

Behavioural Intentions in the Motel Industry: An Empirical Analysis

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Min Ren

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By Min Ren

The New Zealand hospitality sector has become increasingly competitive in the past decade. The increase in competition has prompted motel management to focus on generating favourable customers' perceptions of their service as favourable perceptions encourage repeat purchase. Strategically, retaining existing customers and attracting new customers will be critical if motels are going to remain profitable in New Zealand's competitive accommodation market.

There is a conceptual gap in the marketing literature as there has been very limited published research on service quality, value, customer satisfaction or behavioural intentions on the motel industry. This study seeks to fill this conceptual gap in the motel industry by identifying the dimensions of service quality, and empirically examining the interrelationships among the service quality dimensions, service quality, value, customer satisfaction, and behavioural intentions.

The findings of this study are based on the analysis of a sample of 349 respondents who stayed at a full service New Zealand motel on Riccarton Road in Christchurch. Of the 600 questionnaires distributed, a total of 349 useable responses were returned resulting in a 58.2% useable response rate. Support was found for use of the primary dimensions: Interaction Quality, Physical Environment Quality, and Outcome Quality as broad dimensions of service quality in a hierarchical factor structure for motels. Ten sub-dimensions of service quality, as perceived by motel customers, were determined using focus group interviews and exploratory factor analysis. These ten sub-dimensions were: (1) Staff Professionalism, (2) Accuracy of Reservation, (3) Tangibles, (4) Cleanliness and Comfort, (5) Noise Level, (5) Parking, (7) Security, (8) Accuracy of Billing, (9) Location, and (10) Pleasant Stay. Support for the hypothesised paths between Service Quality, Value (price), Satisfaction, and Favourable Behavioural Intentions was confirmed.

The results of the regression analysis make a contribution to the service marketing theory by providing an empirically based insight into the Service Quality construct in the motel industry. The study also provides a framework for understanding the effects of the three primary dimensions on Service Quality and how Service Quality affects Value (price), Satisfaction, and Favourable Behavioural Intentions. Value (price) was also empirically supported as an important predictor variable that has a moderating effect on the relationship between service quality and customer satisfaction.

Keywords: Behavioural Intentions; Customer Satisfaction; Value; Service Quality; Service Quality Dimensions; New Zealand; Motel Industry.

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Chapter 1: Introduction

1.1 Problem Setting

The hospitality sector is a major contributor to the world service economies (Tam, 2000). Accommodation, which is part of the hospitality sector, makes a valuable contribution to the hospitality sector (Yang, 2005). For example, in 2006, the global hotel and motel industry increased from 6.4% in 2005 to reach a value of US\$488.6 billion. In 2011, the global hotel and motel industry is forecast to have a value of US\$640.9 billion, a 31.2% increase since 2006 (Datamonitor, 2008). The ranking of the contribution of the hotel and motel industry to the United States' Gross Domestic Product (GDP) increased from 19 in 2000 to 12 in 2003 (Nielsen Business Media, 2007).

In New Zealand, hospitality also plays an important role in the New Zealand economy. According to Statistics New Zealand (SNZ, 2006), in 2005, there were over 1,741,260 people working (part time and full time) in the New Zealand hospitality industry. Retail, accommodation, and restaurants contributed 7.6% to New Zealand's Gross Domestic Product (GDP). Furthermore, Statistics New Zealand (2008) recorded that total guest nights in short term commercial accommodation were 3.6 million in March 2008, an increase of 7.0% compared with March 2007, and 15% compared with March 2006. According to Statistics New Zealand's 2008 accommodation survey, total guest nights in 2008 rose 3.0% in the leap month, and increased from 3.5 million in February 2007 to 3.6 million in February 2008.

Researchers have shown that increasing customer retention rates result in increased profitability for organizations, especially for those services such as banking, telecommunications, hotels, and airlines (Reichheld & Sasser, 1990; Fornell & Wernerfelt, 1987). In recent hotel studies (Alexandris, Dimitriadis, & Markata, 2002; Ingram & Daskalakis, 1999; Oh, 1999), customer satisfaction is presented as the core outcome for generating favourable customers' perceptions of services that consequently leads to repeat purchase and positive word-of-mouth (Gundersen, Heide, & Olsson, 1996; Hartline &

Jones, 1996; Fornell, 1992). However, to date, no empirical studies have explored the attributes that customers would consider to be the most important and least important when they evaluate a motel stay. Moreover, the relationships between service quality, value, customer satisfaction, and the effects of these constructs on behavioural intentions are not well understood in the motel industry, as the research on these constructs in this area is very sparse.

This chapter starts with background information on the New Zealand hotel and motel industry, followed by the objectives of the research, and lastly states the contributions that this study will make to the services marketing literature.

1.2 The New Zealand Hotel and Motel Industry

The rapidly developing New Zealand tourism industry has resulted in the accommodation market becoming very competitive (Pink, 2004). According to Statistics New Zealand, the total New Zealand hotel and motel occupancy rate increased steadily from 2004 to 2007 (Bascand, 2007). Statistics New Zealand (2008) reported in February of 2008 that total guest nights in the South Island in 2008 were 1.6 million, a 3% increase compared with February 2007, and an 8% increase from February 2006. Also, eight of the 12 regions in New Zealand recorded an increase in guest nights in February, 2008 compared to February, 2007. The highest increase in guest nights was in the Auckland region (8%) (SNZ, 2008).

Motels are an icon industry in New Zealand. According to the Motel Association New Zealand (MANZ, 2007), there are over 1000 self-contained motels and holiday units throughout New Zealand. Statistics New Zealand (2007) states that for the year ended December, 2007, all five accommodation types (i.e. hotels, motels, hosted, backpackers/hostels, caravan parks/camping grounds) had an increase in guest nights, compared to 2006. Motels had the largest share of total guest nights (33%), followed by hotels (31%) and caravan parks/camping grounds (20%). In addition, motels had the highest occupancy rate (52%), followed by hotels (51%) and backpackers/hostels (48%).

1.3 Purpose of the Research

Zeithaml and Bitner (2003) maintain that customer satisfaction has become a major contributor for guaranteeing a company's long-term profitability, customer loyalty and customer retention, therefore, a better understanding of customer needs and wants may assist operators to deliver the right service to the right people, in the right time and with the right manner. Subsequently, satisfied customers may also attract new customers and create long-term business potential.

Several studies have been published on customer satisfaction in the hospitality industry (Alexandris et al., 2002; Ingram & Daskalakis, 1999; Oh, 1999). However, to date, no empirical research that focuses on service quality, customer satisfaction, and behavioural intentions in the motel service sector has been conducted. In a similar vein, even though the dimensions of service quality have been the subject of interest of many researchers (see Brady & Cronin, 2001; Dabholkar, Thorpe, & Rentz, 1996; Rust & Oliver, 1994; Parasuraman, Zeithaml, & Berry, 1985, 1988; Gronroos, 1984), to date, no empirical research has been conducted on service quality dimensions as perceived by motel customers.

Furthermore, while the relationships between service quality, customer satisfaction and behavioural intentions have been investigated in several studies on various service industries (Clemes, Gan & Kao, 2007; Zeithaml, Berry, & Parasuraman, 1996; Boulding, Staelin, & Zeithaml, 1993; Cronin & Taylor, 1992), to date, very little is known about these relationships in the context of a motel experience.

This research seeks to gain an empirical insight into motel customers' perceptions of service quality in the New Zealand motel industry. In particular, this research will identify the dimensions of service quality as perceived by New Zealand motel customers. This research will also examine the interrelationships among the service quality dimensions, service quality, value, customer satisfaction, and behavioural intentions in the motel sector. In addition, motel customers' overall satisfaction will be compared based on demographic factors, such as gender, age, and ethnicity. Lastly, the effects of motel customers overall satisfaction on favourable future behavioural intentions will be examined.

This research will use a hierarchical model (Brady & Cronin, 2001) as a framework, and will have the following four main objectives:

1. To identify the dimensions of service quality for a motel stay in New Zealand.
2. To determine the relationship between service quality, value (price), customer satisfaction, and behavioural intention for a motel stay in New Zealand.
3. To identify the least and most important service quality dimensions as perceived by motel customers in New Zealand.
4. To examine the effects of demographic factors on New Zealand motel customers' perceptions of the service quality dimensions, service quality, customer satisfaction, and behavioural intentions.

1.4 Contribution of the Research

By satisfying the above four objectives, this study will contribute to the marketing literature from both a theoretical and a managerial perspective.

Firstly, this study will contribute to the marketing literature by providing an empirical examination of the multidimensional nature of service quality and analysing several important higher-order service marketing constructs. This research will also contribute to the marketing literature on the motel industry by extending the knowledge on the inter-relationships between motel customers' perceptions of service quality, satisfaction, value, and favourable future behavioural intentions. An empirical examination of the effects of service quality on customer satisfaction and behavioural intentions will contribute to the service marketing literature.

Secondly, this study will benefit marketers and practitioners in the New Zealand motel industry. The research findings will provide practical information about what customers of different demographic backgrounds consider important in their evaluation of service quality and the effect that these quality perceptions have on the higher-order constructs. This understanding will provide marketers and practitioners with an opportunity to develop and implement services marketing strategies to ensure a high quality of service, enhance motel customer satisfaction, and increase favourable behavioural intentions.

1.5 Thesis Overview

This study consists of six chapters in order to satisfy the Research Objectives outlined in Section 1.3. Chapter 2 reviews the literature on behavioural intentions, customer satisfaction, value (price), and service quality. Chapter 3 presents the conceptual model based on the findings of the literature review undertaken in Chapter 2, and develops 11 testable hypotheses that will satisfy the four research objectives. Chapter 4 details the methodology used to test the hypotheses. Chapter 5 presents and discusses the results of the analysis undertaken in this study. Finally, Chapter 6 offers conclusions and recommendations based on the results and discussion presented in Chapter 5.

Chapter 2: Literature Review

2.1 Chapter Introduction

This chapter examines the literature on behavioural intentions and other related constructs such as customer satisfaction, value (price), and service quality that may impact on future behavioural intentions. This chapter starts with a review of the relevant literature on behavioural intentions and customer satisfaction in Sections 2.2 and 2.3. Sections 2.4 to 2.6 review the relevant literature on the conceptualisation and measurement of service quality, service quality models, and service quality dimensions. Section 2.7 discusses the relationships between three major constructs: favourable behavioural intentions, customer satisfaction and service quality, and concludes with a discussion of value (price). Section 2.8 presents an overview of the hotel literature on behavioural intentions, customer satisfaction, value (price), service quality, and service quality dimensions.

2.2 Behavioural Intentions

Zeithaml et al. (1996) define behavioural intentions as indicators that signal whether customers will remain with, or defect from, the company. Behavioural intention is one of the most important constructs in services marketing (Caruana, 2002). According to Murphy and Pritchard (1997), the intention to return to the same site can affect brand loyalty, reduce marketing costs, and encourage word of mouth communication.

Cronin and Taylor (1992) focus on repurchase intentions (behavioural intentions) and find a positive relationship between service quality, customer satisfaction and repurchase intentions. Woodside, Frey and Daly (1989) find that the intentions to choose the same hospital (behavioural intentions) is strongly related to the overall patient's satisfaction in the health service sector. Several studies have also concluded that a direct and significant relationship exists between customer satisfactions and repurchase intentions (see Yoon & Kim, 2000; Ennew & Binks, 1999; Mittal, Kumar & Tsiros, 1999), while an earlier study by Parasuraman et al. (1988) revealed that customers' perceived service quality had a positive and direct effect on favourable behavioural intentions. A high level of perceived

service quality by the customer often leads to favourable behavioural intentions (Parasuraman et al., 1988). In Boulding et al.'s study (1993), the authors illustrate that the more positive the customer perceived the service quality, the more likely it is that he or she will return to the service.

Previous researchers have also conceptualized favourable behavioural intentions as returning to the same site of purchase and recommending the company or service to others (see Parasuraman, Zeithaml, & Berry, 1996; Reichheld & Sasser, 1990; Parasuraman et al., 1988). Parasuraman et al. (1996) developed a 13-item scale that represents behavioural intentions, such as loyalty to a company, propensity to switch, willingness to pay more, external response to a problem and internal response to a problem. More specifically, five favourable behavioural intentions items are measured in the loyalty dimension, such as saying good things about the company, recommending the company to another person, encouraging friends and relatives to do business with the company, considering the company as the first choice in making the next purchase, and committing to do more business with the company in the future.

2.3 Customer Satisfaction

Customer satisfaction is an important concept that is often studied in the marketing literature (Fournier & Mick, 1999). According to Zeithaml and Bitner (2003), customer satisfaction is a major contributor to guaranteeing a company's long-term profitability, customer retention, and loyalty. Thus, the successful delivery of customer satisfaction is the most essential determinant for an organization's survival and long-term profitability (Bolton & Drew, 1991). Further, Pickton and Broderick (2005) claim that customer satisfaction is very important to the relative cost and returns of keeping existing customers, compared to the high costs of recruiting new customers.

The marketing literature conceptualizes satisfaction as an attitude similar to judgement based on the levels of performance customers experience during a transaction (Oliver, 1997; Boulding et al., 1993; Tse & Wilton 1988). Oliver (1980) proposes that customer satisfaction is based on the disconfirmation theory. The author suggests that satisfaction is the result of a comparison between consumers' expectations of the service/product and their actual experiences. Pizam and Ellis (1999) also explain that customer satisfaction is

a comparison between the service performance and expectation. Oliver and Swan (1989) further notes that satisfaction is an affective term and identifies five affective modes of satisfaction: contentment, pleasure, relief, novelty, and surprise. Oliver (1997) argues that customer satisfaction is an overall emotional response to an entire service experience for a specific service encounter after purchasing consumption. However, one consensus on the customer satisfaction construct is that the construct involves either cognitive or affective response during the consumption process and that customer satisfaction can be either product or service focused (White & Yu, 2005; Oliver, 1997).

2.3.1 Overall Customer Satisfaction:

Although satisfaction is primarily considered as transaction- specific, many researchers have noted that the construct also has a cumulative nature (Rust & Oliver, 1994; Fornell, 1992; Johnson & Fornell, 1991). For example, Fournier and Mick (1999) conceptualize that overall customer satisfaction is a series of customer post-experience decisions with a product or service over time. Moreover, Jiang and Rosenbloom (2005) explain that customers' overall satisfaction is a better indicator of how well customers like the experience they had at the site of purchase and how likely they will return to the site to make another purchase than transaction- specific measures.

Bitner and Hubbert (1994) view overall customer satisfaction as a function of multiple transaction-specific satisfactions, and thus overall customer satisfaction is a post-choice evaluation of a specific purchase occasion. More specifically, Anderson, Fornell and Lehman (1994) argue that overall customer satisfaction is considered superior when compared to transaction- specific satisfaction because it is more fundamental and useful in predicting a consumer's behavioural intentions. A similar contention is shared by Tse and Wilton (1988). The authors view consumer satisfaction as a subjective process of consumption experience through time. In this context, the post-purchases activities and feedbacks can provide more diagnostic information for marketers and researchers to further understand the satisfaction process (Tse, Nicosia, & Wilton, 1990).

2.4 An Overview of Service Quality in Marketing

Service quality has been given considerable attention in the marketing literature by both practitioners and academic researchers in recent years (Caruana, 2002). The reason for the overwhelming interest in service quality is that both practitioners and academic

researchers believe service quality is crucial to the success of any business organization because the construct largely impacts on customer satisfaction, repeat purchase behaviour, and ultimately, an organization's profitability (Zeithaml & Bitner, 2003). For example, Bitner (1990) reveals that effective service delivery affects customer satisfaction directly and immediately, thus understanding the meaning and components of service quality in the service sector helps service sector management monitor day-to-day service encounters.

Zeithaml and Bitner (2003) define service quality as the consumer's evaluation or judgment about the overall services provided. Several research studies on the service sector have examined the service quality construct and identified the construct as being multi-dimensional (see Brady & Cronin, 2001; Van Dyke, Kappelman, & Prybutok, 1997; Dabholkar et al., 1996; Lehtinen & Lehtinen, 1991; Carman, 1990). For example, Gronroos (1984) suggests that service quality is about how well the service is conducted (functional quality) and the outcome of the service rendered (technical quality). Parasuraman et al. (1985) also identify several factors that determine perceived service quality including skills, knowledge to perform a quality service, physical appearance of the facility, and the personnel involved in the service.

Generally, service quality is viewed as subjective in nature (Rust & Oliver, 1994), and also as an attitude (Cronin & Taylor, 1992). However, the literature notes that service quality is the subjective evaluative judgement of consumers based on the service performance they encounter (Dabholkar, Shepherd, & Thorpe, 2000; Cronin & Taylor, 1992).

2.5 Conceptualisations of Service Quality

2.5.1 The Nordic Model (the Perceived Service Quality Model)

Gronroos (1982) proposes a service quality model that is based on the disconfirmation paradigm. In Gronroos's model, service quality is perceived as a comparison of the customers' expected level of service and the actual service performance. Gronroos (1984) uses a two-dimensional model to study service quality: technical quality and functional quality (see Figure 2.1). *Technical quality* refers to the outcome of the service

performance. *Functional quality* refers to how the service is delivered, or the interactions between the customers and the service providers.

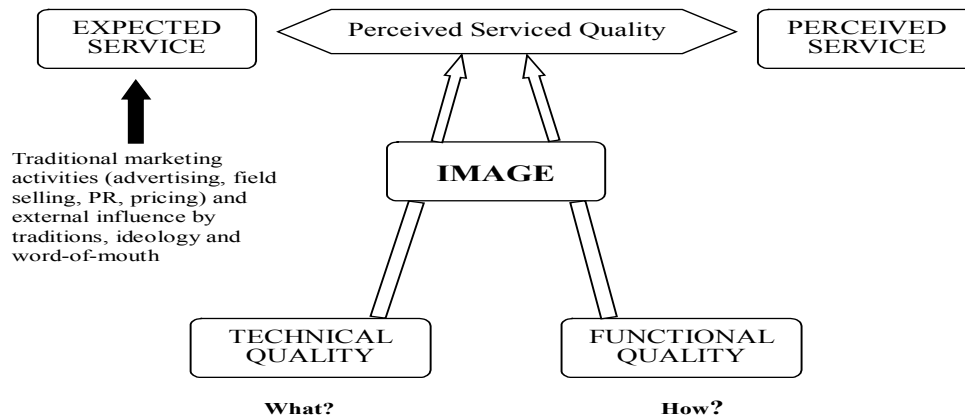


Figure 2.1: The Nordic Model (Grönroos, 1984)

2.5.2 The SERVQUAL Model

Parasuraman et al. (1985, 1988) acknowledge that there is a gap between customers' perceptions and expectations of the service performance. Parasuraman et al. (1988) originally used a scale composed of 22 items designed to measure five dimensions that represent service quality. These dimensions are the tangibles, reliability, responsiveness, assurance and empathy (see Figure 2.2).

The five dimensions used in Parasuraman et al.'s (1988) service quality model were reduced from 10 original dimensions in an attempt to make the dimensions clearer and more authoritative. Parasuraman et al.'s (1988) five dimensional model is more defined than Gronroos' (1984) two dimensional service quality model (i.e. the technical and functional dimensions).

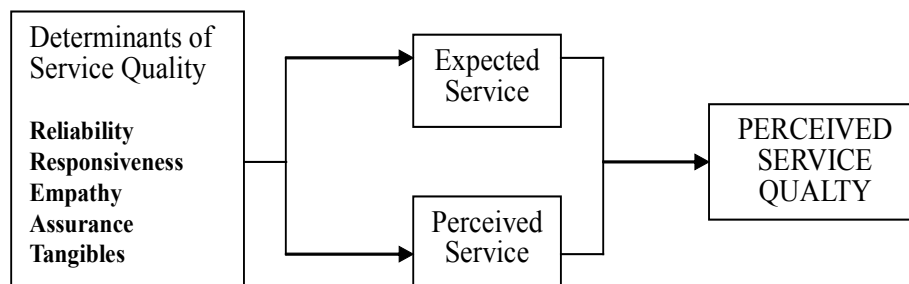


Figure 2.2: Determinants of Perceived Service Quality (Parasuraman et al., 1988)

2.5.3 Rust and Olive's Three-component Model

A more recent conceptualisation of the dimensions of service quality is proposed by Rust and Oliver (1994). Based on Gronroos's perceived service quality model, Rust and Oliver (1994) propose three important primary dimensions of service quality: service product (technical quality), service delivery (functional quality), and service environment quality (see Figure 2.3). In addition, the Rust and Olive's (1994) three- component model has been used in retail banking (McDougall & Levesque, 1994) and in the health care sector (McAlexander, Kaldenberg, & Koenig, 1994).

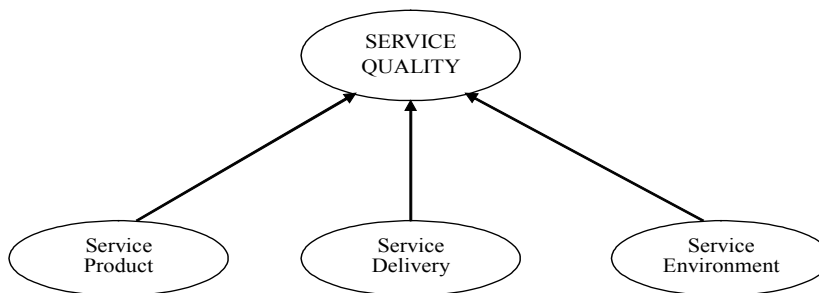


Figure 2.3: The Three-Component Model (Rust & Oliver, 1994)

2.5.4 The Retail Environment Multi-level Model

Dabholkar et al. (1996) developed a hierarchical model, which the authors viewed as more appropriate for use in the retail environment than Parasuraman et al.'s (1988) model. Dabholkar et al.'s (1996) model comprises three levels: (a) the highest level measures customers' overall service quality, (b) the second level consists of five primary dimensions: physical aspects, reliability, personal interaction, problem solving and policy, and (c) the third level consists of their relevant sub-dimensions (see Figure 2.4).

In the multi-level model, Brady and Cronin (2001) view retail service quality as a higher-order construct that is defined by two additional levels of attributes.

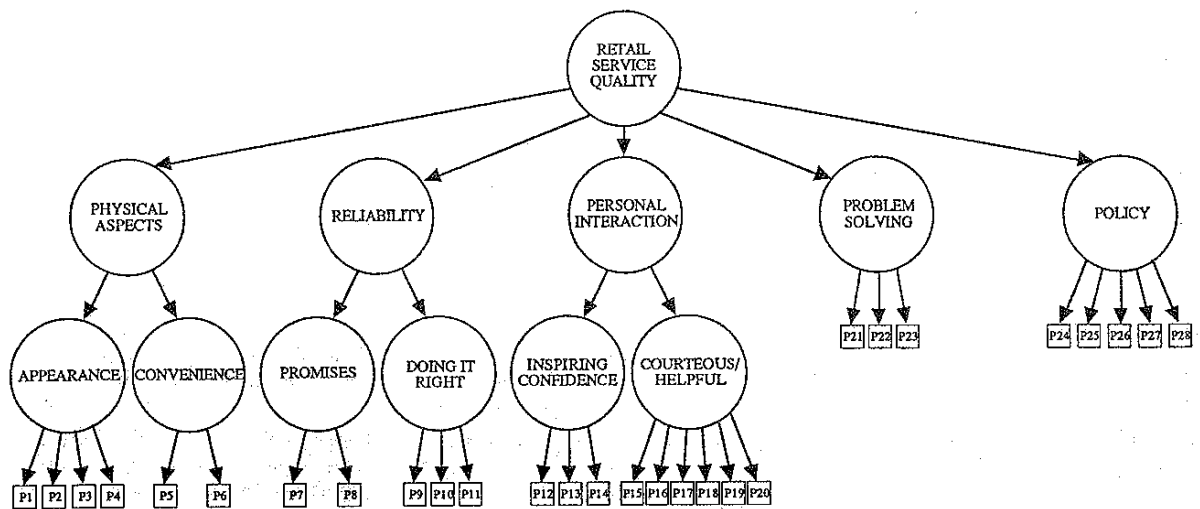
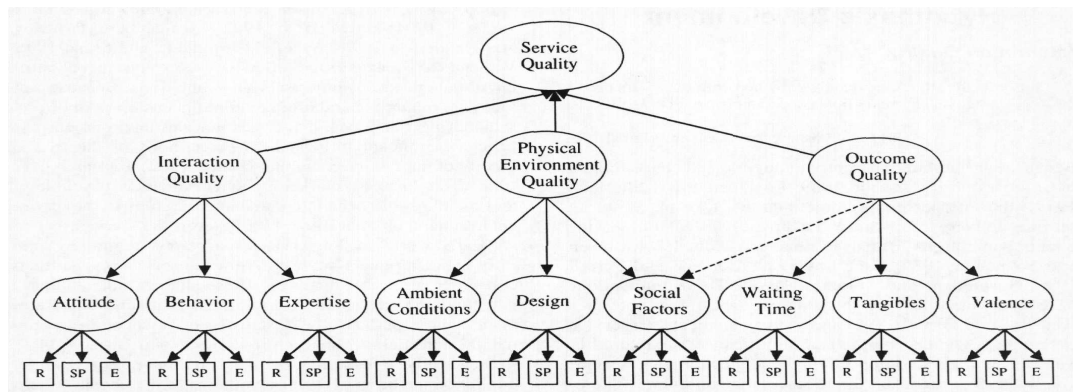


Figure 2.4: The Multi-level Model for Retail Service Quality (Dabholkar et al., 1996)

2.5.5 The Service Environment Hierarchical Model

One of the most recent hierarchical models of service quality has been developed by Brady and Cronin (2001) (Figure 2.5). Brady and Cronin argue that Dabholkar et al.'s (1996) hierarchical model structure can also be applied to other service industries. In Brady and Cronin's (2001) model, service quality is driven by three primary service dimensions: interaction quality, physical environment quality and outcome quality. Nine distinct sub-dimensions are formed to reflect each of these three primary dimensions. Reliability, responsiveness, and empathy are repositioned as descriptors or modifiers of the nine sub-dimensions. Brady and Cronin's (2001) multi-level model provides more diagnostic value for understanding customer satisfaction and behavioural outcome. The model is also considered more robust and statistically testable (Zhou, 2004).



Note: R = a reliability team, SP = a responsiveness item, E = an empathy item. The broken line indicates that the path was added as part of model respecification.

Figure 2.5: Hierarchical Model (Brady and Cronin, 2001)

2.6 Service Quality Measurements

2.6.1 SERVQUAL (Disconfirmation-based Measure)

One of the most extensively used measures of service quality is the SERVQUAL instrument developed by Parasuraman et al. (1985) and refined in 1988 (Parasuraman et al., 1988). Rather than relying on the previous dimensions associated with goods quality, the authors identify five dimensions (reduced from 10 dimensions) of service quality: tangibles, reliability, responsiveness, assurance, and empathy (discussed in Section 2.4.2). Parasuraman et al. (1988) originally operationalized a 22-item scale called SERVQUAL to measure the perceptual difference between customers' expectations of service quality and their experiences of service quality.

2.6.1.1 Critique of the SERVQUAL Scale

Despite SERVQUAL's popularity, many researchers argue that the SERVQUAL instrument has serious problems that limit the instrument's usefulness. The difficulties with the SERVQUAL instrument identified in the literature can be grouped into two main categories: conceptual and empirical. For example, conceptual problems such as the ambiguity of the expectations construct and using a single instrument across several industries have been noted (Brady & Cronin, 2001; Van Dyke et al., 1997). Several empirical studies show concern about the five SERVQUAL dimensions and their lack of consistency in different service environments (see Buttle, 1996; Babakus & Mongold, 1992; Finn & Lamb, 1991). The empirical problems associated with SERVQUAL

include reduced reliability, poor convergent validity, poor predictive validity, and unstable dimensionality (Van Dyke et al., 1997; Spreng, MacKenzie, & Olshavsky, 1996). Several studies argue that the conceptual and empirical problems affect the quality of the SERVQUAL instrument and its widespread use across service industries and cultures (Brady & Cronin, 2001; Van Dyke et al., 1997; Teas, 1993). Therefore, due to the shortcomings of SERVQUAL instrument, Carman (1990) suggests that SERVQUAL should be tested for its reliability and validity for efficient use in specific service settings.

2.6.2 SERVPREF (Performance-based Measures)

Cronin and Taylor (1992) recommend the SERVPREF instrument as an alternative measurement instrument to SERVQUAL. The SERVPREF scale measures service quality based on Zeithaml's (1988) contention that quality is a consumer's judgment about a product's or service's overall excellence or superiority. As a performance-based measure, only the customer's perception of performance is measured using the SERVPREF scale (Cronin & Taylor, 1992). Cronin and Taylor also state that SERVPREF differs from SERVQUAL as SERVPREF is based on an attitudinal paradigm, whereas SERVQUAL is based on a disconfirmation paradigm.

Several researchers have found that the SERVPREF instrument has out-performed the traditional SERVQUAL instrument, as the performance-based paradigm (SERVPREF) can produce better results when compared to SERVQUAL (Crompton & Love 1995; Teas, 1993; Cronin & Taylor, 1992). In particular, when predicting customers' responses to the level of service quality delivered by an organization (Asubonteng, McCleary, & Swan, 1996; Teas, 1993; Cronin & Taylor, 1992). Therefore, this study will measure service quality using a performance-only measurement scale.

2.6.3 Service Quality Dimensions

Brady and Cronin (2001), Dabholkar et al. (1996), and Lehtinen and Lehtinen, (1991) contend that service quality is multi-dimensional in nature. Parasuraman et al. (1988) also agree that service quality is a multi-dimensional concept consisting of five dimensions, and claim that the applications of the service quality dimensions are generic and universally applicable. However, Alexandris et al. (2002) argue that the dimensions are more likely industry-based. Several service quality multi-dimensional models have been developed for different service industries, such as hotels (Ingram & Daskalakis,

1999; Oh, 1999), travel agencies (Caro & García, 2008; Luk, 1997), sports recreation (Ko & Pastore, 2005; MacKay & Crompton, 1990), and tertiary education (Clemes et al., 2007; Galloway, 1998; Athiyaman, 1997).

For example, Ko and Pastore (2005) further developed Brady and Cronin's (2001) model for the recreational sports industry. In Ko and Pastore's (2005) multi-dimensional model, service quality consists of four primary dimensions and 11 sub-dimensions. The four primary dimensions and their pertaining sub-dimensions are: (a) program quality: range of activity programs, operating time, and information; (b) interaction quality: client-employee interaction and inter-client interaction; (c) outcome quality: physical change, valence, and sociability; and (d) environment quality: ambient, design, and equipment.

Caro and García (2008) propose a hierarchical and multi-dimensional model for the travel and tourism industry that defines service quality as a higher-order construct reflected by three primary dimensions and seven sub-dimensions. The primary dimensions include personal interaction, physical environment, and outcome. The seven sub-dimensions include conduct, expertise, problem solving, equipment, ambient conditions, waiting time, and value.

Service quality is also conceptualized as a multi-dimensional construct in the hotel literature, and is primarily derived from three antecedent dimensions of service quality, such as hotel physical quality, interaction quality and outcome quality (Brady & Cronin, 2001; Ekinici, 2001; Wei, Ruy, & Muller, 1999). Similarly, in the retailing environment, Dabholkar et al. (1996) constructed a hierarchical model for measuring service quality, which includes three second-order dimensions (physical aspects, reliability, and personal interaction) reflected by six sub-dimensions.

Clemes et al. (2007) empirically test a hierarchical model for higher education that includes 10 sub-dimensions, three primary dimensions and higher-order constructs: service quality, customer satisfaction, image, price and behavioural intentions.

2.7 Constructs Related to Service Quality

2.7.1 The Relationship between Satisfaction and Behavioural Intentions

From a theoretical perspective, Jiang and Rosenbloom (2005) maintain that cumulative satisfaction is recognized as the base for forming intentions of future repurchase.

According to a study by Dodds, Monroe, & Grewal (1991), overall satisfaction is positively associated with purchase intentions. Caruana (2002) also support Dodds et al.'s (1991) view, and authors show empirically that overall satisfaction with an experience does lead to repurchase intentions.

Many researchers suggest that satisfaction has a positive impact on intentions to repurchase (Cronin, Brady, & Hult, 2000; Dabholkar et al., 2000). According to Johnson, Anderson, & Fornell (1995), overall customer satisfaction is an indication of intention to return to the original point of purchase. Johnson et al. (1995) suggest that overall customer satisfaction may explain some variation in intention to purchase. Anderson and Mittal (2000) and Mittal and Kamakura (2001) also contend that behavioural intentions, as a consequence, are a result of the satisfaction process. In Zhou's (2004) study on retail banking, satisfaction is viewed as a disconfirmation judgment between expected and perceived service performance, and favourable behavioural intentions is conceptualised as the outcome of customer satisfaction.

In addition, Caruana (2002) empirically argues that customer satisfaction is a mediating construct between service quality and behavioural intentions in a service context. Oliver (1980) indicates that customer satisfaction is a trigger to the subsequent post-purchase behaviour. Thus, customer satisfaction forms the cornerstone of customer behavioural intentions and a complete and accurate assessment of customer satisfaction is critical for service organization to remain profitable in a competitive environment (Reichheld, 1996).

2.7.2 The Relationship between Service Quality and Satisfaction

Service quality and customer satisfaction are subjective in general but they do impact on customer retention and future repurchase, and it is very important for any service organization to retain customers (Cheng, 2006). According to Parasuraman et al. (1988), service quality is conceptually and closely related to, but distinct from satisfaction. Service quality is an overall evaluation of the service under consideration, while satisfaction refers to specific service transactions.

Zeithaml and Bitner (2003) also argue that the service quality and customer satisfaction concepts are fundamentally different in terms of their underlying causes and outcomes. Both concepts have similar features; however, satisfaction is generally viewed as a broader concept, whereas service quality assessment focuses specifically on the dimensions of service. Based on Zeithaml and Bitner's (2003) view, service quality is a partial but critical determinant of satisfaction.

Oliver (1993) notes that there are major distinctions between service quality and satisfaction. Oliver suggests that the dimensions underlying quality judgments are rather specific, whether they are cues or attributes. Satisfaction judgments, however, can be broader and result from any dimension, quality related or not. In addition, satisfaction assessment requires customer experience while quality does not (see Cronin & Taylor, 1994; Boulding et al., 1993; Bolton & Drew, 1991; Parasuraman et al., 1988; Oliver, 1980).

Parasuraman et al. (1988) and Cronin and Taylor (1992) propose that service quality is an antecedent to customer satisfaction. Also, Fornell (1992) defines the purpose of measuring service quality is to determine how service quality affects customer satisfaction. Holbrook and Corfman (1985) view service quality and customer satisfaction as closely related, and blame the conceptual difficulties on defining "service quality" in isolation without placing service quality in its context among many different types of customers.

Similarly, service quality is an antecedent rather than consequences to customer satisfaction (Oliver, 1993; Dabholkar et al., 2000). Oliver (1993) states that overall service quality should be positively associated with customer satisfaction. In Dabholkar et al.'s (2000) study, the authors empirically show that service quality has direct links with desirable customer satisfaction in the non-profit sector.

2.7.3 Value (Price)

Zeithaml (1988, p.14) defines "customer value as a consumer's overall assessment of the utility of a product based on the perceptions of what is received and what is given". Some researchers consider value as a monetary sacrifice incurred during the service and product consumption process (Einhorn & Hogarth, 1981; Kahneman & Tversky, 1979).

Bolton and Drew (1991) operationalize customer value as a trade-off between quality (benefit) and cost (price). Similarly, value is defined as “the trade-off between the quality or benefits [consumers] perceive in a product relative to the sacrifice they perceive by paying the price” (Monroe, 1990, p.46).

Price is one of the most important components that drive value perceptions (Varki & Colgate, 2001). Some studies show that price plays a critical role in influencing customer satisfaction levels (Shankar, Rangaswamy, & Pusateri, 2001; Bolton & Lemon, 1999; Voss, Parasuraman, & Grewal, 1998).

Bolton and Lemon (1999) indicate that the price is a salient factor that can influence customers' evaluation of services. Furthermore, Shankar et al. (2001) report that customers, on average, behave as if price is the most important factor that affects their purchase decisions while shopping online. In addition, through qualitative research, Voss et al. (1998) find that price does affect satisfaction in a hotel check-in scenario.

Therefore, service quality may not be necessarily be related to customer satisfaction in a direct or linear way, and the variety of relationships that do exist may influence customer satisfaction in different conditions, which makes service quality more difficult to measure or model (Zeithaml & Bitner, 2003). For example, the value that customers perceive they received will also influence their overall satisfaction level. Customers may be less happy with the service quality they experience, but they may still stay with the service provider or have an overall satisfaction simply because the price is low (Zeithaml & Bitner, 2003). Zeithaml et al. (1996) maintain that overall service quality is positively related to price sensitivity. Similarly, DeRuyter, Bloemer, & Peeters's (1997) study points out that lower perceived service quality may result in high service satisfaction because price has enhanced customer satisfaction without actually affecting the customer's perceptions of service quality, therefore, the customer may not necessarily buy the highest quality service. Thus, value is often seen to be a more subjective construct that plays a moderating role between service quality and customer satisfaction (Caruana, Money, & Berthon, 2000).

2.7.4 Favourable Future Behavioural Intentions Related to Service Quality and Satisfaction

In the service marketing literature, a widely accepted consensus between service quality, customer satisfaction, and favourable behavioural intentions is that service quality is an antecedent to customer satisfaction (Caruana, 2002; Teas, 1994; Parasuraman et al., 1994; Cronin & Taylor, 1992) and customer satisfaction is an antecedent to favourable repeat purchases (Caruana, 2002; Buttle, 1996; Bloemer & Kasper, 1995).

Numerous studies have argued that service quality and customer satisfaction are the most influential factors affecting future behaviour intentions in service encounters. For example, Cronin and Taylor (1992) conducted a survey on several service industries, such as banking, pest control, dry cleaning, and fast food and conclude that customer satisfaction has a significant impact on purchase intentions. McAlexander et al.'s (1994) study also shows that customer satisfaction and service quality are two key antecedents to future purchase intentions in health services, and that positive perceptions of patients' satisfaction and service quality have a positive and significant impact on favourable future repeat purchases intentions. Getty and Thompson (1994) demonstrate that customers' intentions to recommend lodging to new customers are a function of their perceptions of satisfaction and service quality with their lodging experience.

Bitner's model (1990) empirically shows that a high level of perceived service quality significantly contributes to consumers' satisfaction, and ultimately will lead to favourable repeat purchase behaviour in a particular service encounter. Caruana (2002) disclose that the concepts of service quality, customer satisfaction and future repurchase behaviour are not only closely related to each other, but also that the customer satisfaction construct acts as a mediator in the link between service quality and future behavioural intentions (Caruana, 2002).

2.8 Behavioural Intentions/ Satisfaction/ Service Quality/Value (price) and Service Quality Dimensional Studies in the Hotel Sector

2.8.1 Behavioural Intentions in the Hotel Sector

According to Atkinson's (1988) study, evaluating a hotel's performance from the customers' point of view will ultimately lead to repeat business. Kandampully and Suhartanto (2000) argue that hotel managers realize that favourable behavioural intentions are as important as satisfying customers in order to increase a hotel's profits. Thus, satisfying customers alone is not enough to guarantee repeat purchases. However, a satisfied customer who has the intention to repurchase and recommend to others is more likely to remain with the hotel.

2.8.2 Customer Satisfaction in the Hotel Sector

Kirwin (1992) views the favourable hotel customer's satisfaction as a means of increasing sales and profits. Many researchers maintain that customer satisfaction with hotel properties is one of the key factors that enable hotels to run a successful business in a highly competitive hotel industry (Legohérel, 1998; Mok, Armstrong, & Go, 1995; Stevens, Knutson, & Patton, 1995; Barsky & Labagh, 1992). Therefore, hotel management strive to achieve good service quality in order to improve overall customer satisfaction by developing a better understanding of their customers' needs and wants (Higley, 2006).

2.8.3 Service Quality in the Hotel Sector

The importance of service quality in hotels is widely acknowledged and is a prerequisite to gain favourable purchase intentions (e.g. see Min, Min, & Chung, 2002; Callan & Kyndt, 2001; Callan & Bowman, 2000; Danaher & Mattsson, 1994). Tam (2000) argues that hotels with good service quality will help the organisation maintain profits and market share in the long run. A better understanding of service quality is essential and critical for improving patron satisfaction as service quality is a key performance driver for a hotel. In addition, service quality has a practical meaning to hotel managers since the service quality components translate into bottom-line operations of a hotel's performance (Wilkins, Merrilees, & Herington, 2006).

Yesawich, Pepperdine, Brown, and Russel (2005) reveal that more and more business travellers increasingly prefer to stay in smaller accommodations in order to receive better service quality. On the other hand, leisure travellers are more likely to believe that the bigger the property size and the flashier the property, the better the service quality would be (Yesawich et al., 2005). Moreover, today's customers tend to evaluate their lodging experience rather than just the accommodation. For example, service quality is not only what services are provided, such as the cleanliness, spaciousness and comfort of room (technical dimensions), but also how the service is delivered, such as employee's friendliness, helpfulness and professionalism of employees (functional dimensions) (Short, 2003).

2.8.4 Value (Price) in the Hotel Sector

Wilensky and Buttle (1988) show that value for money is one of the most significant factors that travellers use to evaluate their satisfaction with a hotel. Ananth, DeMicco, Moreo, and Howey (1992) maintain that their study on hotels reveal that price and quality are rated as the most important attributes, followed by security and convenience of location. According to one of the major hotels surveyed by Kandampully and Suhartanto (2000), to survive and differentiate themselves from competitors in a competitive lodging market, they have to provide a greater value for money for their customers.

In addition, many researchers acknowledge that price plays an important role in customers' quality perceptions of the accommodation industry (Barsky & Lin, 2004; Kandampully & Suhartanto, 2003; Oh, 1999). On the other hand, Lockyer (2005) argues that price has shown little importance in guests' choice of accommodation. Therefore, price is seen as a complicated construct in the accommodation industry because of its intangible nature (Imrie & Fyall, 2000).

2.8.5 Service Quality Dimensional Studies in the Hotel Sector

Many empirical studies assert that the evaluation of service quality for accommodation enterprises may be multi-dimensional (Kotler, Bowen, & Makens, 2002; Hoffman & Bateson, 1997; Nebel & Schaffer, 1992). Cadotte and Turgeon's (1988) study show travellers rated attitude of employees, cleanliness and neatness, quality of service, and employee knowledge of service as the most important attributes affecting service quality.

Knutson's study (1988) shows cleanliness and comfort, convenience of location, promptness and courtesy of service, safety and security, and friendliness of employees as important factors assessed by business and leisure travellers when selecting a hotel for repeat purchase.

Ekinci (2001) argues the service quality is a two-dimensional construct (i.e. physical quality and staff behaviour) in the hotel and restaurant industry. Presbury, Fitzgerald, & Chapman (2005), in their analysis of Australia luxury hotels, identify good service facilities and an overall pleasant stay as important aspects of service quality from a managerial perspective. Wei et al. (1999) identify price, location, facilities, hotel restaurant, room furnishings, and front-desk efficiency as the attributes (dimensions) that contribute to overall hotel satisfaction in a study conducted in Queensland, Australia.

Lockyer (2002) identifies bathroom and shower quality, standard of bedroom maintenance, courteous, polite, well-mannered staff, enthusiasm and commitment of staff, and efficiency of front desk staff as important selection criteria by business guests when choosing hotels in New Zealand. Lockyer (2005) also identifies four main attributes that consumers evaluate when they select a hotel: location, price, facilities, and cleanliness. Moreover, Heide, Laerdal, and Gronhaug (2007) suggest that ambience has become a pivotal concern for hospitality managers worldwide. Reid and Sandler (1992) discuss the use of technology as an important method to improve service quality and consequently enhance customer satisfaction in the hotel industry.

A number of researchers have identified that location may help to provide a competitive advantage for a hotel enterprise by attracting both business and leisure travellers (Short, 2003; Imrie & Fyall, 2000; Luk, Tam, & Wong, 1995). For example, Luk et al. (1995) find that a good location is an essential part of a pleasant experience for both business and leisure travellers. Lewis and Chambers (1989) and McCleary, Weaver, and Hutchinson (1993) find that location has a big impact on the selection of a hotel stay by business travellers. Rivers, Toh and Alaoui (1991) also view convenience of location and overall services received as the most important service attributes in a study on members and non-members of frequent traveller programs. However, Carman (1990) suggests that location and parking are two key separate dimensions in the hospitality industry. In addition, Tzeng,

Teng, Chen and Opricovic (2002) and Teng (2000) report that the condition of car parks is an important consideration when choosing a hotel stay.

The hotel industry literature suggests that travellers often evaluate cleanliness, comfortable, well-maintained rooms, convenient location, security, price, prompt and courteous service, safe and secure environment, friendly and courteous employees, employee knowledge of service, employee attitude, price, and parking when selecting hotels (LeBlanc & Nguyen, 1996; McCleary et al., 1993; Ananth et al. 1992; Barsky & Labagh, 1992; Rivers et al., 1991). LeBlanc and Nguyen (1996) suggest that marketing efforts should be devoted to emphasize the customer-important service quality attributes in order to attract prospective customers and retain existing customers.

2.9 Chapter Summary

This chapter presented the relevant literature regarding the conceptualisation and measurement of service quality, and the relationship of service quality to related constructs such as satisfaction, value (price), and favourable future behavioural intentions. The chapter also specifically overviewed the service quality dimensions as identified in the hotel literature.

