

|          | Mv     | Msqn   | Msdb   | Mssb   | Esqn   | Esdb   |
|----------|--------|--------|--------|--------|--------|--------|
| MVAGG    | 0.949  | - -    | - -    | - -    | - -    | - -    |
| MSQNAGG  | - -    | 0.931  | - -    | - -    | - -    | - -    |
| MSDBAGG  | - -    | - -    | 0.940  | - -    | - -    | - -    |
| MSSBAGG  | - -    | - -    | - -    | 0.945  | - -    | - -    |
| ESDBAGG  | - -    | - -    | - -    | - -    | - -    | 0.944  |
| ESSBAGG  | - -    | - -    | - -    | - -    | - -    | - -    |
| ESQNAGG  | - -    | - -    | - -    | - -    | 0.969  | - -    |
| FINPERF  | - -    | - -    | - -    | - -    | - -    | - -    |
| CUSTPERF | - -    | - -    | - -    | - -    | - -    | - -    |

LAMBDA-Y

|          | Essb   | Cust   | Fin    |
|----------|--------|--------|--------|
| MVAGG    | - -    | - -    | - -    |
| MSQNAGG  | - -    | - -    | - -    |
| MSDBAGG  | - -    | - -    | - -    |
| MSSBAGG  | - -    | - -    | - -    |
| ESDBAGG  | - -    | - -    | - -    |
| ESSBAGG  | 0.982  | - -    | - -    |
| ESQNAGG  | - -    | - -    | - -    |
| FINPERF  | - -    | - -    | 0.892  |
| CUSTPERF | - -    | 0.885  | - -    |

LAMBDA-X

|         | Ass    |
|---------|--------|
| ASSAGG  | 0.890  |

## Appendix 6.7

```
                 BETA

          Mv       Msqn      Msdb      Mssb      Esqn      Esdb
        --------  --------  --------  --------  --------  --------
  Mv      - -       - -       - -       - -       - -       - -
  Msqn   0.581      - -       - -       - -       - -       - -
  Msdb    - -      0.510      - -       - -       - -       - -
  Mssb    - -      0.754      - -       - -       - -       - -
  Esqn   0.271      - -       - -      0.116      - -       - -
  Esdb    - -       - -       - -     -0.051     0.619      - -
  Essb    - -       - -       - -      0.006     0.680      - -
  Cust    - -       - -      0.098      - -       - -      0.290
   Fin    - -       - -       - -       - -       - -       - -
```

```
        BETA

          Essb      Cust      Fin
        --------  --------  --------
  Mv      - -       - -       - -
  Msqn    - -       - -       - -
  Msdb    - -       - -       - -
  Mssb    - -       - -       - -
  Esqn    - -       - -       - -
  Esdb   0.217      - -       - -
  Essb    - -       - -       - -
  Cust    - -       - -       - -
   Fin    - -      0.672      - -
```

```
        GAMMA

          Ass
        --------
  Mv     0.607
  Msqn    - -
  Msdb    - -
  Mssb    - -
  Esqn    - -
  Esdb    - -
  Essb    - -
  Cust    - -
   Fin    - -
```

# Appendix 7.1

Indirect Effects of ETA on ETA

|  | Mv | Msqn | Msdb | Mssb | Esqn | Esdb |
|---|---|---|---|---|---|---|
| Mv | - - | - - | - - | - - | - - | - - |
| Msqn | - - | - - | - - | - - | - - | - - |
| Msdb | 0.519<br>(0.126)<br>4.121 | - - | - - | - - | - - | - - |
| Mssb | 0.802<br>(0.148)<br>5.404 | - - | - - | - - | - - | - - |
| Esqn | 0.080<br>(0.065)<br>1.239 | 0.089<br>(0.071)<br>1.256 | - - | - - | - - | - - |
| Esdb | 0.297<br>(0.111)<br>2.662 | 0.046<br>(0.072)<br>0.639 | 0.045<br>(0.065)<br>0.696 | 0.051<br>(0.062)<br>0.829 | 0.158<br>(0.075)<br>2.118 | - - |
| Essb | 0.423<br>(0.151)<br>2.810 | 0.099<br>(0.100)<br>0.984 | 0.059<br>(0.085)<br>0.696 | 0.066<br>(0.080)<br>0.820 | - - | - - |
| Cust | 0.174<br>(0.092)<br>1.878 | 0.086<br>(0.082)<br>1.041 | 0.017<br>(0.026)<br>0.665 | 0.000<br>(0.041)<br>0.000 | 0.302<br>(0.142)<br>2.120 | - - |
| Fin | 0.089<br>(0.049)<br>1.821 | 0.044<br>(0.043)<br>1.031 | 0.076<br>(0.067)<br>1.134 | 0.000<br>(0.021)<br>0.000 | 0.155<br>(0.076)<br>2.038 | 0.326<br>(0.123)<br>2.664 |

