An Integrated Model of Service Loyalty

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Abstract

In today's competitive environment, service marketers put great effort on developing service loyalty in order to maintain competitive edge. If we accept the fact that there is no consensus on the use of customer satisfaction as an important antecedent in the creation of service loyalty, we would find that what constitutes or measures service loyalty is inadequate and not clearly defined.

This study primarily aims at developing a measurement tool for service loyalty that incorporates behavioral, attitudinal as well as cognitive attributes, which are identified through literature review and focus group discussion. It also attempts to modify the scale of perceived service quality by incorporating both process-related and outcome-related elements. A structural model of service loyalty highlighting the relationships among perceived service quality, customer satisfaction and service loyalty, in which customer satisfaction is identified as a significant mediator to enhance the impact of perceived service quality on service loyalty, is proposed here.

The findings of this study indicate that service loyalty should be composed of three dimensions: behavioral loyalty, attitudinal loyalty and cognitive loyalty, while the

behavioral dimension constitutes a major component of service loyalty. The results also indicate that the attitudinal aspect seems to be more emphasized among the loyal customers of process-based services whereas the behavioral and cognitive aspect seems to be more emphasized among the loyal customers of outcome-based services. The present study finds that customers of phone-banking services place an equal emphasis on the process-related elements as well as outcome-related elements in evaluating perceived service quality, like prompt service and the manner of service staff for example. Comparatively, customers of restaurant or dining services place greater emphasis on the outcome-related elements.

Furthermore, the positive and significant relationships among perceived service quality, customer satisfaction and service loyalty are illustrated, in which customer satisfaction is identified as a significant mediator between perceived service quality and service loyalty by enhancing the impact of perceived service quality on service loyalty. In addition, the direct impact of perceived service quality is not as strong as its indirect impact on service loyalty, providing further evidence to confirm the role of customer satisfaction as a mediator, which cannot be ignored in building stronger and durable service loyalty. The findings of this study provide insights for future research and management practice on how to cultivate and maintain service loyalty by improving perceived service quality and customer satisfaction.

For research implications, this study can give a deep insight of the importance of customer satisfaction on service loyalty development when compared with the direct effect of perceived service quality. Also, the scale of service loyalty developed in this study can be replicated to enhance its validity in future studies. Furthermore, the

inclusion of both process-related attributes and outcome-related attributes can provide researchers with more information about which kind of attribute(s) are the most useful in measuring the service quality of a particular service.

For managerial implications, the framework proposed here can serve as a general guideline for service providers to segment their "loyal customers" and to develop administrative policies for maintaining service loyalty. In addition, assessment of service loyalty can provide useful information to companies by way of identifying and providing a valid measure for evaluating financial performance. This is the case especially when trends are monitored over a long period of time. Any changes in customer's service loyalty may signal a change in the customer's preferences.

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1.1 Introduction

Recently, critical decisions that many companies are increasingly faced with is how to improve their sales and profits during the economic downturn. Most recent studies have suggested that this can be either overcome or at least ameliorated by successfully creating and maintaining *Customer Loyalty*. It is evidenced that customer loyalty has a significant and direct correlation with profitability (Bhote, 1996; Heskett et al., 1990; Mittal and Lasser, 1998; Oliva et al., 1992; Rowley, 2000; Storbacka et al., 1994). Specifically, Heskett et al. (1994) established the "service profit chain", which illustrated that high level of customer satisfaction could lead to high level of customer loyalty, and ultimately boosted up the company's profits. Empirically, Hallowell (1996) proved that customer satisfaction, customer loyalty and company's profits were significantly related within the service profit chain in the banking industry.

This explains why customer loyalty is regarded as "something of guarantee" for future earnings of a company (Sharp and Sharp, 1997). Most recent studies indicate that keeping a loyal customer is more desirable than attracting a new one. It is because loyal customers can contribute to profit increase in two ways: reducing the cost and increasing the revenue generated from loyal customers (Perrien et al., 1993; Sharma and Lambert, 1994; Shoemaker and Lewis, 1999).