Chapter 3: Conceptual Gaps and Hypotheses

3.1 Chapter Introduction:

This chapter discusses the conceptual gaps identified in the literature review presented in Chapter 2. A conceptual model of motel satisfaction is presented, and the 11 hypotheses proposed in this study are discussed. Testing the hypotheses will also address the following four research objectives:

- (1) To identify the dimensions of service quality for a motel stay in New Zealand.
- (2) To determine the relationship between service quality, value (price), customer satisfaction, and behavioural intention for a motel stay in New Zealand.
- (3) To identify the least and most important service quality dimensions as perceived by motel customers in New Zealand.
- (4) To examine the effects of demographic factors on New Zealand motel customers' perceptions of the service quality dimensions, service quality, customer satisfaction, and behavioural intentions.

3.2 Conceptual Gaps in the Literature

A review of the literature on the hotel and motel industries identified four conceptual gaps. The first gap identified in the literature relates to the lack of published empirical research on motel customers' perceptions of service quality in New Zealand. Although there are a few international empirical studies on the international accommodation sector, the studies focus on the hotel industry (see Lockyer, 2002, 2005; Pan, 2002; Tzeng et al., 2002; Choi & Chu, 2001; Teng, 2000; Wei et al., 1999; Bitner 1992; Czepiel, Solomon, Suprenant, & Gutman, 1985). As an iconic industry in New Zealand, motels play a very important role in the New Zealand accommodation sector (MANZ, 2007). However, to date, there is no published empirical research on the New Zealand motel sector that identifies the dimensions of service quality, or examines how the dimensions influence motel customers' evaluations of service quality.

The second conceptual gap relates to a lack of published empirical research on the motel sector regarding the higher- order constructs related to service quality: satisfaction, value

(price), and favourable behavioural intentions. This gap is important since a positive perception of service quality is not the only factor that will encourage favourable behavioural intentions. Customer satisfaction is also an important antecedent of favourable behavioural intentions, and customer satisfaction is influenced by value (price).

The third conceptual gap relates to a lack of empirical studies pertaining to the service quality dimensions that motel customers perceive to be more or less important during their motel experience. This gap is important as motel management will benefit from information that identifies which service quality dimensions they should resource to help achieve favourable behavioural intentions.

The fourth conceptual gap relates to a lack of empirical studies on the effect of demographic characteristics on motel customers' perceptions of service quality and satisfaction. This is important because customers come from different social and personal backgrounds that will affect an individual's overall evaluation of service quality and satisfaction.

3.3 Hypotheses Development

A hierarchical model has been developed for this study based on Brady and Cronin's (2001) multi-level service quality model (see Figure 3.1), and Clemes et al.'s (2007) behavioural intentions hierarchical model.

The hierarchical model of service quality presented in Figure 3.1 suggests that motel customers are expected to form perceptions on each of three primary dimensions, interaction quality, physical environment quality, and outcome quality, in order to form an overall service quality perception. Motel customers' perceptions of service quality are then expected to influence overall motel customers' satisfaction, which in turn, will affect favourable future intentions. Value (price) is expected to have a moderating effect between service quality and customer satisfaction. A total of 11 hypotheses were formulated, the first nine hypotheses were formulated to test each path in the model. The tenth hypothesis tests the relative importance of the service quality dimensions, and the last hypothesis tests the differences in motel customers' overall satisfactions based on demographic factors.

.....Moderating effect

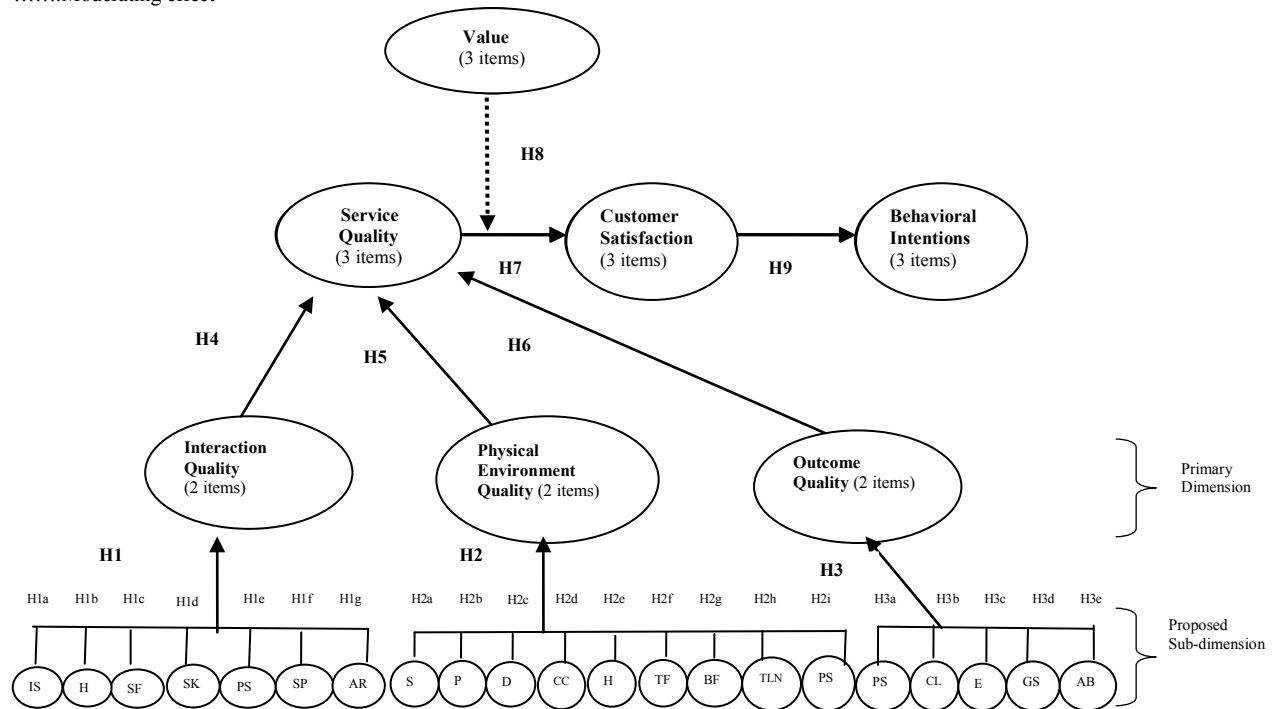


Figure 3.1: Behavioural Intentions in the Motel Industry: A conceptual research model

Note: IS= Staff Interpersonal Skill, H=Staff Helpfulness, SF=Staff Friendliness, SK= Staff Knowledge, PS=Problem Solving, SP=Service Performance, AR= Accuracy of Reservation; S= Security, P=Parking, D= Décor, CC= Cleanliness and Comfort, H=Standard of Housekeeping, TF= Room technology Facility, BF= Bath Facility, TLN= Temperature/Lighting/Noise level, PS= Basic Products and Service Offered; PS= Pleasant Stay, CL=Convenience(Location), E= Efficiency of Check-out Process, GS=Good Sleep, AB= Accuracy of Billing

3.3.1 Hypotheses Relating to Research Objective 1

Cronin and Taylor (1994) note that the service quality dimensions need to be confirmed for each research setting. Therefore, the sub-dimensions of interaction quality, physical environment quality, and outcome quality in Figure 3.1 will be specifically identified for a motel experience.

As discussed in Section 2.5.5, the three primary dimensions suggested by Brady and Cronin (2001) will be used in this study. There are several potential sub-dimensions that can influence motel customers' perception of interaction quality, physical environment quality, and outcome quality. The proposed sub-dimensions have been identified from the literature review and focus group interviews.

Interaction Quality

Several researchers have indicated the importance of the people component in the service delivery process, as people have a big impact on overall service quality perceptions (Bigné, Martínez, Miquel, & Belloch, 1996; LeBlanc, 1992; Gronroos, 1982). Specifically, the proposed set of sub-dimensions that lodging customers consider as important components of interaction quality as identified on the literature review and in the focus group sessions are:

- a) Staff's interpersonal skill (Ko & Pastore, 2005; Brady & Cronin, 2001);
- b) Staff's helpfulness (Choi & Chu, 2001; Czepiel, et al., 1985);
- c) Staff's friendliness (Lockyer, 2002; Knutson, 1988);
- d) Staff's knowledge (Caro & García, 2008; Cadotte & Turgeon, 1988);
- e) Prompt problem solving (Dabholkar et al., 1996; Knutson, 1988);
- f) Service performance (Kim & Cha, 2002; Chelladurai & Chang, 2000), and
- g) Accuracy of reservations (Akan, 1995).

These sub-dimensions are expected to positively affect interaction quality; hence the first hypothesis is proposed:

H1: Higher perceptions of each interaction quality sub-dimension (H1_a, H1_b, H1_c, H1_d, H1_e, H1_f and H1_g) will positively affect interaction quality.

H1_a: Higher perceptions of employee interpersonal skills will positively influence interaction quality.

H1_b: Higher perceptions of employee helpfulness will positively influence interaction quality.

H1_c: Higher perceptions of employee friendliness will positively influence interaction quality.

H1_d: Higher perceptions of employee knowledge will positively influence interaction quality.

H1_e: Higher perceptions of prompt problem solving will positively influence interaction quality.

H1_f: Higher perceptions of service performance will positively influence interaction quality.

H1_g: Higher perceptions of reservation accuracy will positively influence interaction quality.

Physical Environment Quality

Since physical environment quality is different from the natural or social environment (Bitner, 1992), several researchers have identified the uniqueness and criticalness of the physical environment quality in the service sector when customers evaluate overall service quality (see Howat, Absher, Crilley, & Miline, 1996; McDougall & Levesque, 1994). As Lockyer (2002) discussed lodging customers pay great attention to physical facilities in their accommodation experience. This information has required accommodation enterprises to keep updating their facilities (Kotler et al., 2002; Nebel & Schaffer, 1992), and not to focus only on the traditional fundamental issues such as overnight accommodation, food and beverages (Jones & Lockwood, 1989).

Rys, Fredericks, and Luery (1987) find that customers' perceptions of physical environment quality are based on their perceptions of the physical facilities. Based on the hotel literature reviewed in Section 2.8.5, and the focus group sessions, the following sub-dimensions are identified as components of physical environment quality:

- a) Security (Choi & Chu, 2001; Knutson, 1988);
- b) Parking (Tzeng et al., 2002; Teng 2000; Carman, 1990);
- c) Appealing interior and exterior décor (Heide et al., 2007; Lockyer, 2002; Ekinci & Riley, 2001; Bitner, 1992);
- d) Cleanliness and comfort of bed, mattress, pillow, bed sheets and covers (Lockyer, 2005, 2002; Callan 1996; Weaver & Oh, 1993; Knutson, 1988);
- e) High standard of housekeeping (Lockyer, 2002);
- f) Room technology facility (Cable or Satellite TV, broadband internet, LTD television, home theatre system, CD and DVD player, air conditioning) (Reid & Sandler, 1992);
- g) Bath facility (spa/sauna) (Lockyer, 2002);
- h) Temperature/lighting/noise level (focus group sessions), and
- i) Variety of basic products and service offered (toothpaste, soap, shampoo, towels, toilet paper, stationery, laundry, ironing, tea, coffee) (focus group sessions).

Higher perceptions of these sub-dimensions are expected to positively affect interaction quality; hence, the second hypothesis is proposed:

- H2:** Higher perceptions of each physical environment quality sub-dimension (H2_a, H2_b, H2_c, H2_d, H2_e, H2_f, H2_g, H2_h and H2_i) will positively affect physical environment quality.
- H2_a:** Higher perceptions of security will positively influence physical environment quality.
- H2_b:** Higher perceptions of parking condition will positively influence physical environment quality.
- H2_c:** Higher perceptions of the appealing interior and exterior motel décor will positively influence physical environment quality.
- H2_d:** Higher perception of the cleanliness and comfortableness of mattress, pillow, bed sheets and covers will positively influence physical environment quality.
- H2_e:** Higher perceptions of standard of housekeeping will positively influence physical environment quality.
- H2_f:** Higher perceptions of room technology facilities will positively influence physical environment quality.
- H2_g:** Higher perceptions of bath facilities will positively influence physical environment quality.
- H2_h:** Higher perceptions of temperature/noise/lighting level will positively influence physical environment quality.
- H2_i:** Higher perception of the variety of basic products and service offered by motels will positively influence physical environment quality.

Outcome Quality

Outcome quality refers to the consequence and results of what the customer gains from the service (McDougall & Levesque, 1994; Rust & Oliver, 1994). Outcome quality is also considered as one of the critical factors when customers evaluate overall service quality (Rust & Oliver, 1994). The outcome gains identified in the literature review and in focus group sessions are:

- a) Pleasant Stay (Caro & García, 2008; Presbury et al., 2005; Brady & Cronin, 2001);
- b) Convenience (location) (Lockyer, 2005; Pan, 2002; Choi & Chu, 2000);
- c) Efficiency of check-out process (Lockyer, 2002; Wei et al., 1999);
- d) Good sleep (focus group sessions); and
- e) Accuracy of billing (focus group sessions).

These sub-dimensions are expected to positively affect outcome quality; hence the third hypothesis is proposed:

H3: Higher perceptions of each outcome quality sub-dimension (H3_a, H3_b, H3_c, H3_d and H3_e) will positively affect outcome quality.

H3_a: Higher perceptions of an overall pleasant stay will positively influence outcome quality.

H3_b: Higher perceptions of convenience (location) will positively influence outcome quality.

H3_c: Higher perceptions of efficiency of the check-out process will positively influence outcome quality.

H3_d: Higher perceptions of a good nights sleep will positively influence outcome quality.

H3_e: Higher perceptions of billing accuracy will positively influence outcome quality.

Overall Perceived Service Quality

According to Brady and Cronin (2001), overall perceived service quality is influenced by the primary dimensions: interaction quality, physical environment quality and outcome quality. After formulating the hypotheses and proposing the effects of the sub-dimensions on their corresponding primary dimensions, the following hypotheses have been formulated to test the effects of the primary dimensions on overall perceived service quality:

H4: Higher perceptions of interaction quality will positively influence overall perceived service quality perceptions.

H5: Higher perceptions of physical environment quality will positively influence overall perceived service quality perceptions.

H6: Higher perceptions of outcome quality will positively influence overall perceived service quality perceptions.

3.3.2 Hypotheses Relating to Research Objective 2

The discussion in Section 2.7 revealed that service quality is antecedent of satisfaction and that service quality is expected to have a positive impact on satisfaction. Therefore, the first hypothesis relates to Research Objective 2 and tests the relationship between service quality and satisfaction:

H7: High perceptions of overall service quality will positively influence motel customers' overall satisfaction.

Value (Price)

Price is often seen to be a subjective construct that plays a moderating role between service quality and customer satisfaction (Caruana et al., 2000). Therefore, the following hypothesis is proposed:

H8: Value (price) will moderate the relationship between service quality and customer satisfaction.

Behavioural Intentions

Zeithaml et al. (1996) define behavioural intentions as indicators that signal whether customers will remain with, or defect from, the company. A satisfied customer who has the intention to repurchase and recommend a service is more likely to remain with a hotel (Kandampully & Suhartanto, 2000). Therefore, the following hypothesis is formulated:

H9: Higher satisfaction levels will positively affect future behavioural intentions.

3.3.3 Hypotheses Relating to Research Objective 3

The importance of service quality in hotels has been recognised (see Min et al., 2002; Callan & Kyndt, 2001; Callan & Bowman, 2000; Danaher & Mattsson, 1994; Saleh & Ryan, 1992). However, to date, the comparative importance of the dimensions of service quality have not been identified in the motel sector. Therefore, the following hypothesis is proposed:

H10: Motel customers will vary in their perceptions of the importance of (a) each of the primary dimensions and (b) each of the sub-dimensions.

3.3.4 Hypotheses Relating to Research Objective 4

Several studies reveal that hotel managers should pay particular attention to different demographic factors (Skogland & Siguaw, 2004) such as gender, age and ethnic background, because these demographic factors do have different impacts on behavioural intentions, customer satisfaction, and perceptions of service quality (Skogland & Siguaw, 2004; Clemes, Ozanne, & Laurensen, 2001; Snepenger & Milner, 1990). Thus, the following hypotheses are proposed:

H11_a: Motel customers' level of satisfaction and the influential factors and favourable future behavioural intentions will differ according to each customer's demographic characteristics (gender, age, marital status, occupation, annual income, country of origin, and ethnic background groups).

H11_b: Motel customers' perceptions of the primary dimensions of service quality will differ according to each customer's demographic characteristics (gender, age, marital status, occupation, annual income, country of origin, and ethnic background groups).

H11_c: Motel customers' perceptions of the sub-dimensions of service quality will differ according to each customer's demographic characteristics (gender, age, marital status, occupation, annual income, country of origin, and ethnic background groups).

3.4 Chapter Summary

Chapter Three identified four conceptual gaps in the literature pertaining to motel customer satisfaction, service quality, value (price), and favourable future behavioural intentions. A conceptual model was developed, and 11 testable hypotheses were stated.

Chapter 4: Research Design and Methodology

4.1 Chapter Introduction

This chapter outlines the research plan and methodology used to test the eleven hypotheses formulated in Section 3.3, to satisfy the four research objectives stated in Section 3.1. This chapter includes discussions on sample derivation, estimating sample size, method of data collection, questionnaire design, and the data analysis techniques used in this study.

4.2 Sample Derivation

The data was collected from a convenience sample of motel guests, 18 years and over, who stayed at a full service New Zealand motel on Riccarton Road in Christchurch, New Zealand during the period 18th April to 18th June, 2008. There were 15 participating motel managers/owners who helped to distribute the survey to the motel guests when the guests checked in to their respective motels. In this study, motel customers' perceptions of service quality and its dimensions, satisfaction, value (price), and favourable future behavioural intentions are specifically examined.

4.3 Sample Size

Sample size is considered an important factor in order to make generalizations about the constructs under investigation. Therefore, the sample size should provide reliable estimates and reflect the population parameters as closely as possible with a narrow margin of error (Sekaran, 2003).

The recommended sample size for factor analysis of observations and variable ratio ranges from three to twenty times the variables under scrutiny (Mundfrom, Shaw, & Ke, 2005). Hair, Anderson, Tatham, and Black (1998) recommend that the minimum sample size needs to be at least five times as many observations as there are variables to be analysed. There are 69 variables to be analysed in this study, hence a minimum of 345 completed questionnaires were required for the purpose of this research.

For multiple regression analysis, it is ideal to have 20 times more cases than predictors; nevertheless, the minimum requirement is to have at least five times as many observations as there are variables to be analysed (Hair et al., 1998). However, to increase the generalisability of the sample, Garson (2007) suggests that the sample size should be greater than, or equal to, the number of independent variables plus 104 for testing regression coefficients. Further, Garson (2007) recommends that for testing R-square, there should be least eight times the numbers of independent variables plus 50. In this study, there are five independent variables. Therefore, in order to test the regression coefficients and the R-square, at least 109 and 90 (respectively) completed questionnaires are required. However, the exact number of independent variables to be analysed depends on the results of the factor analysis (Hair et al., 1998).

4.4 Data Collection Method

In this study, a survey questionnaire was used to collect the data. The questionnaire includes a cover letter and a double-sided two page questionnaire. The motels owners/managers helped to distribute the questionnaires to the guests when they checked in. A convenience sampling method was used in this study. The guests were asked to fill out the questionnaire during their stay and return the completed questionnaire to the drop box at the motel reception desk when they checked out. A total of 600 questionnaires were distributed using this process. Only guests who were at least 18 years old and currently staying in one of the 15 motels were asked to take part in the survey. Each motel owner helped to coordinate the data collection process for the researcher. A follow-up call was made to each motel owner twice a week to ensure that the questionnaire distribution process was proceeding as planned.

4.5 Questionnaire Design

4.5.1 Focus Group Interview

The literature review presented in Chapter 2 identified three primary and 21 sub-dimensions of service quality, which were the important factors that pertained to customers' perceptions of motel service quality and satisfaction. However, in order to provide additional insights into the proposed dimensions and to help develop the questionnaire, focus group interviews were conducted.

A focus group interview is a qualitative research method used in data-gathering in terms of exploring knowledge and attitudes, or understanding complex behaviour and motivations among different social groups by eliciting participants' subjective comments or underlining feelings about a specific topic (Edmunds, 1999). Furthermore, Greenbaum (1998) suggests that the focus group interview is the most popular method for creating a reliable questionnaire in behavioural research.

Conducting focus groups in marketing is considered as a critical component in aiding questionnaire development for social behavioural researchers (Morgan, 1993). The author also stresses that focus group interviews enable researchers not only to facilitate questionnaire design and to formulate different question categories, but also to help researchers to refine wordings on particular questions (Morgan, 1988). Furthermore, Edmunds (1999) stresses that focus group interviews are very helpful and popular as a method to test service concepts.

Edmunds (1999) recommends using five or six participants in conducting a focus group interview. Following Edmund's (1999) recommendation, two focus group interviews (one consisting of six customers; and another consisting of five motel managers/owners) were conducted for this study. Participants for the first focus group were randomly recruited from current or previous motel customers who had different personal experiences, concerns, and travel needs. Participants in the second focus group were managers/owners who were randomly selected from different motels on Riccarton Road.

Hair, Black, Babin, Anderson, & Tatham (2006) recommend that in order for participants to feel comfortable, groups should be as homogeneous as possible. Therefore, the first focus group was homogeneously formulated with six customers who had motel experience in New Zealand. The main focus of the first focus group was to assist the researcher to investigate what aspects or attributes of a motel experience that the consumers evaluated. At the beginning of the interview, the interviewees (i.e. motel customers) were asked to define all factors that impacted on their perceptions of a motel stay based on three identified factors: interaction, physical environment and outcome quality. At this time, they were also encouraged to list any additional factors that could influence their perceptions regarding interaction, environment, and outcome quality during their recent motel

experience. They were also asked to identify the factors that they considered to be the most influential in their assessment of the quality of service experience they received at a motel. The second focus group consisted of five motel owners/managers. The purpose of conducting the second focus group was to obtain their perspectives on the factors they considered to be important during a motel stay.

The information gathered from the focus group interviews was recorded and transcribed, and together with the literature review, identified the items used in developing the survey questionnaire. The final questionnaire consisted of 96 items, which were used to measure the constructs discussed in Chapter 2 (see Figure 3.1).

4.5.2 Design and Layout of the Survey Instrument

The self-administered questionnaire was developed from the relevant literature, the existing theoretical framework, and using feedback from focus group interviews. The questionnaire consists of five sections (see Appendix 2). Section A contains 24 Interaction Quality items; Section B contains 37 Physical Environment Quality items, and Section C contains 14 Outcome Quality items. The items were grouped in accordance with each of their pertaining primary dimensions as proposed by Brady and Cronin (2001) (see Figure 3.1). Section D measured the higher order constructs: service quality, customer satisfaction, value (price), and future behavioural intentions. Section E measured the demographic variables, such as gender, age, occupation, household annual income, and ethnic background.

According to Parasuraman et al. (1991) and Carman (1990), all the items should be positively worded in a questionnaire. In addition, McDonald, Sutton, and Milne (1995) suggest that the focus should be based on multiple service encounters rather than on a single encounter. Respondents were requested to evaluate their overall motel experience during their stay at one of the 15 motels participating in this study.

Miles and Huberman (1994) suggest that Likert scale format questions are able to correctly measure the answers, help with interpreting the findings, and to strengthen the results of survey questions. Furthermore, Schall (2003) recommends that a seven-point Likert-type scale is the optimum size scale for a hospitality industry questionnaire when compared to 5 and 10 point scales. Therefore, a standard seven- point Likert-type scale was used in the

questionnaire to measure all items. For example, the questionnaire presents Likert-type questions with a seven-point scale in Sections A to D, where 1 = “strongly disagree” to 7 = “strongly agree”.

Churchill (1979) suggests combining three or more items to measure a construct as the reliability tends to increase and the measurement error tends to decrease when compared to single item measures. In order to reduce the measurement error and improve reliability, the service quality, satisfaction, value (price), and favoured future behavioural intentions constructs were all measured using three items each so they captured the richness of the construct (Churchill, 1979) (see Figure 3.1).

4.5.3 Pre-testing of Questionnaire

A pre-test of the questionnaire was conducted to assess the reliability of the items used in the survey questions (Cooper & Schindler, 2006). The purpose of a pre-test was to obtain feedback from customers and motel owners/ managers from different motels to test the readability, comprehensibility, wording, order effects, and ambiguity of the question and to expose any other weaknesses in the questionnaire design and instrumentation (Hair et al., 1998). During the pre-test procedure, respondents were encouraged to comment on any questions that they thought were unclear, ambiguous, or that they were unable to answer. Following this process, some minor changes were made to the survey questions. The final version of the questionnaire is in Appendix 2 and the cover letter is in Appendix 1.

4.6 Data Analysis Techniques

Once all the usable responses from the questionnaires were recorded and coded, the data was analyzed using SPSS software Version 15. The data was assessed using three statistical techniques; factor analysis, multiple regression analysis and analysis of variance. Exploratory factor analysis was used to examine the underlying factors that make up the sub-dimension, multiple regression analysis was used to test the conceptual model, and analysis of variance was used to compare the results based on the demographic variables.

4.6.1 Factor Analysis

Factor analysis has two primary functions in data analysis. One function is to identify underlying constructs in the data and another is to reduce a large number of correlated variables into a more manageable set (Aaker, Kumar, Day, & Lawley, 2005). Factor analysis was used in this study to reduce the number of variables to a more manageable set (Aaker et al., 2005). According to Aaker et al. (2005), by reducing the number of correlated variables, factor analysis attempts to retain as much of the information as possible and make the remaining variables meaningful and easy to work with.

The most distinctive feature of factor analysis is that the technique can be viewed as a method of transforming the original variables into new, non-correlated variables, called factors (Aaker et al., 2005). This transformation is helpful in terms of managing highly correlated variables into a well-structured data set (Stewart, 1981). In addition, the scree test and eigenvalue criterion are used to identify the number of factors (Hair et al. 1998).

The following sections discuss the different types of factor analysis, the assumptions of factor analysis, and appropriateness of factoring a correlation matrix, factor rotation and interpretation of resulting factors.

4.6.1.1 Factor Analytic Data Modes

There are several modes of factor analysis (see Table 4.1) that provide information about the dimensional structure of data (Stewart, 1981). The appropriate mode of factor analysis depends on whether the research objective is to identify relationships among variables, respondents, or occasions (Hair et al., 1998). In this study, the first objective is to identify the relationships among variables from the data collected from a number of individuals on one occasion. Therefore, the R factor analysis was used to analyse the relationships among the variables and to identify groups of variables forming latent dimensions (factors) (Hair et al., 2006).

Table 4.1: Modes of factor analysis (Stewart, 1981, p. 53)

Technique	Factors are loaded by	Indices of association are computed across	Data are collected on
R	Variables	Persons	One occasion
Q	Persons	Variables	One occasion
S	Persons	Occasions	One variable
T	Occasions	Persons	One variable
P	Variables	Occasions	One person
O	Occasions	Variables	One person

4.6.1.2 Types of Factor Analysis

Two different types of factor analysis are commonly employed in achieving different research purposes from either an exploratory or a confirmatory perspective (Hair et al., 1998). Exploratory Factor Analysis (EFA) is a powerful multivariate statistical technique when the researcher wants to extract information from a large set of interrelated data (Hair et al., 2006). EFA is a useful tool in defining the underlying structure among the variables, so that the interesting relationships can be identified when grouped variables or cases are presented in the correlation matrix (Hair et al., 2006). In contrast, Confirmatory Factor Analysis (CFA) enables researchers to test whether the variables should be grouped together on a single factor, and how well the measured variables or items represent the constructs (Hair et al., 2006). Hence, exploratory factor analysis (EFA) was used in this study.

There are two commonly employed factor analytic models in the marketing literature: principal component analysis and common factor analysis (Hair et al., 1998). Hair et al (1998, p.102) recommend two criteria in selecting the appropriate factor analysis: “(1) the selection should be based on the objective of the factor analysis, and (2) the amount of prior knowledge about the variance of the variables.”

Common factor analysis is used for recovering the underlying factors in the original variables, whereas, the objective of *principal component analysis* is to summarize information in a large set of variables into few factors (the sub- dimensions), and to

generate the first factor that will have the maximum explained variance (Aaker et al., 2005). Furthermore, Hair et al. (2006) argue that principal component analysis is most appropriate when data reduction is a primary concern and when prior knowledge suggests that specific and error variance presents a relatively small proportion of the total variance. Thus, the principal components factor analysis was used in this study to decompose many quality related variables into a small set of factors (service quality sub-dimensions).

4.6.1.3 Assumptions for Factor Analysis

According to Hair et al. (2006), there are several important underlying conceptual and statistical assumptions that influence factor analysis, and that may also affect the derived correlations. These conceptual and statistical assumptions include the following:

(i) *No Selection Bias/ Proper Specification.* The exclusion of relevant variables and inclusion of irrelevant variables in the correlation matrix being factored that affect the factors that are being uncovered (Garson, 2007). Therefore, researchers must ensure that the observed patterns are conceptually valid and appropriate in using factor analysis (Hair et al., 1998). The variables must also be complete and adequately represent the factors (Aaker et al., 2005).

(ii) *Linearity.* Factor analysis is based on correlation and therefore, linearity is important. If non- linearity is present, the solution may be problematic (Coakes, Steed, & Price, 2008). Thus, it is always prudent to examine all relationships to identify any departures from linearity that may affect the correlations (Hair et al., 2006).

(iii) *Normality.* The most fundamental assumption in multivariate analysis is normality. This assumption measures that the differences between the obtained and the predicted dependent variable scores should be normally distributed (Stewart, 1981). If the variation from the normal distribution is sufficiently large, all statistical tests are invalid (Hair et al., 2006). However, if the variables are normally distributed, the solution is improved (Stewart, 1981).

(iv) *Homoscedasticity.* Factor analysis also assumes homoscedasticity that diminishes the observed correlations (Hair et al., 1998). However, if the data matrix has sufficient correlations to justify the application of factor analysis, the statistical assumptions of

linearity, normality and homoscedasticity do not have to be met (Hair et al., 1998). The methods to justify sufficient correlations for factor analysis are discussed in the following section.

4.6.1.4 Tests for Determining Appropriateness of Factor Analysis

Hair et al. (1998) recommend several methods to determine whether there are sufficient correlations in the data matrix to justify the application of factor analysis. These methods are:

(i) Examination of the Correlation Matrix. Researchers can visually inspect whether the number of correlations is greater than 0.30 (Hair et al., 1998). If most of the substantial number of correlations are not in excess of 0.30 in the matrix, then factor analysis is inappropriate (Stewart, 1981).

(ii) Inspection of the Anti-Image Correlation Matrix. The anti-image correlation matrix is the negative value of the partial correlation (Hair et al., 2006). For good factoring, most of the off-diagonal elements are assumed to be small in the diagonal of the anti-image correlation matrix (SPSS, 2005); if the anti-image matrix has many non-zeros, or a larger partial off-diagonal entries, the correlation matrix may not be suited for factor analysis (Stewart, 1981).

(iii) Bartlett's Test of Sphericity. Bartlett's test of sphericity is another commonly used statistical test in determining the appropriateness of factor analysis (Stewart, 1981). The test provides the statistical significance that the correlation matrix has significant correlations among at least some of the variables (Hair et al., 2006). The authors also suggest that if a statistically significant Bartlett's test of sphericity ($\text{sig.} > 0.05$) exists, then there are sufficient correlations among the variables. Bartlett's test of sphericity is computed by the following formula:

$$-\left[(N - 1) - \left(\frac{2P + 5}{6} \right) \right] \text{Log}_e |R|$$

Where:

N is the sample size;
P is the number of variables, and
|R| is the determinant of the correlation matrix

Equation 4.1: Bartlett’s Test of Sphericity.

(iv) *Kaiser-Meyer-Olkin measure of sampling adequacy, MSA.* The last measure in determining the appropriateness of factor analysis is the measure of sampling adequacy (MSA). MSA provides a measure to determine whether the variables belong together, and are therefore appropriate for factor analysis (Stewart, 1981). Hair et al. (2006) suggest that an overall MSA value of above 0.50, for either the entire matrix or an individual variable, indicates the appropriateness of the data for factor analysis. The formula for MSA is:

$$MSA = \frac{\sum_{j=k} \sum r^2_{jk}}{\sum_{j=k} \sum r^2_{jk} + \sum_{j=k} \sum q^2_{jk}}$$

where:

q^2_{jk} is the square of the off-diagonal elements of the anti- image correlation matrix, and

r^2_{jk} is the square of the off-diagonal elements of the original correlations.

Equation 4.2: Measure of Sampling Adequacy.

The index ranges from 0 to 1, and 1 implies each variable is perfectly predicted without error by the other variables (Hair et al., 1998). Kaiser and Rice (1974) give the following calibration of the MSA: 0.90+ (marvellous); 0.80+ (meritorious); 0.70+ (middling); 0.60+ (mediocre); 0.50+ (miserable); below 0.50+ (unacceptable).

4.6.1.5 Factor Extraction in Principal Components Analysis

Stewart (1981) suggests that two commonly used criteria to determine the number of factors necessary to estimate the data. They are: (1) Latent root criterion, and (2) scree test criterion.

Latent root criterion is the most common technique used to represent the amount of variance in the original variables that is associated with a factor (Aaker et al., 2005). With component analysis each variable contributes a value of 1 to the total eigenvalue, and only factors with latent roots or eigenvalues greater than 1 are included in the estimation (Stewart, 1981). This method is most reliable when the number of variables is between 20 and 50 (Hair et al., 2006).

The scree test criterion is a statistical technique of plotting eigenvalues against the number of factors in order of their extraction. The shape of the plot is used to determine the number of factors (Hair et al., 2006). The procedure is explained by Stewart (1981, p. 58):

“A straight edge is laid across the bottom portion of the roots to see where they form an approximate straight line. The point where the factors curve above the straight line gives the number of factors, the last factor being the one whose eigenvalue immediately precedes the straight line.”

4.6.1.6 Factor Rotation

Factor rotation makes the factor structure more interpretable when the dimensions are rotated (Aaker et al., 2005). Rotation may be orthogonal (factors are uncorrelated with one another) or oblique (factors are correlated). The choice of rotation is both empirically and theoretically driven (Coakes et al., 2008). The goal of factor rotation is to manipulate, or to adjust, the factor axes to achieve a simpler and pragmatically more meaningful factor solution (Hair et al., 2006). Two factor rotation methods commonly used in computation are orthogonal and oblique rotations.

Orthogonal Factor Rotation

When the factors are intentionally rotated and result in no correlation between the factors in the final solution, this procedure is called an orthogonal rotation (Hair et al., 2006). Orthogonal factor rotation is the simplest factor rotation in which the axes are maintained at 90 degrees (Hair et al., 2006). Each factor is independent of all the other factors. The correlation between the factors is determined to be 0 (Hair et al., 2006). There are three major orthogonal approaches: VARIMAX, QUARTIMAX and EQUIMAX.

VARIMAX is the most popular orthogonal factor rotation method focusing on simplifying the columns of the factor matrix (Saunders, Lewis, & Thornhill, 2007). In a *VARIMAX* rotation, the factors remain uncorrelated throughout the rotation process (Hair et al., 2006). When the loadings are close to +1 or -1, it indicates a clear high positive or negative association between the variable and the factor; when some loadings are close to 0, it indicates a lack of association (Hair et al., 2006). *VARIMAX* is considered superior to other orthogonal factor rotation methods through successfully achieving a clear separation of factors as well as simple fundamental structure (Hair et al., 2006).

QUARTIMAX is another orthogonal factor rotation method (Hair et al., 2006). In contrast to *VARIMAX*, *QUARTIMAX* mainly focuses on simplifying the rows of a factor matrix so that many variables can load high or near high on the same factor (Hair et al., 2006). Generally, the *QUARTIMAX* method is considered less effective than the *VARIMAX* rotation (Hair et al., 2006).

EQUIMAX is the third orthogonal factor rotation method. *EQUIMAX* is not considered a commonly used orthogonal factor rotation method. The *EQUIMAX* method is a compromise between the *VARIMAX* and *QUARTIMAX* approaches (Hair et al., 2006). Rather than concentrating on simplification of the rows, or on simplification of the columns, *EQUIMAX* tries to accomplish some of each (Hair et al., 2006).

Oblique Factor Rotation

The factors may reveal the degree of correlation that exists naturally, without them being manipulated to zero correlation (Garson, 2007). Oblique factor rotations are similar to orthogonal rotations, except that oblique rotations allow correlation between the factors, instead of maintaining independence between the rotated factors (Hair et al., 1998). Oblique rotations are applicable when correlation between the factors is required since the factors are conceptually alike. Therefore, oblique rotations are appropriate for developing theoretically meaningful factors or constructs (Hair et al., 2006). The two common methods in oblique factor rotation are *OBLIMIN* and *PROMAX*.

OBLIMIN is a standard method that seeks a non-orthogonal (oblique) solution (Garson, 2007). This type of solution will result in higher eigenvalues but diminished interpretability of the factors (Garson, 2007). *PROMAX* is an alternative non-orthogonal (oblique) rotation

method, which is computationally faster than the OBLIMIN method and is sometimes used for larger datasets (Garson, 2007).

The orthogonal factor rotation method is frequently applied in marketing. However, non-orthogonal factor rotation results show good comparability with orthogonal factor rotation (Garson, 2007). Stewart (1981) claims both orthogonal and oblique factor rotations play important roles in the consumer behaviour theory literature. Therefore, in this study, a VARIMAX orthogonal factor rotation and an OBLIMIN non-orthogonal factor rotation were performed.

4.6.1.7 Interpretation of Factors

When interpreting the interrelationships represented in factors, researchers need to identify those distinctive variables for each factor, as well as referring back to the conceptual foundation or the managerial expectations to ensure practical significance (Hair et al., 2006). Applying both an objective criteria with managerial judgement, and using subjective personal considerations must be adopted (Garson, 2007).

The significance of the factor loadings is dependent on the sample size (see Table 4.2). Generally, the larger the absolute size of the factor loadings, the more important the loading in interpreting the factor matrix (Hair et al., 2006). Hair et al. (2006, p.129) suggest the simplified criteria for the practical or statistical significance of factor loadings:

- *Although Factor loadings of ± 0.30 to ± 0.40 are minimally acceptable, values greater than ± 0.50 are generally considered necessary for practical significance.*
- *To be considered significant:*
 - *A smaller loading is needed given either a larger sample size or a larger number of variables being analysed.*
 - *A larger loading is needed given a factor solution with a larger number of factors, especially in evaluating the loadings on later factors.*

- *Statistical tests of significance for factor loadings are generally conservative and should be considered only as starting points needed for including a variable for further consideration.*

Table 4.2: Guidelines for identifying significance factor loadings based on sample size (Hair et al., 2006, p. 128)

Factor Loading	Sample Size Needed for Significance^a
0.30	350
0.35	250
0.40	200
0.45	150
0.50	120
0.55	100
0.60	85
0.65	70
0.70	60
0.75	50

^a Significance is based on a 0.05 significance level and a power level of 80 percent, and standard error assumed to be twice those of conventional correlation coefficients.

Hair et al. (2006, p. 133) also propose some general principles to assist in interpreting the factors. The principles are:

- *An optimal structure exists when all variables have high loadings only on a single factor.*
- *Variables that cross-load (load highly on two or more factors) are usually deleted unless theoretically justified or the objective is strictly data reduction.*
- *Variables should generally have communalities of greater than 0.50 to be retained in the analysis.*
- *Respecification of a factor analysis can include such options as the following:*
 - *Deleting a variable (s).*
 - *Changing rotation methods.*
 - *Increasing or decreasing the number of factors.*

4.6.2 Summated Scale

A summated scale is formed by combining highly correlated individual variables into a single composite measure (Hair et al., 2006). All of the variables loading highly on a factor are combined, and the total—or more commonly the average score of the variables—is used as a replacement variable (Hair et al., 2006).

Hair et al. (2006) suggest that summated scales are used to compromise between the surrogate variable and factor score options, to reduce measurement error, to represent multiple facets of a concept, and are easily replicated across studies. Using summated scales can avoid the problem of using only a single variable to represent a concept, and instead use several variables as indicators, all representing differing facets of the concept to obtain a more well-rounded perspective (Hair et al., 2006). Therefore, the use of summated scales helps the researcher to obtain a more precise and desirable response (Hair et al. 2006). However, before forming any summated scale, the content validity, dimensionality and reliability of the measure must be assessed.

4.6.2.1 Content Validity

Content validity is also known as face validity and assesses “the correspondence of the variables to be included in a summated scale and conceptual definition” (Hair et al., 2006, p. 136). Content validity (or face validity) is invoked when the measurement self-evidently reflects or represents the various aspects of the phenomenon that they are intended to measure (Churchill, 1979).

4.6.2.2 Dimensionality

Dimensionality refers to either unidimensional or multidimensional measurement scales (Cooper & Schindler, 2006). The assumption and essential requirement for creating a summated scale is that the items are unidimensional and they are strongly associated with each other and represent a single concept (Hair et al., 2006). According to the unidimensionality test, each summated scale should consist of items that are unidimensional and load highly on a single factor (Hair et al., 2006).

4.6.2.3 Reliability

Reliability is a statistical measurement to ensure accuracy, precision and consistency between multiple measurements of a variable (Cooper & Schindler, 2006). The objective

of reliability is to assess the stability of measurement over time by repeating the measurement with the same instrument and the same respondents (Aaker et al., 2005). According to Cooper and Schindler's (2006) study, reliability is used to test the internal consistency or homogeneity among the items. Reliability of the scale measures is tested with the Cronbach alpha value, which best reflects the internal consistency of the indicators that measure each construct (Churchill, 1979). Churchill recommends a Cronbach coefficient alpha with a minimum value of 0.60 as the cut-off point to adequately express reliability.

4.6.3 Multiple Regression Analysis

Regression is a statistical technique that is used to relate a dependent variable to one or several independent variables. Basically, there are two types of regression models: simple linear regression and multiple linear regression (Aaker et al., 2005). Multiple linear regression is used in this study to test the relationship between future behavioural intentions and five independent variables.

The multiple regression analysis equation takes the form of:

$$y = c + b_1X_1 + b_2X_2 + \dots b_nX_n + e$$

where y is the dependent variable, X is the independent variable, and e is the random error term. The b_1, b_2, \dots, b_n are the regression coefficients that represent, on average, how much of an increase or decrease in y corresponds to a 1 unit increase or decrease in X . Regression coefficients can be used to evaluate the strength of the relationship between the independent variables and the dependent variable. The c coefficient is the constant term, where the regression line intercepts the y axis and the error term represents the assumed random error will occur, which affects y but are not explicitly introduced in the model (Hair et al., 1998). The R^2 value in the model provides a measure of the predictive ability of the model. The closer the value R^2 equals 1, the better the regression equation fits the data. Furthermore, Chu (2002) indicated that the beta coefficients of the independent variables can also be used to determine its derived importance to the dependent variable compared with other independent variables in the same model.

Multiple linear regression analysis was used in this study to test the research hypotheses (see Chapter 3) that examine the relationships between the constructs.

Since:

BI (f) CS

CS (f) V+ SQ

V (f) SQ

SQ (f) IQ+PEQ+OQ

IQ (f) IQ Sub-dimensions $i=1, \dots, n$

PEQ (f) PEQ Sub-dimensions $i=1, \dots, n$

OQ (f) OQ Sub-dimensions $i=1, \dots, n$

Thus:

$BI = f(CS, V, IQ, PEQ, OQ, e)$

Where:

BI = Behavioral Intentions

CS= Customer Satisfaction

V= Value

SQ = Service Quality

IQ = Interaction Quality

PEQ= Physical Environment Quality

OQ= Outcome Quality

The multiple regression used in this study predicts the mean population value of behavioural intentions on the basis of the known and fixed values of customer satisfaction, value (price), interaction quality, physical environment and outcome quality. The model includes behavioural intentions as a dependent variable, customer satisfaction, value (price), and the three individual quality dimensions as the independent variables.

4.6.3.1 Moderated Multiple Regression (MMR)

In recent years, researchers are interested in detecting not only the main effects of independent variables, but also their interactive (i.e., moderating) effects as the important

roles of moderating variables has been acknowledged in many social and behavioural theories building (Snell & Dean, 1994; Whisman, 1993). Moderated Multiple Regression (MMR) is a frequently used statistical technique for detecting moderating effects (Cohen & Cohen, 1983; Zedeck, 1971). The existence of a moderating effect implies that the relationship between two variables (e.g., X and Y) varies as a function of the value of a third variable (e.g., z), which is labeled as a moderator (Zedeck, 1971).

Cohen and Cohen (1983) and Zedeck (1971) recommend that the main effect variables should subtract its mean from all observation before multiplying them together. In order to look for a moderating relationship, a new variable was created (service quality x value) to estimate a moderating relationship between service quality and customer satisfaction with value (price) as a moderator. The independent variables (service quality and value) are introduced against customer satisfaction into the regression equation in two successive steps: (1) service quality and value (price) are regressed individually; and (2) the multiple regression model includes a new variable (service quality x value) against customer satisfaction. If the new variable (service quality x value) is significant, there is a moderating relationship.

4.6.4 Analysis of Variance (ANOVA)

Analysis of variance (ANOVA) is a univariate procedure that “*assesses group differences on a single metric dependent variable*” (Hair et al., 2006, p.383). ANOVA is used to compare the statistical differences between three or more means (Hair et al., 2006). ANOVA tests the null hypothesis that the means of several independent populations are equal (Aaker et al., 2005). This research uses ANOVA to examine customers’ perceptual differences of the constructs based on several demographic characteristics.

The statistic calculated by ANOVA, which reveals the significance of the hypothesis that Y depends on X. It comprises the ratio of the variability between the groups (MS_B) and the variability within the groups (MS_W) (Hair et al., 1998). The ANOVA test statistic is the F ratio:

$$F \text{ statistic} = \frac{MS_B}{MS_W}$$

Equation 4.3: F Statistics for ANOVA (Hair et al., 2006, p. 392).