Indirect Effects of ETA on ETA

|  | Essb | Cust | Fin |
|---|---|---|---|
| Mv | - - | - - | - - |
| Msqn | - - | - - | - - |
| Msdb | - - | - - | - - |
| Mssb | - - | - - | - - |
| Esqn | - - | - - | - - |
| Esdb | - - | - - | - - |
| Essb | - - | - - | - - |
| Cust | 0.096<br>(0.057)<br>1.693 | - - | - - |
| Fin | -0.051 | - - | - - |

(0.068)
-0.747

**Appendix 7.2**

Total and Indirect Effects

      Total Effects of KSI on ETA

```
             Ass
          --------
   Mv       0.614
           (0.101)
            6.064

   Msqn     0.552
           (0.124)
            4.454

   Msdb     0.319
           (0.092)
            3.454

   Mssb     0.493
           (0.120)
            4.111

   Esqn     0.246
           (0.088)
            2.797

   Esdb     0.182
           (0.074)
            2.454

   Essb     0.260
           (0.101)
            2.569

   Cust     0.107
           (0.059)
            1.801

    Fin     0.055
           (0.031)
            1.750
```

      Total Effects of ETA on ETA

| | Mv | Msqn | Msdb | Mssb | Esqn | Esdb |
|---|---|---|---|---|---|---|
| | -------- | -------- | -------- | -------- | -------- | -------- |
| Mv | - - | - - | - - | - - | - - | - - |
| Msqn | 0.899<br>(0.143)<br>6.264 | - - | - - | - - | - - | - - |
| Msdb | 0.519<br>(0.126)<br>4.121 | 0.578<br>(0.111)<br>5.227 | - - | - - | - - | - - |

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```
Mssb       0.802     0.893       - -        - -        - -        - -
          (0.148)   (0.098)
           5.404     9.117


Esqn       0.401     0.089     0.057      0.063        - -        - -
          (0.129)   (0.071)   (0.082)   (0.077)
           3.118     1.256     0.698     0.824


Esdb       0.297     0.046     0.045      0.022      0.796        - -
          (0.111)   (0.072)   (0.065)   (0.079)   (0.082)
           2.662     0.639     0.696     0.280      9.707


Essb       0.423     0.099     0.059      0.072      1.043        - -
          (0.151)   (0.100)   (0.085)   (0.110)   (0.122)
           2.810     0.984     0.696     0.653      8.529


Cust       0.174     0.086     0.148      0.000      0.302      0.634
          (0.092)   (0.082)   (0.129)   (0.041)   (0.142)   (0.222)
           1.878     1.041     1.147     0.000      2.120      2.855


 Fin       0.089     0.044     0.076      0.000      0.155      0.326
          (0.049)   (0.043)   (0.067)   (0.021)   (0.076)   (0.123)
           1.821     1.031     1.134     0.000      2.038      2.664
```

     Total Effects of ETA on ETA

```
             Essb       Cust       Fin
           --------   --------   --------
     Mv       - -        - -        - -


   Msqn       - -        - -        - -


   Msdb       - -        - -        - -


   Mssb       - -        - -        - -


   Esqn       - -        - -        - -


   Esdb      0.151       - -        - -
           (0.070)
            2.155


   Essb       - -        - -        - -


   Cust     -0.098       - -        - -
           (0.131)
           -0.751


    Fin     -0.051      0.515       - -
           (0.068)   (0.081)
           -0.747      6.352
```