On one hand, the cost can be relatively minimized because a retention strategy for keeping loyal customers can avoid heavy investment in promotional activities (DeSouza, 1992; Grönroos, 1994; Sharp and Sharp, 1997; Stank et al., 1999). Empirical evidence indicates that the incurred cost of maintaining a customer

relationship is four to six times lower than the cost of acquiring a new customer (Crosby, 1991; Light, 1994; Sheth and Mittal, 1996). On the other hand, if a customer continuously spends money on the same product or service, the revenue gained from this loyal customer is a "life-time" revenue (DeSouza, 1992) also otherwise known as relationship revenue (Storbacka et al, 1994). This kind of revenue gained from a loyal customer can be very high because a loyal customer is likely to be less price sensitive (Goodwin and Gremler, 1996) and highly responsive to accept a variety of products or services provided by the same company (Gould, 1995; Kumar, 1999). Previous studies reported that 5% increase of customer retention would cause 25% to almost 100% increase of profits, varied from industry to industry (Gould, 1995; Light, 1994). For example, Reichheld (1994) and Gould (1995) found that there was an increased profit by a maximum of 80% with retaining 5% of existing customers in the credit card industry.

In addition to the monetary benefits gained from customer loyalty, non-monetary benefits can also be enhanced, like fulfilling the customers' present needs, reinforcing the ability of service providers to predict customers' future needs, and also improving the ability of the critical resources allocation within the company (Kumar, 1999; Sharp and Sharp, 1997). Therefore, it is important to have a deep understanding on how to build up customer loyalty because it leads to higher profitability.

1.2 Customer Loyalty in a Service Perspective

Over the last two decades, the economy of Hong Kong and many advanced countries shifted to a service-based economy. This was evidenced by the apparent growth of the

service industries in these developed countries. For example, the service sector represented about 81.4% of the total employment[1] and 73% of the Gross Domestic Product (GDP)[2] of United State in 2000. In the United Kingdom, the household consumption expenditure in service industries increased steadily from 47.23% in 1998 to 48.57% in the same period of 1999[3]. It showed that customers were spending more on services. The same situation was also found in Hong Kong: the services sector contributed 87.04% of the total employment in 2000[4] and 85.4% of GDP in 1999[5]. The recent growth of service industry and its high importance contributed to the economy and triggered interest in studying customer loyalty from a service marketing perspective (Chan et al., 1998; Shemwell and Cronin, 1995; Snyder, 1991).

Kandampully (1998) argued that *"long-term superiority of a service firm is dictated by the organization's ability to maintain their relationship with the customer by offering service loyalty"* (p.431). Garbarino and Johnson (1999) hold a similar view that service companies should pursue both relationship and transactional marketing strategies simultaneously. The benefit would be that transactional marketing functions could effectively satisfy most of the customers who were less concerned with maintaining relationships with service providers, whereas the relationship programs focused on further development of trust and loyalty from those customers who were highly concerned with maintaining relationships with service providers. This shows that the current service business places emphasis on maintaining long-term relationship between customers and service providers. Therefore, further research is needed to focus on measuring and explaining customer loyalty in the service sector

[1] Bureau of Labor Statistics, www.bls.gov/news.release/prin.t04.htm
[2] Bureau of Economic Analysis, www.bea.doc.gov/bea/dn2/gpoc.htm
[3] *Economic Trends: Annual Supplement 1999.*
[4] http://www.sme.gcn.gov.hk/chinese/smehk_b_c.htm
[5] *2000 Gross Domestic Product*, Government of the Hong Kong Special Administrative Region.

(Kasper, 1988), known as **Service Loyalty**, in order to gain recognition for both academic researchers and service organizations.

In the service industries, keeping customers and turning them into loyal customers are critical business practices (Bowen, 1997; Crosby et al, 1990; Duffy, 1998; Lassar et al., 2000; Narayandas et al., 1999; Olsen, 1993). Not only can such actions increase profit and market share, positive recommendations by existing customers can also increase the size of customer databases. (Kandampully, 1998; Kumar, 1999; Shemwell et al., 1998).