If the ANOVA test is significant, it indicates that at least two of the groups have means that are significantly different from each other. To determine if the likelihood of any difference between the groups occurred, a critical value $P=0.05$ is generally taken as marking an acceptable boundary of significance. P value needs to be less than 0.05 for the F ratio to be termed as significant (Saunders et al., 2007).

4.6.5 Assumptions for Regression Analysis and Analysis of Variance

The following assumptions should be met and tested prior to applying regression analysis and analysis of variance.

4.6.5.1 Outliers

Outliers are extreme cases that may have a considerable impact on the regression solution and outliers should be deleted or modified to reduce their disproportionate influences in the overall results (Aaker et al., 2005). Univariate outliers can be detected during data screening; multivariate outliers can be detected using graphical methods such as residual scatterplots or statistical methods such as Mahalanobis distance (Maddala, 2001). The outlier is a data point, which lies outside the general linear pattern of which the midline is the regression line (Garson, 2007). A rule of thumb is that an outlier is a point whose standardised residual is greater than 3.3 (corresponding to the 0.001 alpha level) (Garson, 2007). However, the decision to remove outliers from the data set must be made with care as their deletion often results in the generation of further outlying cases (Dielman, 2001).

4.6.5.2 Multicollinearity

Multicollinearity refers to high correlations among the independent variables (Hair et al., 2006), that is, two or more X variables are collinear when they show strong linear relationships. This collinearity problem can influence the interpretation of the relationships between the predictors (IVs) and the dependent variable (Dorak, 2007).

Multicollinearity can be detected by examining the correlation matrix, squared multiple correlations, and tolerances (Garson, 2007). Maddala's (2001) suggestion of a tolerance close to 1 means that there is little multicollinearity, whereas a value close to 0 suggests that multicollinearity may be a threat.

Dielman (2001) recommends computing the variance inflation factor (VIF), which can be used to measure the strength of the relationship between one explanatory variable and other explanatory variables in the regression. VIF is known as the reciprocal of the tolerance, and shows how much the variance of the coefficient estimate is being inflated by multicollinearity. The VIF is defined as follows (Maddala, 2001, p. 272):

$$VIF_j = \frac{1}{1 - R_j^2}$$

Equation 4.4: Variance Inflation Factor

If there is no relationship, then $R_j^2=0$ and VIF_j increases as R_j^2 increases. If the individual VIF_j values are large (greater than 10), or the average of the VIF_j greater than 10, then multicollinearity may be influencing the least-squares estimates of the regression coefficient (Dielman, 2001). Moreover, the VIF values should also be evaluated relative to the overall fit of the model, that is, when the VIF values are less than $1/(1 - R^2)$ where R^2 is the coefficient of the determination for the model with all explanatory variables included. This relationship indicates that the explanatory variables are more strongly related to the dependent variables than they are to each other; hence multicollinearity is not a serious problem (Dielman, 2001).

In addition, examining the condition indices in SPSS is an alternative method of assessing excessive multicollinearity in the data. The condition indices are computed as square root of the ratio of the largest eigenvalue to each successive eigenvalue (Garson, 2007). Norusis (1994) suggests that a condition index over 30 suggests serious multicollinearity problems and an index of 15 indicates possible multicollinearity problems. This is, however, just an informal rule of thumb. Niu (2007) argues that a superior commonly used rule of thumb for detecting high degree multicollinearity is examining if the VIFs are 10 or higher (or

equivalently, tolerances of 0.10 or less). Nevertheless, there is still no clear-cut criterion for evaluating the multicollinearity of linear regression models.

4.6.5.3 Linearity

Regression analysis is a linear procedure (Hair et al., 2006). An examination of residual scatterplots tests this assumption. If moderate to extreme deviations from linearity occurs, it can lead to a serious underestimation of a relationship (Garson, 2007). Examining the residual scatterplots is the most common way to identify any nonlinear patterns in the data (Hair et al., 2006).

4.6.5.4 Error Term Normality

Hair et al. (2006) suggest that before running the statistical analyses for the variables of interest, researchers must calculate and compute all the items to ensure that they are within the acceptable range and are normally distributed. The individual variables should meet the linearity assumption to run the regression.

4.6.5.5 Error Term Independence

The error term independence assumption is that the error terms should be independent in multiple regression (Dielman, 2001), and the patterns that appear in a residual plot should appear random and similar to null plots of residuals (Hair et al., 1998). If there is no auto-correlation in the analysis then the error terms in the independent variables are not correlated (Ndubisi & Koo, 2006). If the Durbin-Watson test statistic falls outside the acceptable region of 1.5 and 2.5, the Durbin-Watson test confirms that an auto correlation problem is present (Ndubisi & Koo, 2006).

The Durbin-Watson test is widely used to diagnosis error term independence (Dielman, 2001). The residuals used to compute the Durbin-Watson statistic, d , is given as follows:

$$d = \frac{\sum_{i=2}^n (\hat{e}_i - \hat{e}_{i-1})^2}{\sum_{i=1}^n \hat{e}_i^2}$$

Equation 4.5: Durbin-Watson Statistic

where $\hat{e}_i = y_i - \hat{y}_i$, and y_i and \hat{y}_i are the observed and predicted values of the response variable for individual i (respectively). d becomes smaller as the serial correlations increase.

Upper and lower critical values, d_U and d_L , have been tabulated for different values of k (the number of explanatory variables) and n (Montgomery, Peck, & Vining, 2001).

The value of d ranges from 0 to 4; a value close to 0 indicates extreme positive autocorrelation, a value close to 4 indicates extreme negative autocorrelation, and a value close to 2 indicates no serial autocorrelation (Garson, 2007). The decision rule for the Durbin-Watson test is (1) reject the null hypothesis if $d < d_L$, (2) accept the null hypothesis if $d > d_U$, and (3) inconclusive if $d_L < d < d_U$ (Dielman, 2001).

4.6.5.6 Error Term Homoscedasticity

Homoscedasticity implies homogeneity of variance, which means the scores in each group should have homogenous variances. Homoscedasticity refers to the description of data for which the variance of the error terms (e) appears constant over the range of values of an independent variable. The assumption of equal variance of the population ε (where ε is estimated from the sample value e) is critical to the proper application of linear regression. When the error terms are increasing or have a modulating variance, the data are termed to be heteroscedasticity (Hair et al., 2006). Maddala (2001) suggests the variables in each experimental condition should not be similar because heteroscedasticity can lead to biases of the estimation of the variables, distort the shape of the F-distribution, as well as cause inefficient estimation. However, heteroscedasticity may still be resolved through data transformations (Hair et al, 2006).

4.7 Chapter Summary

This Chapter discusses the data and methodology used to test the 11 hypotheses, stated in Section 3.3. In particular, the sample size selection, data collection method, and questionnaire design were discussed. The research methods used in this study (factor analysis, regression analysis, and analysis of variance) were discussed and their assumptions were explained.

Chapter 5: Results and Discussion

5.1 Chapter Introduction

This chapter presents the results of the data analysis according to the research methodology outlined in Chapter Four. The data set is examined to ensure its appropriateness for factor analysis. The statistical assumptions of the multiple regression and analysis of variance are tested to ensure the representativeness of the results. The result of the factor analysis, multiple regression, and analysis of variance are presented, and the 11 hypotheses tested. The results are discussed in terms of their relation to each of the relevant research objectives.

5.2 Sample and Response Rate

Of the 600 questionnaires distributed, 357 (59.5 percent) were returned within a two-month response period. Eight questionnaires were incomplete, or were not suitable for use. This resulted in a total of 349 useable responses, and a 58.2 percent useable response rate. The usable responses were above the minimum sample size of 345 as suggested by Hair et al. (1998); hence the sample size was considered to be acceptable for the purpose of this research.

5.2.1 *Non-response Bias*

5.2.1.1 **Early/Late Responses**

The generalised results can be affected by non-response bias (Churchill, 1979). Armstrong and Overton (1977) suggest that the extrapolation method should be used for estimating non-response bias. The extrapolation method is based on the assumption that a subject who has responded less readily¹ is more like a non-respondent.

In this study, 240 responses were received in the period 18th May to 18th June 2008, and the last 109 questionnaires were received between 19th June and 18th July 2008. The data in

¹ “Less readily” was defined as “answering later, or as requiring more prodding to answer” (Armstrong & Overton, 1977, p. 397).

Table 5.1 shows the mean scores for the sum of the sub-dimensions, the service quality items, value (price) items, the customer satisfaction items, and the behavioural intentions items of the two groups. Independent t-tests were conducted to determine whether the group means were statistically significant. The results reported in Table 5.1 shows that the equal variance significance values for all constructs were greater than 0.05 level of significance between the two groups. Therefore, there was no evidence of non-response bias reported in this study.

Table 5.1: Independent Sample Test for Non-response Bias

Equal Variance Assumed

Construct	Levene's Test for Equality of Variances		T-test for Quality of Means Significant at 5% Level				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Interaction Quality	0.000	0.994	0.777	347	0.438	0.120	0.154
Physical Environment Quality	0.035	0.852	1.809	347	0.071	0.248	0.137
Outcome Quality	0.048	0.827	1.325	347	0.186	0.194	0.147
Service Quality	0.004	0.952	1.267	347	0.206	0.195	0.154
Value (price)	0.510	0.476	0.235	347	0.814	0.039	0.165
Customer Satisfaction	0.131	0.717	1.187	347	0.236	0.180	0.152
Behavioural Intentions	0.141	0.707	1.213	347	0.226	0.220	0.181

5.2.1.2 Missing Data

Missing data implies that information is not available for a subject (or case) for which other information is available (Hair et al., 2006). Missing data often occur in a situation in which a respondent cannot respond to one or more questions of a survey (Hair et al., 2006).

In this study, the non-response rate for most of the items used in this questionnaire is less than 1% and does not exceed 1.4% for any item (see Appendix 3, Table 23A). In order to provide all cases with complete information, mean values for each group are substituted for the missing values within the group, as recommended by Hair et al. (2006).

5.3 Descriptive Statistics

Section E of the Questionnaire was designed to capture some basic demographic characteristics of the motel customers involved in this study. Results of the demographic details of the respondents are presented in Tables 5.2 to 5.5. More responses were received from males (58.2%) than females (41.8%). The percentage of responses from three age

groups are relatively close; the 40-49 Age Group accounts for 26.4%, the 50-59 Age Group accounts for 22.9%, followed by the 30-39 Age Group at 20.6%. The Married People Group was in the highest percentage of the sample (53.8%) (see Table 5.2).

Table 5.2: Gender, Age and Marital Status of the Respondents

	Category	Frequency	Percent
Gender	Female	146	41.8
	Male	203	58.2
	Total	349	100
Age	Under 30	65	18.6
	30-39	72	20.6
	40-49	92	26.4
	50-59	80	22.9
	60-69	33	9.5
	70+	7	2
	Total	349	100
Marital Status	Married	217	53.8
	Single(living with flatmates/roommates)	40	40.7
	Living with a partner	74	1.7
	Living alone	18	3.3
	Total	349	100

The data in Table 5.3 shows the motel customers' occupations. The leading occupation category was "Clerical or Sales Employee" (22.6%), the second largest group was "Business Proprietor or Self-employed" (18.9%), and the third largest occupation group was "Professional or Senior Government Official" (13.5%).

Table 5.3: Motel Customers' Occupation

	Category	Frequency	Percent
Occupation	Professional or senior government official	47	13.5
	Business proprietor or self-employed	66	18.9
	Teacher/nurse/police or other trained service worker	46	13.2
	Clerical or sales employee	79	22.6
	Farm owner or manager	10	2.9
	Domestic worker, labourer, manual or agriculture worker	17	4.9
	Home duties (not otherwise employed)	18	5.2
	Social welfare beneficiary/unemployed	5	1.4
	Student	31	8.9
	Retired	27	7.7
	Other	3	0.9
	Total	349	100

The results on the average annual gross income presented in Table 5.4 shows that most customers are in the income range of NZ\$60,001 to NZ\$80,000, which accounts for 26.4% of the sample.

Table 5.4: Motel Customers' Annual Gross Income

	Category	Frequency	Percent
Annual Gross Income	Up to NZ\$20,000	32	9.2
	NZ\$20,001 to NZ\$30,000	13	3.7
	NZ\$30,001 to NZ\$40,000	29	8.3
	NZ\$40,001 to NZ\$60,000	56	16.0
	NZ\$60,001 to NZ\$80,000	92	26.4
	NZ\$80,001 to NZ\$100,000	78	22.3
	NZ\$100,001 to NZ\$120,000	28	8.0
	Over NZ\$120,001	21	6.0
	Total	349	100.0

The data in Table 5.5 shows the respondents from Oceania dominated the data set (77.7 %), followed by those from Asia (11.7%), and Europe (7.7%). The country of origin distributions of nationality was relatively similar to the distribution of the Ethnic Group for the whole sample. The main ethnic group includes New Zealand European (70.8 %), followed by Asian (11.7%). Pacific Islander was the least majority ethnic group of motel customers, comprising only 0.6 % of the sample.

Table 5.5: Motel Customers' Country of Origin and Ethnic Background

	Category	Frequency	Percent
Country of Origin	Oceania (New Zealand, Australia, Cook Island, Fiji, Samoan, Tongan, other Pacific Islands)	271	77.7
	Europe (UK, Germany, France, the Netherlands)	27	7.7
	Asia (China, Korea, Japan, Singapore, Malaysia, Thailand)	41	11.7
	North America (USA, Canada)	6	1.7
	Latin America (Spain, Brazil, Chile, Argentina)	3	0.9
	Other	1	0.3
	Total	349	100
Ethnic Background	NZ European	247	70.8
	NZ Maori	7	2.0
	Pacific Islander	2	0.6
	European	21	6.0
	Asian	41	11.7
	American	6	1.7
	Other	25	7.2
	Total	349	100

5.4 Assessment for Factor Analysis

After the data was collected and tabulated, a series of statistical assumptions were met to ensure the appropriateness of the data for factor analysis.

5.4.1 Statistical Assumption for Factor Analysis

As discussed in Section 4.6.1.3, if the statistical assumptions of linearity, normality and homoscedasticity for factor analysis are not met, the observed correlations between variables may be diminished. When the data matrix has sufficient correlations, the potential influence of violations of these assumptions is minimised, and the use of factor analysis is justified. The data matrix was therefore tested for sufficient correlations by examining the correlation matrix, inspecting the anti-image correlation matrix, conducting Bartlett's test of sphericity, and assessing the Kaiser-Meyer-Olkin measure of sampling adequacy.

5.4.1.1 Examination of the Correlation Matrix

The correlation matrix (Appendix 4) revealed that most of the correlations were above 0.30, as recommended by Hair et al. (1998). The correlation matrix indicated that the data shared common factors; therefore, the data was appropriate for factor analysis.

5.4.1.2 Inspection of Anti-image Correlation Matrix

The visual inspection of the anti-image correlation matrix (Appendix 5) revealed that the majority of the off-diagonal values were close to zero (absolute values less than 0.01). This result indicated that the data set was appropriate for factor analysis.

5.4.1.3 Bartlett's Test of Sphericity

Bartlett's test of sphericity is a statistical test for assessing whether the null hypothesis of the correlation matrix comes from a population of variables that are independent (Stewart, 1981). Stewart suggests that if the test value is large and the level of significance is low, then the null hypothesis is rejected. Rejection of the null hypothesis is an indication that the data set is appropriate for factor analysis. In the correlation matrix of this study, the test value was large (25218.223) and the level of significance low (0.000); therefore, the null hypothesis was rejected, indicating that the data set was appropriate for factor analysis.

5.4.1.4 Kaiser-Meyer-Olkin Measure of Sample Adequacy (MSA)

The Kaiser-Meyer-Olkin measure was also applied. The MSA index ranges from 0 to 1.0, reaching 1.0 when each variable is perfectly predicted without error by the other variables (Hair et al., 2006). In this study, the MSA index was 0.955. According to Kaiser and Rice (1974), this MSA value (0.90 +) is “marvellous”, which implied the variables belonged together, and were appropriate for factor analysis.

5.4.2 Factor Analysis Results

The assessment of statistical assumption tests revealed that the data set was appropriate for factor analysis. Consequently, principal component factor analysis was conducted on all of the items that were compiled from the literature review, as well as those perceived by the focus group participants. The key results are summarised in the following sections.

5.4.2.1 Latent Root Criterion

Latent root criterion considers all factors that have eigenvalues greater than 1 as significant (Stewart, 1981). Results of the latent root criterion³ demonstrate that ten dimensions should be extracted from the 69 variables submitted for factor analysis (Appendix 6, Table 27A). These ten dimensions explained 75.02 % of the variation in the data.

5.4.2.2 The Scree Test

Figure 5.1 shows that by laying a straight edge across the bottom portion of the roots, there are ten factors before the curve becomes approximately a straight line. This procedure indicates that the extraction of ten dimensions was appropriate for this analysis.

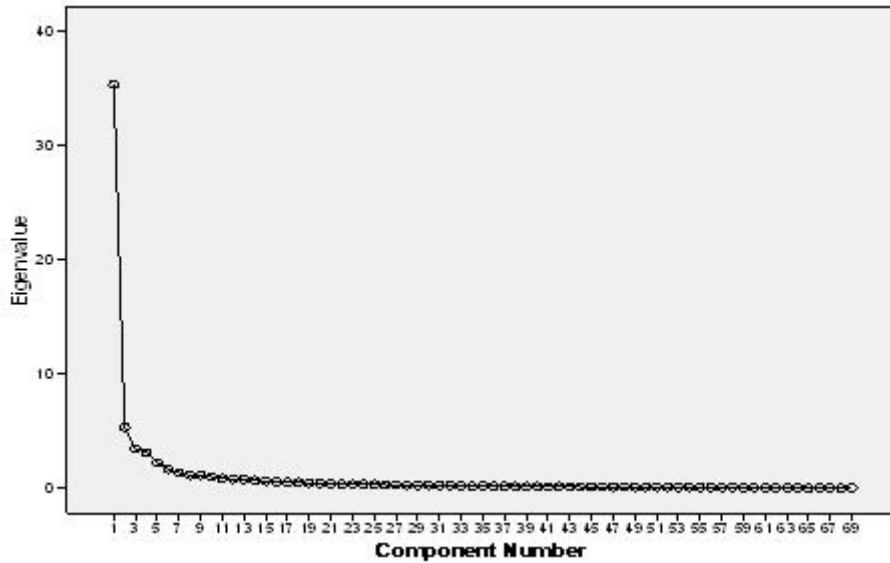


Figure 5.1: The Scree Plot

5.4.2.3 Factor Rotation

The selection of the final factors involved interpreting the computed factor matrix (Hair et al., 1998). In this study, the initial inspection of the unrotated factor matrix revealed that 64 variables highly loaded on a single factor. However, three variables (B35, B34, and B32) loaded on the other independent factor, and two variables (B27, B33) had insignificant factor loadings as they did not load on any factors. Because this matrix did not have any meaningful patterns, an orthogonal rotation (VARIMAX) and an oblique rotation (OBLIMIN) were conducted in order to reduce ambiguity.

After factor rotation, both the VARIMAX and OBLIMIN rotations (Appendix 7, Table 28A and 29A) demonstrated similar factor loadings as well as a similar factor structure on most of the variables. The only exception was that the OBLIMIN rotation demonstrated eleven factors, whereas VARIMAX only rotated ten factors. Moreover, OBLIMIN rotation determined variables B31, B30, B20 B21, B23, B28, B26, B25, B10, B24, B7, B16, B15 and B12 as insignificant, however, these variables were determined as significant in the VARIMAX rotation. However, both the VARIMAX and the OBLIMIN rotation determined that three variables (C4, C9, and B33) were insignificant and did not load on any factors.

Although the significance of the variable loadings was slightly different, and the significance of the loadings changed slightly between rotations, the variables consistently

loaded on the same factors for both the VARIMAX and the OBLIMIN rotations. As the factors were considered to be independent, the final factor structure was based on the VARIMAX rotation (Hair et al., 1998).

5.4.2.4 Factors Interpretation

Hair et al. (2006) recommend that a sample size of approximately 350, with factor loadings greater than ± 0.30 , should be considered significant. However, Hair et al. (2006) also suggested that factor loadings greater than ± 0.50 were considered more practically significant. Therefore, in this study, ± 0.50 was used as the cut-off point for factor loadings.

VARIMAX considered the factor loadings ± 0.50 for all 65 variables practically significant. Four variables (B1, B33, C4, and C9) were not significant and these variables were not retained in the analysis. Ten factors were extracted from the data set after using Varimax rotation method. This method produced a factor structure that satisfied the factor analysis assumptions and more closely represented the factors derived from the literature review and the focus group interviews. Nine variables (B23, B8, B13, A13, A15, A16, C6, C11, and C8) had loadings of 0.50 or greater on two factors (see Appendix 8 for details of the variable loadings). The remaining 56 variables had significant loadings on only one factor. Consequently, ten factors were subsequently named in accordance with the construct that they represented. These ten factors were: (1) Staff Professionalism, (2) Accuracy of Reservation, (3) Tangibles, (4) Cleanliness and Comfort, (5) Noise Level, (5) Parking, (7) Security, (8) Accuracy of Billing, (9) Location, and (10) Pleasant Stay.

5.4.3 Summated Scale

Before summation of the items, the content validity, dimensionality and reliability of the measurement scales were assessed.

5.4.3.1 Content Validity

All variables (items) were inspected by the researcher and two marketing experts to ensure that they were an adequate and a thorough representation of the construct under investigation. In the final rotation, all the items loaded on the sub-dimensions that were originally proposed to represent the primary dimensions. It was therefore concluded that the items exhibited adequate content validity.

5.4.3.2 Dimensionality

As noted in Section 5.4.2.4, nine variables out of total 65 variables (B23, B8, B13, A13, A15, A16, C6, C11, and C8) loaded on two factors indicating they were associated with the two factors (see Appendix 7, Table 28). However, these nine variables highly loaded on one factor, and moderately loaded on a different factor in the component matrix. Hence these nine variables were included to represent the most highly loaded factor.

5.4.3.3 Reliability

The remaining items were then subjected to reliability tests. The Cronbach's Coefficient Alpha was used to calculate the reliability of each sub-dimension. All of the factors have a Cronbach's Coefficient Alpha value greater than 0.60, as suggested by Churchill (1979), for explanatory research. The variables used in the summated scale and their Cronbach's Coefficient Alpha value are summarised in Tables 5.6, 5.7 and 5.8.

Table 5.6: Reliability of Scaled Items for the Sub-dimensions for Interaction Quality

Sub-Dimension	Cronbach's Alpha	Item No.	Items	Rotation Loading
Staff Professionalism	0.970	A1	I feel welcome at this motel	0.838
		A2	The staff are polite and courteous	0.838
		A9	The staff are willing to provide a good service	0.830
		A8	Receive individual attention when have specific needs	0.822
		A5	The staff have good communication skills	0.821
		A3	The staff speak in a welcoming tone	0.819
		A4	Can rely on the professional knowledge of the staff	0.817
		A11	The staff handle my problems promptly	0.787
		A7	The staff are well trained and knowledgeable	0.785
		A10	The staff perform the service dependably and accurately	0.782
		A12	The staff provide all the information that I need	0.773
		A6	Proactively make social interactions with customers	0.756
		A13	Problems are solved promptly	0.693
		A14	The staff perform the services at the time promised	0.679
		A17	The staff are willing to assist me with my requests	0.664
		A15	The staff handle my complaints directly and immediately	0.662
		A16	Services are delivered at the time promised	0.624
A22	The staff are amicable and approachable	0.507		
Accuracy of Reservation	0.887	A20	The check-in experience is efficient and pleasant	0.784
		A19	The reservation information is accurate	0.773
		A21	Accurately operate the computing reservation system	0.772
		A18	The staff understand the technology used in bookings	0.759

Table 5.7: Reliability of Scaled Items for the Sub-dimensions for Physical Environment Quality

Sub-Dimension	Cronbach's Alpha	Item No.	Items	Rotation Loading
Tangibles	0.966	B26	The room lighting is adequate and comfortable	0.791
		B28	The bath tub/spa/sauna area is clean	0.749
		B29	The design of the motel building is visually appealing	0.745
		B24	Basic products (e.g. coffee, tea) services (laundry/ironing)	0.741
		B25	The basic products and service are of a good quality	0.735
		B10	The room temperature level is pleasant	0.709
		B16	The lighting in car park area is adequate at night	0.702
		B7	The temperature level of my room is comfortable	0.702
		B3	The maintenance of this motel is of a high standard	0.682
		B12	The corridor lighting is adequate at night	0.681
		B31	The size of bath area is suitable	0.672
		B9	Appealing décor of this motel is aesthetically attractive	0.672
		B21	The technological facilities (e.g. Sky, Internet)	0.668
		B23	The bath facilities (e.g. spa/sauna)	0.662
		B8	The standard of housekeeping in my room	0.648
		B30	The brochures and pamphlets are visually appealing	0.645
		B2	The exterior décor of this motel is stylish and attractive	0.609
B20	The housekeeping personnel are professional	0.600		
B15	The technology facilities in my room are in good working condition	0.575		
Cleanliness and Comfort	0.951	B13	The bed is comfortable	0.848
		B14	The mattress/pillow/bed sheets are of good quality	0.828
		B18	The pillows, bed sheets and duvet covers are clean	0.807
		B22	The bed/mattress/pillow/bed sheets enable a good rest	0.796
		B17	The kitchen facilities are clean	0.786
		B11	The bathrooms and toilets are hygienic	0.763
Noise Level	0.955	B5	The motel room is quiet	0.917
		B4	I am not disrupted by noise outside my room	0.908
		B6	The level of noise in my room is agreeable	0.905
Parking	0.891	B34	The parking area is ample	0.874
		B35	The parking area is easy to access	0.868
		B32	The layout of car park makes it easy for cars to move	0.845
Security	0.885	B19	There is an accessible fire exit in the room	0.760
		B27	A secure safe is available in the complex	0.689

Table 5.8: Reliability of Scaled Items for Outcome Quality

Sub-Dimension	Cronbach's Alpha	Item No.	Items	Rotation Loading
Accuracy of Billing	0.881	C1	The billing of my motel stay is accurate	0.703
		C3	The financial transactions are clear and accurate	0.685
Location	0.921	C10	The motel is conveniently located to all amenities	0.904
		C2	The supermarkets, restaurants are all conveniently located around	0.883
		C12	The motel has good access to all amenities	0.877
Pleasant Stay	0.934	C7	The comfortable surroundings of the room enable to get restful sleep	0.628
		C5	The ambience of the room helped me to get a good nights sleep	0.622
		C6	When I leave this motel, I feel that my expectations have been met	0.620
		C11	At the end of my stay, I feel that I have had a good experience	0.609
		C8	My motel stay has been an enjoyable experience	0.598

Table 5.9: Reliability of Scaled Items for Behavioural Intentions and Related Constructs

Construct	Cronbach's Alpha	Item No.	Items
Service Quality	0.925	D3 D2 D5	The overall quality offered by the motel is excellent Overall, this motel provides a satisfying service The quality of this motel can be considered superior when compared to other motels
Value (Price)	0.932	D4 D6 D10	The price per night of the motel stay is reasonable, given the quality of stay This motel provides good value for money Overall, I am satisfied with the value I received, for the price that I paid
Customer Satisfaction	0.940	D1 D7 D9	Overall experience and stay within the motel is satisfying Made the right choice by choosing to stay at this motel This motel experience has satisfied my needs and wants
Behavioural Intentions	0.951	D11 D12 D13	I would recommend this motel to a friend or colleague I would return to this motel if I am back to Christchurch I would consider this motel as my first choice if I return to Christchurch

The Cronbach Coefficient Alpha was also used to measure the reliability of the higher order constructs: Service Quality, Customer Satisfaction, Value (price), and Behavioural Intentions. The alpha level for the three service quality items was 0.925, 0.932 for the three value (price) items, 0.940 for the three customer satisfaction items, and 0.951 for the three future behavioural intention items. Therefore, it was concluded that all these measures demonstrated reliability.

All of the summated scales were judged to demonstrate sufficient validity, unidimensionality, and reliability for a newly developed questionnaire. The mean of each of the scales was then used to represent each of the dimensions for further analysis (see Tables 5.6, 5.7, 5.8, and 5.9).

5.5 Assessment of Multiple Regression and ANOVA

5.5.1 Assumptions for Regression Analysis and ANOVA

To ensure a robust result, a series of statistical assumption tests were assessed for each of the seven multiple regression models.

5.5.1.1 Outliers

Each one of the seven regression models was examined to ensure that outliers were not present. Outliers were identified as the outlying observations whose standardised residual is greater than 3. As recommended by Maddala (2001), outliers were removed from the analysis in order to reduce their influence on the performance of the regression models.

5.5.1.2 Multicollinearity

Multicollinearity was assessed for each regression equation. The initial inspection of the Pearson Correlation Matrix (see Appendix 9, Tables 31A-38A) for each of the regression models revealed that the correlations between the independent variables did not exceed 0.80. The R^2 values for each regression model were not excessively high. In addition, the F-values for all regression models were highly significant, and individual t-values were also significant except for two variables in separate models.

Collinearity (Appendix 9, Table 39A) was also assessed for all of the regression models. The values of Tolerance for all regression models were greater than 0.20. According to Drazin and Rao's (1999) rule of thumb, tolerance values greater than 0.20 do not indicate problems with interpretability. In addition, according to O'Brien (2007), values of the Variance Inflation Factor (VIF) of 10, 20, 40 or higher, call for the elimination of one or more independent variables from the analysis. The results of this analysis revealed that the VIF values for all of the independent variables in each regression model were less than 8.0. Therefore, none of the independent variables in each of the seven regression models were eliminated. In addition, the VIF values for the seven regression models were less than $1/(1-R^2)$, indicating that the independent variables were related to the dependent variables more than to each other. Multicollinearity was therefore not deemed to be a serious problem. In addition, all tolerance values were above 0.20 for each model, however, the condition indices for Regression Model 2, 4 and 6 indicated that there were potential multicollinearity problems (as evidenced by the condition indices >30). However, several researchers argue that this is only an informal rule of thumb for detecting multicollinearity level (Niu, 2007). Further, Niu (2007) suggests a superior commonly used rule of thumb for detecting a high degree of multicollinearity is to examine if the VIF is 10 or higher (or equivalently, tolerances of 0.10 or less). Following this rule, no serious multicollinearity problems were found in any of the regression models.

In addition, a further examination of the results of the Pearson Correlation Matrix and the multiple regression results showed that no large unexpected changes occurred in the direction and magnitude of the coefficients. These results suggest that while there was a degree of multicollinearity in each of the models (if as evidenced by the conditional indices only), multicollinearity was not seriously impacting on any of the regression models.

5.5.1.3 Linearity

The scatter plot of standardised residuals versus the fitted values (see Appendix 10, Figure 9A) for all seven regression models were visually inspected. The plots did not reveal any systematic pattern, thus providing support for the specified linear relationship.

5.5.1.4 Error Term Normality

Both the histogram residual plots and the normality probability plots (PP) were plotted to assess normality (see Appendix 11, Figures 10A and 11A). The histogram plots revealed that the distribution approximated the normal distribution, and that the P-P plots were approximately a straight line instead of a curvature. Accordingly, the residuals were deemed to have a reasonably normal distribution.

5.5.1.5 Error Term Independence

The Durbin-Watson test was computed to diagnose independence of the error terms, the test value and the corresponding critical value are summarised in Table 5.10.

Table 5.10: Durbin-Watson Test Statistics

Model	Dependent Variable	Durbin-Watson	Critical Value (at 1% level)	
			DL	DU
1	Interaction Quality	1.977	1.653	1.693
2	Physical Environment Quality	1.832	1.633	1.715
3	Outcome Quality	2.028	1.643	1.704
4	Service Quality	1.914	1.643	1.704
5	Customer Satisfaction	1.938	1.664	1.684
6	Customer Satisfaction	Step 1: 2.067	1.653	1.693
		Step 2: 2.058	1.653	1.693
7	Behavioural Intentions	1.902	1.653	1.693

As documented in Table 5.10, the results of Durbin-Watson test for each of the seven models were greater than the DU, which indicates that there was no auto-correlation in the residuals. Thus, the assumption of independence of the error terms was achieved.

5.5.1.6 Error Term Homoscedasticity

The error terms are expected to have equal variances. In the scattered residual plots (see Appendix 10, Figure 9A), the residual scattered randomly about the zero line and did not

exhibit a triangular-shaped pattern, thus providing sufficient evidence that the error terms are homoscedastic.

5.5.2 Results Pertaining to Research Objective 1 (Hypothesis 1 through 6)

This section presents the results relating to Hypotheses 1 through 6 that were formulated in order to answer Research Objective 1. Hypotheses 1, 2 and 3 were proposed to test the second-order of the hierarchical model. The summated scaled sub-dimensions were regressed against their pertaining primary dimensions as derived from the literature review, perceived by focus group respondents, determined by the researcher, and confirmed by the exploratory factor analysis. Hypotheses 4, 5 and 6 were proposed to test the first-order of the hierarchical model; therefore, the primary dimensions were regressed against Total Service Quality.

5.5.2.1 Hypothesis 1

The results relating to Hypothesis 1 are presented in Table 5. 11. The independent variables, Staff Professionalism and Accuracy of Reservation were regressed against the primary dimension Interaction Quality.

Table 5.11: Model 1 - Multiple Regression Results Relating to Hypothesis 1

Model 1	Unstandardised		Standardised Coefficient Beta	t	Sig.
	Coefficient B	Std. Error			
Interaction Quality					
(Constant)	-0.081	0.212		-0.383	0.702
Staff Professionalism	0.987	0.029	0.886	34.418	0.000
Accuracy of Reservation	0.041	0.033	0.031	1.222	0.223

Adjusted R²=0.807 *** Significant at 1% level
 F=730.101*** ** Significant at 5% level
 * Significant at 10% level

The F statistic of the regression is 730.101 (significant at p<0.01), indicating that there is sufficient evidence to substantiate the model's usefulness in predicating perceived Interaction Quality. Further, the adjusted coefficient of determination (R²) reveals that

80.7% of the variance in Interaction Quality was explained by the regression model. The p-values of the t-tests were significant at 1% level for Staff Professionalism, indicating that the beta coefficients for the Staff Professionalism sub-dimensions are significant, and explain some of the variation in Interaction Quality. However, the p-value of the t-test for Accuracy of Reservation is insignificant, showing that when the other sub-dimensions are included in the model, the beta coefficient for the Accuracy of Reservation sub-dimension does not help explain the additional variation in Interaction Quality. Therefore, the results only partially support Hypothesis 1.

5.5.2.2 Hypothesis 2

Hypothesis 2 was tested using Model 2. The regression model for Hypothesis 2 has Physical Environment Quality as the dependent variable and five pertaining sub-dimensions as the independent variables. The five sub-dimensions associated with Physical Environment Quality are: Tangibles, Cleanliness and Comfort, Noise Level, Parking, and Security. The test results relating to Hypothesis 2 are presented in Table 5.12.

Table 5.12: Model 2 - Multiple Regression Results Relating to Hypothesis 2

Model 2	Unstandardised		Standardised Coefficient Beta	t	Sig.	
	Coefficient B	Std. Error				
Physical Environment Quality						
(Constant)	-0.213	0.185		-1.152	0.250	
Tangibles	0.613	0.058	0.531	10.535	0.000	***
Cleanliness and Comfort	0.242	0.044	0.238	5.469	0.000	***
Noise Level	0.077	0.027	0.096	2.868	0.004	***
Parking	0.052	0.020	0.078	2.574	0.010	***
Security	0.076	0.032	0.080	2.385	0.018	**

Adjusted R²=0.763 *** Significant at 1% level
 F=224.534*** ** Significant at 5% level
 * Significant at 10% level

The F statistic of the regression is 224.534 (significant at p<0.01), indicating that there is sufficient evidence to substantiate the model's usefulness in predicating perceived Physical

Environment Quality. Further, the adjusted coefficient of determination (R^2) reveals that 76.3% of the variance in Physical Environment Quality is explained by the independent variables in the regression model. The results indicate that Tangibles, Cleanliness and Comfort, Noise Level, and Parking are at 1% level of significance, and 5% level of significance for Security. Hence, these five sub-dimensions are significant, and explain some of the variation in Physical Environment Quality. Therefore, the results statically support Hypothesis 2.

5.5.2.3 Hypothesis 3

The regression model for Hypothesis 3 has Outcome Quality as the dependent variable and three pertaining sub-dimensions as the independent variables. The three sub-dimensions relating to Outcome Quality are: Accuracy of Billing, Location, and Pleasant Stay. The test results relating to Hypothesis 3 are presented in Table 5.13.

Table 5.13: Model 3 - Multiple Regression Results Relating to Hypothesis 3

Model 3	Unstandardised		Standardised Coefficient Beta	t	Sig.
	Coefficient B	Std. Error			
Outcome Quality (Constant)	-0.023	0.227		-0.103	0.918
Accuracy of Billing	0.118	0.038	0.095	3.082	0.002 ***
Location	0.141	0.031	0.155	4.603	0.000 ***
Pleasant Stay	0.755	0.038	0.714	19.896	0.000 ***

Adjusted $R^2=0.753$ *** Significant at 1% level
F=354.229*** ** Significant at 5% level
 * Significant at 10% level

The F statistic of the regression is 354.229 (significant at $p<0.01$), indicating that there is sufficient evidence to substantiate the model's usefulness in predicating perceived Outcome Quality. Further, the adjusted coefficient of determination reveals that 75.30% of the variance in the dependent variables is explained by the independent variables in the regression model.

The sub-dimensions of Accuracy of Billing, Location, and Pleasant Stay are all significant at the 1% level of significance and positively affected the Outcome Quality primary dimensions (see Table 5.13). Therefore, Hypothesis 3 is supported by the statistical test results.

5.5.2.4 Hypotheses 4, 5 and 6

The results of Model 4 relating to Research Objective 1, and to Hypotheses 4, 5 and 6 are presented in Table 5.14. The independent variables of Interaction Quality, Physical Environment Quality and Outcome Quality are regressed against Service Quality to test the three service quality primary dimensions' effects on Service Quality. The results are summarised in Table 5.14.

Table 5.14: Model 4 - Multiple Regression Results Relating to Hypothesis 4, 5 and 6

Model 4	Unstandardised		Standardised Coefficient Beta	t	Sig.	
	Coefficient B	Std. Error				
Service Quality (Constant)	-0.166	0.157		-1.055	0.292	
Interaction Quality	0.083	0.034	0.083	2.476	0.014	**
Physical Environment Quality	0.237	0.043	0.212	5.554	0.000	***
Outcome Quality	0.695	0.043	0.665	16.032	0.000	***

Adjusted R²=0.821 *** Significant at 1% level
 F=533.328*** ** Significant at 5% level
 * Significant at 10% level

The F statistic of the regression is 533.328 (significant at p<0.01), indicating that there is sufficient evidence to substantiate the model's usefulness in predicating perceived Service Quality. The adjusted R² reveals that 82.1% of the variance in Service Quality is explained by Interaction Quality, Physical Environment Quality, and Outcome Quality in the regression model. Two of the independent variables for Model 4 are significant at 1% level of significance, except for Interaction Quality which is significant at 5% level of significance.

Since the primary dimensions of Interaction Quality, Physical Environment Quality, and Outcome Quality all positively affect Service Quality, as documented in Table 5.14, these variables each help explain some of the variation in Service Quality. Accordingly, Hypotheses 4, 5 and 6 are all supported by the statistical analysis.

5.5.2.5 Discussion Regarding Research Objective 1

There are nine significant sub-dimensions and one insignificant sub-dimension of service quality as perceived by motel customers in New Zealand. The nine significant sub-dimensions are Staff Professionalism, Tangibles, Cleanliness and Comfort, Noise Level, Parking, Security, Accuracy of Billing, Location, and Pleasant Stay. The beta coefficients suggest that increase in these sub-dimensions will positively affect their pertaining primary dimensions. However, the effect of Accuracy of Reservation on Interaction Quality is insignificant; therefore the Accuracy of Reservation sub-dimension does not significantly affect the primary dimension, Interaction Quality.

The support found for Hypotheses 4, 5 and 6 provides further evidence for the use of the primary dimensions, Interaction Quality, Physical Environment Quality and Outcome Quality as broad dimensions of service quality in the context of the motel industry. Furthermore, the results of Hypotheses 1 through 6 suggest that there is empirical support for a hierarchical model of service quality for the New Zealand motel industry.

5.5.3 Results Pertaining to Research Objective 2

This section presents the statistical test results relating to Hypothesis 7, 8 and 9 used to satisfy Research Objective 2. Research Objective 2 examines the relationship between Service Quality, Value (price), Customer Satisfaction and Behavioural Intentions.

5.5.3.1 Hypothesis 7

The results regarding the relationship between Service Quality and Customer Satisfaction (Hypothesis 7) are presented in Table 5.15.

Table 5.15: Model 5 - Multiple Regression Results Relating to Hypothesis 7

Model 5	Unstandardised		Standardised Coefficient Beta	t	Sig.
	Coefficient B	Std. Error			
Customer Satisfaction (Constant)	0.378	0.092		4.133	0.000
Service Quality	0.944	0.016	0.956	60.803	0.000

Adjusted R²=0.914 *** Significant at 1% level
 F=3697.048*** ** Significant at 5% level
 * Significant at 10% level

Service Quality is significant at the 1% level of significance. This variable has an adjusted R² of 0.914, explaining 91.4% of the variation in Customer Satisfaction. The F-test is also highly significant. These results indicate that Service Quality has a positive effect on Customer Satisfaction, supporting Hypothesis 7.

5.5.3.2 Hypothesis 8

Hypothesis 8 proposes that Value (price) moderates the relationship between Service Quality and Customer Satisfaction (Model 6). The test results are presented in Table 5.16.

The F statistic in model 6 is 2498.788 and is significant at the 1% level of significance in step one. The R² explains 93.5% of the variance in Customer Satisfaction. Service Quality and Value (price) is significant at the 1% level of significance.

In step two, the F statistic is significant at the 1% level of significance. The adjusted R² explains 88.1% of the variance in Customer Satisfaction. Service Quality x Value (price) is significant at the 1% level of significance indicating that the beta coefficients of both of the independent (Service Quality) and the moderating (Value) variable are significant. Therefore, Hypothesis 8 proposing that Value (price) has a moderating effect on the relationship between Service Quality and Customer Satisfaction is statistically supported.

Table 5.16: Model 6 - Multiple Regression Results Relating to Hypothesis 8

Model 6	Unstandardised		Standardised Coefficient Beta	t	Sig.	
	Coefficient B	Std. Error				
Step 1						
Customer Satisfaction						
(Constant)	0.373	0.080		4.685	0.000	
Service Quality	0.588	0.036	0.596	16.281	0.000	***
Value (price)	0.358	0.034	0.388	10.607	0.000	***
Step 2						
Customer Satisfaction						
(Constant)	2.809	0.063		44.820	0.000	
(Moderating)						
Service Quality × Value (price)	0.089	0.002	0.939	50.706	0.000	***

Step 1 *** Significant at 1% level
Adjusted R²=0.935 ** Significant at 5% level
F=2498.788*** * Significant at 10% level

Step 2
Adjusted R²=0.881
F=2571.133***

5.5.3.3 Hypothesis 9

The relationship between Customer Satisfaction and Behavioural Intentions (Hypothesis 9) was examined, and the test results are presented in Table 5.17.

Table 5.17: Model 7 - Multiple Regression Results Relating to Hypothesis 9

Model 7	Unstandardised		Standardised Coefficient Beta	t	Sig.	
	Coefficient B	Std. Error				
Behavioural Intentions						
(Constant)	-0.622	0.150		-4.136	0.000	
Customer Satisfaction	1.100	0.025	0.919	43.473	0.000	***

Adjusted R²=0.844 *** Significant at 1% level
F=1889.917*** ** Significant at 5% level
 * Significant at 10% level

The adjusted R^2 reveals that 84.4% of the variation in Behavioural Intentions is explained by Customer Satisfaction. In addition, the F statistic is highly significant. Customer Satisfaction is significant at the 1% level of significance and explained a high degree of the variation in Behavioural Intentions. Therefore, Hypotheses 9 is statistically supported.

5.5.3.4 Discussion Regarding Research Objective 2

Service Quality is proven to be positively influenced by motel customers' perceptions of the three primary dimensions. The standardised coefficients of Interaction Quality, Physical Environment Quality and Outcome Quality explained Service Quality numerically, and identified that Outcome Quality ($\beta = 0.665$) has the most influential effect on Service Quality, followed by Physical Environment Quality ($\beta = 0.212$), and Interaction Quality ($\beta = 0.083$). The standardised coefficient of Value (price) ($\beta = 0.939$) shows that the motel customers' perceptions of Value (price) positively moderates the relationship between Service Quality and Customer Satisfaction. In addition, the increasing favourable perceptions of Service Quality ($\beta = 0.956$) has a positive effect on Customer Satisfaction. The Behavioural Intentions of motel customers are positively affected by an increase in Customer Satisfaction ($\beta = 0.919$).

5.5.4 Results Pertaining to Research Objective 3

Multiple regression Models 1, 2, 3 and 4 were used to identify the least and most important Service Quality dimensions as perceived by motel customers. The results are presented in Tables 5.11 to 5.14.

5.5.4.1 Hypothesis 10

Hypothesis 10a hypothesized that customers perceived each of the three primary dimensions to be more or less important, and this result is supported by the statistical test results. The most important primary dimension perceived by customers was Outcome Quality ($\beta = 0.665$), followed by Physical Environment Quality ($\beta = 0.212$) and Interaction Quality ($\beta = 0.083$).

Hypothesis 10b hypothesized that the sub-dimensions pertaining to the three primary dimensions would vary in importance, providing support for Hypothesis 10. The variations are summarised in Figure 5.2, which lists all the standardised beta coefficients of the seven regression models.

5.5.4.2 Discussion Regarding Research Objective 3

The three primary dimensions (Interaction Quality, Physical Environment Quality and Outcome Quality) vary in terms of their importance to overall Service Quality. In addition, each of the pertaining sub-dimensions also varies in importance to each of the primary dimensions. The statistical test results for the seven regression models are illustrated in Figure 5.2, with the standardised coefficients listed next to all the significant paths.

Outcome Quality is perceived as the most important primary dimension and has three significant sub-dimensions: Pleasant Stay ($\beta = 0.714$) is perceived as the most important sub-dimension, followed by Location ($\beta = 0.155$) and Accuracy of Billing ($\beta = 0.095$).

Physical Environment Quality is the second most important primary dimension of Service Quality. Physical Environment Quality has five significant sub-dimensions: Tangibles ($\beta = 0.531$) are perceived as the most important sub-dimension, followed by Cleanliness and Comfort ($\beta = 0.238$), Noise Level ($\beta = 0.096$), Security ($\beta = 0.080$), and Parking ($\beta = 0.078$).

Interaction Quality is perceived as the least important dimension among the three Service Quality primary dimensions. Interaction Quality has Staff Professionalism ($\beta = 0.886$), which is perceived as the most significant sub-dimension. The sub-dimension of Accuracy of Reservation is considered as insignificant; however, the variable does have a small impact on the perceptions of Interaction Quality ($\beta = 0.031$).

.....Moderating effect

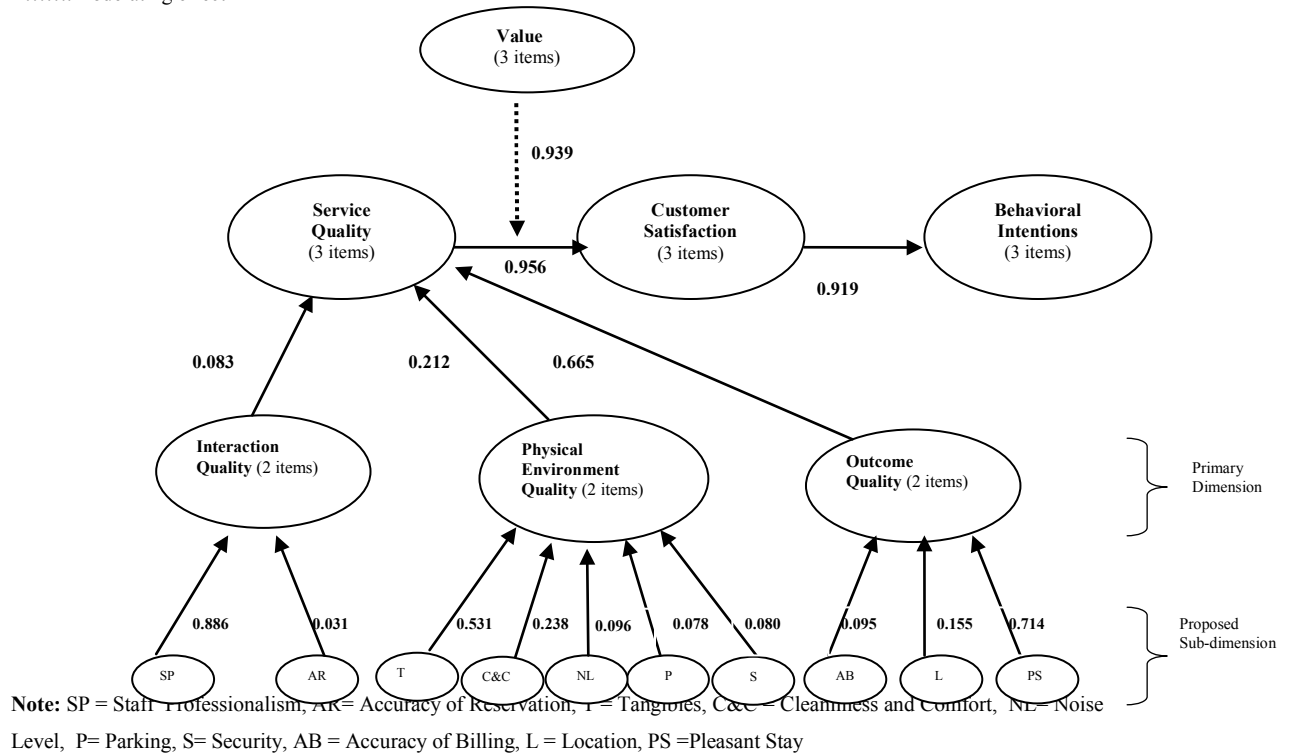


Figure 5.2: Behavioural Intentions in the Motel Industry: Path Model

5.5.5 Results Pertaining to Research Objective 4

In order to answer Research Objective 4, Hypothesis 11a, 11b, and 11c have been formulated to test whether there are different perceptions between groups based on the demographic characteristics of the respondents. One crucial assumption for an analysis of variance to be effective is that the groups being compared must be of a similar sample size (Hair et al., 1998). In this study, three groups (Gender, Marital Status and Occupation) fulfilled this criteria. However, Age, Annual Income, Country of Origin, and Ethnic Background have disproportionate sample sizes. In order to improve the analysis of the data, the respondents were regrouped under their demographic characterises. The Age Groups were combined into five groups: under 30, 30- 39, 40-49, 50-59 and 60 years over. The Annual Household Income Groups were combined into two categories: under NZ\$60,000 and over NZ\$60,000. The Country of Origin Group was divided into Oceania and International respondents. The Ethnic Background groups were also combined into two groups: Domestic and International respondents.

5.5.5.1 Hypothesis 11a

Hypothesis 11a proposes that motel customers' level of satisfaction, influential factors, and favourable future behavioural intentions will differ according to each customer's demographic characteristics. The results show that Service Quality, Value (price), Customer Satisfaction, and Behavioural Intentions (at 1% level of significance) are all perceived differently within the Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background groups. The F statistics show that the mean of the Behavioural Intentions and its related constructs are all significantly different (at 1% level of significance) among the six demographic characteristics, except Gender. Table 5.18 summarises the ANOVA test results related to Hypothesis 11a, and the significant perceptual differences are indicated.

Table 5.18: ANOVA Results Relating to Hypothesis 11a

Construct	Gender	Age	Marital Status	Occupation	Annual Income	Country of Origin	Ethnic Background
Service Quality		***	***	***	***	***	***
Value (price)		***	***	***	***	***	***
Customer Satisfaction		***	***	***	***	***	***
Behavioural Intentions		***	***	***	***	***	***

*** Significant at 1% level

5.5.5.2 Hypothesis 11b

Hypothesis 11b hypothesizes that there are perceptual differences in the Primary Dimensions, Interaction Quality, Physical Environment Quality and Outcome Quality within the Gender, Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background Groups. The perceptions of the three primary dimensions do not differ significantly between male and female groups. The six demographic groups all have different perceptions within the Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background Groups at the 1% level of significance, except for their perceptions of Interaction Quality which is significant at the 10% level of significance within Annual Income groups (see Appendix 12, Table 41). Table 5.19 summarises the

ANOVA test results associated with Hypothesis 11b, and the significant perceptual differences are noted.

Table 5.19: ANOVA Results Relating to Hypothesis 11b

Primary Dimension	Gender	Age	Marital Status	Occupation	Annual Income	Country of Origin	Ethnic Background
Interaction Quality		***	***	***	*	***	***
Physical Environment Quality		***	***	***	***	***	***
Outcome Quality		***	***	***	***	***	***

*** Significant at 1% level

* Significant at 10% level

5.5.5.3 Hypothesis 11c

Hypothesis 11c hypothesizes that there are perceptual differences of the sub-dimensions of service quality according to each motel customer's demographic characteristics (e.g. Gender, Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background Groups). The results indicate that there is a mean perceptual difference of each sub-dimension within the seven demographic groups (see Appendix 12, Table 42).

The F-statistics of the sub-dimensions indicate that there are perceptual differences in the Accuracy of Billing between the Male and Female Groups at the 10% level of significance. There are perceptual differences of the sub-dimensions: Staff Professionalism, Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Security, Accuracy of Billing, and Pleasant Stay within the Age Group at the 1% level of significance, and Noise Level at the 10 % level of significance. However, the sub-dimensions of Parking and Location are insignificant within the Age Group. The Marital Status group has perceptual differences in seven sub-dimensions at the 1% level of significance: Staff Professionalism, Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Security, Accuracy of Billing, and Pleasant Stay. While the Marital Status group has no perceptual differences in Noise Level, Parking, and Location sub-dimensions.

The Tangibles, Security, Accuracy of Billing, Pleasant Stay sub-dimensions, and the Staff Professionalism, Accuracy of Reservation, Noise Level, Parking sub-dimensions are perceived differently within the Occupation group at the 1% and 5% level of significance,

respectively. However, Location is perceived as the insignificant sub-dimension within the Occupation Group. The Annual Income Group has perceptual differences on five sub-dimensions: Staff Professionalism (at 10% level of significance), Tangibles (at 1% level of significance), Noise Level (at 10% level of significance), Security (at 1% level of significance), and Accuracy of Billing (at 5% level of significance). The Country of Origin Group has perceptual differences on all nine sub-dimensions at the 1% level of significance, except for the Parking sub-dimension, which is not significant. As for the Ethnic Background group, there were perceptual differences at 1% level of significance for six sub-dimensions: Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Security, Accuracy of Billing, and Pleasant Stay. However, the Noise Level, Parking and Location sub-dimensions are considered as insignificance within the Ethic Background Group. Table 5.20 presents a summary of ANOVA results relating to Hypothesis 11c, and the significant perceptual differences are indicated.

Table 5.20: ANOVA Results Relating to Hypothesis 11c

	Gender	Age	Marital Status	Occupation	Annual Income	Country of Origin	Ethnic Background
Staff Professionalism		***	***	**	*	***	**
Accuracy of Reservation		***	***	**		***	***
Tangibles		***	***	***	***	***	***
Cleanliness and Comfort		***	***	*		***	***
Noise Level		*		**	*	***	
Parking				**			
Security		***	***	***	***	***	***
Accuracy of Billing	*	***	***	***	**	***	***
Location						***	
Pleasant Stay		***	***	***		***	***

*** Significant at 1% level

* Significant at 10% level

** Significant at 5% level

5.5.5.4 Discussion Regarding Research Objective 4

The seven demographic groups (Gender, Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background) perceived significant differences on the sub-dimensions and primary dimensions of Service Quality, Value (price), Customer Satisfaction, and Behavioural Intentions. However, Gender groups have no perceptual differences between females and males on all sub-dimensions, except for the Accuracy of Billing sub-dimension. The Marital Status Group does have perceptual differences on most of the sub-dimensions, except for the Noise Level, Parking and Location sub-dimensions. Similarly, the Occupation Group have no perceptual differences of the Location sub-dimensions.

The Annual Income Group does have perceptual differences on the sub-dimensions, namely, Staff Professionalism, Tangibles, Noise Level, Security, and Accuracy of Billing. In addition, the Oceania and International Country of Origin Groups have significant differences on nine sub-dimensions: Staff Professionalism, Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Noise Level, Security, Accuracy of Billing, Location, and Pleasant Stay. Similarly, the New Zealand Europeans and International groups have perpetual differences on most of the sub-dimensions, except for the Noise Level, Parking, and Location sub-dimensions.

5.6 Chapter Summary

Chapter 5 presented the results based on the research methodology outlined in Chapter 4. A preliminary examination of the data set indicates that the questionnaire is reliable and valid. In addition, an examination of the data set indicates that the statistical assumptions required for performing factor analysis, regression analysis, and analysis of variance, have been met.

Following principal components factor analysis, the originally proposed 21 sub-dimensions were reduced to 10 sub-dimensions (see Appendix 7). Each path in the conceptual model (discussed in Section 3.3) was subsequently tested using seven multiple regression models. While Hypotheses 1 was partially supported, the remaining ten hypotheses were all supported by the statistical test results. The test results suggest that increasing the performance on Accuracy of Reservation sub-dimension may not positively affect the

performance of Interaction Quality. Hypothesis 11 proposed that the different perceptions may exist between demographic groups. The statistical test results demonstrate that of all the groups, the Occupation, and Country of Origin have the most perceptual differences within their groups.

Chapter 6: Conclusions and Implications

6.1 Introduction

This Chapter provides a summary of the research, reviews the findings, and reports several conclusions based on the results and discussion presented in Chapter Five. The theoretical and managerial contributions, limitations, and avenues for future research are also discussed.

6.2 Summary of the Study

The findings of the literature review presented in Chapter Two suggest that the hierarchical factor structure used to measure and conceptualise service quality in other service sectors may also be appropriate for use in the motel industry. Furthermore, the literature review, the focus groups, and the statistical analysis add support for the presence of a hierarchical structure consisting of three primary dimensions as the components of service quality in the motel industry: Interaction Quality, Physical Environment Quality and Outcome Quality.

The three primary dimensions of service quality identified in this study may be appropriate across industries and cultures; however several researchers (Brady & Cronin, 2001; Van Dyke et al., 1997; Teas, 1993) suggest that the service quality sub-dimensions should be developed specifically to cater for different service environments due to the instability of a common set of service quality sub- dimensions. In agreement with these researchers, this study has identified the service quality sub-dimensions for the motel industry in New Zealand, as perceived by motel customers, namely, Staff Professionalism, Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Noise Level, Parking, Security, Accuracy of Billing, Location, and Pleasant Stay.

Several constructs related to service quality have also been identified in the literature review. Service quality has been related to satisfaction (Caruana, 2002; Cronin & Taylor, 1994; Rust & Oliver, 1994), and value (price) (Zeithaml & Bitner, 2003; Caruana et al., 2000; Bolton & Drew, 1991), while favourable future behavioural intentions have been

related to satisfaction (Buttle, 1996; Bloemer & Kasper, 1995; Boulding et al., 1993). This study has analysed each of these constructs and the relationships between them respectively.

In order to achieve a better understanding of motel customers' perceptions of service quality and their effects of these perceptions on the related constructs such as satisfaction, value(price), and favourable future behavioural intentions, four research objectives were stated:

- (1) To identify the dimensions of service quality for a motel stay in New Zealand.
- (2) To determine the relationship between service quality, value (price), customer satisfaction, and behavioural intentions for a motel stay in New Zealand.
- (3) To identify the least and most important service quality dimensions as perceived by motel customers in New Zealand.
- (4) To examine the effects of demographic factors on New Zealand motel customers' perceptions of the service quality dimensions, service quality, customer satisfaction and behavioural intentions

These four research objectives were addressed by testing 11 hypotheses, developed in Chapter Three. Hypotheses 1 through 6 relate to Research Objective 1, Hypotheses 7 through 9 relate to research Objective 2, Hypotheses 10 relates to research Objective 3, and Hypothesis 11 relates to Research Objective 4.

6.3 Conclusions Pertaining to Research Objective 1

Research Objective One was satisfied. The dimensions of service quality, as perceived by motel customers in New Zealand, were identified. The primary dimensions of service quality are Interaction Quality, Physical Environment Quality, and Outcome Quality, as identified in the literature review, supported by the focus group interviews, and confirmed by the statistical analysis. The findings add support to the presence of a hierarchical factor structure of service quality as identified in Brady and Cronin's (2001) and Dabholkar et al.'s (1996) studies.

The results of the factor analysis reduced the twenty- one sub-dimensions originally proposed to ten sub-dimensions. The ten sub -dimensions are: Staff Professionalism,

Accuracy of Reservation, Tangibles, Cleanliness and Comfort, Noise Level, Parking, Security, Accuracy of Billing, Location, and Pleasant Stay. Some of the sub-dimensions are different in content from the sub-dimensions identified for the higher education sector (Clemes et al., 2007), the health care sector (Dagger, Sweeney, & Johnson, 2007), the recreational sports industry (Ko & Pastore, 2005), the travel and tourism industry (Caro & García, 2008), and also from Brady and Cronin's (2001) study across four service industries. This finding supports the contention of earlier studies (Van Dyke et al., 1997) that have identified different dimensional structures across services industries.

The ten sub-dimensions identified in this study are similar in content to the dimensions factored by other researchers that have focused on the hotel industry (LeBlanc & Nguyen, 1996; McCleary et al., 1993; Ananth et al., 1992; Barsky & Labagh, 1992; Rivers et al., 1991). However, the ten sub-dimensions do differ in number from other hotel studies in New Zealand and Australia (Lockyer, 2002; Wei et al., 1999).

Accuracy of Reservation was one of the service quality sub-dimensions identified in the factor solution. However, this sub-dimension was identified as insignificant in Regression Model 1, but the sub-dimension of Accuracy of Reservation did slightly contribute to the variation in Interaction Quality so it was retained in the analysis (as discussed in Section 5.5.2.1). The different sub-dimensional factor structure identified in this study does support the view that the dimensionality of the service quality construct is dependent on the service industry under investigation, and supports the claims that industry and cultural-specific measures of service quality need to be developed to identify different dimensional structures (Brady & Cronin, 2001; Clemes et al., 2001; Dabholkar et al., 1996).

6.4 Conclusions Pertaining to Research Objective 2

Research Objective Two was satisfied as each of the hypothesised paths (Hypotheses 7, 8 and 9) relating to Service Quality, Satisfaction, Value (price), and Future Behavioural Intentions in the conceptual model were confirmed.

Service Quality explained 91.4 % of the variation in Customer Satisfaction (see Section 5.5.3.1), supporting the claim that Service Quality is an antecedent of customer satisfaction (Caruana, 2002; Teas, 1994; Parasuraman et al., 1994; Cronin & Taylor,

1992); 82.1% of the variance in Service Quality was explained by Interaction Quality, Physical Environment Quality and Outcome Quality, which illustrates there is a significant positive relationship between overall service quality and the three primary dimensions. This finding adds additional empirical support to the results of Brady and Cronin (2001)'s study. The two independent variables, Service Quality and Value (price) explained approximately 88.1% of the variation in Customer Satisfaction. This result is consistent with Caruana et al. (2000), Petrick and Backman (2002), and Zeithaml (1988)'s findings that service quality leads to both satisfaction and value. Furthermore, the statistical analysis indicates that the perceptions of value (price) ($\beta = 0.939$) positively moderates the relationship between Service Quality and Customer Satisfaction; therefore, Hypothesis 8 is supported. This result also supports the empirical findings of Caruana et al. (2000) that value does play a moderating role between service quality and customer satisfaction.

The likelihood that respondents would return or recommend a motel stay is positively influenced by increased levels of Customer Satisfaction. 84.4% of the variation in the Favourable Future Behavioural Intentions is explained by Customer Satisfaction. Customer Satisfaction's beta coefficient ($\beta = 0.919$) indicates the construct has a strong impact on Behavioural Intentions in this study, supporting Satisfaction as a direct antecedent of Behavioural Intentions (Cronin et al., 2000; Tam 2000).

6.5 Conclusions Pertaining to Research Objective 3

Research Objective Three was satisfied as the least and most important service quality dimensions of a motel stay in New Zealand, as perceived by motel customers, were identified. The primary dimension, Outcome Quality, was perceived by motel customers as the most important primary dimension, followed by Physical Environment Quality, and Interaction Quality respectively. This finding suggests that motel customers perceived a pleasant stay (Outcome Quality) as more important than the motel's facilities and their interactions with staff. These findings support Powpaka's (1996)'s contention that outcome quality is perceived as the most important dimension when customers provide their overall evaluation of a service. The descriptive statistical results show that there was a higher percentage of business customers (e.g. Clerical or Sales Employee, 22.6%; and Proprietor or Self-employed, 18.9%) than private customers participating in the survey.

The result may be partially attributed to the importance of a restful night sleep for business customers. These customers are generally in the motel for only a short-term during their stay and often have little time to enjoy the facilities (Physical Environment Quality), or to have interactions with motel staff (Interaction Quality).

Physical Environment Quality was perceived as the second most important dimension of service quality in a motel setting and this finding is supported by Ryu & Jang's (2007) study on hotel service quality. The authors determined that the physical environment was one of the most influential factors affecting a customer's subsequent behaviours in hospitality service situations.

The results revealed that Interaction Quality was perceived as the least important primary dimension of service quality, inconsistent with Bieger and Laesser's (2004) study. The authors proposed that Interaction Quality was the major contributor to a service experience in the hospitality industry when compared to the servicescape. However, Interaction Quality is believed to be the least important primary dimension due to the small scale of the motels participating in this study. The customers at the motels participating in the survey do not have interactions with several staff members as they would in a large scale motel /hotel. The motels participating in the study normally only have one or two staff on duty during an eight hour shift and customers may have limited interactions with these employees.

Each of the sub- dimensions varied considerably in terms of their importance to the three primary dimensions (See Figure 5.2). Pleasant Stay ($\beta = 0.714$) was perceived as the most important sub-dimension of Outcome Quality, followed by Location ($\beta = 0.155$) and Accuracy of Billing ($\beta = 0.095$). This finding supports the results of Caro and García's, (2008) and Presbury et al.'s (2005) studies that determined a pleasant stay was elevated as an important factor by hotel customers. The result of this study is also consistent with Lockyer's (2005) hotel study that determined that location has a positive impact on customers' level of satisfaction. However, the significant sub-dimension, Accuracy of Billing identified in this study, was not identified as an important sub-dimension in the previous hotel literature.

Physical Environment Quality consists of five significant sub-dimensions, namely, Tangibles ($\beta = 0.531$), Cleanliness and Comfort ($\beta = 0.238$), Noise Level ($\beta = 0.096$), Security ($\beta = 0.080$), and Parking ($\beta = 0.078$). These results are consistent with the findings of Lockyer's (2005, 2002) studies that identified cleanliness and security systems as important factors influencing the hotel guests' accommodation selection process. This study has identified Tangibles as a significant sub-dimension of Physical Environment Quality and this result supports the findings of Ekinici, Prokopaki, & Cobanoglu's (2003) study that noted tangibles as an important attribute influencing the hotel customers' perception of quality. Moreover, this study has identified parking as a significant sub-dimension. This result supports Tzeng et al. (2002) and Teng's (2000) studies that good car parking conditions will attract more customers in the hospitality industry. In addition, noise level in this study has been empirically confirmed as a significant factor influencing a motel experience; however, no previous hotel literature has empirically supported this finding.

Staff Professionalism (e.g. staff knowledge, problem solving ability, helpfulness, and friendliness) is the most significant sub-dimension ($\beta = 0.886$) of Interaction Quality. The quality of personal interactions with employees has also been evaluated as an important factor for leisure travellers when they selected overnight accommodation (Knutson, 1988). The sub-dimension Accuracy of Reservation was perceived as only having a slight impact on Interaction Quality in this study. This finding is inconsistent with Akan's (1995) study that confirmed accuracy of reservations as significantly influencing hotel customers' perception of service quality in Turkey. This inconsistency may be attributed to the scale of the motels participating in this study who are reserving rooms for only 12 – 15 customers per day compared to the large scale of the hotels participating in Akan's (1995) study who may be reserving rooms for numerous customers each day.

6.6 Conclusions Pertaining to Research Objective 4

Research Objective Four was partially satisfied as the Gender Group perceived no differences on all of the constructs, except Accuracy of Billing. The statistical result implies that males and females had different perceptions of the accuracy of billing. The majority of male participants were business customers and the females who took part in this survey were largely private customers so females may be more likely to pay close attention to financial details, like the accuracy of their bill.

The Age, Marital Status, Occupation, Annual Income, Country of Origin, and Ethnic Background Groups exhibited perceptual differences on most the main constructs, primary dimensions, and pertaining sub-dimensions. The results of this study support the results of five studies on hotels that measured perceptual differences based on demographic characteristics. For example, the results of this study are consistent with Wong and Keung's (2000) study that identified perceptual differences in the Behavioural Intentions construct within an Age Group. The findings also support those of Skogland and Sigauw' (2004) who determined that there were perceptual differences in the Customer Satisfaction construct within an Age Group. This study has also identified perceptual differences in the Interaction Quality dimension within the Age Group, supporting Chow, Lau, Lo, Sha & Yun's (2007) and Mattila's (2000) results. However, the findings for the Physical Environment Quality dimension in this study are inconsistent with Chow et al.'s (2007) findings who determined that there were no perceptual differences in the Physical Environment Quality dimension within an Age Group.

The statistical results of this study did not support Chen's (2001) findings that there are perpetual differences in the Location sub-dimension within the Occupation Group. Furthermore, the statistical results show that Occupation and Country of Origin have the most significant perceptual differences among all of the demographic characteristics; however, these differences have not been empirically identified in the previous hotel literature.

6.7 Contributions

Satisfying the four research objectives of this study makes several contributions to the theoretical understanding of the motel industry.

6.7.1 Theoretical Implications

The results of this study add support to the use of a hierarchical factor structure to conceptualise and measure service quality, such as those developed by Dagger et al. (2007), Clemes et al. (2007), Brady and Cronin (2001), and Dabholkar et al. (1996).

However, the three service quality primary dimensions and pertaining sub-dimensions identified in this study may not be generic for all the motels service industries and for different cultures. In particular, the sub-dimensions need to be tested in specific motel service settings following suggestions by Brady and Cronin (2001) and Carman (1990).

The study provides a theoretical framework for understanding the effects of the three primary dimensions of service quality on several constructs including Satisfaction, Value (price) and Behavioural Intentions. The results of this study identified Service Quality as having the most influential effect on Satisfaction in the motel industry and the results also illustrate that Customer Satisfaction has a direct and significant impact on Behavioural Intentions. Moreover, Value (price) was empirically tested as a moderator variable between Service Quality and Customer Satisfaction. The significant result for Value (price) shows that Value (price) has a moderating effect on the relationship between Service Quality and Customer Satisfaction.

6.7.2 Managerial Implications

Resourcing the customer-important sub-dimensions will improve a motel's competitive positioning in the marketplace. The results of this study also provide an opportunity for motel management to use the information to increase favourable behavioural intentions, which will in turn, help to increase motel occupancy rates.

In relation to Research Objective One, the results of this study identified three primary dimensions of motel service quality and ten sub-dimensions pertaining to the primary dimensions. Moteliers can use the hierarchical model developed in this research in the strategic planning process as the model provides a framework for evaluating motel customers' perceptions of service quality and the higher order constructs. For example, motel managers of boutique motels can use the information in this study to increase favourable behavioural intentions, which will in turn, help to increase motel occupancy rates. However, as the dimensions of service quality vary across industries and cultures, moteliers should note that the primary and sub-dimensional structures must be developed for their own specific situation and cultural setting to accurately measure motel customers' perceptions of their motel experience.

In relation to Research Objective 2, the results of this research also provide moteliers with a better understanding of the effect that service quality and value (price) have on customer satisfaction and favourable future behavioural intentions. The results in this study show that improving motel customers' perceptions of service quality should effectively enhance a motel customer's level of satisfaction, and a higher level of satisfaction should ultimately lead to favourable behavioural intentions. In this vein, motel management should always invest effort into providing consistently good services to satisfy customers.

Moteliers should also carefully analyse their pricing strategy by understanding that value (price) mediates the relationship between service quality and customer satisfaction. Moteliers should be able to more accurately establish the trade-offs between higher/lower prices and higher/lower levels of service quality and the impact of these trade-offs on customer satisfaction.

In relation to Research Objective 3, the results of this study indicate that Outcome Quality is the most important dimension in a motel stay, followed by Physical Environment Quality, and then Interaction Quality. This finding suggests that motel management participating in this study may want to concentrate on Outcome Quality, followed by Physical Environment Quality, and then focus on Interaction Quality. The moteliers should note that the order of importance of the primary dimensions may vary for different geographic regions and for different cultures. However, the importance of the three primary dimensions still provides a good clue for moteliers to strategically allocate resources in order to achieve management efficiency.

Moteliers should concentrate on the sub-dimensions identified in this study, which are based on the empirical findings, since the empirical analysis provide more diagnostic value for the understanding of service quality, customer satisfaction, behavioural intentions, and the moderating effect of value. Moteliers may be able to improve overall service performance and achieve a higher level of overall customer satisfaction, and ultimately encourage favourable behavioural intentions more effectively and efficiently using this strategy.

In relation to Research Objective 4, the results (see discussion in Section 5.5.5) indicate that there are cultural differences between Oceania and International motel customers. Moteliers should be aware of the significant perceptual differences between Oceania and International customers. Moteliers may consider if it is more profitable to adjust their service strategy to cater more for International motel customers, especially Asian tourists who are predicted to increase in numbers during the next decade. For example, the moteliers may consider hiring Asian staff to improve communication with Asian customers in order to foster a better understanding of Asian customers' needs and wants.

6.8 Limitations

Although this study makes several contributions from both a theoretical and managerial perspective, there are a number of key limitations to address.

First, the study only focused on sampling customers from motels in one particular city. The sample was drawn from 15 relative small and standardized boutique motels in Christchurch City, and this may limit the generalisability of the results for those motels that have a larger room capacity and a more diversified rating.

Second, this exploratory study is the first one that has empirically examined the interrelationship between behavioural intentions, customer satisfaction, value (price), and service quality in the motel industry. There maybe some other predictors of satisfaction, such as image, which have an impact on behavioural intentions but were not examined in this study. Further empirical research is required to confirm the sub-dimensions identified in this study and to also analyze the important relationships between the sub-dimensions, primary dimensions, service quality and the higher order constructs.

Third, the data collection of the study was conducted in what is termed as “off peak” season for motels in the Canterbury region, therefore, the findings may not necessarily reflect customers' perceptions about service quality, value (price), satisfaction, and future behavioral intentions at other times of the year. This limitation may also decrease the generalisation of the findings and their implications.

Lastly, this study measured the perceptual differences between Oceania and International motel customers based on demographic characteristics. However the perceptual differences between Oceania and International motel customers based on all of their psychographic characteristics (e.g. personality, value, and lifestyle) were not identified in this study.

6.9 Avenues for Future Research

A number of avenues of future research have emerged as a result of this study:

- Future research may explore other factors that were not included in this study, which may also influence behavioural intentions, such as image that may have an impact on overall motel customers' satisfaction.
- Future research may factor the Staff Professionalism and the Tangibles sub-dimensions into more detailed sub-dimensions and this may provide additional diagnostic value for analysing service quality and satisfaction.
- Future research should use the hierarchical modelling approach developed in this study as a framework to investigate motels with different room capacities and supporting services (e.g. restaurant, swimming pool, entertainment room). The hierarchical modelling approach and methodology used in this study should provide motel management with valuable strategic information if it is applied in the same context.

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Appendices

Appendix 1: Cover Letter



Commerce Division
PO Box 84, Lincoln University,
Canterbury 7647, New Zealand
Telephone 64 3 325-2811
Facsimile 64 3 325-3847
www.lincoln.ac.nz

Dear Sir/Madam,

I am a Master's Degree student at Lincoln University in Christchurch, New Zealand. My Master research project involves asking customers about their perceptions of their motel experiences in New Zealand. You are invited to participate in this survey.

I ask your help with my project. Attached is a brief questionnaire, which should only take about 10 to 15 minutes, and your answers will be **completely anonymous and confidential**. However, in order to qualify for this research, you must at least 18 years old and have recently stayed in a full service New Zealand motel. This research is for my postgraduate study and the research findings will benefit marketers and practitioners (i.e. motel owners or managers) in the lodging sector. The aggregate results of this study may be used for future academic publications. Finally, the aggregate results of this study will be provided to motel owners/operators. If you choose to complete the survey, it will be understood that you have consented to participate in the research project and to publication of the results of the research project. This research has been reviewed and approved by the Lincoln University Human Ethics Committee.

Please fill out the questionnaire towards the end of your stay, and return the completed questionnaire to the drop box at the motel reception desk. I can be contacted by telephoning (03)356-2987, or by email renm4@lincoln.ac.nz. You can also contact my supervisors Mr. Michael D. Clemes and /or Dr. Christopher Gan. Mr. Clemes can be contacted at (03) 325-2811 (ext 8364) clemes@lincoln.ac.nz and Dr Gan can be contacted at (03) 325-2811 (ext 8155) or ganc1@lincoln.ac.nz.

Each and every response is important and I deeply appreciate your valuable participation. Thank you very much for your co-operation and assistance.

Yours sincerely,

Amy Ren
Commerce Division
Master Student
Lincoln University

Research Supervisors:

Michael D. Clemes
Senior Lecturer
Commerce Division
Lincoln University

Dr. Christopher Gan
Associate Professor
Commerce Division
Lincoln University

Appendix 2: Questionnaire

2008 Motel Experience Survey

This questionnaire contains Sections A to E. Please answer all the questions in each section. I would like you to state your level of agreement or disagreement with each statement. Please think about your current motel stay. On a scale of 1 (strongly disagree) to 7 (strong agree), please circle the number that most closely reflects your perception for each question.

Section A							
	Strongly Disagree			Strongly Agree			
1. I feel welcome at this motel	1	2	3	4	5	6	7
2. The staff are polite and courteous	1	2	3	4	5	6	7
3. The staff speak in a welcoming tone	1	2	3	4	5	6	7
4. I can rely on the professional knowledge of the staff to meet my needs	1	2	3	4	5	6	7
5. The staff have good communication skills	1	2	3	4	5	6	7
6. The staff proactively make social interactions with customers	1	2	3	4	5	6	7
7. The staff are well trained and knowledgeable	1	2	3	4	5	6	7
8. I receive individual attention when I have specific needs	1	2	3	4	5	6	7
9. The staff are willing to provide a good service	1	2	3	4	5	6	7
10. The staff perform the service dependably and accurately	1	2	3	4	5	6	7
11. The staff handle my problems promptly	1	2	3	4	5	6	7
12. The staff provide all the information that I need	1	2	3	4	5	6	7
13. Problems are solved promptly	1	2	3	4	5	6	7
14. The staff perform the services at the time promised	1	2	3	4	5	6	7
15. The staff are able to handle my complaints directly and immediately	1	2	3	4	5	6	7
16. Services are delivered at the time promised	1	2	3	4	5	6	7
17. The staff are willing to assist me with my requests	1	2	3	4	5	6	7
18. The staff understand the technology used in bookings	1	2	3	4	5	6	7
19. The reservation information is accurate	1	2	3	4	5	6	7
20. The check-in experience is efficient and pleasant	1	2	3	4	5	6	7
21. The staff can accurately operate the computing reservation system	1	2	3	4	5	6	7
22. The staff are amicable and approachable	1	2	3	4	5	6	7
23. Overall, the quality of the interactions with all motel staff is excellent	1	2	3	4	5	6	7
24. Generally, my interaction with the motel staff is positive	1	2	3	4	5	6	7

Section B							
	Strongly Disagree			Strongly Agree			
1. I feel safe in this motel	1	2	3	4	5	6	7
2. The exterior décor of this motel is stylish and attractive	1	2	3	4	5	6	7
3. The maintenance of this motel is of a high standard	1	2	3	4	5	6	7
4. I am not disrupted by noise outside my room	1	2	3	4	5	6	7
5. The motel room is quiet	1	2	3	4	5	6	7
6. The level of noise in my room is agreeable	1	2	3	4	5	6	7
7. The temperature level of my room is comfortable	1	2	3	4	5	6	7
8. The standard of housekeeping in my room is of a high standard upon arrival	1	2	3	4	5	6	7
9. Appealing interior and exterior décor of this motel is aesthetically attractive	1	2	3	4	5	6	7
10. The room temperature level is pleasant	1	2	3	4	5	6	7
11. The bathrooms and toilets are hygienic	1	2	3	4	5	6	7
12. The corridor lighting is adequate at night	1	2	3	4	5	6	7
13. The bed is comfortable	1	2	3	4	5	6	7
14. The mattress/pillow/bed sheets and covers are of good quality	1	2	3	4	5	6	7
15. The technology facilities in my room are in good working condition	1	2	3	4	5	6	7
16. The lighting in car park area is adequate at night	1	2	3	4	5	6	7
17. The kitchen facilities are clean	1	2	3	4	5	6	7
18. The mattress, pillows, bed sheets and duvet covers are clean	1	2	3	4	5	6	7
19. There is an accessible fire exit in the room	1	2	3	4	5	6	7
20. The housekeeping personnel are professional	1	2	3	4	5	6	7
21. The technological facilities provide an enjoyable experience (e.g. Sky, Internet)	1	2	3	4	5	6	7
22. The bed/mattress/pillow/bed sheets enable a good rest	1	2	3	4	5	6	7
23. The bath facilities provide an enjoyable experience (e.g. spa/sauna)	1	2	3	4	5	6	7
24. The supply of basic products (e.g. soap, shampoo, towels, tea, coffee and helpful brochures) and service (e.g. laundry/ironing) are all well supplied.	1	2	3	4	5	6	7
25. The supply of basic products and service are of a good quality	1	2	3	4	5	6	7
26. The room lighting is adequate and comfortable	1	2	3	4	5	6	7
27. A secure safe is available in the complex	1	2	3	4	5	6	7
28. The bath tub/spa/sauna area is clean	1	2	3	4	5	6	7
29. The design of the motel building is visually appealing	1	2	3	4	5	6	7
30. The brochures and pamphlets are visually appealing	1	2	3	4	5	6	7
31. The size of bath area is suitable	1	2	3	4	5	6	7
32. The layout of car park makes it easy for cars to move around	1	2	3	4	5	6	7
33. The room technology facility is an essential factor for my motel stay	1	2	3	4	5	6	7
34. The parking area is ample	1	2	3	4	5	6	7
35. The parking area is easy to access	1	2	3	4	5	6	7
36. Overall, the quality of the physical environment in this motel is excellent	1	2	3	4	5	6	7
37. Generally, the motel provides a satisfying physical environment	1	2	3	4	5	6	7

Section C							
	Strongly Disagree			Strongly Agree			
1. The billing of my motel stay is accurate	1	2	3	4	5	6	7
2. The retail stores, supermarkets, restaurants are all conveniently located around this motel	1	2	3	4	5	6	7
3. The financial transactions (e.g. use of credit card) are clear and accurate	1	2	3	4	5	6	7
4. The check out process is efficient	1	2	3	4	5	6	7
5. The ambience of the room helped me to get a good nights sleep	1	2	3	4	5	6	7
6. When I leave this motel, I feel that my expectations have been met	1	2	3	4	5	6	7
7. The comfortable surroundings of the room enable me to get restful sleep	1	2	3	4	5	6	7
8. My motel stay has been an enjoyable experience	1	2	3	4	5	6	7
9. The check out process is pleasant	1	2	3	4	5	6	7
10. The motel is conveniently located to all amenities	1	2	3	4	5	6	7
11. At the end of my stay, I feel that I have had a good experience	1	2	3	4	5	6	7
12. The motel has good access to all amenities	1	2	3	4	5	6	7
13. Overall, my motel stay has been a pleasant experience	1	2	3	4	5	6	7
14. I would evaluate the outcome of this motel stay favorably	1	2	3	4	5	6	7

Section D							
	Strongly Disagree			Strongly Agree			
1. My overall experience and stay at this motel is satisfying	1	2	3	4	5	6	7
2. Overall, this motel provides a satisfied service	1	2	3	4	5	6	7
3. The overall service quality offered by the motel is excellent	1	2	3	4	5	6	7
4. The price per night of my motel stay is reasonable, given the quality of the stay	1	2	3	4	5	6	7
5. The quality of this motel could be considered superior when compared to other motels	1	2	3	4	5	6	7
6. Comparing my motel experiences, this motel provides good value for money	1	2	3	4	5	6	7
7. I think I made the right choice by staying at this motel	1	2	3	4	5	6	7
8. Overall, I think that the service of this motel is excellent	1	2	3	4	5	6	7
9. This motel experience has satisfied my needs and wants	1	2	3	4	5	6	7
10. Overall, I am satisfied with the value I received for the price that I paid at his motel	1	2	3	4	5	6	7
11. I would recommend this motel to a friend or colleague	1	2	3	4	5	6	7
12. I would return to this motel if I come back to Christchurch	1	2	3	4	5	6	7
13. I would consider this motel as my first choice if I return to Christchurch	1	2	3	4	5	6	7

Section E

1. Gender:

- Female Male

2. Which of these age groups best describes you?

- Under 30 30-39 40-49 50-59 60-69 70+

3. Are you:

- Married Never Married Living with a partner Single

4. Which of these groups best describes your occupation?

- Professional or Senior Government Official
 Business Proprietor or Self-Employed
 Teacher/Nurse/Police or Other Trained Service Worker
 Clerical or Sales Employee
 Farm Owner or Manager
 Domestic Worker, Labourer, Manual or Agricultural Worker
 Home Duties (not otherwise employed)
 Student
 Retired/Superannuitant
 Social welfare Beneficiary/ Unemployed
 Other (Specify) _____

5. What is your approximate total before tax annual household income (NZ\$) in the last year?

- Up to NZ\$ 20,000
 NZ\$ 20,001 to NZ\$ 30,000
 NZ\$ 30,001 to NZ\$ 40,000
 NZ\$ 40,001 to NZ\$ 60,000
 NZ\$ 60,001 to NZ\$ 80,000
 NZ\$ 80,001 to NZ\$ 100,000
 NZ\$ 100,001 to NZ\$ 120,000
 Over NZ\$ 120,001

6. Where are you from?

- Oceania (New Zealander, Australia, Cook Island, Fiji, Samoan, Tongan, other Pacific Islander)
 Europe (United Kingdom, Germany, France, Netherland)
 Asia (China, Korea, Japan, Singapore, Malaysia, Thailand)
 North America (United States of America, Canada)
 Latin America (Spain, Brazil, Chile, Argentina)
 Other (please specify) _____

7. Which ethnic group do you mainly identify with?

- | | |
|---|-----------------------------------|
| <input type="checkbox"/> NZ European | <input type="checkbox"/> NZ Maori |
| <input type="checkbox"/> Pacific Islander | <input type="checkbox"/> European |
| <input type="checkbox"/> Asian | <input type="checkbox"/> American |
| <input type="checkbox"/> Other (please specify) _____ | |

Thank you very much for your help with this questionnaire! Wishing you a great day

Appendix 3: Data Imputation

Table 23A: Summary Statistics of Missing Data for Original Sample (N=349)

Item	Number of Cases	Mean	Standard Deviation	No.	Percent	Item	Number of Cases	Mean	Standard Deviation	No.	Percent
A1	348	5.85	0.868	1	0.3	B21	347	5.77	0.873	2	0.6
A2	346	5.76	0.959	3	0.9	B22	349	5.92	0.845	0	0.0
A3	345	5.77	0.970	4	1.1	B23	349	5.74	0.954	0	0.0
A4	347	5.77	0.908	2	0.6	B24	347	5.31	1.023	2	0.6
A5	345	5.71	0.897	4	1.1	B25	347	5.25	1.008	2	0.6
A6	346	5.66	1.000	3	0.9	B26	347	5.55	0.850	2	0.6
A7	347	5.74	0.892	2	0.6	B27	348	5.62	0.996	1	0.3
A8	347	5.67	0.956	2	0.6	B28	348	5.74	0.861	1	0.3
A9	348	5.79	0.964	1	0.3	B29	348	5.80	0.836	1	0.3
A10	347	5.68	0.961	2	0.6	B30	349	5.87	0.852	0	0.0
A11	348	5.65	0.971	1	0.3	B31	349	5.65	0.896	0	0.0
A12	349	5.70	0.967	0	0.0	B32	348	4.93	1.206	1	0.3
A13	348	5.62	0.978	1	0.3	B33	344	3.99	1.726	5	1.4
A14	348	5.63	0.977	1	0.3	B34	348	4.93	1.227	1	0.3
A15	349	5.61	0.981	0	0.0	B35	348	4.94	1.200	1	0.3
A16	349	5.40	0.991	0	0.0	B36	348	5.81	0.794	1	0.3
A17	346	5.76	0.916	3	0.9	B37	349	5.82	0.808	0	0.0
A18	346	6.23	0.814	1	0.3	C1	349	6.47	0.733	0	0.0
A19	348	6.28	0.787	1	0.3	C2	348	5.65	0.944	1	0.3
A20	348	6.22	0.760	1	0.3	C3	347	6.49	0.682	2	0.6
A21	349	6.26	0.769	0	0.0	C4	349	6.04	0.673	0	0.0
A22	348	5.93	0.869	1	0.3	C5	348	5.85	0.873	1	0.3
A23	349	5.83	0.903	0	0.0	C6	347	5.80	0.913	2	0.6
A24	348	5.84	0.883	1	0.3	C7	348	5.87	0.869	1	0.3
B1	347	5.89	0.893	2	0.6	C8	347	5.82	0.897	2	0.6
B2	349	5.69	0.935	0	0.0	C8	349	5.92	0.786	0	0.0
B3	348	5.81	0.917	1	0.3	C10	349	5.69	0.939	0	0.0
B4	345	5.49	1.009	4	1.1	C11	348	5.82	0.875	1	0.3
B5	349	5.50	1.019	0	0.0	C12	348	5.67	0.958	1	0.3
B6	348	5.51	0.985	1	0.3	C13	349	5.93	0.850	0	0.0
B7	349	5.69	0.789	0	0.0	C14	349	5.95	0.850	0	0.0
B8	346	5.91	0.893	3	0.9	D1	348	5.93	0.871	1	0.3
B9	347	5.72	0.889	2	0.6	D2	348	5.90	0.876	1	0.3
B10	347	5.69	0.779	2	0.6	D3	349	5.90	0.904	0	0.0
B11	348	5.97	0.840	1	0.3	D4	349	5.79	1.010	0	0.0
B12	349	5.54	0.875	0	0.0	D5	349	5.69	1.023	0	0.0
B13	347	5.91	0.869	2	0.6	D6	349	5.78	0.985	0	0.0
B14	348	5.92	0.957	1	0.3	D7	349	5.85	0.967	0	0.0
B15	348	5.76	0.860	1	0.3	D8	348	5.87	0.900	1	0.3
B16	349	5.40	0.991	0	0.0	D9	348	5.86	0.904	1	0.3
B17	346	5.97	0.849	3	0.9	D10	349	5.83	0.956	0	0.0
B18	345	6.03	0.828	4	1.1	D11	348	5.87	1.037	1	0.3
B19	344	5.80	1.047	5	1.4	D12	349	5.85	1.056	0	0.0
B20	347	5.79	0.864	2	0.6	D13	349	5.81	1.084	0	0.0