Service companies have recently shifted their emphasis to retaining existing customers from attracting new customers (Guolla and Large, 1997; Sharp and Sharp, 1997; Storbacka et al, 1994). Indeed, searching only for new customers is insufficient to achieve the goal of marketing in the face of highly competitive markets, the major thrust of marketing strategies should shift from customer acquisition to customer loyalty (Hume, 1992; Shoemaker and Lewis, 1999). Because of the shift of companies' objective in the service sector, there is a need to identify what constitutes a "loyal" customer and to identify what is the main factor that contributes the most to service loyalty. As such, it is important to ensure accurate measurement of service loyalty, which is supported by DeSouza (1992) who wrote: *"if you can't measure it – you can't manage it"* (p.15) and Reichheld (1994) who stated: *".....nothing is real unless it gets measured, as without measurement, there is no impetus to do better"* (p.25).

As customer retention is one of the critical components of a service marketing strategy, the key to success in the service sector is careful management of sustainable

service loyalty (Jain et al., 1987; Reichheld, 1994). As such, a detailed composition of service loyalty and possible marketing actions to maintain or improve service loyalty should be considered in the firm's services marketing strategy (Keller, 1993; Nguyen and LeBlanc, 1998; Yim and Kannan, 1999).

1.3 Aims of the Study

Though the importance of customer loyalty and its possible effects on the firm's performance have been discussed quite extensively (Caruana, 1999; Weun and Trocchia, 1996), there has been little empirical research designed to fully capture the idea of customer loyalty in the service sector (Hallowell, 1996). Thus, the aims of the present study are described as follows.

A. The first aim concerns the measurement of service loyalty. The measurement will be based on behavioral, attitudinal as well as cognitive measures. As there is relatively little empirical study on service loyalty with cognitive measures, this helps the academic researchers and practicing marketers identify the essential attributes for the measure of service loyalty, especially the cognitive attributes.

B. The second aim is to develop an integrated model of service loyalty by investigating the relationship between perceived service quality and service loyalty, with customer satisfaction as a significant mediator between these two variables. This provides to the researchers and practicing marketers a notion that service loyalty should be assessed from perceived service quality through customer satisfaction.

C. The final aim concerns the investigation of two sets of elements of perceived service quality, namely process-related and outcome-related, in assessing service loyalty. It aims to investigate whether the possible impact of two sets of elements on perceived service quality will vary from process-based services to outcome-based services, so as to highlight the importance of outcome-related elements in evaluating perceived service quality.

1.4 Structure of the Study

The thesis is organized in six chapters. First, the significance of this study is discussed in Chapter 2, in which research objectives are also described. Conceptual foundation of customer loyalty, especially in the service sector, is reviewed in Chapter 3. In addition, an integrated model of service loyalty is also proposed, in which the relationships of service loyalty with perceived service quality and customer satisfaction are discussed. Then, seven research hypotheses are stated at the last section of the Chapter. Next, research design with the use of qualitative and quantitative research methods is described in Chapter 4. It also describes the data collection method of the survey and presents the descriptive statistics derived from the collected data. In Chapter 5, research findings are discussed. Finally, a conclusion is provided in Chapter 6, in which limitations of this study, implications for service marketing practice and further research are also described.

2.1 Chapter Introduction

The research scope of this study mainly focuses on two areas. The first scope focuses on the conceptualization and application of customer loyalty in the service sector, as well as on the measurement of service loyalty. The second one focuses on the modification of service quality instrument with the incorporation of process-related and outcome-related elements. These two aspects relating to service loyalty and perceived service quality are discussed in section 2.2 and 2.3 respectively. In section 2.4, research questions and research objectives of the present study are described.

2.2 Service Loyalty

Even though many researchers have studied loyalty to tangible goods, it is suggested that the construct of loyalty to tangible goods should be different from that of loyalty to intangible services (Gremler and Brown, 1996). As customer loyalty in the service sector relies more on the development of relationship between customers and the service firm when comparing with loyalty to tangible products, the findings in the field of tangible product loyalty cannot be simply generalized to service loyalty (Bloemer et al., 1999). So the concept of loyalty must be further explored to reflect the phenomena in the service sector; however, little empirical research has been designed to loyalty in the service context, and this area remains relatively underdeveloped with two obvious research gaps. The first one is that there is no

consensus on the identified antecedents of service loyalty. The second one is that the operationalization of service loyalty is still ambiguous.