Table 24A: Estimated Means Results

Summary of Estimated Means													
Interaction Quality	Item	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
	All Values	5.61	5.50	5.53	5.55	5.47	5.38	5.53	5.47	5.59	5.52	5.44	5.47
	EM	5.61	5.51	5.54	5.55	5.48	5.38	5.54	5.48	5.59	5.52	5.44	5.47
	Item	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24
	All Values	5.32	5.34	5.33	5.39	5.55	5.93	6.17	6.07	6.20	5.96	5.83	5.84
	EM	5.33	5.34	5.33	5.39	5.55	5.93	6.18	6.07	6.20	5.96	5.83	5.85
Physical Environment Quality	Item	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
	All Values	5.89	5.69	5.81	5.29	5.32	5.34	5.69	5.91	5.72	5.69	5.94	5.54
	EM	5.89	5.69	5.81	5.29	5.32	5.34	5.69	5.91	5.73	5.69	5.94	5.54
	Item	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24
	All Values	5.87	5.86	5.76	5.40	5.95	6.01	5.80	5.79	5.77	5.92	5.74	5.31
	EM	5.87	5.87	5.76	5.40	5.96	6.02	5.81	5.79	5.77	5.92	5.74	5.31
	Item	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36
	All Values	5.25	5.55	5.62	5.74	5.80	5.87	5.65	4.58	3.99	4.51	4.69	5.78
	EM	5.26	5.56	5.62	5.74	5.80	5.87	5.65	4.58	3.99	4.50	4.70	5.78
	Item	B37											
All Values	5.82												
EM	5.82												
Outcome Quality	Item	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	All Values	6.47	5.57	6.42	6.04	5.80	5.86	5.81	5.84	5.87	5.51	5.83	5.52
	EM	6.47	5.57	6.42	6.04	5.80	5.86	5.81	5.84	5.87	5.51	5.83	5.52
	Item	C13	C14										
	All Values	5.93	5.95										
	EM	5.93	5.95										
SQ, VA CS, BI	Item	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
	All Values	5.93	5.86	5.89	5.74	5.68	5.73	5.85	5.87	5.86	5.81	5.82	5.77
	EM	5.93	5.86	5.89	5.74	5.68	5.73	5.85	5.87	5.86	5.81	5.81	5.77
	Item	D13											
	All Values	5.77											
	EM	5.77											

Appendix 4: Correlation Matrix

Table 25A: Correlation Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
A1	1.000	0.821	0.806	0.777	0.768	0.752	0.740	0.745	0.764	0.724	0.728	0.735	0.733	0.727	0.726
A2	0.821	1.000	0.806	0.784	0.805	0.709	0.737	0.742	0.761	0.761	0.726	0.738	0.752	0.726	0.731
A3	0.806	0.883	1.000	0.785	0.827	0.726	0.758	0.750	0.761	0.775	0.744	0.746	0.743	0.732	0.729
A4	0.777	0.821	0.785	1.000	0.838	0.735	0.797	0.723	0.769	0.759	0.711	0.742	0.720	0.717	0.749
A5	0.768	0.805	0.827	0.838	1.000	0.743	0.825	0.768	0.804	0.831	0.783	0.821	0.800	0.775	0.802
A6	0.752	0.709	0.726	0.735	0.743	1.000	0.799	0.767	0.736	0.746	0.784	0.747	0.759	0.784	0.754
A7	0.740	0.737	0.758	0.797	0.825	0.799	1.000	0.745	0.752	0.802	0.788	0.788	0.760	0.722	0.760
A8	0.745	0.742	0.750	0.723	0.768	0.767	0.745	1.000	0.841	0.838	0.849	0.803	0.808	0.859	0.809
A9	0.764	0.761	0.761	0.769	0.804	0.736	0.752	0.841	1.000	0.873	0.782	0.805	0.821	0.813	0.824
A10	0.724	0.761	0.775	0.759	0.831	0.746	0.802	0.838	0.873	1.000	0.880	0.878	0.881	0.846	0.864
A11	0.728	0.726	0.744	0.711	0.783	0.784	0.788	0.849	0.782	0.880	1.000	0.853	0.893	0.868	0.834
A12	0.735	0.738	0.746	0.742	0.821	0.747	0.788	0.803	0.805	0.878	0.853	1.000	0.866	0.832	0.832
A13	0.733	0.752	0.743	0.720	0.800	0.759	0.760	0.808	0.821	0.881	0.893	0.866	1.000	0.889	0.893
A14	0.727	0.726	0.732	0.717	0.775	0.784	0.722	0.859	0.813	0.846	0.868	0.832	0.889	1.000	0.862
A15	0.726	0.731	0.729	0.749	0.802	0.754	0.760	0.809	0.824	0.864	0.834	0.832	0.893	0.862	1.000
A16	0.726	0.727	0.743	0.724	0.763	0.788	0.755	0.829	0.778	0.819	0.861	0.817	0.882	0.903	0.849
A17	0.740	0.766	0.754	0.724	0.786	0.744	0.788	0.827	0.826	0.867	0.842	0.839	0.843	0.813	0.834
A18	0.470	0.460	0.467	0.527	0.531	0.524	0.517	0.461	0.478	0.575	0.505	0.532	0.532	0.504	0.508
A19	0.468	0.451	0.476	0.514	0.522	0.542	0.521	0.469	0.464	0.576	0.512	0.525	0.532	0.516	0.518
A20	0.475	0.463	0.479	0.524	0.515	0.553	0.529	0.482	0.510	0.581	0.525	0.542	0.539	0.512	0.520
A21	0.482	0.462	0.457	0.539	0.516	0.548	0.516	0.466	0.483	0.552	0.505	0.513	0.529	0.521	0.514
A22	0.788	0.760	0.785	0.770	0.781	0.794	0.758	0.791	0.777	0.791	0.783	0.776	0.789	0.783	0.769
B1	0.514	0.511	0.526	0.438	0.468	0.482	0.431	0.460	0.439	0.447	0.448	0.492	0.477	0.466	0.471
B2	0.476	0.499	0.479	0.434	0.512	0.463	0.515	0.460	0.486	0.531	0.493	0.489	0.489	0.480	0.492
B3	0.485	0.471	0.472	0.451	0.457	0.508	0.508	0.424	0.472	0.482	0.464	0.463	0.464	0.454	0.482
B4	0.446	0.462	0.456	0.425	0.481	0.402	0.446	0.425	0.461	0.494	0.461	0.491	0.467	0.430	0.451
B5	0.455	0.465	0.453	0.420	0.477	0.402	0.441	0.448	0.484	0.493	0.464	0.478	0.470	0.451	0.466
B6	0.446	0.450	0.444	0.405	0.483	0.393	0.446	0.424	0.455	0.470	0.453	0.477	0.463	0.431	0.438
B7	0.505	0.450	0.447	0.442	0.488	0.496	0.507	0.449	0.436	0.510	0.500	0.518	0.508	0.482	0.485
B8	0.517	0.519	0.494	0.482	0.489	0.515	0.527	0.501	0.503	0.504	0.499	0.472	0.508	0.524	0.509
B9	0.485	0.514	0.489	0.463	0.493	0.470	0.494	0.450	0.463	0.517	0.472	0.463	0.470	0.477	0.476
B10	0.508	0.514	0.473	0.476	0.524	0.507	0.510	0.464	0.515	0.541	0.527	0.544	0.541	0.523	0.507
B11	0.493	0.464	0.437	0.437	0.452	0.493	0.474	0.482	0.517	0.536	0.493	0.458	0.484	0.493	0.510
B12	0.514	0.456	0.453	0.485	0.485	0.482	0.467	0.475	0.495	0.475	0.481	0.495	0.479	0.494	0.482
B13	0.436	0.423	0.453	0.447	0.498	0.483	0.500	0.456	0.483	0.511	0.461	0.475	0.481	0.490	0.505
B14	0.495	0.487	0.482	0.462	0.526	0.523	0.531	0.474	0.513	0.527	0.478	0.478	0.517	0.523	0.527
B15	0.543	0.524	0.532	0.522	0.541	0.526	0.538	0.503	0.516	0.538	0.496	0.529	0.525	0.501	0.508
B16	0.428	0.441	0.434	0.460	0.455	0.487	0.496	0.457	0.436	0.433	0.434	0.472	0.444	0.470	0.426
B17	0.479	0.449	0.464	0.415	0.456	0.527	0.508	0.514	0.508	0.536	0.557	0.500	0.516	0.543	0.532
B18	0.498	0.449	0.452	0.466	0.490	0.519	0.533	0.497	0.540	0.558	0.525	0.488	0.524	0.526	0.538
B19	0.376	0.376	0.383	0.468	0.388	0.482	0.405	0.379	0.388	0.367	0.372	0.368	0.329	0.365	0.342
B20	0.497	0.513	0.486	0.484	0.553	0.565	0.552	0.516	0.511	0.547	0.540	0.520	0.522	0.518	0.503
B21	0.480	0.429	0.432	0.459	0.455	0.535	0.540	0.409	0.431	0.475	0.482	0.466	0.470	0.446	0.471
B22	0.440	0.463	0.458	0.435	0.484	0.493	0.512	0.441	0.496	0.518	0.474	0.478	0.511	0.506	0.513
B23	0.475	0.448	0.422	0.429	0.424	0.549	0.465	0.434	0.441	0.431	0.433	0.423	0.428	0.459	0.447
B24	0.546	0.533	0.523	0.489	0.495	0.491	0.506	0.496	0.544	0.526	0.497	0.486	0.509	0.495	0.522
B25	0.543	0.537	0.522	0.475	0.480	0.478	0.503	0.507	0.544	0.528	0.494	0.495	0.514	0.491	0.514
B26	0.542	0.469	0.458	0.465	0.469	0.481	0.480	0.433	0.435	0.472	0.451	0.461	0.451	0.445	0.447
B27	0.314	0.367	0.378	0.371	0.330	0.399	0.354	0.342	0.337	0.309	0.330	0.324	0.317	0.356	0.292
B28	0.542	0.531	0.499	0.508	0.495	0.494	0.522	0.484	0.513	0.522	0.493	0.507	0.491	0.488	0.502
B29	0.490	0.495	0.489	0.453	0.459	0.435	0.511	0.392	0.425	0.460	0.430	0.411	0.444	0.440	0.446
B30	0.420	0.390	0.405	0.413	0.419	0.460	0.441	0.369	0.375	0.439	0.409	0.404	0.359	0.396	0.359
B31	0.492	0.484	0.455	0.451	0.468	0.507	0.501	0.456	0.456	0.476	0.459	0.461	0.481	0.449	0.466
B32	0.287	0.286	0.278	0.258	0.271	0.219	0.244	0.236	0.237	0.254	0.227	0.282	0.267	0.244	0.224
B33	0.125	0.126	0.128	0.102	0.132	0.089	0.113	0.152	0.128	0.118	0.139	0.161	0.119	0.154	0.093
B34	0.307	0.306	0.291	0.293	0.285	0.239	0.268	0.238	0.234	0.245	0.234	0.300	0.263	0.243	0.211
B35	0.284	0.288	0.282	0.272	0.270	0.212	0.254	0.234	0.238	0.244	0.210	0.290	0.248	0.235	0.203
C1	0.322	0.357	0.332	0.394	0.328	0.440	0.397	0.308	0.320	0.398	0.360	0.341	0.365	0.363	0.372
C2	0.481	0.450	0.394	0.431	0.430	0.411	0.468	0.417	0.420	0.452	0.435	0.440	0.434	0.428	0.392
C3	0.372	0.389	0.358	0.429	0.389	0.432	0.434	0.349	0.371	0.415	0.388	0.361	0.403	0.388	0.394
C4	0.511	0.504	0.492	0.485	0.523	0.465	0.495	0.501	0.501	0.532	0.519	0.536	0.529	0.522	0.520
C5	0.495	0.511	0.500	0.475	0.515	0.527	0.526	0.503	0.510	0.585	0.533	0.547	0.557	0.537	0.543
C6	0.549	0.532	0.526	0.505	0.547	0.570	0.563	0.540	0.556	0.583	0.547	0.560	0.572	0.556	0.570
C7	0.485	0.499	0.489	0.452	0.492	0.530	0.525	0.493	0.502	0.568	0.520	0.519	0.541	0.520	0.527
C8	0.568	0.571	0.557	0.541	0.570	0.537	0.551	0.562	0.568	0.586	0.533	0.562	0.572	0.552	0.563
C9	0.602	0.581	0.590	0.558	0.628	0.582	0.634	0.566	0.594	0.638	0.609	0.635	0.634	0.600	0.624
C10	0.515	0.495	0.441	0.478	0.460	0.443	0.504	0.447	0.445	0.485	0.457	0.456	0.456	0.457	0.415
C11	0.574	0.568	0.571	0.543	0.584	0.588	0.598	0.574	0.595	0.618	0.578	0.590	0.594	0.577	0.585
C12	0.509	0.488	0.441	0.491	0.480	0.427	0.513	0.464	0.467	0.508	0.477	0.474	0.473	0.470	0.441

Appendix 4: Correlation Matrix

Table 25A: Correlation Matrix (Continued)

	A16	A17	A18	A19	A20	A21	A22	B1	B2	B3	B4	B5	B6	B7	B8
A1	0.726	0.740	0.470	0.468	0.475	0.482	0.788	0.514	0.476	0.485	0.446	0.455	0.446	0.505	0.517
A2	0.727	0.766	0.460	0.468	0.463	0.462	0.760	0.511	0.499	0.471	0.462	0.465	0.450	0.450	0.519
A3	0.743	0.754	0.467	0.468	0.479	0.457	0.785	0.526	0.479	0.472	0.456	0.453	0.444	0.447	0.494
A4	0.724	0.724	0.527	0.514	0.524	0.539	0.770	0.438	0.434	0.451	0.425	0.420	0.405	0.442	0.482
A5	0.763	0.786	0.531	0.522	0.515	0.516	0.781	0.468	0.512	0.457	0.481	0.477	0.483	0.488	0.489
A6	0.788	0.744	0.524	0.542	0.553	0.548	0.794	0.482	0.463	0.508	0.402	0.402	0.393	0.496	0.515
A7	0.755	0.788	0.517	0.521	0.529	0.516	0.758	0.431	0.515	0.508	0.446	0.441	0.446	0.507	0.527
A8	0.829	0.827	0.461	0.469	0.482	0.466	0.791	0.460	0.460	0.424	0.425	0.448	0.424	0.449	0.501
A9	0.778	0.826	0.478	0.464	0.510	0.483	0.777	0.439	0.486	0.472	0.461	0.484	0.455	0.436	0.503
A10	0.819	0.867	0.575	0.576	0.581	0.552	0.791	0.447	0.531	0.482	0.494	0.493	0.470	0.510	0.504
A11	0.861	0.842	0.505	0.512	0.525	0.505	0.783	0.448	0.493	0.464	0.461	0.464	0.453	0.500	0.499
A12	0.817	0.839	0.532	0.525	0.542	0.513	0.776	0.492	0.489	0.463	0.491	0.478	0.477	0.518	0.472
A13	0.882	0.843	0.532	0.532	0.539	0.529	0.789	0.477	0.489	0.464	0.467	0.470	0.463	0.508	0.508
A14	0.903	0.813	0.504	0.516	0.512	0.521	0.783	0.466	0.480	0.454	0.430	0.451	0.431	0.482	0.524
A15	0.849	0.834	0.508	0.518	0.520	0.514	0.769	0.471	0.492	0.482	0.451	0.466	0.438	0.485	0.509
A16	1.000	0.815	0.482	0.504	0.520	0.505	0.796	0.480	0.464	0.471	0.468	0.473	0.466	0.510	0.528
A17	0.815	1.000	0.561	0.566	0.568	0.530	0.779	0.472	0.510	0.455	0.482	0.479	0.479	0.496	0.509
A18	0.482	0.561	1.000	0.944	0.907	0.915	0.525	0.303	0.386	0.326	0.397	0.380	0.369	0.445	0.377
A19	0.504	0.566	0.944	1.000	0.910	0.934	0.549	0.346	0.413	0.344	0.368	0.350	0.351	0.444	0.396
A20	0.520	0.568	0.907	0.910	1.000	0.900	0.557	0.319	0.381	0.364	0.438	0.427	0.405	0.453	0.398
A21	0.505	0.530	0.915	0.934	0.900	1.000	0.568	0.334	0.381	0.353	0.373	0.376	0.360	0.438	0.394
A22	0.796	0.779	0.525	0.549	0.557	0.568	1.000	0.541	0.448	0.486	0.425	0.447	0.419	0.518	0.550
B1	0.480	0.472	0.303	0.346	0.319	0.334	0.541	1.000	0.474	0.492	0.234	0.255	0.239	0.496	0.572
B2	0.464	0.510	0.386	0.413	0.381	0.381	0.448	0.474	1.000	0.746	0.416	0.422	0.421	0.490	0.765
B3	0.471	0.455	0.326	0.344	0.364	0.353	0.486	0.492	0.746	1.000	0.439	0.458	0.431	0.597	0.824
B4	0.468	0.482	0.397	0.368	0.438	0.373	0.425	0.234	0.416	0.439	1.000	0.964	0.958	0.557	0.412
B5	0.473	0.479	0.380	0.350	0.427	0.376	0.447	0.255	0.422	0.458	0.964	1.000	0.959	0.549	0.427
B6	0.466	0.479	0.369	0.351	0.405	0.360	0.419	0.239	0.421	0.431	0.958	0.959	1.000	0.538	0.417
B7	0.510	0.496	0.445	0.444	0.453	0.438	0.518	0.496	0.490	0.597	0.557	0.549	0.538	1.000	0.602
B8	0.528	0.509	0.377	0.396	0.398	0.394	0.550	0.572	0.765	0.824	0.412	0.427	0.417	0.602	1.000
B9	0.462	0.504	0.406	0.408	0.406	0.374	0.475	0.514	0.853	0.789	0.464	0.463	0.452	0.568	0.783
B10	0.502	0.535	0.474	0.469	0.498	0.478	0.521	0.470	0.569	0.614	0.546	0.556	0.557	0.799	0.627
B11	0.496	0.502	0.432	0.428	0.485	0.401	0.480	0.401	0.627	0.626	0.531	0.541	0.518	0.556	0.681
B12	0.495	0.508	0.377	0.383	0.385	0.355	0.531	0.545	0.519	0.581	0.454	0.469	0.474	0.618	0.611
B13	0.491	0.468	0.440	0.433	0.466	0.410	0.490	0.418	0.582	0.614	0.504	0.515	0.511	0.560	0.656
B14	0.512	0.500	0.467	0.436	0.476	0.447	0.494	0.438	0.603	0.649	0.502	0.529	0.511	0.558	0.691
B15	0.517	0.496	0.411	0.419	0.455	0.425	0.568	0.630	0.588	0.675	0.374	0.399	0.369	0.645	0.728
B16	0.484	0.465	0.299	0.334	0.347	0.312	0.490	0.494	0.515	0.538	0.454	0.466	0.461	0.542	0.542
B17	0.554	0.515	0.433	0.428	0.468	0.407	0.492	0.384	0.607	0.626	0.558	0.567	0.542	0.574	0.637
B18	0.533	0.528	0.463	0.440	0.482	0.438	0.503	0.386	0.594	0.604	0.552	0.561	0.534	0.586	0.660
B19	0.395	0.335	0.360	0.382	0.394	0.414	0.447	0.559	0.312	0.478	0.231	0.250	0.222	0.446	0.464
B20	0.513	0.514	0.497	0.480	0.460	0.462	0.523	0.546	0.633	0.651	0.349	0.335	0.342	0.613	0.759
B21	0.502	0.455	0.442	0.429	0.474	0.418	0.504	0.504	0.600	0.707	0.425	0.427	0.390	0.656	0.712
B22	0.498	0.509	0.460	0.439	0.488	0.453	0.501	0.368	0.592	0.634	0.554	0.575	0.560	0.581	0.668
B23	0.502	0.418	0.363	0.348	0.413	0.355	0.496	0.491	0.571	0.693	0.440	0.456	0.420	0.608	0.738
B24	0.546	0.536	0.374	0.391	0.433	0.366	0.497	0.462	0.604	0.666	0.597	0.614	0.604	0.595	0.686
B25	0.525	0.539	0.373	0.384	0.418	0.364	0.494	0.448	0.589	0.607	0.593	0.619	0.598	0.624	0.638
B26	0.469	0.497	0.406	0.420	0.424	0.405	0.499	0.496	0.524	0.589	0.509	0.527	0.516	0.645	0.624
B27	0.360	0.309	0.263	0.269	0.289	0.286	0.367	0.509	0.366	0.475	0.204	0.208	0.213	0.411	0.485
B28	0.525	0.529	0.408	0.404	0.460	0.413	0.511	0.529	0.583	0.662	0.487	0.492	0.474	0.614	0.692
B29	0.444	0.461	0.360	0.358	0.374	0.355	0.460	0.502	0.718	0.721	0.417	0.425	0.408	0.584	0.740
B30	0.381	0.404	0.481	0.456	0.482	0.453	0.374	0.325	0.500	0.559	0.486	0.486	0.456	0.553	0.544
B31	0.478	0.469	0.385	0.388	0.438	0.381	0.474	0.467	0.601	0.656	0.478	0.491	0.456	0.569	0.647
B32	0.254	0.247	0.111	0.113	0.128	0.110	0.307	0.439	0.327	0.365	0.228	0.240	0.239	0.382	0.360
B33	0.178	0.158	-0.028	-0.045	-0.021	-0.064	0.068	-0.009	0.070	0.056	0.259	0.260	0.276	0.189	0.029
B34	0.263	0.262	0.129	0.123	0.138	0.109	0.301	0.433	0.280	0.316	0.232	0.246	0.248	0.394	0.319
B35	0.255	0.257	0.114	0.112	0.131	0.101	0.313	0.435	0.284	0.335	0.214	0.224	0.227	0.376	0.328
C1	0.352	0.365	0.514	0.540	0.537	0.525	0.364	0.203	0.327	0.348	0.315	0.288	0.261	0.276	0.379
C2	0.418	0.471	0.303	0.300	0.313	0.276	0.425	0.269	0.440	0.396	0.529	0.513	0.522	0.481	0.424
C3	0.371	0.380	0.547	0.530	0.528	0.553	0.390	0.200	0.346	0.318	0.337	0.328	0.295	0.296	0.389
C4	0.518	0.558	0.397	0.407	0.437	0.424	0.541	0.462	0.440	0.442	0.379	0.402	0.394	0.451	0.509
C5	0.552	0.563	0.485	0.496	0.530	0.494	0.496	0.308	0.466	0.521	0.648	0.648	0.639	0.589	0.511
C6	0.542	0.584	0.399	0.407	0.450	0.410	0.572	0.477	0.544	0.609	0.487	0.496	0.487	0.500	0.625
C7	0.535	0.555	0.466	0.484	0.523	0.478	0.471	0.258	0.459	0.495	0.647	0.647	0.641	0.535	0.457
C8	0.552	0.597	0.430	0.418	0.470	0.417	0.573	0.465	0.525	0.542	0.478	0.481	0.470	0.492	0.598
C9	0.620	0.637	0.487	0.487	0.520	0.495	0.639	0.496	0.550	0.570	0.481	0.483	0.490	0.531	0.633
C10	0.443	0.499	0.318	0.316	0.317	0.301	0.460	0.255	0.414	0.391	0.497	0.483	0.497	0.463	0.417
C11	0.583	0.608	0.428	0.436	0.464	0.431	0.609	0.514	0.553	0.619	0.507	0.504	0.497	0.542	0.648
C12	0.461	0.508	0.318	0.321	0.321	0.303	0.463	0.511	0.440	0.416	0.540	0.529	0.544	0.478	0.441

Appendix 4: Correlation Matrix

Table 25A: Correlation Matrix (Continued)

	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23
A1	0.485	0.508	0.493	0.514	0.436	0.495	0.543	0.428	0.479	0.498	0.376	0.497	0.480	0.440	0.475
A2	0.514	0.514	0.464	0.456	0.423	0.487	0.524	0.441	0.449	0.449	0.376	0.513	0.429	0.463	0.475
A3	0.489	0.473	0.437	0.453	0.453	0.482	0.532	0.434	0.464	0.452	0.383	0.486	0.432	0.458	0.475
A4	0.463	0.476	0.437	0.485	0.447	0.462	0.522	0.460	0.415	0.466	0.468	0.484	0.459	0.435	0.475
A5	0.493	0.524	0.452	0.485	0.498	0.526	0.541	0.455	0.456	0.490	0.388	0.553	0.480	0.484	0.424
A6	0.470	0.507	0.493	0.482	0.483	0.523	0.526	0.487	0.527	0.519	0.482	0.565	0.480	0.493	0.549
A7	0.494	0.510	0.474	0.467	0.500	0.531	0.538	0.496	0.508	0.533	0.405	0.552	0.540	0.512	0.465
A8	0.450	0.464	0.482	0.475	0.456	0.474	0.503	0.457	0.514	0.497	0.379	0.516	0.409	0.441	0.434
A9	0.463	0.515	0.517	0.495	0.483	0.513	0.516	0.436	0.508	0.540	0.388	0.511	0.431	0.496	0.441
A10	0.517	0.541	0.536	0.475	0.511	0.527	0.538	0.433	0.536	0.558	0.367	0.547	0.475	0.518	0.431
A11	0.472	0.527	0.493	0.481	0.461	0.478	0.496	0.434	0.557	0.525	0.372	0.540	0.482	0.474	0.433
A12	0.463	0.544	0.458	0.495	0.475	0.478	0.529	0.472	0.500	0.488	0.368	0.520	0.466	0.478	0.423
A13	0.470	0.541	0.484	0.479	0.481	0.517	0.525	0.444	0.516	0.524	0.329	0.522	0.470	0.511	0.428
A14	0.477	0.523	0.493	0.494	0.490	0.523	0.501	0.470	0.543	0.526	0.365	0.518	0.446	0.506	0.459
A15	0.476	0.507	0.510	0.482	0.505	0.527	0.508	0.426	0.532	0.538	0.342	0.503	0.471	0.513	0.447
A16	0.462	0.502	0.496	0.495	0.491	0.512	0.517	0.484	0.554	0.533	0.395	0.513	0.502	0.498	0.502
A17	0.504	0.535	0.502	0.508	0.468	0.500	0.496	0.465	0.515	0.528	0.335	0.514	0.455	0.509	0.418
A18	0.406	0.474	0.432	0.377	0.440	0.467	0.411	0.299	0.433	0.463	0.360	0.497	0.442	0.460	0.363
A19	0.408	0.469	0.428	0.383	0.433	0.436	0.419	0.334	0.428	0.440	0.382	0.480	0.429	0.439	0.348
A20	0.406	0.498	0.485	0.385	0.466	0.476	0.455	0.347	0.468	0.482	0.394	0.460	0.474	0.488	0.413
A21	0.374	0.478	0.401	0.355	0.410	0.447	0.425	0.312	0.407	0.438	0.414	0.462	0.418	0.453	0.355
A22	0.475	0.521	0.480	0.531	0.490	0.494	0.568	0.490	0.492	0.503	0.447	0.523	0.504	0.501	0.496
B1	0.514	0.470	0.401	0.545	0.418	0.438	0.630	0.494	0.384	0.386	0.559	0.546	0.504	0.368	0.491
B2	0.853	0.569	0.627	0.519	0.582	0.603	0.588	0.515	0.607	0.594	0.312	0.633	0.600	0.592	0.571
B3	0.789	0.614	0.626	0.581	0.614	0.649	0.675	0.538	0.626	0.604	0.478	0.651	0.707	0.634	0.693
B4	0.464	0.546	0.531	0.454	0.504	0.502	0.374	0.454	0.558	0.552	0.231	0.349	0.425	0.554	0.440
B5	0.463	0.556	0.541	0.469	0.515	0.529	0.399	0.466	0.567	0.561	0.250	0.335	0.427	0.575	0.456
B6	0.452	0.557	0.518	0.474	0.511	0.511	0.369	0.461	0.542	0.534	0.222	0.342	0.390	0.560	0.420
B7	0.568	0.799	0.556	0.618	0.560	0.558	0.645	0.542	0.574	0.586	0.446	0.613	0.656	0.581	0.608
B8	0.783	0.627	0.681	0.611	0.656	0.691	0.728	0.542	0.637	0.660	0.464	0.759	0.712	0.668	0.738
B9	1.000	0.622	0.672	0.592	0.635	0.651	0.606	0.565	0.655	0.630	0.379	0.682	0.682	0.613	0.642
B10	0.622	1.000	0.634	0.622	0.576	0.581	0.650	0.554	0.591	0.603	0.463	0.635	0.623	0.589	0.601
B11	0.672	0.634	1.000	0.592	0.792	0.784	0.658	0.489	0.811	0.814	0.362	0.605	0.613	0.756	0.656
B12	0.592	0.622	0.592	1.000	0.619	0.578	0.617	0.707	0.591	0.615	0.501	0.564	0.595	0.575	0.570
B13	0.635	0.576	0.792	0.619	1.000	0.875	0.692	0.509	0.803	0.811	0.382	0.624	0.611	0.825	0.642
B14	0.651	0.581	0.784	0.578	0.875	1.000	0.735	0.480	0.776	0.813	0.369	0.649	0.626	0.783	0.658
B15	0.606	0.650	0.658	0.617	0.692	0.735	1.000	0.563	0.647	0.655	0.524	0.684	0.678	0.632	0.670
B16	0.565	0.554	0.489	0.707	0.509	0.480	0.563	1.000	0.523	0.515	0.373	0.501	0.585	0.522	0.551
B17	0.655	0.591	0.811	0.591	0.803	0.776	0.647	0.523	1.000	0.860	0.442	0.634	0.642	0.793	0.657
B18	0.630	0.603	0.814	0.615	0.811	0.813	0.655	0.515	0.860	1.000	0.420	0.647	0.669	0.808	0.663
B19	0.379	0.463	0.362	0.501	0.382	0.369	0.524	0.373	0.442	0.420	1.000	0.539	0.503	0.373	0.489
B20	0.682	0.635	0.605	0.564	0.624	0.649	0.684	0.501	0.634	0.647	0.539	1.000	0.696	0.632	0.706
B21	0.682	0.623	0.613	0.595	0.611	0.626	0.678	0.585	0.642	0.669	0.503	0.696	1.000	0.644	0.778
B22	0.613	0.589	0.756	0.575	0.825	0.783	0.495	0.543	0.793	0.808	0.373	0.632	0.644	1.000	0.719
B23	0.642	0.601	0.656	0.570	0.642	0.658	0.487	0.524	0.657	0.663	0.489	0.706	0.778	0.719	1.000
B24	0.632	0.618	0.676	0.638	0.625	0.656	0.482	0.532	0.621	0.663	0.337	0.598	0.638	0.622	0.688
B25	0.635	0.629	0.668	0.612	0.570	0.611	0.462	0.522	0.621	0.650	0.322	0.592	0.594	0.613	0.633
B26	0.594	0.641	0.587	0.693	0.524	0.527	0.526	0.541	0.547	0.560	0.433	0.556	0.607	0.545	0.614
B27	0.429	0.398	0.341	0.449	0.365	0.399	0.523	0.526	0.422	0.359	0.757	0.520	0.406	0.346	0.400
B28	0.644	0.661	0.664	0.631	0.627	0.649	0.531	0.538	0.634	0.659	0.455	0.643	0.667	0.622	0.772
B29	0.749	0.606	0.574	0.576	0.580	0.576	0.474	0.503	0.572	0.574	0.426	0.630	0.645	0.617	0.669
B30	0.551	0.566	0.511	0.464	0.497	0.530	0.513	0.516	0.520	0.524	0.482	0.568	0.542	0.520	0.569
B31	0.622	0.610	0.640	0.592	0.635	0.631	0.527	0.538	0.629	0.634	0.420	0.595	0.671	0.646	0.754
B32	0.381	0.412	0.216	0.424	0.285	0.230	0.478	0.496	0.215	0.233	0.328	0.295	0.356	0.239	0.391
B33	0.078	0.189	0.139	0.216	0.099	0.104	0.478	0.529	0.110	0.089	-0.064	0.034	0.095	0.075	0.149
B34	0.347	0.420	0.164	0.419	0.247	0.191	0.517	0.525	0.158	0.195	0.321	0.294	0.335	0.191	0.366
B35	0.344	0.403	0.186	0.410	0.266	0.202	0.523	0.501	0.176	0.210	0.325	0.286	0.334	0.223	0.381
C1	0.337	0.320	0.479	0.308	0.422	0.427	0.527	0.508	0.405	0.432	0.316	0.399	0.404	0.442	0.403
C2	0.477	0.488	0.492	0.467	0.393	0.424	0.512	0.517	0.429	0.459	0.224	0.370	0.469	0.427	0.456
C3	0.341	0.349	0.497	0.308	0.439	0.463	0.500	0.496	0.436	0.469	0.299	0.429	0.402	0.467	0.400
C4	0.489	0.524	0.506	0.505	0.508	0.519	0.467	0.411	0.498	0.548	0.355	0.516	0.506	0.495	0.482
C5	0.507	0.601	0.600	0.502	0.544	0.581	0.436	0.419	0.565	0.551	0.272	0.444	0.503	0.595	0.555
C6	0.573	0.559	0.630	0.533	0.650	0.669	0.476	0.455	0.611	0.615	0.384	0.566	0.569	0.645	0.607
C7	0.485	0.555	0.573	0.466	0.503	0.551	0.447	0.425	0.534	0.515	0.234	0.400	0.475	0.576	0.513
C8	0.575	0.549	0.626	0.528	0.648	0.651	0.494	0.568	0.589	0.588	0.359	0.538	0.527	0.614	0.569
C9	0.578	0.605	0.618	0.550	0.609	0.612	0.438	0.630	0.587	0.600	0.393	0.600	0.603	0.621	0.590
C10	0.452	0.461	0.471	0.454	0.399	0.430	0.603	0.588	0.400	0.444	0.222	0.365	0.441	0.428	0.458
C11	0.597	0.584	0.633	0.520	0.618	0.629	0.649	0.675	0.602	0.604	0.380	0.581	0.570	0.628	0.608
C12	0.479	0.485	0.503	0.473	0.435	0.457	0.502	0.374	0.444	0.489	0.243	0.372	0.449	0.466	0.477

Appendix 4. Correlation Matrix

Table 25A: Correlation Matrix (Continued)

	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	C1	C2	C3
A1	0.546	0.543	0.542	0.314	0.542	0.490	0.420	0.492	0.287	0.125	0.307	0.284	0.322	0.481	0.372
A2	0.533	0.537	0.469	0.367	0.531	0.495	0.390	0.484	0.286	0.126	0.306	0.288	0.357	0.450	0.389
A3	0.523	0.522	0.458	0.378	0.499	0.489	0.405	0.455	0.278	0.128	0.291	0.282	0.332	0.394	0.358
A4	0.489	0.475	0.465	0.371	0.508	0.453	0.413	0.451	0.258	0.102	0.293	0.272	0.394	0.431	0.429
A5	0.495	0.480	0.469	0.330	0.495	0.459	0.419	0.468	0.271	0.132	0.285	0.270	0.328	0.430	0.389
A6	0.491	0.478	0.481	0.399	0.494	0.435	0.460	0.507	0.219	0.089	0.239	0.212	0.440	0.411	0.432
A7	0.506	0.503	0.480	0.354	0.522	0.511	0.441	0.501	0.244	0.113	0.268	0.254	0.397	0.468	0.434
A8	0.496	0.507	0.433	0.342	0.484	0.392	0.369	0.456	0.236	0.152	0.238	0.234	0.308	0.417	0.349
A9	0.544	0.544	0.435	0.337	0.513	0.425	0.375	0.456	0.237	0.128	0.234	0.238	0.320	0.420	0.371
A10	0.526	0.528	0.472	0.309	0.522	0.460	0.439	0.476	0.254	0.118	0.245	0.244	0.398	0.452	0.415
A11	0.497	0.494	0.451	0.330	0.493	0.430	0.409	0.459	0.227	0.139	0.234	0.210	0.360	0.435	0.388
A12	0.486	0.495	0.461	0.324	0.507	0.411	0.404	0.461	0.282	0.161	0.300	0.290	0.341	0.440	0.361
A13	0.509	0.514	0.451	0.317	0.491	0.444	0.359	0.481	0.267	0.119	0.263	0.248	0.365	0.434	0.403
A14	0.495	0.491	0.445	0.356	0.488	0.440	0.396	0.449	0.244	0.154	0.243	0.235	0.363	0.428	0.388
A15	0.522	0.514	0.447	0.292	0.502	0.446	0.359	0.466	0.224	0.093	0.211	0.203	0.372	0.392	0.394
A16	0.546	0.525	0.469	0.360	0.525	0.444	0.381	0.478	0.254	0.178	0.263	0.255	0.352	0.418	0.371
A17	0.536	0.539	0.497	0.309	0.529	0.461	0.404	0.469	0.247	0.158	0.262	0.257	0.365	0.471	0.380
A18	0.374	0.373	0.406	0.263	0.408	0.360	0.481	0.385	0.111	-0.028	0.129	0.114	0.514	0.303	0.547
A19	0.391	0.384	0.420	0.269	0.404	0.358	0.456	0.388	0.113	-0.045	0.123	0.112	0.540	0.300	0.530
A20	0.433	0.418	0.424	0.289	0.460	0.374	0.482	0.438	0.128	-0.021	0.138	0.131	0.537	0.313	0.528
A21	0.366	0.364	0.405	0.286	0.413	0.355	0.453	0.381	0.110	-0.064	0.109	0.101	0.525	0.276	0.553
A22	0.497	0.494	0.499	0.367	0.511	0.460	0.374	0.474	0.307	0.068	0.301	0.313	0.364	0.425	0.390
B1	0.462	0.448	0.496	0.509	0.529	0.502	0.325	0.467	0.439	-0.009	0.433	0.435	0.203	0.269	0.200
B2	0.604	0.589	0.524	0.366	0.583	0.718	0.500	0.601	0.327	0.070	0.280	0.284	0.327	0.440	0.346
B3	0.666	0.607	0.589	0.475	0.662	0.721	0.559	0.656	0.365	0.056	0.316	0.335	0.348	0.396	0.318
B4	0.597	0.593	0.509	0.204	0.487	0.417	0.486	0.478	0.228	0.259	0.232	0.214	0.315	0.529	0.337
B5	0.614	0.619	0.527	0.208	0.492	0.425	0.486	0.491	0.240	0.260	0.246	0.224	0.288	0.513	0.328
B6	0.604	0.598	0.516	0.213	0.474	0.408	0.456	0.456	0.239	0.276	0.248	0.227	0.261	0.522	0.295
B7	0.595	0.624	0.645	0.411	0.614	0.584	0.553	0.569	0.382	0.189	0.394	0.376	0.276	0.481	0.296
B8	0.686	0.638	0.624	0.485	0.692	0.740	0.544	0.647	0.360	0.029	0.319	0.328	0.379	0.424	0.389
B9	0.632	0.635	0.594	0.429	0.644	0.749	0.551	0.622	0.381	0.078	0.347	0.344	0.337	0.477	0.341
B10	0.618	0.629	0.641	0.398	0.661	0.606	0.566	0.610	0.412	0.189	0.420	0.403	0.320	0.488	0.349
B11	0.676	0.668	0.587	0.341	0.664	0.574	0.511	0.640	0.216	0.139	0.164	0.186	0.479	0.492	0.497
B12	0.638	0.612	0.693	0.449	0.631	0.576	0.464	0.592	0.424	0.216	0.419	0.410	0.308	0.467	0.308
B13	0.625	0.570	0.524	0.365	0.627	0.580	0.497	0.635	0.285	0.099	0.247	0.266	0.422	0.393	0.439
B14	0.656	0.611	0.527	0.399	0.649	0.576	0.530	0.631	0.230	0.104	0.191	0.202	0.427	0.424	0.463
B15	0.640	0.631	0.603	0.462	0.677	0.608	0.498	0.606	0.417	0.080	0.378	0.389	0.328	0.402	0.344
B16	0.614	0.605	0.594	0.375	0.579	0.541	0.384	0.587	0.371	0.236	0.364	0.367	0.214	0.439	0.202
B17	0.621	0.621	0.547	0.422	0.634	0.572	0.520	0.629	0.215	0.110	0.158	0.176	0.405	0.429	0.436
B18	0.663	0.650	0.560	0.359	0.659	0.574	0.524	0.634	0.233	0.089	0.195	0.210	0.432	0.459	0.469
B19	0.337	0.322	0.433	0.757	0.455	0.426	0.482	0.420	0.328	-0.064	0.321	0.325	0.316	0.224	0.299
B20	0.598	0.592	0.556	0.520	0.643	0.630	0.568	0.595	0.295	0.034	0.294	0.286	0.399	0.370	0.429
B21	0.638	0.594	0.607	0.406	0.667	0.645	0.542	0.671	0.356	0.095	0.335	0.334	0.404	0.469	0.402
B22	0.622	0.613	0.545	0.346	0.622	0.617	0.520	0.646	0.239	0.075	0.191	0.223	0.442	0.427	0.467
B23	0.688	0.633	0.614	0.400	0.772	0.669	0.569	0.754	0.391	0.149	0.366	0.381	0.403	0.456	0.400
B24	1.000	0.901	0.686	0.367	0.741	0.632	0.547	0.646	0.373	0.333	0.360	0.359	0.329	0.534	0.354
B25	0.901	1.000	0.679	0.361	0.710	0.602	0.508	0.618	0.370	0.340	0.367	0.368	0.260	0.543	0.312
B26	0.686	0.679	1.000	0.397	0.684	0.623	0.585	0.622	0.444	0.227	0.445	0.438	0.339	0.503	0.335
B27	0.367	0.361	0.397	1.000	0.412	0.448	0.378	0.353	0.259	0.018	0.248	0.243	0.222	0.233	0.207
B28	0.741	0.710	0.684	0.412	1.000	0.725	0.595	0.730	0.423	0.207	0.392	0.406	0.372	0.466	0.392
B29	0.632	0.602	0.623	0.448	0.725	1.000	0.651	0.687	0.427	0.111	0.365	0.375	0.317	0.451	0.315
B30	0.547	0.508	0.585	0.378	0.595	0.651	1.000	0.607	0.262	0.147	0.245	0.237	0.423	0.458	0.397
B31	0.646	0.618	0.622	0.353	0.730	0.687	0.607	1.000	0.426	0.184	0.385	0.398	0.422	0.443	0.413
B32	0.373	0.370	0.444	0.259	0.423	0.427	0.262	0.426	1.000	0.337	0.949	0.961	0.064	0.331	0.082
B33	0.333	0.340	0.227	0.018	0.207	0.111	0.147	0.184	0.337	1.000	0.351	0.347	-0.041	0.336	-0.027
B34	0.360	0.367	0.445	0.248	0.392	0.365	0.245	0.385	0.949	0.351	1.000	0.965	0.045	0.334	0.051
B35	0.359	0.368	0.438	0.243	0.406	0.375	0.237	0.398	0.961	0.347	0.965	1.000	0.053	0.307	0.056
C1	0.329	0.260	0.339	0.222	0.372	0.317	0.423	0.422	0.064	-0.041	0.045	0.053	1.000	0.336	0.880
C2	0.534	0.543	0.503	0.233	0.466	0.451	0.458	0.443	0.331	0.336	0.334	0.307	0.336	1.000	0.363
C3	0.354	0.312	0.335	0.207	0.392	0.315	0.397	0.413	0.082	-0.027	0.051	0.056	0.880	0.363	1.000
C4	0.533	0.501	0.516	0.301	0.580	0.443	0.421	0.495	0.383	0.169	0.375	0.380	0.498	0.548	0.522
C5	0.660	0.610	0.606	0.245	0.615	0.514	0.572	0.532	0.263	0.294	0.257	0.250	0.448	0.603	0.436
C6	0.637	0.595	0.569	0.341	0.665	0.563	0.507	0.591	0.330	0.190	0.297	0.313	0.434	0.467	0.447
C7	0.648	0.604	0.589	0.213	0.561	0.497	0.562	0.525	0.209	0.297	0.210	0.201	0.442	0.613	0.424
C8	0.625	0.598	0.553	0.354	0.642	0.537	0.477	0.548	0.337	0.206	0.309	0.333	0.413	0.452	0.448
C9	0.617	0.568	0.578	0.365	0.655	0.575	0.529	0.606	0.319	0.188	0.312	0.318	0.462	0.567	0.485
C10	0.534	0.534	0.501	0.218	0.475	0.476	0.457	0.439	0.333	0.356	0.336	0.313	0.363	0.948	0.399
C11	0.656	0.633	0.614	0.373	0.674	0.581	0.514	0.573	0.326	0.173	0.295	0.321	0.403	0.502	0.413
C12	0.550	0.546	0.512	0.233	0.489	0.480	0.477	0.475	0.350	0.348	0.355	0.338	0.346	0.948	0.373

Appendix 4. Correlation Matrix

Table 25A: Correlation Matrix (Continued)

	C4	C5	C6	C7	C8	C9	C10	C11	C12
A1	0.511	0.495	0.549	0.485	0.568	0.602	0.515	0.574	0.509
A2	0.504	0.511	0.532	0.499	0.571	0.581	0.495	0.568	0.488
A3	0.492	0.500	0.526	0.489	0.557	0.590	0.441	0.571	0.441
A4	0.485	0.475	0.505	0.452	0.541	0.558	0.478	0.543	0.491
A5	0.523	0.515	0.547	0.492	0.570	0.628	0.460	0.584	0.480
A6	0.465	0.527	0.570	0.530	0.537	0.582	0.443	0.588	0.427
A7	0.495	0.526	0.563	0.525	0.551	0.634	0.504	0.598	0.513
A8	0.501	0.503	0.540	0.493	0.562	0.566	0.447	0.574	0.464
A9	0.501	0.510	0.556	0.502	0.568	0.594	0.445	0.595	0.467
A10	0.532	0.585	0.583	0.568	0.586	0.638	0.485	0.618	0.508
A11	0.519	0.533	0.547	0.520	0.533	0.609	0.457	0.578	0.477
A12	0.536	0.547	0.560	0.519	0.562	0.635	0.456	0.590	0.474
A13	0.529	0.557	0.572	0.541	0.572	0.634	0.456	0.594	0.473
A14	0.522	0.537	0.556	0.520	0.552	0.600	0.457	0.577	0.470
A15	0.520	0.543	0.570	0.527	0.563	0.624	0.415	0.585	0.441
A16	0.518	0.552	0.542	0.535	0.552	0.620	0.443	0.583	0.461
A17	0.558	0.563	0.584	0.555	0.597	0.637	0.499	0.608	0.508
A18	0.397	0.485	0.399	0.466	0.430	0.487	0.318	0.428	0.318
A19	0.407	0.496	0.407	0.484	0.418	0.487	0.316	0.436	0.321
A20	0.437	0.530	0.450	0.523	0.470	0.520	0.317	0.464	0.321
A21	0.424	0.494	0.410	0.478	0.417	0.495	0.301	0.431	0.303
A22	0.541	0.496	0.572	0.471	0.573	0.639	0.460	0.609	0.463
B1	0.462	0.308	0.477	0.258	0.465	0.496	0.255	0.498	0.272
B2	0.440	0.466	0.544	0.459	0.525	0.550	0.414	0.553	0.440
B3	0.442	0.521	0.609	0.495	0.542	0.570	0.391	0.619	0.416
B4	0.379	0.648	0.487	0.647	0.478	0.481	0.497	0.507	0.540
B5	0.402	0.648	0.496	0.647	0.481	0.483	0.483	0.504	0.529
B6	0.394	0.639	0.487	0.641	0.470	0.490	0.497	0.497	0.544
B7	0.451	0.589	0.500	0.535	0.492	0.531	0.463	0.542	0.478
B8	0.509	0.511	0.625	0.457	0.598	0.633	0.417	0.648	0.441
B9	0.489	0.507	0.573	0.485	0.575	0.578	0.452	0.597	0.479
B10	0.524	0.601	0.559	0.555	0.549	0.605	0.461	0.584	0.485
B11	0.506	0.600	0.630	0.573	0.626	0.618	0.471	0.633	0.503
B12	0.505	0.502	0.533	0.466	0.528	0.550	0.454	0.520	0.473
B13	0.508	0.544	0.650	0.503	0.648	0.609	0.399	0.618	0.435
B14	0.519	0.581	0.669	0.551	0.651	0.612	0.430	0.629	0.457
B15	0.496	0.517	0.627	0.463	0.599	0.582	0.396	0.622	0.415
B16	0.488	0.503	0.495	0.496	0.482	0.509	0.426	0.503	0.437
B17	0.498	0.565	0.611	0.534	0.589	0.587	0.400	0.602	0.444
B18	0.548	0.551	0.615	0.515	0.588	0.600	0.444	0.604	0.489
B19	0.355	0.272	0.384	0.234	0.359	0.393	0.222	0.380	0.243
B20	0.516	0.444	0.566	0.400	0.538	0.600	0.365	0.581	0.372
B21	0.506	0.503	0.569	0.475	0.527	0.603	0.441	0.570	0.449
B22	0.495	0.595	0.645	0.576	0.614	0.621	0.428	0.628	0.466
B23	0.482	0.555	0.607	0.513	0.569	0.590	0.458	0.608	0.477
B24	0.533	0.660	0.637	0.648	0.625	0.617	0.534	0.656	0.550
B25	0.501	0.610	0.595	0.604	0.598	0.568	0.534	0.633	0.546
B26	0.516	0.606	0.569	0.589	0.553	0.578	0.501	0.614	0.512
B27	0.301	0.245	0.341	0.213	0.354	0.365	0.218	0.373	0.233
B28	0.580	0.615	0.665	0.561	0.642	0.655	0.475	0.674	0.489
B29	0.443	0.514	0.563	0.497	0.537	0.575	0.476	0.581	0.480
B30	0.421	0.572	0.507	0.562	0.477	0.529	0.457	0.514	0.477
B31	0.495	0.532	0.591	0.525	0.548	0.606	0.439	0.573	0.475
B32	0.383	0.263	0.330	0.209	0.337	0.319	0.333	0.326	0.350
B33	0.169	0.294	0.190	0.297	0.206	0.188	0.356	0.173	0.348
B34	0.375	0.257	0.297	0.210	0.309	0.312	0.336	0.295	0.355
B35	0.380	0.250	0.313	0.201	0.333	0.318	0.313	0.321	0.338
C1	0.498	0.448	0.434	0.442	0.413	0.462	0.363	0.403	0.346
C2	0.548	0.603	0.467	0.613	0.452	0.567	0.948	0.502	0.948
C3	0.522	0.436	0.447	0.424	0.448	0.485	0.399	0.413	0.373
C4	1.000	0.563	0.594	0.543	0.606	0.734	0.552	0.579	0.554
C5	0.563	1.000	0.715	0.957	0.689	0.683	0.620	0.732	0.646
C6	0.594	0.715	1.000	0.692	0.923	0.701	0.490	0.896	0.506
C7	0.543	0.957	0.692	1.000	0.644	0.650	0.627	0.712	0.650
C8	0.606	0.689	0.923	0.644	1.000	0.662	0.484	0.880	0.492
C9	0.734	0.683	0.701	0.650	0.662	1.000	0.575	0.719	0.618
C10	0.552	0.620	0.490	0.627	0.484	0.575	1.000	0.500	0.959
C11	0.579	0.732	0.896	0.712	0.880	0.719	0.500	1.000	0.532
C12	0.554	0.646	0.506	0.650	0.492	0.618	0.959	0.532	1.000

Appendix 5: Anti-Image Correlation Matrix

Table 26A: Anti-Image Correlation Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
A1	0.973	-0.256	-0.127	-0.151	0.051	-0.126	-0.031	-0.028	-0.195	0.194	-0.035	-0.097	0.008	-0.081	0.024
A2	-0.256	0.972	-0.476	-0.039	-0.113	0.022	0.033	-0.017	0.060	-0.037	0.069	0.003	-0.085	0.056	-0.017
A3	-0.127	-0.476	0.970	-0.085	-0.190	-0.015	-0.023	-0.044	-0.046	-0.071	-0.081	0.082	0.090	-0.003	0.093
A4	-0.151	-0.039	-0.085	0.969	-0.267	-0.031	-0.166	0.047	-0.080	0.003	0.038	-0.008	0.066	-0.004	-0.194
A5	0.051	-0.113	-0.190	-0.267	0.975	0.000	-0.198	0.050	-0.102	-0.004	-0.034	-0.086	0.016	-0.095	-0.119
A6	-0.126	0.022	-0.015	-0.031	0.000	0.969	-0.275	-0.059	-0.044	0.111	-0.080	0.045	0.005	-0.134	-0.043
A7	-0.031	0.033	-0.023	-0.166	-0.198	-0.275	0.974	-0.031	0.021	-0.127	-0.135	-0.121	0.095	0.245	-0.050
A8	-0.028	-0.017	-0.044	0.047	-0.059	-0.059	-0.031	0.977	-0.235	-0.002	-0.226	-0.028	0.203	-0.243	-0.061
A9	-0.195	0.060	-0.046	-0.080	-0.102	-0.044	0.021	-0.235	0.966	-0.390	0.317	0.033	-0.182	-0.055	-0.004
A10	0.194	-0.037	-0.071	0.003	-0.004	0.111	-0.127	-0.002	-0.390	0.972	-0.274	-0.226	-0.058	-0.078	-0.085
A11	-0.035	0.069	-0.081	0.038	-0.034	-0.080	-0.135	-0.226	0.317	-0.274	0.965	-0.032	-0.371	-0.104	0.128
A12	-0.097	0.003	0.082	-0.008	-0.086	0.045	-0.121	-0.028	0.033	-0.226	-0.032	0.981	-0.137	-0.113	-0.045
A13	0.008	-0.085	0.090	0.066	0.016	0.005	0.095	0.203	-0.182	-0.058	-0.371	-0.137	0.968	-0.142	-0.294
A14	-0.081	0.056	-0.003	-0.004	-0.095	-0.134	0.245	-0.243	-0.055	-0.078	-0.104	-0.113	-0.142	0.965	-0.130
A15	0.024	-0.017	0.093	-0.194	-0.119	-0.043	-0.050	-0.061	-0.004	-0.085	0.128	-0.045	-0.294	-0.130	0.977
A16	0.071	-0.013	-0.051	-0.033	0.046	-0.018	-0.077	-0.045	0.106	0.044	-0.019	0.023	-0.294	-0.422	-0.066
A17	0.042	-0.119	0.067	0.074	0.053	-0.049	-0.101	-0.143	-0.208	-0.049	-0.167	-0.097	0.050	0.110	-0.163
A18	0.017	-0.050	0.013	-0.113	0.013	0.012	0.069	-0.040	0.027	-0.062	0.043	-0.065	-0.107	0.029	0.034
A19	-0.044	0.139	-0.149	0.153	-0.098	0.028	-0.025	0.023	0.208	-0.112	0.143	0.087	-0.009	-0.064	-0.043
A20	0.069	0.046	-0.020	0.047	0.015	-0.025	-0.031	0.005	-0.153	0.037	-0.097	-0.077	0.023	0.094	0.045
A21	-0.042	-0.109	0.203	-0.145	0.099	-0.029	0.006	0.031	-0.118	0.135	-0.109	0.027	0.097	-0.066	-0.004
A22	-0.135	-0.005	-0.136	-0.105	-0.043	-0.234	0.050	-0.096	0.016	-0.081	-0.027	-0.029	-0.077	0.121	0.076
B1	-0.049	-0.021	-0.189	0.153	0.090	-0.085	0.090	0.030	0.039	0.062	0.010	-0.128	-0.050	0.010	-0.097
B2	0.000	0.014	0.037	0.092	-0.153	-0.035	0.021	-0.002	-0.078	-0.055	-0.092	-0.136	0.069	0.099	-0.005
B3	-0.081	0.093	-0.100	0.046	0.028	-0.111	-0.008	0.081	-0.043	0.027	-0.021	-0.123	-0.035	0.129	-0.082
B4	0.030	-0.009	-0.090	-0.114	-0.017	-0.039	0.125	0.102	0.054	-0.037	0.002	-0.162	-0.006	0.100	0.009
B5	0.058	-0.063	0.076	0.086	0.053	0.163	-0.001	-0.102	-0.109	-0.059	-0.033	0.143	0.102	-0.137	-0.128
B6	-0.107	0.078	-0.003	0.047	-0.113	-0.087	-0.107	-0.006	0.065	0.106	0.034	-0.022	-0.103	0.089	0.146
B7	-0.161	0.105	0.076	0.086	-0.051	0.027	-0.046	-0.077	0.166	-0.120	0.045	0.043	0.003	0.076	-0.051
B8	0.096	-0.085	0.048	-0.071	0.182	0.117	-0.081	-0.107	-0.035	0.134	0.008	0.095	-0.005	-0.160	0.040
B9	0.051	-0.085	0.027	-0.129	-0.013	0.030	0.088	-0.018	0.134	-0.128	0.095	0.115	0.007	-0.086	0.071
B10	0.153	-0.131	-0.007	0.030	0.049	-0.021	0.033	0.151	-0.138	0.095	-0.060	-0.041	-0.045	-0.171	-0.003
B11	-0.112	-0.040	0.145	-0.056	0.032	-0.018	0.104	-0.015	-0.034	-0.104	-0.077	0.075	0.125	0.050	-0.025
B12	-0.059	0.057	0.043	0.022	-0.016	0.078	0.134	0.041	-0.152	0.110	-0.140	-0.036	0.089	-0.023	-0.074
B13	0.138	0.131	-0.061	-0.046	-0.014	-0.034	0.027	-0.062	-0.047	0.000	-0.007	-0.093	0.078	0.039	-0.082
B14	-0.031	-0.048	0.023	0.104	-0.119	-0.057	-0.114	0.095	0.037	0.026	0.113	0.082	-0.061	-0.091	0.015
B15	-0.045	0.020	-0.056	-0.122	-0.091	0.106	0.030	-0.084	0.107	-0.078	0.099	-0.055	-0.106	0.091	0.135
B16	0.190	-0.042	0.066	-0.134	0.031	-0.120	-0.172	-0.060	0.018	0.072	0.097	-0.042	-0.004	-0.129	0.144
B17	-0.049	-0.035	-0.060	0.106	0.202	0.000	-0.032	-0.001	-0.047	0.156	-0.230	-0.057	0.130	-0.056	-0.064
B18	-0.089	0.110	-0.010	0.026	0.013	-0.066	-0.057	-0.009	0.007	-0.103	0.100	0.110	-0.094	0.017	0.026
B19	0.059	-0.038	0.107	-0.198	-0.072	-0.091	0.039	-0.038	-0.052	-0.057	-0.006	0.033	0.081	0.145	0.035
B20	0.034	-0.080	0.138	0.119	-0.196	-0.009	0.015	-0.136	-0.045	-0.092	-0.082	0.024	-0.020	0.090	0.032
B21	-0.019	0.079	-0.018	-0.019	0.044	0.039	-0.133	0.112	0.004	0.015	-0.100	-0.010	0.015	0.075	-0.030
B22	0.130	-0.110	-0.050	-0.039	-0.018	0.098	-0.009	0.130	0.044	0.003	0.088	-0.018	-0.109	-0.098	0.070
B23	-0.019	0.051	0.014	0.105	-0.001	-0.271	0.130	0.018	-0.055	0.085	0.002	-0.027	0.149	-0.024	-0.090
B24	-0.043	-0.055	0.056	-0.082	-0.018	0.100	0.072	0.035	-0.068	-0.015	-0.064	0.111	0.070	0.038	-0.006
B25	0.045	0.025	-0.129	0.037	0.135	-0.075	-0.022	-0.012	-0.041	0.032	0.033	-0.071	-0.072	0.051	-0.096
B26	-0.178	0.085	0.031	0.018	-0.105	-0.013	0.021	0.031	0.148	-0.078	0.059	0.028	-0.018	0.045	-0.004
B27	0.132	-0.027	-0.108	0.017	0.099	0.002	-0.029	0.003	-0.020	0.067	0.030	-0.017	-0.047	-0.148	0.068
B28	0.004	-0.101	0.068	-0.102	0.058	0.143	-0.027	-0.027	-0.015	-0.050	-0.031	-0.032	0.060	0.030	0.035
B29	-0.084	0.031	-0.088	-0.010	0.020	0.165	-0.192	0.125	0.050	0.061	0.048	0.141	-0.056	-0.071	-0.043
B30	-0.009	0.099	-0.074	0.001	0.000	-0.141	0.049	0.029	0.018	-0.023	-0.063	-0.097	0.146	-0.100	0.094
B31	-0.036	-0.082	0.049	-0.030	-0.068	-0.002	0.016	-0.157	0.086	-0.007	0.075	0.021	-0.203	0.133	0.095
B32	0.016	0.052	-0.014	0.175	-0.058	-0.057	0.128	-0.058	0.011	-0.133	-0.014	0.080	-0.081	0.065	-0.183
B33	0.073	0.036	-0.041	-0.035	-0.060	-0.006	0.022	0.002	-0.014	0.069	-0.044	-0.068	0.087	-0.045	0.073
B34	-0.070	-0.073	0.011	-0.173	0.043	-0.155	-0.031	0.057	0.042	0.100	-0.099	-0.045	-0.019	0.055	0.078
B35	0.050	0.012	0.003	0.015	0.032	0.187	-0.107	0.005	-0.040	0.018	0.124	-0.029	0.068	-0.122	0.109
C1	0.081	-0.116	0.005	-0.052	0.185	-0.134	0.033	0.050	0.057	-0.096	0.020	0.001	0.025	-0.041	-0.060
C2	-0.055	0.021	0.054	0.083	-0.044	-0.045	-0.035	0.028	0.008	0.120	0.095	-0.029	-0.071	-0.014	0.023
C3	-0.011	0.059	-0.020	-0.029	-0.097	0.064	-0.138	-0.021	-0.040	0.117	-0.004	0.022	-0.077	0.007	0.082
C4	0.003	0.052	-0.037	-0.017	-0.090	0.136	0.151	0.010	0.008	0.029	-0.087	-0.069	0.080	0.005	-0.044
C5	0.081	0.019	-0.020	-0.049	-0.067	0.033	0.061	0.041	0.047	-0.032	0.003	-0.103	-0.007	0.019	0.025
C6	0.017	0.054	0.046	0.054	0.064	-0.049	-0.012	0.091	0.023	-0.003	-0.042	-0.006	0.034	-0.151	-0.061
C7	-0.027	-0.039	-0.025	0.087	0.095	-0.108	-0.042	-0.076	-0.022	-0.022	0.040	0.106	-0.044	0.019	-0.043
C8	-0.130	-0.052	-0.008	-0.044	-0.052	0.067	0.030	-0.141	0.082	-0.011	0.124	0.040	-0.119	0.129	0.027
C9	-0.107	0.088	-0.078	0.186	-0.075	0.009	-0.078	0.059	0.054	-0.023	0.107	-0.032	-0.068	0.069	-0.083
C10	-0.018	-0.086	-0.034	0.040	0.076	-0.141	-0.002	0.029	0.048	-0.064	0.047	-0.007	0.007	-0.059	0.099
C11	0.093	0.013	0.015	-0.030	-0.042	-0.036	-0.033	0.031	-0.132	0.028	-0.106	-0.028	0.089	0.004	0.069
C12	0.039	0.020	0.053	-0.163	-0.012	0.218	-0.009	-0.071	-0.052	-0.053	-0.133	0.049	0.046	0.030	-0.064

Appendix 5. Anti-Image Correlation Matrix

Table 26A: Anti-Image Correlation Matrix (Continued)

	A16	A17	A18	A19	A20	A21	A22	B1	B2	B3	B4	B5	B6	B7	B8
A1	0.071	0.042	0.017	-0.044	0.069	-0.042	-0.135	-0.049	0.000	-0.081	0.030	0.058	-0.107	-0.161	0.096
A2	-0.013	-0.119	-0.050	0.139	0.046	-0.109	-0.005	-0.021	0.014	0.093	-0.009	-0.063	0.078	0.105	-0.085
A3	-0.051	0.067	0.013	-0.149	-0.020	0.203	-0.136	-0.189	0.037	-0.100	-0.090	0.076	-0.003	0.076	0.048
A4	-0.033	0.074	-0.113	0.153	0.047	-0.145	-0.105	0.153	0.092	0.046	-0.114	0.086	0.047	0.086	-0.071
A5	0.046	0.053	0.013	-0.098	0.015	0.099	-0.043	0.090	-0.153	0.028	-0.017	0.053	-0.113	-0.051	0.182
A6	-0.018	-0.049	0.012	0.028	-0.025	-0.029	-0.234	-0.085	-0.035	-0.111	-0.039	0.163	-0.087	0.027	0.117
A7	-0.077	-0.101	0.069	-0.025	-0.031	0.006	0.050	0.090	0.021	-0.008	0.125	-0.001	-0.107	-0.046	-0.081
A8	-0.045	-0.143	-0.040	0.023	0.005	0.031	-0.096	0.030	-0.002	0.081	0.102	-0.102	-0.006	-0.077	-0.107
A9	0.106	-0.208	0.027	0.208	-0.153	-0.118	0.016	0.039	-0.078	-0.043	0.054	-0.109	0.065	0.166	-0.035
A10	0.044	-0.049	-0.062	-0.112	0.037	0.135	-0.081	0.062	-0.055	0.027	-0.037	-0.059	0.106	-0.120	0.134
A11	-0.019	-0.167	0.043	0.143	-0.097	-0.109	-0.027	0.010	-0.092	-0.021	0.002	-0.033	0.034	0.045	0.008
A12	0.023	-0.097	-0.065	0.087	-0.077	0.027	-0.029	-0.128	-0.136	-0.123	-0.162	0.143	-0.022	0.043	0.095
A13	-0.268	0.050	-0.107	-0.009	0.023	0.097	-0.077	-0.050	0.069	-0.035	-0.006	0.102	-0.103	0.003	-0.005
A14	-0.422	0.110	0.029	-0.064	0.094	-0.066	0.121	0.010	0.099	0.129	0.100	-0.137	0.089	0.076	-0.160
A15	-0.066	-0.163	0.034	-0.043	0.045	-0.004	0.076	-0.097	-0.005	-0.082	0.009	-0.128	0.146	-0.051	0.040
A16	0.975	-0.124	0.126	-0.002	-0.044	-0.070	-0.111	0.024	-0.019	-0.011	-0.034	0.106	-0.110	-0.078	-0.005
A17	-0.124	0.979	-0.080	-0.144	0.002	0.184	-0.040	-0.052	0.045	0.060	-0.025	0.069	-0.051	0.004	-0.051
A18	0.126	-0.080	0.947	-0.536	-0.218	-0.174	0.125	0.076	0.095	0.012	-0.027	-0.052	0.049	0.026	0.103
A19	-0.002	-0.144	-0.536	0.928	-0.226	-0.436	-0.078	-0.095	-0.161	0.057	0.013	0.149	-0.103	-0.032	-0.091
A20	-0.044	0.002	-0.218	-0.226	0.965	-0.270	0.009	0.104	0.156	0.069	-0.077	-0.032	0.078	0.043	0.007
A21	-0.070	0.184	-0.174	-0.436	-0.270	0.946	-0.139	-0.061	-0.075	-0.107	0.071	-0.079	-0.009	-0.017	0.027
A22	-0.111	-0.040	0.125	-0.078	0.009	-0.139	0.975	0.043	0.145	0.091	0.090	-0.230	0.134	-0.074	-0.131
B1	0.024	-0.052	0.076	-0.095	0.104	-0.061	0.043	0.958	-0.043	0.205	0.025	-0.084	0.045	-0.146	-0.014
B2	-0.019	0.045	0.095	-0.161	0.156	-0.075	0.145	-0.043	0.963	-0.083	0.074	-0.016	-0.049	0.104	-0.226
B3	-0.011	0.060	0.012	0.057	0.069	-0.107	0.091	0.205	-0.083	0.959	0.051	-0.148	0.101	-0.102	-0.335
B4	-0.034	-0.025	-0.027	0.013	-0.077	0.071	0.090	0.025	0.074	0.051	0.947	-0.540	-0.403	-0.191	-0.041
B5	0.106	0.069	-0.052	0.149	-0.032	-0.079	-0.230	-0.084	-0.016	-0.148	-0.540	0.929	-0.491	0.069	0.082
B6	-0.110	-0.051	0.049	-0.103	0.078	-0.009	0.134	0.045	-0.049	0.101	-0.403	-0.491	0.947	0.084	-0.081
B7	-0.078	0.004	0.026	-0.032	0.043	-0.017	-0.074	-0.146	0.104	-0.102	-0.191	0.069	0.084	0.964	-0.009
B8	-0.005	-0.051	0.103	-0.091	0.007	0.027	-0.131	-0.014	-0.226	-0.335	-0.041	0.082	-0.081	-0.009	0.969
B9	0.068	-0.110	-0.034	0.043	-0.076	0.047	-0.053	-0.123	-0.466	-0.326	-0.072	0.062	0.002	0.056	-0.006
B10	0.184	-0.036	0.045	0.005	-0.008	-0.082	-0.003	0.165	-0.036	-0.007	0.105	0.026	-0.182	-0.510	0.060
B11	-0.044	0.055	-0.008	-0.015	-0.164	0.197	-0.023	-0.133	-0.019	-0.018	0.020	0.022	-0.013	0.103	-0.105
B12	0.030	-0.012	-0.135	0.010	0.050	0.119	-0.140	-0.080	0.066	-0.056	0.056	0.098	-0.134	-0.083	-0.036
B13	-0.022	0.182	0.086	-0.161	0.010	0.090	-0.047	0.048	0.069	0.056	-0.011	0.051	-0.068	-0.062	0.038
B14	0.012	-0.055	-0.152	0.160	0.073	-0.123	0.056	-0.072	0.058	-0.043	0.121	-0.116	-0.011	0.028	-0.067
B15	0.009	-0.001	0.039	0.071	-0.146	-0.011	-0.012	-0.214	-0.080	-0.080	0.058	-0.054	0.098	-0.073	-0.148
B16	0.007	0.040	0.086	-0.098	0.023	0.012	-0.019	-0.091	-0.034	0.020	-0.051	-0.045	0.054	0.037	0.090
B17	-0.093	0.032	0.007	-0.134	0.024	0.144	0.020	0.148	-0.034	-0.044	-0.054	-0.016	0.022	0.005	0.181
B18	-0.002	-0.040	-0.054	0.105	0.019	-0.086	0.048	0.104	-0.084	0.162	-0.153	0.020	0.121	-0.008	-0.044
B19	-0.112	0.036	0.137	-0.126	0.053	-0.088	0.067	-0.221	0.121	-0.091	0.063	-0.136	0.056	0.100	0.050
B20	0.053	0.084	-0.131	-0.018	0.172	-0.019	0.052	-0.030	0.064	0.081	-0.120	0.247	-0.086	-0.020	-0.227
B21	-0.092	0.061	-0.099	0.026	-0.059	0.080	0.012	-0.010	0.065	-0.091	-0.007	-0.050	0.094	-0.153	-0.037
B22	0.134	-0.209	0.007	0.107	-0.013	-0.147	-0.007	0.052	-0.055	-0.076	0.126	-0.049	-0.108	-0.084	-0.010
B23	-0.130	0.158	-0.096	0.086	-0.077	0.107	-0.087	0.007	0.040	0.065	0.031	-0.069	0.056	-0.017	-0.136
B24	-0.094	-0.035	0.061	-0.086	-0.091	0.125	0.010	-0.114	-0.049	-0.226	-0.032	0.089	-0.091	0.136	-0.053
B25	0.046	0.062	0.070	-0.075	0.058	-0.059	0.052	0.116	0.044	0.164	0.102	-0.181	0.047	-0.149	0.030
B26	0.015	-0.085	0.007	0.004	0.072	-0.072	0.014	0.002	0.056	0.084	0.085	-0.098	0.002	-0.033	-0.116
B27	0.060	0.011	-0.063	0.123	-0.117	0.040	-0.034	-0.037	-0.039	-0.077	-0.008	0.130	-0.104	-0.127	-0.016
B28	-0.031	-0.076	0.065	0.000	-0.034	-0.070	0.085	-0.033	0.054	-0.036	-0.083	0.129	-0.049	0.047	0.091
B29	-0.013	-0.049	-0.086	0.106	-0.046	0.024	-0.033	-0.080	-0.192	0.014	0.035	-0.079	0.081	-0.040	-0.117
B30	0.029	0.024	-0.126	0.043	-0.010	0.047	0.090	0.107	0.029	0.000	-0.005	-0.089	0.076	-0.082	-0.008
B31	0.033	-0.035	0.067	-0.028	-0.057	0.008	0.078	-0.049	-0.081	-0.091	-0.023	-0.064	0.108	0.025	0.033
B32	0.096	0.114	0.109	0.002	0.076	-0.182	-0.021	0.074	0.033	0.050	-0.067	0.107	-0.066	0.077	-0.030
B33	-0.102	-0.045	-0.039	0.024	0.090	-0.021	0.090	0.123	-0.019	0.058	0.026	-0.053	0.025	-0.052	0.097
B34	-0.066	0.004	-0.061	-0.038	-0.033	0.114	0.233	-0.015	0.015	0.132	0.137	-0.250	0.101	-0.066	-0.047
B35	-0.021	-0.096	-0.063	0.048	-0.053	0.078	-0.212	-0.085	-0.053	-0.173	-0.077	0.147	-0.039	0.000	0.084
C1	0.039	-0.024	0.234	-0.246	-0.092	0.094	0.031	0.050	0.035	-0.101	-0.142	0.093	0.020	0.068	0.048
C2	-0.002	-0.033	-0.058	0.060	-0.122	0.092	-0.020	-0.030	-0.156	0.108	-0.102	-0.058	0.136	0.006	-0.007
C3	-0.018	0.071	-0.226	0.166	0.133	-0.130	0.032	0.017	-0.072	0.135	0.038	-0.130	0.100	-0.043	-0.050
C4	0.007	-0.080	0.081	0.040	-0.035	-0.059	-0.040	-0.113	0.089	-0.021	0.223	-0.095	-0.074	-0.008	-0.031
C5	0.002	0.011	-0.029	-0.012	0.098	-0.050	0.023	-0.026	0.107	-0.011	0.060	-0.103	0.045	-0.148	-0.156
C6	0.179	-0.046	0.098	-0.044	-0.002	0.031	-0.120	-0.063	-0.019	-0.178	0.044	0.023	-0.094	0.084	0.054
C7	-0.028	0.016	0.070	-0.017	-0.108	-0.003	0.079	0.127	-0.098	0.024	-0.074	0.065	-0.032	0.071	0.197
C8	-0.085	-0.055	-0.066	0.107	-0.123	-0.004	0.103	0.067	-0.069	0.224	-0.054	-0.009	0.086	0.008	-0.035
C9	-0.051	-0.009	-0.073	0.154	-0.069	-0.080	-0.109	-0.034	-0.019	0.087	-0.034	0.069	-0.013	0.137	-0.114
C10	0.038	-0.072	-0.023	0.037	0.028	-0.034	-0.056	0.063	0.044	-0.083	-0.009	0.064	-0.021	-0.028	0.036
C11	-0.044	0.079	-0.054	-0.058	0.143	0.020	-0.063	-0.117	0.124	-0.110	-0.045	0.041	0.021	-0.018	-0.071
C12	0.010	0.074	0.087	-0.130	0.119	-0.019	0.044	-0.018	0.081	-0.010	0.056	0.042	-0.131	0.011	0.000

Appendix 5. Anti-Image Correlation Matrix

Table 26A: Anti-Image Correlation Matrix (Continued)

	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23
A1	0.051	0.153	-0.112	-0.059	0.138	-0.031	-0.045	0.190	-0.049	-0.089	0.059	0.034	-0.019	0.130	-0.019
A2	-0.085	-0.131	-0.040	0.057	0.131	-0.048	0.020	-0.042	-0.035	0.110	-0.038	-0.080	0.079	-0.110	0.051
A3	0.027	-0.007	0.145	0.043	-0.061	0.023	-0.056	0.066	-0.060	-0.010	0.107	0.138	-0.018	-0.050	0.014
A4	-0.129	0.030	-0.056	0.022	-0.046	0.104	-0.122	-0.134	0.106	0.026	-0.198	0.119	-0.019	-0.039	0.105
A5	-0.013	0.049	0.032	-0.016	-0.014	-0.119	-0.091	0.031	0.202	0.013	-0.072	-0.196	0.044	-0.018	-0.001
A6	0.030	-0.021	-0.018	0.078	-0.034	-0.057	0.106	-0.120	0.000	-0.066	-0.091	-0.009	0.039	0.098	-0.271
A7	0.088	0.033	0.104	0.134	0.027	-0.114	0.030	-0.172	-0.032	-0.057	0.039	0.015	-0.133	-0.009	0.130
A8	-0.018	0.151	-0.015	0.041	-0.062	0.095	-0.084	-0.060	-0.001	-0.009	-0.038	-0.136	0.112	0.130	0.018
A9	0.134	-0.138	-0.034	-0.152	-0.047	0.037	0.107	0.018	-0.047	0.007	-0.052	-0.045	0.004	0.044	-0.055
A10	-0.128	0.095	-0.104	0.110	0.000	0.026	-0.078	0.072	0.156	-0.103	-0.057	-0.092	0.015	0.003	0.085
A11	0.095	-0.060	-0.077	-0.140	-0.007	0.113	0.099	0.097	-0.230	0.100	-0.006	-0.082	-0.100	0.088	0.002
A12	0.115	-0.041	0.075	-0.036	-0.093	0.082	-0.055	-0.042	-0.057	0.110	0.033	0.024	-0.010	-0.018	-0.027
A13	0.007	-0.045	0.125	0.089	0.078	-0.061	-0.106	-0.004	0.130	-0.094	0.081	-0.020	0.015	-0.109	0.149
A14	-0.086	-0.171	-0.050	-0.023	0.039	-0.091	0.091	-0.129	-0.056	0.017	0.145	0.090	0.075	-0.098	-0.024
A15	0.071	-0.003	-0.025	-0.074	-0.082	0.015	0.135	0.144	-0.064	0.026	0.035	0.032	-0.030	0.070	-0.090
A16	0.068	0.184	-0.044	0.030	-0.022	0.012	0.009	0.007	-0.093	-0.002	-0.112	0.053	-0.092	0.134	-0.130
A17	-0.110	-0.036	0.055	-0.012	0.182	-0.055	-0.001	0.040	0.032	-0.040	0.036	0.084	0.061	-0.209	0.158
A18	-0.034	0.045	-0.008	-0.135	0.086	-0.152	0.039	0.086	0.007	-0.054	0.137	-0.131	-0.099	0.007	-0.096
A19	0.043	0.005	-0.015	0.010	-0.161	0.160	0.071	-0.098	-0.134	0.105	-0.126	-0.018	0.026	0.107	0.086
A20	-0.076	-0.008	-0.164	0.050	0.010	0.073	-0.146	0.023	0.024	0.019	0.053	0.172	-0.059	-0.013	-0.077
A21	0.047	-0.082	0.197	0.119	0.090	-0.123	-0.011	0.012	0.144	-0.086	-0.088	-0.019	0.080	-0.147	0.107
A22	-0.053	-0.003	-0.023	-0.140	-0.047	0.056	-0.012	-0.019	0.020	0.048	0.067	0.052	0.012	-0.007	-0.087
B1	-0.123	0.165	-0.133	-0.080	0.048	-0.072	-0.214	-0.091	0.148	0.104	-0.221	-0.030	-0.010	0.052	0.007
B2	-0.466	-0.036	-0.019	0.066	0.069	0.058	-0.080	-0.034	-0.034	-0.084	0.121	0.064	0.065	-0.055	0.040
B3	-0.326	-0.007	-0.018	-0.056	0.056	-0.043	-0.080	0.020	-0.044	0.162	-0.091	0.081	-0.091	-0.076	0.065
B4	-0.072	0.105	0.020	0.056	-0.011	0.121	0.058	-0.051	-0.054	-0.153	0.063	-0.120	-0.007	0.126	0.031
B5	0.062	0.026	0.022	0.098	0.051	-0.116	-0.054	-0.045	-0.016	0.020	-0.136	0.247	-0.050	-0.049	-0.069
B6	0.002	-0.182	-0.013	-0.134	-0.068	-0.011	0.098	0.054	0.022	0.121	0.056	-0.086	0.094	-0.108	0.056
B7	0.056	-0.510	0.103	-0.083	-0.062	0.028	-0.073	0.037	0.005	-0.008	0.100	-0.020	-0.153	-0.084	-0.017
B8	-0.006	0.060	-0.105	-0.036	0.038	-0.067	-0.148	0.090	0.181	-0.044	0.050	-0.227	-0.037	-0.010	-0.136
B9	0.957	-0.045	-0.071	-0.049	-0.086	-0.087	0.246	-0.069	-0.131	0.048	0.105	-0.104	-0.166	0.187	-0.076
B10	-0.045	0.966	-0.236	0.001	0.052	0.041	-0.127	-0.024	0.047	0.000	-0.129	-0.089	0.003	0.077	0.045
B11	-0.071	-0.236	0.975	0.041	-0.160	-0.083	-0.011	0.041	-0.152	-0.191	-0.011	0.056	0.097	-0.054	0.024
B12	-0.049	0.001	0.041	0.968	-0.105	-0.011	0.008	-0.383	0.049	-0.108	-0.193	0.034	0.039	-0.041	0.125
B13	-0.086	0.052	-0.160	-0.105	0.962	-0.457	-0.090	0.025	-0.153	-0.025	0.007	-0.006	0.047	-0.341	0.133
B14	-0.087	0.041	-0.083	-0.011	-0.457	0.966	-0.274	0.112	-0.004	-0.195	0.191	-0.021	0.002	0.050	-0.013
B15	0.246	-0.127	-0.011	0.008	-0.090	-0.274	0.971	-0.113	-0.125	0.060	-0.069	-0.069	-0.074	0.092	-0.055
B16	-0.069	-0.024	0.041	-0.383	0.025	0.112	-0.113	0.967	-0.032	0.010	0.109	-0.026	-0.113	-0.059	0.027
B17	-0.131	0.047	-0.152	0.049	-0.153	-0.004	-0.125	-0.032	0.970	-0.350	-0.116	-0.073	0.018	-0.141	-0.004
B18	0.048	0.000	-0.191	-0.108	-0.025	-0.195	0.060	0.010	-0.350	0.967	-0.109	-0.008	-0.147	-0.190	0.090
B19	0.105	-0.129	-0.011	-0.193	0.007	0.191	-0.069	0.109	-0.116	-0.109	0.909	-0.034	-0.127	0.063	-0.125
B20	-0.104	-0.089	0.056	0.034	-0.006	-0.021	-0.069	-0.026	-0.073	-0.008	-0.034	0.971	-0.059	-0.048	-0.214
B21	-0.166	0.003	0.097	0.039	0.047	0.002	-0.074	-0.113	0.018	-0.147	-0.127	-0.059	0.978	-0.010	-0.250
B22	0.187	0.077	-0.054	-0.041	-0.341	0.050	0.092	-0.059	-0.141	-0.190	0.063	-0.048	-0.010	0.963	-0.370
B23	-0.076	0.045	0.024	0.125	0.133	-0.013	-0.055	0.027	-0.004	0.090	-0.125	-0.214	-0.250	-0.370	0.955
B24	0.216	-0.028	0.082	-0.039	-0.164	-0.048	0.084	-0.069	0.100	-0.107	0.114	0.011	-0.079	0.166	-0.174
B25	-0.211	0.076	-0.147	0.012	0.224	0.041	-0.170	-0.010	-0.023	-0.027	0.023	-0.125	0.072	-0.150	0.132
B26	-0.021	-0.023	-0.096	-0.257	0.043	0.105	-0.034	-0.028	-0.062	0.032	0.060	0.038	-0.050	0.014	0.003
B27	-0.011	0.108	0.061	0.061	0.061	-0.194	0.088	-0.051	-0.072	0.097	-0.650	-0.111	0.120	-0.004	0.124
B28	0.042	-0.067	-0.042	-0.070	-0.009	-0.071	-0.016	0.002	-0.005	-0.053	0.035	0.072	0.058	0.179	-0.366
B29	-0.123	-0.056	0.070	-0.026	-0.091	0.165	0.045	-0.021	0.009	0.000	0.045	-0.055	0.018	-0.094	0.018
B30	-0.040	-0.008	0.085	0.074	0.041	-0.085	0.000	0.123	0.043	0.000	-0.262	-0.140	0.083	-0.003	0.099
B31	0.144	-0.089	-0.030	-0.037	-0.110	-0.046	0.157	-0.161	-0.052	0.010	0.064	0.067	-0.047	0.077	-0.288
B32	-0.068	0.086	-0.076	-0.012	0.100	-0.010	-0.167	-0.011	-0.117	0.075	-0.010	0.158	-0.054	-0.043	0.080
B33	0.081	-0.006	-0.092	-0.078	0.034	-0.029	0.052	-0.018	-0.042	0.065	0.147	-0.016	-0.029	0.092	-0.016
B34	-0.087	-0.106	0.115	-0.085	-0.122	0.050	0.050	0.083	0.110	-0.033	0.074	-0.132	0.024	0.106	-0.013
B35	0.113	-0.008	0.007	0.080	-0.020	-0.002	0.069	-0.041	0.037	-0.027	-0.106	-0.004	0.037	-0.056	-0.074
C1	0.016	0.074	-0.091	-0.085	-0.012	-0.004	-0.052	0.051	0.113	0.002	0.026	0.009	-0.038	-0.009	-0.046
C2	-0.011	-0.089	-0.086	-0.082	0.046	0.047	-0.018	0.005	-0.074	0.106	0.058	-0.020	-0.162	0.001	0.065
C3	0.012	-0.031	-0.061	-0.002	0.027	0.019	0.060	0.096	-0.082	0.039	-0.023	-0.056	0.024	-0.022	0.019
C4	-0.029	-0.032	0.148	0.108	0.012	-0.023	0.085	-0.166	-0.037	-0.231	0.003	-0.111	0.021	0.072	0.074
C5	0.017	-0.038	0.001	-0.006	0.015	0.056	-0.015	0.001	-0.080	-0.088	0.060	0.016	0.086	0.080	-0.088
C6	0.099	0.041	0.098	0.028	0.054	-0.065	-0.084	0.017	0.013	-0.090	-0.121	-0.102	-0.024	-0.037	0.062
C7	-0.026	0.041	-0.057	-0.017	0.067	-0.108	-0.011	-0.052	0.051	0.181	-0.040	0.048	-0.057	-0.121	0.063
C8	-0.100	-0.053	-0.078	-0.088	-0.133	-0.018	0.078	-0.026	-0.028	0.169	0.035	0.117	-0.029	0.007	-0.046
C9	-0.009	-0.078	-0.102	-0.019	-0.072	0.068	0.042	0.009	-0.023	0.160	-0.004	-0.023	-0.117	-0.077	0.089
C10	0.087	0.058	0.017	0.029	-0.095	-0.016	0.031	-0.027	0.102	0.050	-0.036	-0.048	-0.011	0.045	-0.020
C11	-0.005	-0.010	0.020	0.144	-0.008	0.097	-0.003	0.047	0.027	-0.103	0.091	-0.021	0.061	0.006	0.000
C12	-0.077	0.043	0.033	0.024	0.050	-0.032	-0.024	0.039	-0.002	-0.165	-0.008	0.118	0.131	-0.019	-0.112

Appendix 5. Anti-Image Correlation Matrix

Table 26A: Anti-Image Correlation Matrix (Continued)

	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	C1	C2	C3
A1	-0.043	0.045	-0.178	0.132	0.004	-0.084	-0.009	-0.036	0.016	0.073	-0.070	0.050	0.081	-0.055	-0.011
A2	-0.055	0.025	0.085	-0.027	-0.101	0.031	0.099	-0.082	0.052	0.036	-0.073	0.012	-0.116	0.021	0.059
A3	0.056	-0.129	0.031	-0.108	0.068	-0.088	-0.074	0.049	-0.014	-0.041	0.011	0.003	0.095	0.054	-0.020
A4	-0.082	0.037	0.018	0.017	-0.102	-0.010	0.001	-0.030	0.175	-0.035	-0.173	0.015	-0.052	0.083	-0.029
A5	-0.018	0.135	-0.105	0.099	0.058	0.020	0.000	-0.068	-0.058	-0.060	0.043	0.032	0.185	-0.044	-0.097
A6	0.100	-0.075	-0.013	0.002	0.143	0.165	-0.141	-0.002	-0.057	-0.006	-0.155	0.187	-0.134	-0.045	0.064
A7	0.072	-0.022	0.021	-0.029	-0.027	-0.192	0.049	0.016	0.128	0.022	-0.031	-0.107	0.033	-0.035	-0.138
A8	0.035	-0.012	0.031	0.003	-0.027	0.125	0.029	-0.157	-0.058	0.002	0.057	0.005	0.050	0.028	-0.021
A9	-0.068	-0.041	0.148	-0.020	-0.015	0.050	0.018	0.086	0.011	-0.014	0.042	-0.040	0.057	0.008	-0.040
A10	-0.015	0.032	-0.078	0.067	-0.050	0.061	-0.023	-0.007	-0.133	0.069	0.100	0.018	-0.096	0.120	0.117
A11	-0.064	0.033	0.059	0.030	-0.031	0.048	-0.063	0.075	-0.014	-0.044	-0.099	0.124	0.020	0.095	-0.004
A12	0.111	-0.071	0.028	-0.017	-0.032	0.141	-0.097	0.021	0.080	-0.068	-0.045	-0.029	0.001	-0.029	0.022
A13	0.070	-0.072	-0.018	-0.047	0.060	-0.056	0.146	-0.203	-0.081	0.087	-0.019	0.068	0.025	-0.071	-0.077
A14	0.038	0.051	0.045	-0.148	0.030	-0.071	-0.100	0.133	0.065	-0.045	0.055	-0.122	-0.041	-0.014	0.007
A15	-0.006	-0.096	-0.004	0.068	0.035	-0.043	0.094	0.095	-0.183	0.073	0.078	0.109	-0.060	0.023	0.082
A16	-0.094	0.046	0.015	0.060	-0.031	-0.013	0.029	0.033	0.096	-0.102	-0.066	-0.021	0.039	-0.002	-0.018
A17	-0.035	0.062	-0.085	0.011	-0.076	-0.049	0.024	-0.035	0.114	-0.045	0.004	-0.096	-0.024	-0.033	0.071
A18	0.061	0.070	0.007	-0.063	0.065	-0.086	-0.126	0.067	0.109	-0.039	-0.061	-0.063	0.234	-0.058	-0.226
A19	-0.086	-0.075	0.004	0.123	0.000	0.106	0.043	-0.028	0.002	0.024	-0.038	0.048	-0.246	0.060	0.166
A20	-0.091	0.058	0.072	-0.117	-0.034	-0.046	-0.010	-0.057	0.076	0.090	-0.033	-0.053	-0.092	-0.122	0.133
A21	0.125	-0.059	-0.072	0.040	-0.070	0.024	0.047	0.008	-0.182	-0.021	0.114	0.078	0.094	0.092	-0.130
A22	0.010	0.052	0.014	-0.034	0.085	-0.033	0.090	0.078	-0.021	0.090	0.233	-0.212	0.031	-0.020	0.032
B1	-0.114	0.116	0.002	-0.037	-0.033	-0.080	0.107	-0.049	0.074	0.123	-0.015	-0.085	0.050	-0.030	0.017
B2	-0.049	0.044	0.056	-0.039	0.054	-0.192	0.029	-0.081	0.033	-0.019	0.015	-0.053	0.035	-0.156	-0.072
B3	-0.226	0.164	0.084	-0.077	-0.036	0.014	0.000	-0.091	0.050	0.058	0.132	-0.173	-0.101	0.108	0.135
B4	-0.032	0.102	0.085	-0.008	-0.083	0.035	-0.005	-0.023	-0.067	0.026	0.137	-0.077	-0.142	-0.102	0.038
B5	0.089	-0.181	-0.098	0.130	0.129	-0.079	-0.089	-0.064	0.107	-0.053	-0.250	0.147	0.093	-0.058	-0.130
B6	-0.091	0.047	0.002	-0.104	-0.049	0.081	0.076	0.108	-0.066	0.025	0.101	-0.039	0.020	0.136	0.100
B7	0.136	-0.149	-0.033	-0.127	0.047	-0.040	-0.082	0.025	0.077	-0.052	-0.066	0.000	0.068	0.006	-0.043
B8	-0.053	0.030	-0.116	-0.016	0.091	-0.117	-0.008	0.033	-0.030	0.097	-0.047	0.084	0.048	-0.007	-0.050
B9	0.216	-0.211	-0.021	-0.011	0.042	-0.123	-0.040	0.144	-0.068	0.081	-0.087	0.113	0.016	-0.011	0.012
B10	-0.028	0.076	-0.023	0.108	-0.067	-0.056	-0.008	-0.089	0.086	-0.006	-0.106	-0.008	0.074	-0.089	-0.031
B11	0.082	-0.147	-0.096	0.061	-0.042	0.070	0.085	-0.030	-0.076	-0.092	0.115	0.007	-0.091	-0.086	-0.061
B12	-0.039	0.012	-0.257	0.061	-0.070	-0.026	0.074	-0.037	-0.012	-0.078	-0.085	0.080	-0.085	-0.082	-0.002
B13	-0.164	0.224	0.043	0.061	-0.009	-0.091	0.041	-0.110	0.100	0.034	-0.122	-0.020	-0.012	0.046	0.027
B14	-0.048	0.041	0.105	-0.194	-0.071	0.165	-0.085	-0.046	-0.010	-0.029	0.050	-0.002	-0.004	0.047	0.019
B15	0.084	-0.170	-0.034	0.088	-0.016	0.045	0.000	0.157	-0.167	0.052	0.050	0.069	-0.052	-0.018	0.060
B16	-0.069	-0.010	-0.028	-0.051	0.002	-0.021	0.123	-0.161	-0.011	-0.018	0.083	-0.041	0.051	0.005	0.096
B17	0.100	-0.023	-0.062	-0.072	-0.005	0.009	0.043	-0.052	-0.117	-0.042	0.110	0.037	0.113	-0.074	-0.082
B18	-0.107	-0.027	0.032	0.097	-0.053	0.000	0.000	0.010	0.075	0.065	-0.033	-0.027	0.002	0.106	0.039
B19	0.114	0.023	0.060	-0.650	0.035	0.045	-0.262	0.064	-0.010	0.147	0.074	-0.106	0.026	0.058	-0.023
B20	0.011	-0.125	0.038	-0.111	0.072	-0.055	-0.140	0.067	0.158	-0.016	-0.132	-0.004	0.009	-0.020	-0.056
B21	-0.079	0.072	-0.050	0.120	0.058	0.018	0.083	-0.047	-0.054	-0.029	0.024	0.037	-0.038	-0.162	0.024
B22	0.166	-0.150	0.014	-0.004	0.179	-0.094	-0.003	0.077	-0.043	0.092	0.106	-0.056	-0.009	0.001	-0.022
B23	-0.174	0.132	0.003	0.124	-0.366	0.018	0.099	-0.288	0.080	-0.016	-0.013	-0.074	-0.046	0.065	0.019
B24	0.958	-0.688	-0.049	-0.054	-0.012	0.004	-0.088	0.101	-0.108	-0.088	0.003	0.096	0.005	0.012	-0.050
B25	-0.688	0.952	-0.049	-0.032	-0.123	0.020	0.050	-0.095	-0.165	-0.089	-0.012	-0.144	0.127	-0.040	-0.040
B26	-0.049	-0.049	0.982	-0.099	-0.090	0.011	-0.145	-0.033	0.048	0.036	-0.037	-0.053	-0.045	0.049	0.030
B27	-0.054	-0.032	-0.099	0.910	-0.017	-0.100	0.144	0.015	-0.043	-0.093	-0.062	0.124	-0.056	-0.084	0.039
B28	-0.012	-0.123	-0.090	-0.017	0.975	-0.264	-0.043	-0.103	0.004	0.002	0.019	-0.014	0.087	-0.023	-0.058
B29	0.004	0.020	0.011	-0.100	-0.264	0.965	-0.275	-0.086	-0.241	0.049	0.111	0.096	-0.063	0.177	0.111
B30	-0.088	0.050	-0.145	0.144	-0.043	-0.275	0.967	-0.180	-0.032	-0.040	0.050	0.013	-0.090	-0.067	0.073
B31	0.101	-0.095	-0.033	0.015	-0.103	-0.086	-0.180	0.972	-0.116	-0.028	0.045	0.026	-0.076	0.050	-0.003
B32	-0.108	0.165	0.048	-0.043	0.004	-0.241	-0.032	-0.116	0.885	-0.073	-0.363	-0.526	0.140	-0.107	-0.160
B33	-0.088	-0.089	0.036	-0.093	0.002	0.049	-0.040	-0.028	-0.073	0.899	0.042	-0.062	-0.031	0.032	0.082
B34	0.003	-0.012	-0.037	-0.062	0.019	0.111	0.050	0.045	-0.363	0.042	0.890	-0.558	-0.021	-0.017	0.088
B35	0.096	-0.144	-0.053	0.124	-0.014	0.096	0.013	0.026	-0.526	-0.062	-0.558	0.876	-0.088	0.120	0.058
C1	0.005	0.127	-0.045	-0.056	0.087	-0.063	-0.090	-0.076	0.140	-0.031	-0.021	-0.088	0.903	-0.033	-0.782
C2	0.012	-0.040	0.049	-0.084	-0.023	0.177	-0.067	0.050	-0.107	0.032	-0.017	0.120	-0.033	0.948	0.060
C3	-0.050	-0.040	0.030	0.039	-0.058	0.111	0.073	-0.003	-0.160	0.082	0.088	0.058	-0.782	0.060	0.915
C4	0.010	0.013	-0.008	0.048	-0.138	0.100	0.018	0.044	-0.049	0.066	-0.003	-0.020	-0.168	-0.159	-0.060
C5	-0.027	0.093	0.044	-0.002	-0.173	0.098	-0.006	0.154	-0.120	0.005	0.006	0.071	-0.082	0.045	0.060
C6	0.010	0.038	0.035	0.156	-0.104	0.013	0.037	-0.076	-0.050	-0.056	-0.125	0.156	-0.025	0.004	-0.027
C7	-0.070	-0.012	-0.091	0.027	0.174	-0.125	-0.049	-0.106	0.165	-0.033	-0.035	-0.072	0.059	-0.004	-0.031
C8	-0.013	-0.042	0.058	-0.123	0.093	0.027	-0.071	0.064	0.059	-0.035	0.081	-0.126	0.057	0.148	-0.047
C9	-0.057	0.061	0.042	-0.056	-0.053	0.001	-0.055	-0.086	0.123	-0.096	-0.051	-0.027	0.048	0.119	-0.044
C10	0.010	-0.063	-0.071	0.080	-0.021	-0.195	0.078	0.108	-0.060	-0.099	0.003	0.074	0.052	-0.412	-0.137
C11	0.044	-0.074	-0.147	-0.047	-0.070	-0.031	0.059	0.045	-0.044	0.079	0.116	-0.069	-0.028	-0.197	0.052
C12	0.015	0.047	0.036	-0.023	0.097	0.003	-0.052	-0.120	0.123	0.020	-0.012	-0.137	-0.002	-0.450	0.048

Appendix 5. Anti-Image Correlation Matrix

Table 26A: Anti-Image Correlation Matrix (Continued)

	C4	C5	C6	C7	C8	C9	C10	C11	C12
A1	0.003	0.081	0.017	-0.027	-0.130	-0.107	-0.018	0.093	0.039
A2	0.052	0.019	0.054	-0.039	-0.052	0.088	-0.086	0.013	0.020
A3	-0.037	-0.020	0.046	-0.025	-0.008	-0.078	-0.034	0.015	0.053
A4	-0.017	-0.049	0.054	0.087	-0.044	0.186	0.040	-0.030	-0.163
A5	-0.090	-0.067	0.064	0.095	-0.052	-0.075	0.076	-0.042	-0.012
A6	0.136	0.033	-0.049	-0.108	0.067	0.009	-0.141	-0.036	0.218
A7	0.151	0.061	-0.012	-0.042	0.030	-0.078	-0.002	-0.033	-0.009
A8	0.010	0.041	0.091	-0.076	-0.141	0.059	0.029	0.031	-0.071
A9	0.008	0.047	0.023	-0.022	0.082	0.054	0.048	-0.132	-0.052
A10	0.029	-0.032	-0.003	-0.022	-0.011	-0.023	-0.064	0.028	-0.053
A11	-0.087	0.003	-0.042	0.040	0.124	0.107	0.047	-0.106	-0.133
A12	-0.069	-0.103	-0.006	0.106	0.040	-0.032	-0.007	-0.028	0.049
A13	0.080	-0.007	0.034	-0.044	-0.119	-0.068	0.007	0.089	0.046
A14	0.005	0.019	-0.151	0.019	0.129	0.069	-0.059	0.004	0.030
A15	-0.044	0.025	-0.061	-0.043	0.027	-0.083	0.099	0.069	-0.064
A16	0.007	0.002	0.179	-0.028	-0.085	-0.051	0.038	-0.044	0.010
A17	-0.080	0.011	-0.046	0.016	-0.055	-0.009	-0.072	0.079	0.074
A18	0.081	-0.029	0.098	0.070	-0.066	-0.073	-0.023	-0.054	0.087
A19	0.040	-0.012	-0.044	-0.017	0.107	0.154	0.037	-0.058	-0.130
A20	-0.035	0.098	-0.002	-0.108	-0.123	-0.069	0.028	0.143	0.119
A21	-0.059	-0.050	0.031	-0.003	-0.004	-0.080	-0.034	0.020	-0.019
A22	-0.040	0.023	-0.120	0.079	0.103	-0.109	-0.056	-0.063	0.044
B1	-0.113	-0.026	-0.063	0.127	0.067	-0.034	0.063	-0.117	-0.018
B2	0.089	0.107	-0.019	-0.098	-0.069	-0.019	0.044	0.124	0.081
B3	-0.021	-0.011	-0.178	0.024	0.224	0.087	-0.083	-0.110	-0.010
B4	0.223	0.060	0.044	-0.074	-0.054	-0.034	-0.009	-0.045	0.056
B5	-0.095	-0.103	0.023	0.065	-0.009	0.069	0.064	0.041	0.042
B6	-0.074	0.045	-0.094	-0.032	0.086	-0.013	-0.021	0.021	-0.131
B7	-0.008	-0.148	0.084	0.071	0.008	0.137	-0.028	-0.018	0.011
B8	-0.031	-0.156	0.054	0.197	-0.035	-0.114	0.036	-0.071	0.000
B9	-0.029	0.017	0.099	-0.026	-0.100	-0.009	0.087	-0.005	-0.077
B10	-0.032	-0.038	0.041	0.041	-0.053	-0.078	0.058	-0.010	0.043
B11	0.148	0.001	0.098	-0.057	-0.078	-0.102	0.017	0.020	0.033
B12	0.108	-0.006	0.028	-0.017	-0.088	-0.019	0.029	0.144	0.024
B13	0.012	0.015	0.054	0.067	-0.133	-0.072	-0.095	-0.008	0.050
B14	-0.023	0.056	-0.065	-0.108	-0.018	0.068	-0.016	0.097	-0.032
B15	0.085	-0.015	-0.084	-0.011	0.078	0.042	0.031	-0.003	-0.024
B16	-0.166	0.001	0.017	-0.052	-0.026	0.009	-0.027	0.047	0.039
B17	-0.037	-0.080	0.013	0.051	-0.028	-0.023	0.102	0.027	-0.002
B18	-0.231	-0.088	-0.090	0.181	0.169	0.160	0.050	-0.103	-0.165
B19	0.003	0.060	-0.121	-0.040	0.035	-0.004	-0.036	0.091	-0.008
B20	-0.111	0.016	-0.102	0.048	0.117	-0.023	-0.048	-0.021	0.118
B21	0.021	0.086	-0.024	-0.057	-0.029	-0.117	-0.011	0.061	0.131
B22	0.072	0.080	-0.037	-0.121	0.007	-0.077	0.045	0.006	-0.019
B23	0.074	-0.088	0.062	0.063	-0.046	0.089	-0.020	0.000	-0.112
B24	0.010	-0.027	0.010	-0.070	-0.013	-0.057	0.010	0.044	0.015
B25	0.013	0.093	0.038	-0.012	-0.042	0.061	-0.063	-0.074	0.047
B26	-0.008	0.044	0.035	-0.091	0.058	0.042	-0.071	-0.147	0.036
B27	0.048	-0.002	0.156	0.027	-0.123	-0.056	0.080	-0.047	-0.023
B28	-0.138	-0.173	-0.104	0.174	0.093	-0.053	-0.021	-0.070	0.097
B29	0.100	0.098	0.013	-0.125	0.027	0.001	-0.195	-0.031	0.003
B30	0.018	-0.006	0.037	-0.049	-0.071	-0.055	0.078	0.059	-0.052
B31	0.044	0.154	-0.076	-0.106	0.064	-0.086	0.108	0.045	-0.120
B32	-0.049	-0.120	-0.050	0.165	0.059	0.123	-0.060	-0.044	0.123
B33	0.066	0.005	-0.056	-0.033	-0.035	-0.096	-0.099	0.079	0.020
B34	-0.003	0.006	-0.125	-0.035	0.081	-0.051	0.003	0.116	-0.012
B35	-0.020	0.071	0.156	-0.072	-0.126	-0.027	0.074	-0.069	-0.137
C1	-0.168	-0.082	-0.025	0.059	0.057	0.048	0.052	-0.028	-0.002
C2	-0.159	0.045	0.004	-0.004	0.148	0.119	-0.412	-0.197	-0.450
C3	-0.060	0.060	-0.027	-0.031	-0.047	-0.044	-0.137	0.052	0.048
C4	0.958	0.135	0.110	-0.191	-0.218	-0.389	-0.063	0.123	0.136
C5	0.135	0.947	0.098	-0.853	-0.233	-0.164	-0.018	0.084	-0.030
C6	0.110	0.098	0.959	-0.176	-0.659	-0.133	-0.002	-0.255	0.010
C7	-0.191	-0.853	-0.176	0.936	0.266	0.118	-0.005	-0.203	-0.030
C8	-0.218	-0.233	-0.659	0.266	0.944	0.204	-0.130	-0.357	0.011
C9	-0.389	-0.164	-0.133	0.118	0.204	0.969	0.096	-0.170	-0.255
C10	-0.063	-0.018	-0.002	-0.005	-0.130	0.096	0.949	0.180	-0.560
C11	0.123	0.084	-0.255	-0.203	-0.357	-0.170	0.180	0.972	-0.004
C12	0.136	-0.030	0.010	-0.030	0.011	-0.255	-0.560	-0.004	0.944

Appendix 6. Factor Extraction Table

Table 27A: Eigenvalues and the Explained Percentage of Variance by the Factors

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	29.374	42.571	42.571	29.374	42.571	42.571
2	6.590	9.551	52.122	6.590	9.551	52.122
3	3.482	5.046	57.168	3.482	5.046	57.168
4	2.910	4.218	61.386	2.910	4.218	61.386
5	1.994	2.890	64.276	1.994	2.890	64.276
6	1.884	2.731	67.006	1.884	2.731	67.006
7	1.661	2.408	69.414	1.661	2.408	69.414
8	1.387	2.010	71.425	1.387	2.010	71.425
9	1.259	1.824	73.249	1.259	1.824	73.249
10	1.220	1.769	75.018	1.220	1.769	75.018
11	1.040	1.507	76.524			
12	0.985	1.428	77.952			
13	0.848	1.229	79.181			
14	0.724	1.049	80.230			
15	0.679	0.984	81.214			
16	0.655	0.950	82.164			
17	0.601	0.871	83.035			
18	0.579	0.840	83.874			
19	0.548	0.794	84.668			
20	0.530	0.768	85.436			
21	0.482	0.698	86.134			
22	0.457	0.662	86.796			
23	0.424	0.614	87.410			
24	0.406	0.588	87.998			
25	0.396	0.574	88.572			
26	0.374	0.542	89.113			
27	0.357	0.517	89.631			
28	0.355	0.515	90.145			
29	0.341	0.494	90.640			
30	0.327	0.474	91.114			
31	0.316	0.458	91.572			
32	0.290	0.420	91.991			
33	0.277	0.401	92.393			
34	0.272	0.395	92.787			
35	0.251	0.364	93.151			
36	0.243	0.353	93.504			
37	0.238	0.344	93.848			
38	0.233	0.338	94.186			
39	0.232	0.336	94.522			
40	0.224	0.324	94.846			
41	0.206	0.299	95.145			
42	0.205	0.296	95.441			
43	0.197	0.286	95.727			
44	0.183	0.266	95.993			
45	0.178	0.258	96.251			
46	0.177	0.257	96.508			
47	0.168	0.243	96.751			
48	0.162	0.235	96.986			
49	0.159	0.230	97.216			
50	0.148	0.214	97.430			
51	0.145	0.211	97.641			
52	0.138	0.200	97.841			
53	0.129	0.187	98.028			
54	0.124	0.180	98.208			
55	0.123	0.178	98.386			
56	0.114	0.165	98.551			
57	0.110	0.159	98.710			
58	0.106	0.154	98.864			
59	0.102	0.148	99.012			
60	0.097	0.140	99.152			
61	0.085	0.124	99.276			
62	0.083	0.121	99.397			
63	0.082	0.119	99.516			
64	0.078	0.113	99.629			
65	0.068	0.098	99.727			
66	0.065	0.094	99.821			
67	0.056	0.081	99.902			
68	0.040	0.058	99.961			
69	0.027	0.039	100.000			

Appendix 7: Rotated Factor Tables

Table 28A: Rotated Component Matrices with VARIMAX Rotation

	Component									
	1	2	3	4	5	6	7	8	9	10
B26	0.791									
B28	0.749									
B29	0.745									
B24	0.741									
B25	0.735									
B10	0.709									
B16	0.702									
B7	0.702									
B3	0.682									
B12	0.681									
B31	0.672									
B9	0.672									
B21	0.668									
B23	0.662	0.519								
B8	0.648	0.533								
B30	0.645									
B2	0.609									
B20	0.600	0.535								
B15	0.575	0.574								
B13		0.848								0.511
B14		0.828								
B18		0.807								
B22		0.796								
B17		0.786								
B11		0.763								
C9										
A1			0.838							
A2			0.838							
A9			0.830							
A8			0.822							
A5			0.821							
A3			0.819							
A4			0.817							
A11			0.787							
A7			0.785							
A10			0.782							
A12			0.773							
A6			0.756							
A13			0.693						0.572	
A14			0.679							
A17			0.664							
A15			0.662						0.577	
A16			0.624						0.610	
A22			0.507							
C7				0.628						
C5				0.622						
C6	0.542			0.620						
C11	0.536			0.609						
C8	0.521			0.598						
C4										
A20					0.784					
A19					0.773					
A21					0.772					
A18					0.759					
B5						0.917				
B4						0.908				
B6						0.905				
B34										
B35							0.874			
B32							0.868			
B33							0.845			
C10								0.904		
C2								0.883		
C12								0.877		
B19									0.760	
B27									0.689	
B1										0.703
C1										0.685
C3										

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalisation.
 a. Rotation converged in 10 iterations.

Table 29A: Pattern Matrix with OBLIMIN Rotation

	Component										
	1	2	3	4	5	6	7	8	9	10	11
B2	0.812										
B9	0.764										
B29	0.741										
B3	0.679										
B8	0.647										
B31											
B30											
B20											
B21											
B23											
B28											
B26											
B25											
A2		0.907									
A1		0.896									
A3		0.864									
A5		0.851									
A4		0.793									
A9		0.740									
A7		0.700									
A10		0.631									
A8		0.597									
A6		0.592									
A11											
B5			1.009								
B4			0.997								
B6			0.995								
B34				0.923							
B35				0.910							
B32				0.880							
C10					-0.979						
C2					-0.955						
C12					-0.941						
A18						0.826					
A19						0.825					
A20						0.824					
A21						0.797					
B10											
C6							-0.688				
C11							-0.675				
C8							-0.667				
C7							-0.649				
C5							-0.636				
C4											
C9											
B33											
B24											
A16								0.915			
A14								0.876			
A15								0.874			
A13								0.773			
A17								0.673			
A12											
A22											
B19									-0.842		
B27									-0.772		
B1									-0.534		
C1										0.672	
C3										0.652	
B7											
B16											
B13											0.845
B18											0.816
B14											0.765
B17											0.756
B22											0.725
B11											0.713
B15											
B12											

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalisation.
 a. Rotation converged in 15 iterations.

Appendix 8: Questionnaire Items with Orthogonal (VARIMAX) Rotation

Table 30A: VARIMAX Rotated Component Matrix with Variables

Item No.	Item Name	1	2	3	4	5	6	7	8	9	10
B26	The room lighting is adequate and comfortable	0.791									
B28	The bath tub/spa/sauna area is clean	0.749									
B29	The design of the motel building is visually appealing	0.745									
B24	Basic products (e.g. soap, tea, coffee) and services (e.g. laundry/ironing) are supplied	0.741									
B25	The supply of basic products and service are of a good quality	0.735									
B10	The room temperature level is pleasant	0.709									
B16	The lighting in car park area is adequate at night	0.702									
B7	The temperature level of my room is comfortable	0.702									
B3	The maintenance of this motel is of a high standard	0.682									
B12	The corridor lighting is adequate at night	0.681									
B31	The size of bath area is suitable	0.672									
B9	Appealing interior and exterior décor of this motel is aesthetically attractive	0.672									
B21	The technological facilities provide an enjoyable experience (e.g. Sky, Internet)	0.668									
B23	The bath facilities provide an enjoyable experience (e.g. spa/sauna)	0.662	0.519								
B8	The standard of housekeeping in my room is of a high standard upon arrival	0.648	0.533								
B30	The brochures and pamphlets are visually appealing	0.645									
B2	The exterior décor of this motel is stylish and attractive	0.609									
B20	The housekeeping personnel are professional	0.600	0.535								
B15	The technology facilities in my room are in good working condition	0.575	0.574								
B13	The bed is comfortable		0.848								0.511
B14	The mattress/pillow/bed sheets and covers are of good quality		0.828								
B18	The mattress, pillows, bed sheets and duvet covers are clean		0.807								
B22	The bed/mattress/pillow/bed sheets enable a good rest		0.796								
B17	The kitchen facilities are clean		0.786								
B11	The bathrooms and toilets are hygienic		0.763								
A1	I feel welcome at this motel			0.838							
A2	The staff are polite and courteous			0.838							
A9	The staff are willing to provide a good service			0.830							
A8	I receive individual attention when I have specific needs			0.822							
A5	The staff have good communication skills			0.821							
A3	The staff speak in a welcoming tone			0.819							
A4	I can rely on the professional knowledge of the staff to meet my needs			0.817							
A11	The staff handle my problems promptly			0.787							
A7	The staff are well trained and knowledgeable			0.785							
A10	The staff perform the service dependably and accurately			0.782							
A12	The staff provide all the information that I need			0.773							
A6	The staff proactively make social interactions with customers			0.756							
A13	Problems are solved promptly			0.693						0.572	
A14	The staff perform the services at the time promised			0.679							
A17	The staff are willing to assist me with my requests			0.664							
A15	The staff are able to handle my complaints directly and immediately			0.662						0.577	
A16	Services are delivered at the time promised			0.624						0.610	
A22	The staff are amicable and approachable			0.507							
C7	The comfortable surroundings of the room enable me to get restful sleep				0.628						
C5	The ambience of the room helped me to get a good nights sleep				0.622						
C6	When I leave this motel, I feel that my expectations have been met	0.542			0.620						
C11	At the end of my stay, I feel that I have had a good experience	0.536			0.609						
C8	My motel stay has been an enjoyable experience	0.521			0.598						
A20	The check-in experience is efficient and pleasant					0.784					
A19	The reservation information is accurate					0.773					
A21	The staff can accurately operate the computing reservation system					0.772					
A18	The staff understand the technology used in bookings					0.759					
B5	The motel room is quiet						0.917				
B4	I am not disrupted by noise outside my room						0.908				
B6	The level of noise in my room is agreeable						0.905				
B34	The parking area is ample							0.874			
B35	The parking area is easy to access							0.868			
B32	The layout of car park makes it easy for cars to move around							0.845			
C10	The motel is conveniently located to all amenities								0.904		
C2	The retail stores, supermarkets, restaurants are all conveniently located around								0.883		
C12	The motel has good access to all amenities								0.877		
B19	There is an accessible fire exit in the room									0.760	
B27	A secure safe is available in the complex									0.689	
C1	The billing of my motel stay is accurate										0.703
C3	The financial transactions (e.g. use of credit card) are clear and accurate										0.685

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalisation.
 a. Rotation converged in 10 iterations.

Appendix 9: Multicollinearity Statistics

Table 31A: Pearson Correlation Matrix, Model 1

		IQ	IT1	IT2
IQ: Interaction Quality	Pearson Correlation	1	0.922**	0.391**
	Sig. (2-tailed)		0.000	0.000
	N	348	325	346
IT1: Staff Professionalism	Pearson Correlation	0.922**	1	0.428**
	Sig. (2-tailed)	0.000		0.000
	N	325	325	323
IT2: Accuracy of Reservation	Pearson Correlation	0.391**	0.428**	1
	Sig. (2-tailed)	0.000	0.000	
	N	346	323	347

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

Table 32A: Pearson Correlation Matrix, Model 2

		PEQ	PE1	PE2	PE3	PE4	PE5
PEQ: Physical Environment Quality	Pearson Correlation	1	0.893**	0.775**	0.588**	0.417**	0.570**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
	N	348	329	337	343	345	341
PE1: Tangibles	Pearson Correlation	0.893**	1	0.816**	0.596**	0.449**	0.624**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000
	N	329	330	319	327	328	323
PE2: Cleanliness & Comfort	Pearson Correlation	0.775**	0.816**	1	0.582**	0.217**	0.486**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000
	N	337	319	338	334	335	331
PE3: Noise Level	Pearson Correlation	0.588**	0.596**	0.582**	1	0.242**	0.265**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000
	N	343	327	334	344	341	337
PE4: Parking	Pearson Correlation	0.417**	0.449**	0.217**	0.242**	1	0.387**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000
	N	345	328	335	341	346	339
PE5: Security	Pearson Correlation	0.570**	0.624**	0.486**	0.265**	0.387**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
	N	341	323	331	337	339	342

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

Table 33A: Pearson Correlation Matrix, Model 3

		OQ	OC1	OC2	OC3
OQ: Outcome Quality	Pearson Correlation	1	0.510**	0.622**	0.862**
	Sig. (2-tailed)		0.000	0.000	0.000
	N	349	349	347	342
OC1: Accuracy of Billing	Pearson Correlation	0.510**	1	0.379**	0.502**
	Sig. (2-tailed)	0.000		0.000	0.000
	N	349	349	347	342
OC2: Location	Pearson Correlation	0.622**	0.379**	1	0.607**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	347	347	347	340
OC3: Pleasant Stay	Pearson Correlation	0.862**	0.502**	0.607**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	342	342	340	342

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

Table 34A: Pearson Correlation Matrix, Model 4

		SQ	IQ	PEQ	OQ
SQ: Service Quality	Pearson Correlation	1	0.709**	0.799**	0.896**
	Sig. (2-tailed)		0.000	0.000	0.000
	N	348	347	347	348
IQ: Interaction Quality	Pearson Correlation	0.709**	1	0.666**	0.726**
	Sig. (2-tailed)	0.000		0.000	0.000
	N	347	348	347	348
PEQ: Physical Environment Quality	Pearson Correlation	0.799**	0.666**	1	0.795**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	347	347	348	348
OQ: Outcome Quality	Pearson Correlation	0.896**	0.726**	0.795**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	348	348	348	349

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

Table 35A: Pearson Correlation Matrix, Model 5

		Customer Satisfaction	Service Quality
Customer Satisfaction	Pearson Correlation	1	0.959**
	Sig. (2-tailed)		0.000
	N	347	346
Service Quality	Pearson Correlation	0.959**	1
	Sig. (2-tailed)	0.000	
	N	346	348

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

Table 36A: Pearson Correlation Matrix, Model 6 (a)

		Customer Satisfaction	Service Quality	Value (price)
Customer Satisfaction	Pearson Correlation	1	0.959**	0.941**
	Sig. (2-tailed)		0.000	0.000
	N	347	346	347
Service Quality	Pearson Correlation	0.959**	1	0.930**
	Sig. (2-tailed)	0.000		0.000
	N	346	348	348
Value (price)	Pearson Correlation	0.941**	0.930**	1
	Sig. (2-tailed)	0.000	0.000	
	N	347	348	349

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

Table 37A: Pearson Correlation Matrix, Model 6 (b)

		Customer Satisfaction	Service Quality × Value (price)
Customer Satisfaction	Pearson Correlation	1	0.954**
	Sig. (2-tailed)		0.000
	N	347	346
Service Quality × Value (price)	Pearson Correlation	0.954**	1
	Sig. (2-tailed)	0.000	
	N	346	348

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

Table 38A: Pearson Correlation Matrix, Model 7

		Behavioural Intentions	Customer Satisfaction
Behavioural Intentions	Pearson Correlation	1	0.919**
	Sig. (2-tailed)		0.000
	N	348	346
Customer Satisfaction	Pearson Correlation	0.919**	1
	Sig. (2-tailed)	0.000	
	N	346	347

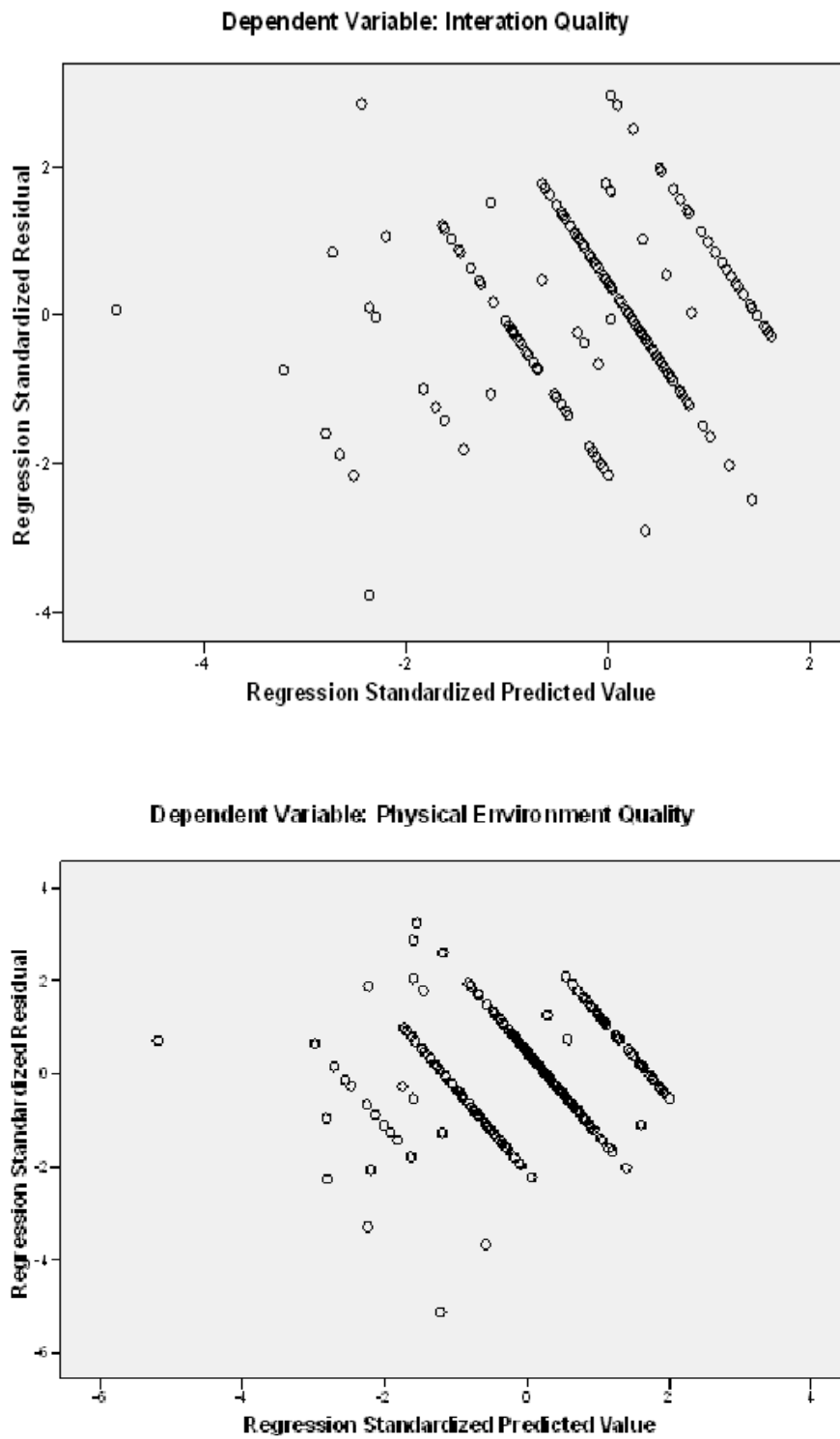
**Correlation is significant at the 0.01 level (2-tailed).

Table 39A: Multi-collinearity Statistics

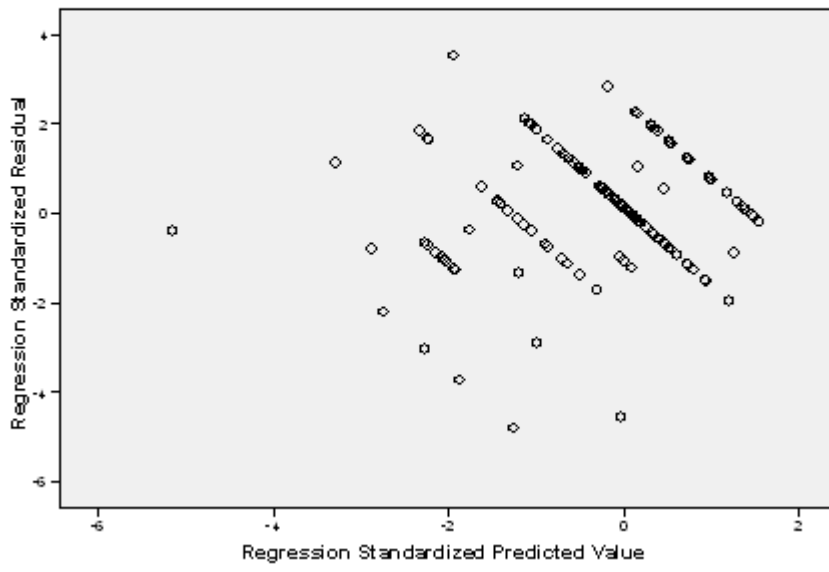
Model	Dependent Variables	Independent Variables	1/(1-R ²)	Collinearity Statistics		
				Tolerance	VIF	Condition Index
1	A23 & A24 Interaction Quality	Staff Professionalism	5.208	0.836	1.197	16.869
		Accuracy of Reservation		0.836	1.197	23.281
2	B36 & B37 Physical Environment Quality	Tangibles	4.273	0.269	3.724	12.138
		Cleanliness and Comfort		0.361	2.770	17.376
		Noise Level		0.611	1.637	24.452
		Parking Security		0.749	1.336	27.974
3	C13 & C14 Outcome Quality	Accuracy of Billing	4.082	0.741	1.349	16.116
		Location		0.630	1.588	22.560
		Pleasant Stay		0.552	1.813	27.447
4	D2 & D3 & D5 Service Quality	Interaction Quality	5.650	0.455	2.199	17.829
		Physical Environment Quality		0.352	2.844	23.525
		Outcome Quality		0.299	3.347	32.577
5	D1 & D7 & D9 Customer Satisfaction	Service Quality	11.628	1.000	1.000	13.293
6	D1 & D7 & D9 Customer Satisfaction	Step One Service Quality	15.385	0.140	7.161	13.819
		Value (price)		0.140	7.161	41.516
7	D11 & D12 & D13 Behavioural Intentions	Step Two Service Quality × Value (price)	8.403	1.000	1.000	7.646
		Customer Satisfaction		6.452	1.000	1.000

Appendix 10: Scatter Plots

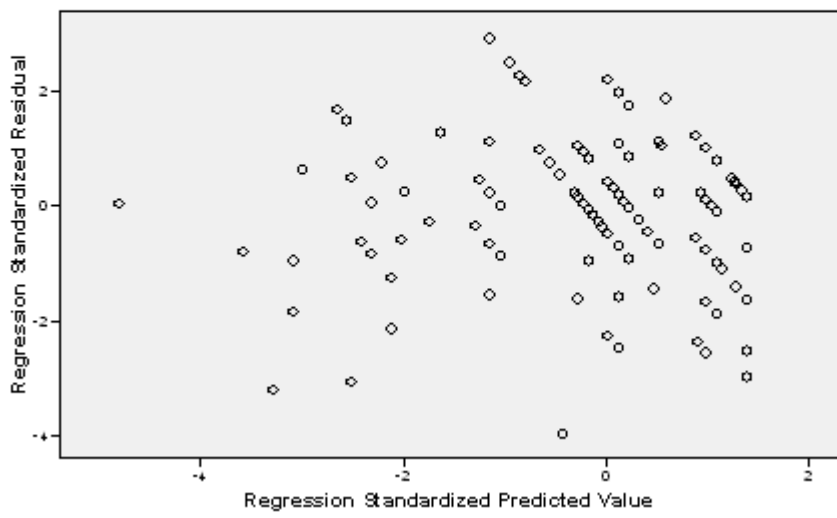
Figure 9A: Residual Scatter Plots



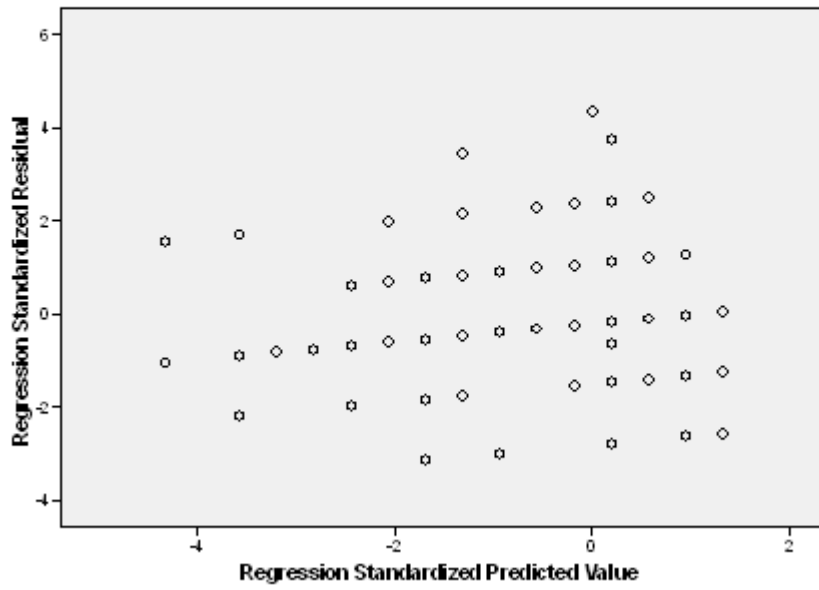
Dependent Variable: Outcome Quality



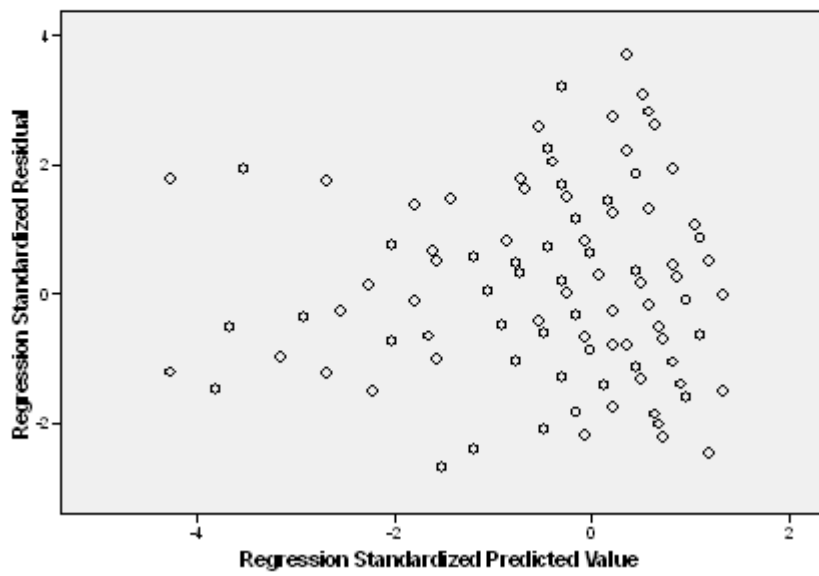
Dependent Variable: Service Quality



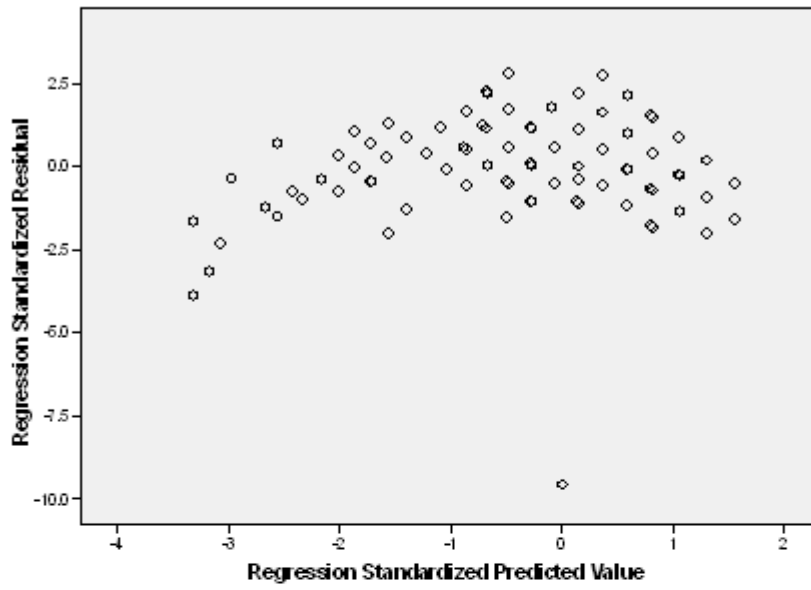
Dependent Variable: Customer Satisfaction



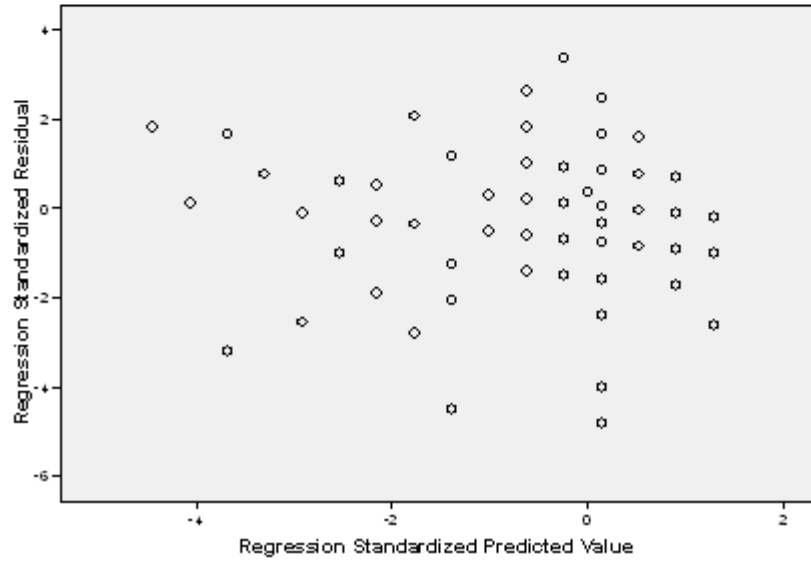
Dependent Variable: Customer Satisfaction (Step One)



Dependent Variable: Customer Satisfaction (Step Two)

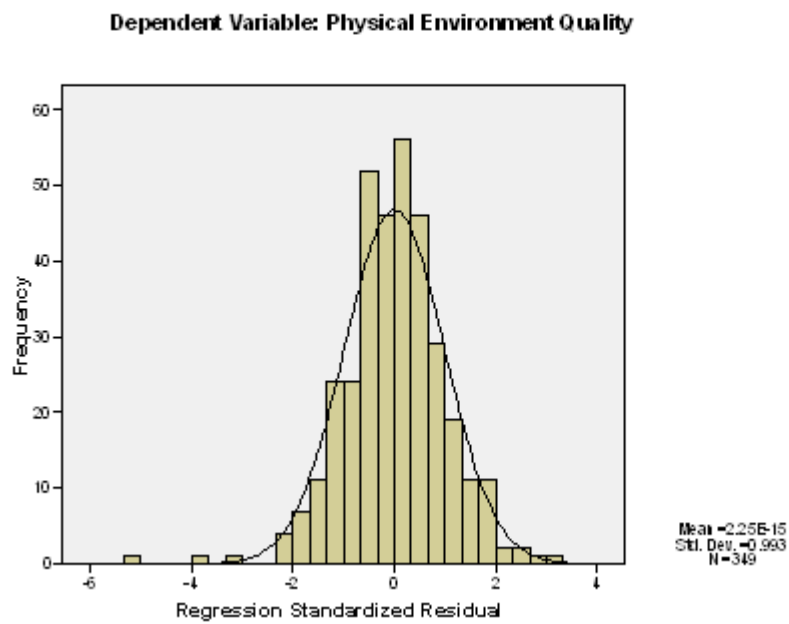
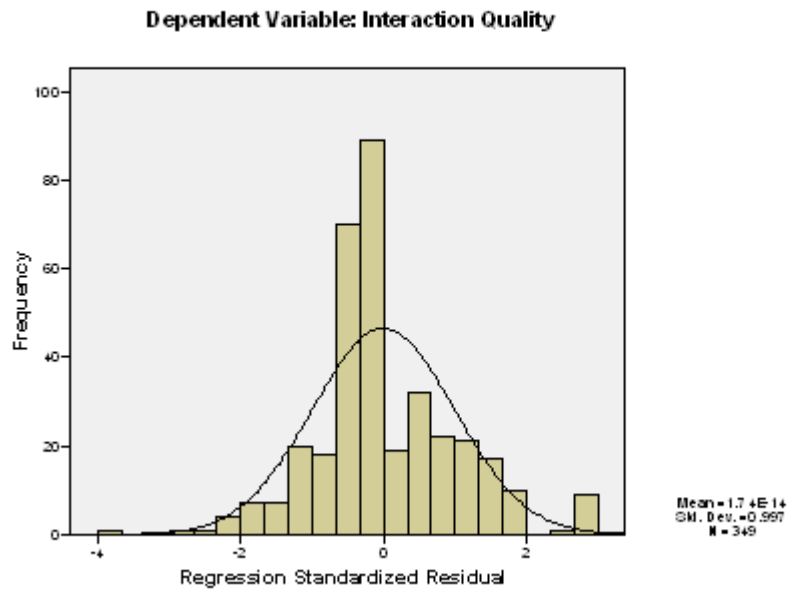


Dependent Variable: Behavioural Intentions

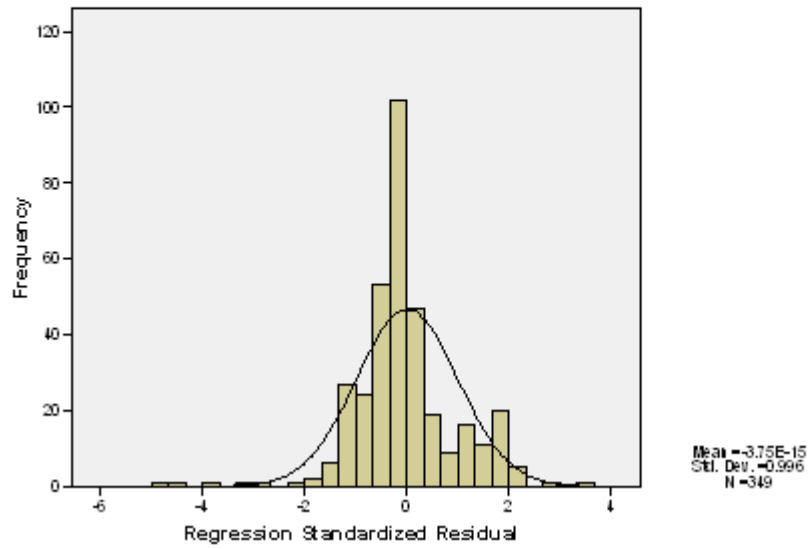


Appendix 11: Normality Plots

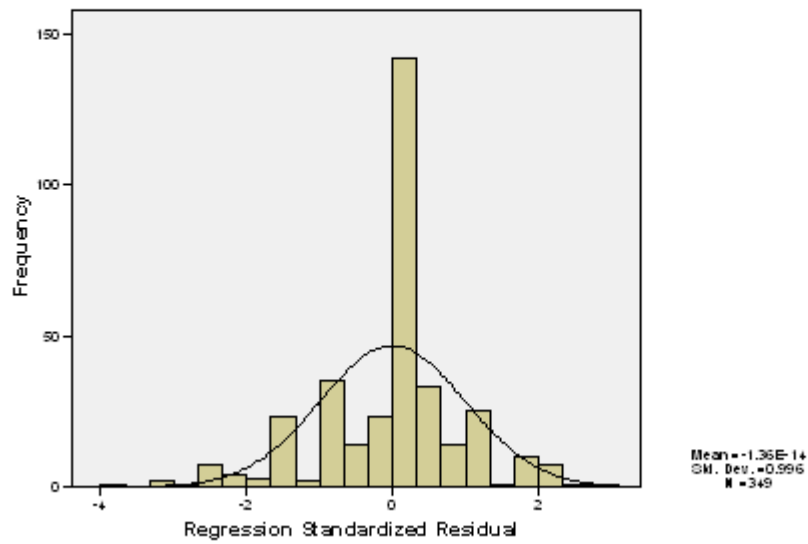
Figure 10A: Residual Scatter Plots



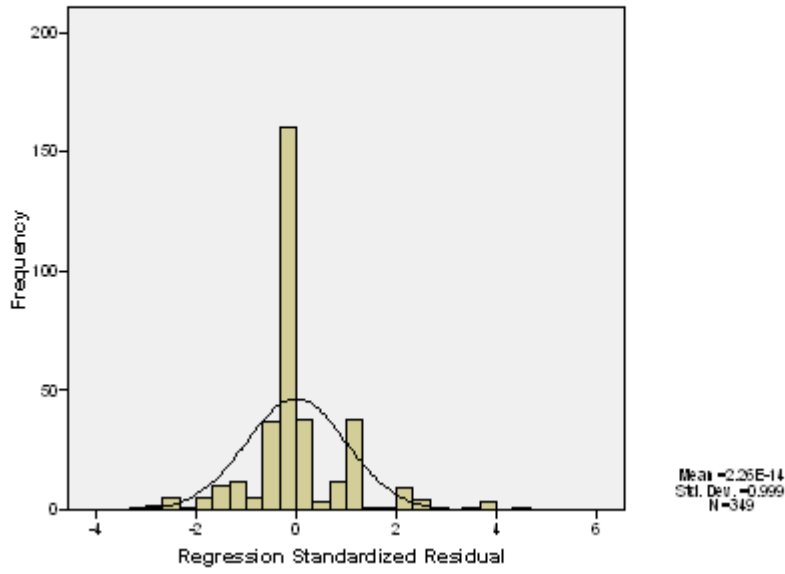
Dependent Variable: Outcome Quality



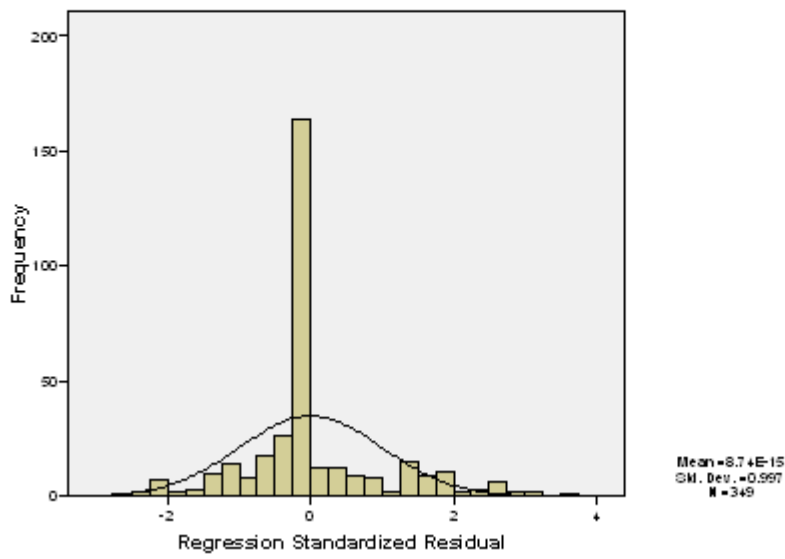
Dependent Variable: Service Quality



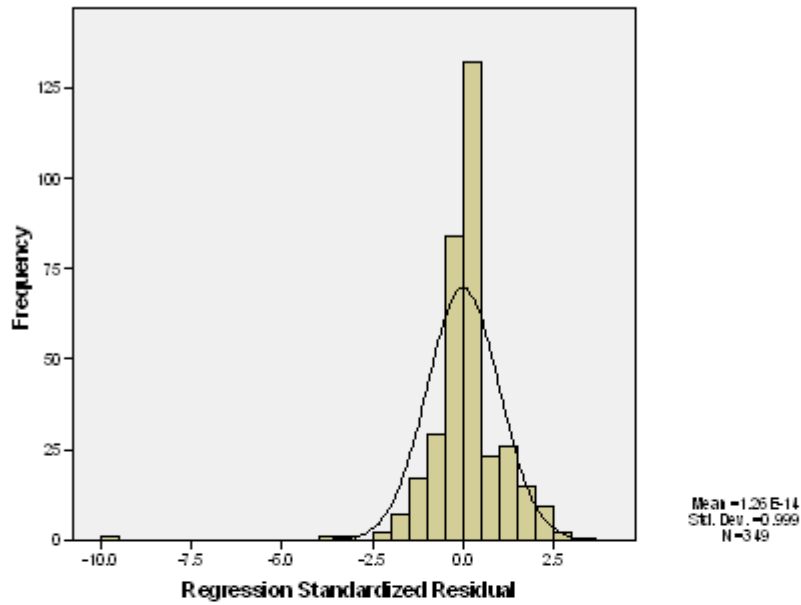
Dependent Variable: Customer Satisfaction



Dependent Variable: Customer Satisfaction (Step One)



Dependent Variable: Customer Satisfaction (Step Two)



Dependent Variable: Behavioural Intentions

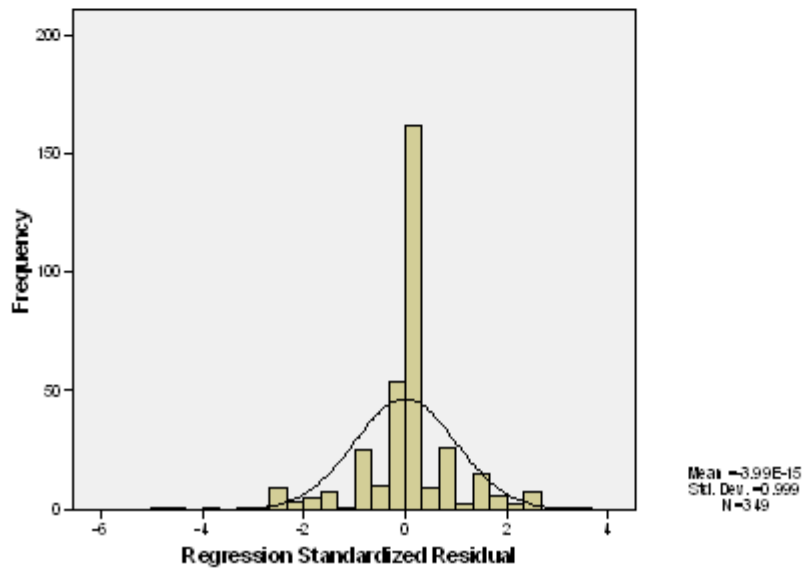
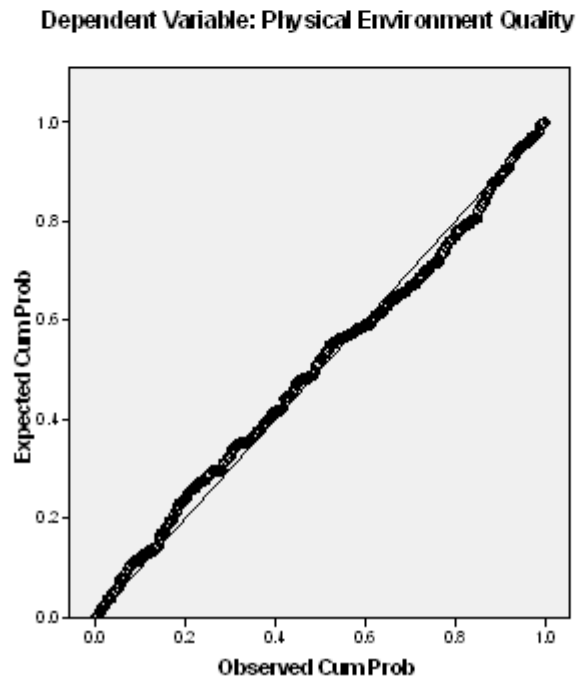
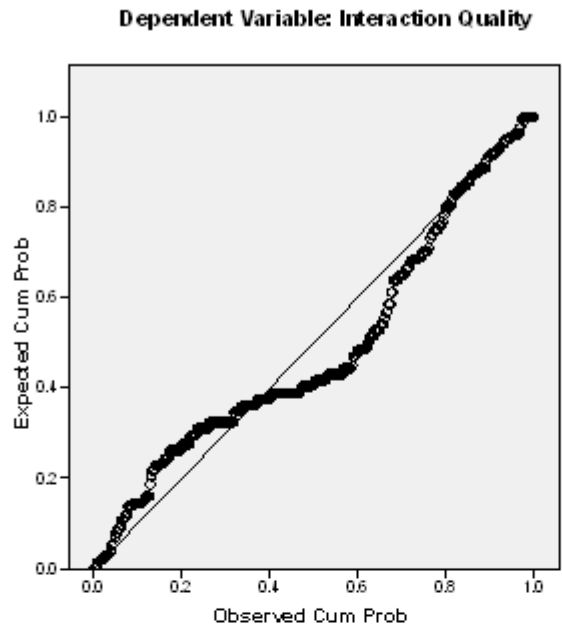
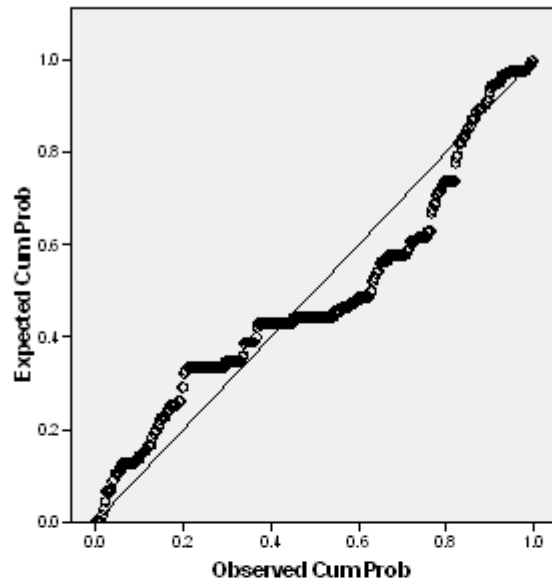


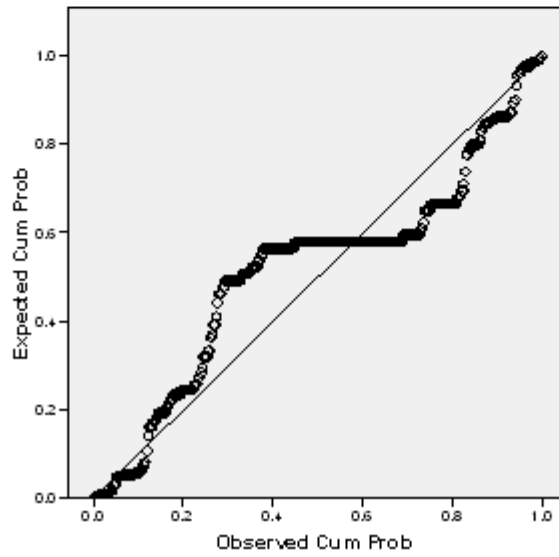
Figure 11A: Normal P-P Plot of Regression Standardised Residual



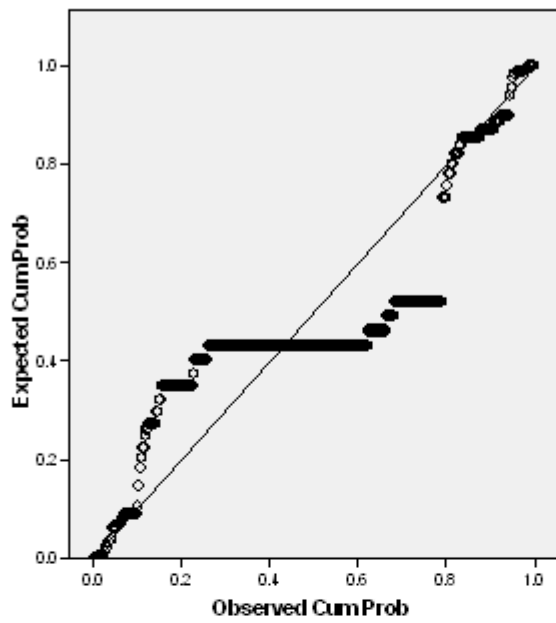
Dependent Variable: Outcome Quality



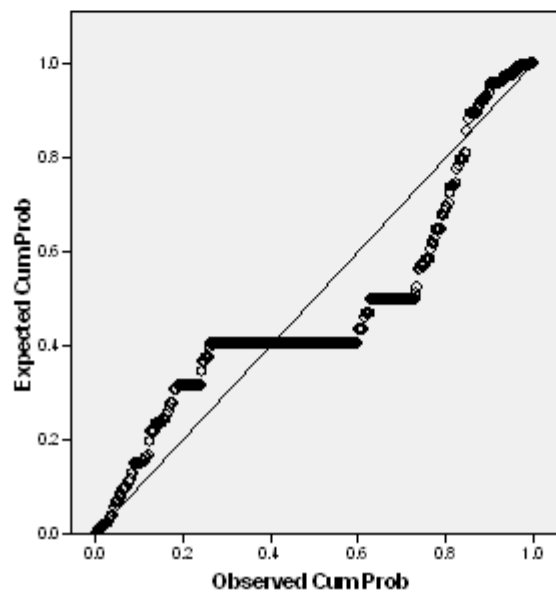
Dependent Variable: Service Quality



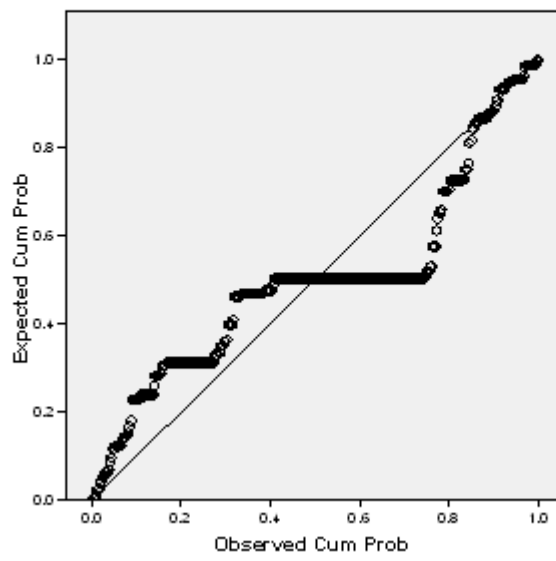
Dependent Variable: Customer Satisfaction



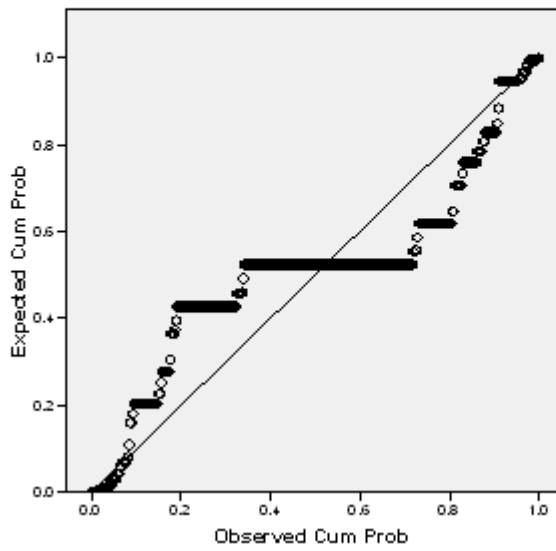
Dependent Variable: Customer Satisfaction (Step One)



Dependent Variable: Customer Satisfaction (Step Two)



Dependent Variable: Behavioural Intentions



Appendix 12: Analysis of Variance Results

Table 40A: Customers' Perceptions of Behavioural Intentions and Pertaining Constructs

Gender

Variable	Gender	Frequency	Mean	F	Sig.
Service Quality	Female	146	5.88	1.447	0.230
	Male	203	5.76		
	Total	349	5.81		
Customer Satisfaction	Female	146	5.94	0.749	0.387
	Male	203	5.85		
	Total	349	5.89		
Value	Female	146	5.79	0.310	0.578
	Male	203	5.74		
	Total	349	5.76		
Behavioural Intentions	Female	146	5.84	0.691	0.406
	Male	203	5.75		
	Total	349	5.79		

Age

Variable	Age	Frequency	Mean	F	Sig.
Service Quality	Under30	65	5.31	8.973	0.000***
	30-39	72	5.65		
	40-49	92	5.90		
	50-59	80	6.08		
	60+	40	6.34		
	Total	349	5.81		
Customer Satisfaction	Under30	65	5.40	9.030	0.000***
	30-39	72	5.71		
	40-49	92	5.98		
	50-59	80	6.16		
	60+	40	6.40		
	Total	349	5.89		
Value (price)	Under30	65	5.29	7.121	0.000***
	30-39	72	5.58		
	40-49	92	5.85		
	50-59	80	6.03		
	60+	40	6.25		
	Total	349	5.76		
Behavioural Intentions	Under30	65	5.19	7.852	0.000***
	30-39	72	5.64		
	40-49	92	5.91		
	50-59	80	6.06		
	60+	40	6.33		
	Total	349	5.79		

Marital Status

Variable	Marital Status	Frequency	Mean	F	Sig.
Service Quality	Married	217	5.97	12.877	0.000***
	Single	40	5.13		
	Living With A Partner	74	5.65		
	Living Alone	18	6.07		
	Total	349	5.81		
Customer Satisfaction	Married	217	6.04	13.566	0.000***
	Single	40	5.16		
	Living with a partner	74	5.78		
	Living Alone	18	6.07		
	Total	349	5.89		
Value (price)	Married	217	5.88	8.498	0.000***
	Single	40	5.15		
	Living with a partner	74	5.64		
	Living Alone	18	6.11		
	Total	349	5.76		
Behavioural Intentions	Married	217	5.96	9.744	0.000***
	Single	40	5.11		
	Living with a partner	74	5.57		
	Living Alone	18	6.15		
	Total	349	5.79		

Occupation

Variable	Occupation	Frequency	Mean	F	Sig.
Service Quality	Professional or Senior Government Official	47	5.84	2.622	0.004***
	Business Proprietor or Self-Employed	66	5.99		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.91		
	Clerical or Sales Employee	79	5.71		
	Farm Owner or Manager	10	5.87		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.53		
	Home Duties (not otherwise employed)	18	5.98		
	Social Welfare Beneficiary/ Unemployed	5	5.27		
	Student	31	5.28		
	Retired	27	6.20		
	Other	3	5.78		
Total	349	5.81			
Customer Satisfaction	Professional or Senior Government Official	47	5.98	3.112	0.001***
	Business Proprietor or Self-Employed	66	6.11		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.99		
	Clerical or Sales Employee	79	5.76		
	Farm Owner or Manager	10	6.17		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.51		
	Home Duties (not otherwise employed)	18	5.96		
	Social Welfare Beneficiary/ Unemployed	5	5.40		
	Student	31	5.32		
	Retired	27	6.21		
	Other	3	5.89		
Total	349	5.89			
Value (price)	Professional or Senior Government Official	47	5.82	3.422	0.000***
	Business Proprietor or Self-Employed	66	6.04		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.89		
	Clerical or Sales Employee	79	5.62		
	Farm Owner or Manager	10	5.93		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.25		
	Home Duties (not otherwise employed)	18	5.89		
	Social Welfare Beneficiary/ Unemployed	5	5.47		
	Student	31	5.14		
	Retired	27	6.12		
	Other	3	5.56		
Total	349	5.76			
Behavioural Intentions	Professional or Senior Government Official	47	5.83	3.169	0.001***
	Business Proprietor or Self-Employed	66	6.05		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.77		
	Clerical or Sales Employee	79	5.69		
	Farm Owner or Manager	10	6.27		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.24		
	Home Duties (not otherwise employed)	18	6.11		
	Social Welfare Beneficiary/ Unemployed	5	5.47		
	Student	31	5.13		
	Retired	27	6.20		
	Other	3	5.56		
Total	349	5.79			

Annual Income

Variable	Annual Income	Frequency	Mean	F	Sig.
Service Quality	NZ \$60,000-	130	5.59	3.672	0.001***
	NZ \$60,001+	219	5.89		
	Total	349	5.81		
Customer Satisfaction	NZ \$60,000-	130	5.61	3.784	0.001***
	NZ \$60,001+	219	6.00		
	Total	349	5.89		
Value (price)	NZ \$60,000-	130	5.53	3.479	0.001***
	NZ \$60,001+	219	5.84		
	Total	349	5.76		
Behavioural Intentions	NZ \$60,000-	130	5.54	3.617	0.001***
	NZ \$60,001+	219	5.90		
	Total	349	5.79		

Country of Origin

Variable	Country of Origin	Frequency	Mean	F	Sig.
Service Quality	Oceania	271	5.86	6.546	0.000***
	International	78	5.78		
	Total	349	5.81		
Customer Satisfaction	Oceania	271	5.94	7.701	0.000***
	International	78	5.80		
	Total	349	5.89		
Value (price)	Oceania	271	5.80	8.307	0.000***
	International	78	5.81		
	Total	349	5.76		
Behavioural Intentions	Oceania	271	5.86	6.524	0.000***
	International	78	5.91		
	Total	349	5.79		

Ethnic Background

Variable	Ethnic Background	Frequency	Mean	F	Sig.
Service Quality	NZ European	247	5.88	3.836	0.001***
	International	102	5.82		
	Total	349	5.81		
Customer Satisfaction	NZ European	247	5.95	4.070	0.001***
	International	102	6.00		
	Total	349	5.89		
Value (price)	NZ European	247	5.83	5.116	0.000***
	International	102	5.91		
	Total	349	5.76		
Behavioural Intentions	NZ European	247	5.91	4.816	0.000***
	International	102	5.84		
	Total	349	5.79		

Table 41A: Customers' Perceptions of the Primary Dimensions of Service Quality

Gender

Variable	Gender	Frequency	Mean	F	Sig.
Interaction Quality	Female	146	5.82	0.098	0.754
	Male	203	5.85		
	Total	349	5.84		
Physical Environment Quality	Female	146	5.84	0.455	0.501
	Male	203	5.80		
	Total	349	5.82		
Outcome Quality	Female	146	6.02	2.248	0.135
	Male	203	5.89		
	Total	349	5.94		

Age

Variable	Age	Frequency	Mean	F	Sig.
Interaction Quality	Under30	65	5.48	8.911	0.000***
	30-39	72	5.55		
	40-49	92	5.84		
	50-59	80	6.15		
	60+	40	6.41		
	Total	349	5.84		
Physical Environment Quality	Under30	65	5.38	6.946	0.000***
	30-39	72	5.68		
	40-49	92	5.92		
	50-59	80	5.99		
	60+	40	6.23		
	Total	349	5.81		
Outcome Quality	Under30	65	5.48	7.739	0.000***
	30-39	72	5.82		
	40-49	92	6.01		
	50-59	80	6.18		
	60+	40	6.41		
	Total	349	5.94		

Marital Status

Variable	Marital Status	Frequency	Mean	F	Sig.
Interaction Quality	Married	217	5.96	7.564	0.000***
	Single	40	5.29		
	Living With A Partner	74	5.73		
	Living Alone	18	6.03		
	Total	349	5.84		
Physical Environment Quality	Married	217	5.94	9.562	0.000***
	Single	40	5.29		
	Living with a partner	74	5.65		
	Living Alone	18	6.06		
	Total	349	5.81		
Outcome Quality	Married	217	6.08	10.638	0.000***
	Single	40	5.31		
	Living with a partner	74	5.85		
	Living Alone	18	6.14		
	Total	349	5.94		

Occupation

Variable	Occupation	Frequency	Mean	F	Sig.
Interaction Quality	Professional or Senior Government Official	47	6.03	2.586	0.005***
	Business Proprietor or Self-Employed	66	6.04		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.91		
	Clerical or Sales Employee	79	5.70		
	Farm Owner or Manager	10	6.00		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.44		
	Home Duties (not otherwise employed)	18	5.86		
	Social Welfare Beneficiary/ Unemployed	5	5.00		
	Student	31	5.50		
	Retired	27	6.11		
	Other	3	5.17		
Total	349	5.84			
Physical Environment Quality	Professional or Senior Government Official	47	5.84	2.712	0.003***
	Business Proprietor or Self-Employed	66	6.02		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.88		
	Clerical or Sales Employee	79	5.69		
	Farm Owner or Manager	10	5.85		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.71		
	Home Duties (not otherwise employed)	18	5.83		
	Social Welfare Beneficiary/ Unemployed	5	5.40		
	Student	31	5.29		
	Retired	27	6.15		
	Other	3	5.83		
Total	349	5.81			
Outcome Quality	Professional or Senior Government Official	47	5.96	3.824	0.000***
	Business Proprietor or Self-Employed	66	6.23		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	6.03		
	Clerical or Sales Employee	79	5.80		
	Farm Owner or Manager	10	6.30		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.65		
	Home Duties (not otherwise employed)	18	6.06		
	Social Welfare Beneficiary/ Unemployed	5	5.50		
	Student	31	5.34		
	Retired	27	6.26		
	Other	3	5.83		
Total	349	5.94			

Annual Income

Variable	Annual Income	Frequency	Mean	F	Sig.
Interaction Quality	NZ \$60,000-	130	5.65	2.023	0.052*
	NZ \$60,001+	219	5.99		
	Total	349	5.84		
Physical Environment Quality	NZ \$60,000-	130	5.62	2.957	0.005***
	NZ \$60,001+	219	5.87		
	Total	349	5.81		
Outcome Quality	NZ \$60,000-	130	5.68	3.147	0.003***
	NZ \$60,001+	219	6.06		
	Total	349	5.94		

Country of Origin

Variable	Country of Origin	Frequency	Mean	F	Sig.
Interaction Quality	Oceania	271	5.88	7.731	0.000***
	International	78	5.80		
	Total	349	5.84		
Physical Environment Quality	Oceania	271	5.85	8.394	0.000***
	International	78	5.76		
	Total	349	5.82		
Outcome Quality	Oceania	271	6.00	9.862	0.000***
	International	78	5.66		
	Total	349	5.94		

Ethnic Background

Variable	Ethnic Background	Frequency	Mean	F	Sig.
Interaction Quality	NZ European	247	5.89	3.200	0.005***
	International	102	6.04		
	Total	349	5.84		
Physical Environment Quality	NZ European	247	5.87	4.134	0.001***
	International	102	5.91		
	Total	349	5.81		
Outcome Quality	NZ European	247	6.01	4.317	0.000***
	International	102	6.01		
	Total	349	5.94		

Table 42A: Customers' Perceptions of the Sub-dimensions of Service Quality

Gender

Variable	Gender	Frequency	Mean	F	Sig.
Staff Professionalism	Female	146	5.50	0.061	0.806
	Male	203	5.52		
	Total	349	5.51		
Accuracy of Reservation	Female	146	6.06	0.722	0.396
	Male	203	6.13		
	Total	349	6.10		
Tangibles	Female	146	5.73	1.124	0.290
	Male	203	5.64		
	Total	349	5.68		
Cleanliness and Comfort	Female	146	6.01	1.693	0.194
	Male	203	5.89		
	Total	349	5.94		
Noise Level	Female	146	5.25	1.289	0.257
	Male	203	5.39		
	Total	349	5.33		
Parking	Female	146	4.62	0.020	0.888
	Male	203	4.60		
	Total	349	4.60		
Security	Female	146	5.81	1.668	0.197
	Male	203	5.67		
	Total	349	5.73		
Accuracy of Billing	Female	146	6.37	3.128	0.078*
	Male	203	6.50		
	Total	349	6.45		
Location	Female	146	5.52	0.108	0.743
	Male	203	5.56		
	Total	349	5.54		
Pleasant Stay	Female	146	5.91	1.733	0.189
	Male	203	5.79		
	Total	349	5.84		

Age

Variable	Age	Frequency	Mean	F	Sig.
Staff Professionalism	Under30	65	5.19	9.158	0.000***
	30-39	72	5.15		
	40-49	92	5.54		
	50-59	80	5.86		
	60+	40	6.11		
	Total	349	5.51		
Accuracy of Reservation	Under30	65	5.80	5.735	0.000***
	30-39	72	6.00		
	40-49	92	6.10		
	50-59	80	6.25		
	60+	40	6.63		
	Total	349	6.10		
Tangibles	Under30	65	5.25	10.730	0.000***
	30-39	72	5.50		
	40-49	92	5.80		
	50-59	80	5.93		
	60+	40	6.07		
	Total	349	5.68		
Cleanliness and Comfort	Under30	65	5.56	8.674	0.000***
	30-39	72	5.66		
	40-49	92	6.13		
	50-59	80	6.16		
	60+	40	6.28		
	Total	349	5.94		
Noise Level	Under30	65	5.18	1.877	0.098*
	30-39	72	5.11		
	40-49	92	5.36		
	50-59	80	5.48		
	60+	40	5.79		
	Total	349	5.33		
Parking	Under30	65	4.82	0.994	0.421
	30-39	72	4.38		
	40-49	92	4.53		
	50-59	80	4.72		
	60+	40	4.50		
	Total	349	4.60		
Security	Under30	65	5.25	8.689	0.000***
	30-39	72	5.42		
	40-49	92	5.92		
	50-59	80	6.02		
	60+	40	6.21		
	Total	349	5.73		
Accuracy of Billing	Under30	65	6.21	4.891	0.000***
	30-39	72	6.26		
	40-49	92	6.54		
	50-59	80	6.58		
	60+	40	6.69		
	Total	349	6.45		
Location	Under30	65	5.33	0.891	0.488
	30-39	72	5.61		
	40-49	92	5.57		
	50-59	80	5.62		
	60+	40	5.62		
	Total	349	5.54		
Pleasant Stay	Under30	65	5.54	5.322	0.000***
	30-39	72	5.71		
	40-49	92	5.85		
	50-59	80	6.08		
	60+	40	6.26		
	Total	349	5.84		

Marital Status

Variable	Marital Status	Frequency	Mean	F	Sig.
Staff Professionalism	Married	217	5.63	6.883	0.000 ***
	Single	40	4.95		
	Living With A Partner	74	5.42		
	Living Alone	18	5.72		
	Total	349	5.51		
Accuracy of Reservation	Married	217	6.17	6.365	0.000 ***
	Single	40	5.67		
	Living With A Partner	74	6.05		
	Living Alone	18	6.40		
	Total	349	6.10		
Tangibles	Married	217	5.84	12.624	0.000 ***
	Single	40	5.22		
	Living With A Partner	74	5.45		
	Living Alone	18	5.68		
	Total	349	5.68		
Cleanliness and Comfort	Married	217	6.09	8.619	0.000 ***
	Single	40	5.59		
	Living With A Partner	74	5.66		
	Living Alone	18	6.08		
	Total	349	5.94		
Noise Level	Married	217	5.36	0.471	0.703
	Single	40	5.23		
	Living With A Partner	74	5.26		
	Living Alone	18	5.54		
	Total	349	5.33		
Parking	Married	217	4.65	1.028	0.380
	Single	40	4.80		
	Living With A Partner	74	4.43		
	Living Alone	18	4.35		
	Total	349	4.60		
Security	Married	217	5.91	8.760	0.000 ***
	Single	40	5.18		
	Living With A Partner	74	5.52		
	Living Alone	18	5.56		
	Total	349	5.73		
Accuracy of Billing	Married	217	6.52	5.760	0.001 ***
	Single	40	6.18		
	Living With A Partner	74	6.29		
	Living Alone	18	6.75		
	Total	349	6.45		
Location	Married	217	5.61	1.338	0.262
	Single	40	5.33		
	Living With A Partner	74	5.50		
	Living Alone	18	5.35		
	Total	349	5.54		
Pleasant Stay	Married	217	5.94	4.269	0.006 ***
	Single	40	5.49		
	Living With A Partner	74	5.73		
	Living Alone	18	5.88		
	Total	349	5.84		

Occupation

Variable	Occupation	Frequency	Mean	F	Sig.
Staff Professionalism	Professional or Senior Government Official	47	5.67	2.160	0.020**
	Business Proprietor or Self-Employed	66	5.74		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.41		
	Clerical or Sales Employee	79	5.43		
	Farm Owner or Manager	10	5.51		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.19		
	Home Duties (not otherwise employed)	18	5.74		
	Social Welfare Beneficiary/ Unemployed	5	4.79		
	Student	31	5.11		
	Retired	27	5.79		
	Other	3	5.54		
Total	349	5.51			
Accuracy of Reservation	Professional or Senior Government Official	47	6.02	2.204	0.017**
	Business Proprietor or Self-Employed	66	6.29		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	6.08		
	Clerical or Sales Employee	79	6.00		
	Farm Owner or Manager	10	6.23		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	6.22		
	Home Duties (not otherwise employed)	18	6.08		
	Social Welfare Beneficiary/ Unemployed	5	6.10		
	Student	31	5.72		
	Retired	27	6.45		
	Other	3	5.83		
Total	349	6.10			
Tangibles	Professional or Senior Government Official	47	5.82	3.294	0.000***
	Business Proprietor or Self-Employed	66	5.84		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.77		
	Clerical or Sales Employee	79	5.59		
	Farm Owner or Manager	10	5.82		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.32		
	Home Duties (not otherwise employed)	18	5.72		
	Social Welfare Beneficiary/ Unemployed	5	5.45		
	Student	31	5.17		
	Retired	27	5.88		
	Other	3	6.07		
Total	349	5.68			
Cleanliness and Comfort	Professional or Senior Government Official	47	5.98	1.813	0.057*
	Business Proprietor or Self-Employed	66	6.13		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	6.08		
	Clerical or Sales Employee	79	5.82		
	Farm Owner or Manager	10	5.90		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.62		
	Home Duties (not otherwise employed)	18	6.09		
	Social Welfare Beneficiary/ Unemployed	5	5.43		
	Student	31	5.63		
	Retired	27	6.07		
	Other	3	6.06		
Total	349	5.94			
Noise Level	Professional or Senior Government Official	47	5.48	2.350	0.011**
	Business Proprietor or Self-Employed	66	5.44		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.17		
	Clerical or Sales Employee	79	5.14		
	Farm Owner or Manager	10	4.77		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.27		
	Home Duties (not otherwise employed)	18	5.72		
	Social Welfare Beneficiary/ Unemployed	5	5.07		
	Student	31	5.02		
	Retired	27	5.91		
	Other	3	6.44		
Total	349	5.33			
Parking	Professional or Senior Government Official	47	4.96	2.033	0.029**
	Business Proprietor or Self-Employed	66	4.67		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	4.67		
	Clerical or Sales Employee	79	4.56		
	Farm Owner or Manager	10	4.63		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	4.61		
	Home Duties (not otherwise employed)	18	4.15		
	Social Welfare Beneficiary/ Unemployed	5	3.07		
	Student	31	4.53		
	Retired	27	4.31		
	Other	3	6.44		
Total	349	4.60			

Occupation (Continued)

Variable	Occupation	Frequency	Mean	F	Sig.
Security	Professional or Senior Government Official	47	5.70	4.319	0.000***
	Business Proprietor or Self-Employed	66	6.02		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	6.04		
	Clerical or Sales Employee	79	5.67		
	Farm Owner or Manager	10	5.65		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.32		
	Home Duties (not otherwise employed)	18	5.78		
	Social Welfare Beneficiary/ Unemployed	5	4.30		
	Student	31	5.08		
	Retired	27	5.91		
	Other	3	5.83		
Total	349	5.73			
Accuracy of Billing	Professional or Senior Government Official	47	6.43	2.384	0.010***
	Business Proprietor or Self-Employed	66	6.64		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	6.43		
	Clerical or Sales Employee	79	6.46		
	Farm Owner or Manager	10	6.30		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	6.50		
	Home Duties (not otherwise employed)	18	6.39		
	Social Welfare Beneficiary/ Unemployed	5	5.90		
	Student	31	6.08		
	Retired	27	6.63		
	Other	3	5.83		
Total	349	6.45			
Location	Professional or Senior Government Official	47	5.60	0.680	0.743
	Business Proprietor or Self-Employed	66	5.61		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.58		
	Clerical or Sales Employee	79	5.50		
	Farm Owner or Manager	10	5.10		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.69		
	Home Duties (not otherwise employed)	18	5.65		
	Social Welfare Beneficiary/ Unemployed	5	5.40		
	Student	31	5.25		
	Retired	27	5.67		
	Other	3	5.67		
Total	349	5.54			
Pleasant Stay	Professional or Senior Government Official	47	5.90	2.425	0.008***
	Business Proprietor or Self-Employed	66	6.02		
	Teacher/ Nurse/Police or Other Trained Service Worker	46	5.87		
	Clerical or Sales Employee	79	5.68		
	Farm Owner or Manager	10	5.94		
	Domestic Worker, Labour, Manual or Agriculture Worker	17	5.66		
	Home Duties (not otherwise employed)	18	6.04		
	Social Welfare Beneficiary/ Unemployed	5	5.80		
	Student	31	5.39		
	Retired	27	6.15		
	Other	3	6.07		
Total	349	5.84			

Annual Income

Variable	Annual Income	Frequency	Mean	F	Sig.
Staff Professionalism	NZ \$60,000-	130	5.41	1.911	0.067*
	NZ \$60,001+	219	5.60		
	Total	349	5.51		
Accuracy of Reservation	NZ \$60,000-	130	5.97	1.194	0.306
	NZ \$60,001+	219	6.18		
	Total	349	6.10		
Tangibles	NZ \$60,000-	130	5.50	3.068	0.004***
	NZ \$60,001+	219	5.78		
	Total	349	5.68		
Cleanliness and Comfort	NZ \$60,000-	130	5.81	1.483	0.172
	NZ \$60,001+	219	6.01		
	Total	349	5.94		
Noise Level	NZ \$60,000-	130	5.21	1.872	0.073*
	NZ \$60,001+	219	5.38		
	Total	349	5.33		
Parking	NZ \$60,000-	130	4.55	0.793	0.594
	NZ \$60,001+	219	4.63		
	Total	349	4.60		
Security	NZ \$60,000-	130	5.41	4.428	0.000***
	NZ \$60,001+	219	5.86		
	Total	349	5.73		
Accuracy of Billing	NZ \$60,000-	130	6.33	2.362	0.023**
	NZ \$60,001+	219	6.48		
	Total	349	6.45		
Location	NZ \$60,000-	130	5.40	1.215	0.294
	NZ \$60,001+	219	5.58		
	Total	349	5.54		
Pleasant Stay	NZ \$60,000-	130	5.67	1.605	0.133
	NZ \$60,001+	219	5.94		
	Total	349	5.84		

Country of Origin

Variable	Country of Origin	Frequency	Mean	F	Sig.
Staff Professionalism	Oceania	271	5.56	5.961	0.000***
	International	78	5.57		
	Total	349	5.51		
Accuracy of Reservation	Oceania	271	6.18	4.836	0.000***
	International	78	5.92		
	Total	349	6.10		
Tangibles	Oceania	271	5.72	10.601	0.000***
	International	78	5.74		
	Total	349	5.68		
Cleanliness and Comfort	Oceania	271	5.99	8.165	0.000***
	International	78	5.86		
	Total	349	5.94		
Noise Level	Oceania	271	5.35	3.179	0.008***
	International	78	4.74		
	Total	349	5.33		
Parking	Oceania	271	4.56	1.603	0.159
	International	78	4.83		
	Total	349	4.60		
Security	Oceania	271	5.81	7.509	0.000***
	International	78	5.67		
	Total	349	5.73		
Accuracy of Billing	Oceania	271	6.51	4.444	0.001***
	International	78	6.30		
	Total	349	6.45		
Location	Oceania	271	5.54	3.126	0.009***
	International	78	5.79		
	Total	349	5.54		
Pleasant Stay	Oceania	271	5.88	7.220	0.000***
	International	78	5.58		
	Total	349	5.84		

Ethnic Background

Variable	Ethnic Background	Frequency	Mean	F	Sig.
Staff Professionalism	NZ European	247	5.56	2.228	0.040**
	International	102	5.53		
	Total	349	5.51		
Accuracy of Reservation	NZ European	247	6.16	2.992	0.007***
	International	102	6.01		
	Total	349	6.10		
Tangibles	NZ European	247	5.74	6.958	0.000***
	International	102	5.83		
	Total	349	5.68		
Cleanliness and Comfort	NZ European	247	6.00	4.595	0.000***
	International	102	6.03		
	Total	349	5.94		
Noise Level	NZ European	247	5.38	0.985	0.435
	International	102	5.34		
	Total	349	5.33		
Parking	NZ European	247	4.56	1.036	0.401
	International	102	4.87		
	Total	349	4.60		
Security	NZ European	247	5.80	5.137	0.000***
	International	102	5.85		
	Total	349	5.73		
Accuracy of Billing	NZ European	247	6.53	3.607	0.002***
	International	102	6.32		
	Total	349	6.45		
Location	NZ European	247	5.55	1.195	0.309
	International	102	5.74		
	Total	349	5.54		
Pleasant Stay	NZ European	247	5.88	2.461	0.024**
	International	102	5.98		
	Total	349	5.84		