2.2.1 Antecedents of Service Loyalty

Although loyalty in the service sector has been discussed recently, there has little empirical support in the usefulness of its antecedents (Caruana, 1999; Kumar, 1999). According to the extant literature, the antecedents to brand loyalty toward tangible goods have been clearly identified in many studies, e.g. Jacoby and Chestnut, (1978). But, there is no evidence that such antecedents can be applied to services due to the unique characteristics of services (Gremler and Brown, 1996). Thus, it lacks a strong and systematic framework on service loyalty development (Blackwell et al., 1999; Gremler and Brown, 1996; Jocoby and Chestnut, 1978). Therefore, it is worthwhile to pay attention on developing the construct in the service sector with separate treatment (Arora, 1993).

It has been argued that much of the research has only focused on assessing how perceived service quality affects service loyalty (Oliver, 1980; Tarloy and Baker, 1994). This single flow of service loyalty formation from perceived service quality seems to be too narrow. Development of service loyalty should be elaborated to include other factors, besides perceived service quality. Recently, customer satisfaction is suggested to be one of the important antecedents to service loyalty (Gotlieb et al., 1994; Gremler and Brown, 1996; Rowley, 2000). As suggested, keeping customers satisfied is the aim of service organizations, ultimately gaining loyalty from customers (Bhote, 1996; Kandampully, 1998). For example, Tarloy and Baker (1994) viewed customer satisfaction as a variable to moderate the relationship between perceived service quality and purchase intention. Mittal and Lassar (1998)

had strongly emphasized that customer satisfaction could not be ignored, as dissatisfied customers would switch to others who could provide similar products or services.

However, satisfaction should not be the only factor contributing to service loyalty (Danaher and Mattsson, 1998; Yoon and Kim, 2000). Even when the customers are satisfied with the service, they do not necessarily become loyal (Dubé et al., 1994; Gremler and Brown, 1996; Oliver, 1999; Reichheld, 1994). Instead, both perceived service quality and customer satisfaction are important to be used for assessing service loyalty simultaneously (Danaher and Mattsson, 1998; Gauvin et al., 1998; Lemon, 1996; Mittal and Lasser, 1998; Nguyen and LeBlanc, 1998; Shemwell et al., 1998; Taylor and Baker, 1994; Zeithaml et al., 1996).

2.2.2 Measures of Service Loyalty

Recently, the operationalization of service loyalty still remains ambiguous, as a number of conceptual measures of service loyalty have emerged in previous studies (Bloemer et al., 1999; Rust and Williams, 1994). However, most of them only focused on either behavioral measures (Bhote, 1996; Clark and Wood, 1998; Dawes and Swailes, 1999; de Ruyter et al., 1999; DeSouza, 1992; Disney, 1999; Guolla and Large, 1997; Hallowell, 1996; Kendrick, 1998; Loveman, 1998; Morgan and Dev, 1994; van Gorder, 1991; Zeithaml et al., 1996) or attitudinal measures (Bloemer et al., 1999; Czepiel and Gilmore, 1987).

In addition, most of the studies on service loyalty were industry-specific studies and failed to generalize to different service industries. For instance, different measures of service loyalty were employed in airline industry (Ostrowski et al., 1993) and retail

banking industry (Jain et al., 1987) respectively. The discrepancies of measures among different service industries indicate the shortcomings in the measurement tool for capturing the domain of service loyalty (Czepiel and Gilmore, 1987; Moon and Kang, 1999). This makes marketers and researchers difficult to get the actual answer about "what is customer loyalty" (Czepiel and Gilmore, 1987; Reichheld, 1994) or "who is a loyal customer" (Goodwin and Gremler, 1996). So the urgent task is to identify a reliable measurement tool that can be used for the later justification in different service industries.

On the other hand, some researchers still employ only a few items for measuring service loyalty in current years. For example, Dubé and Maute (1996) and Ostrowski et al. (1993) only employed one to two items in measuring service loyalty. Conceptually, de Ruyter et al. (1999) suggested that the operationalization of customer loyalty should not be restricted to one or two items. In contrast, the construct should include a range of relevant items that might be used for measuring service loyalty. Consequently, service loyalty has been proved to be measured in multi-items or multi-dimensions (Bloemer et al., 1999; Gremler and Brown, 1996; Kumar et al., 1992). Thus, this study will try to gain further insight into the measurement of service loyalty with multi-items so as to increase the construct validity of service loyalty scale.

This study attempts to measure service loyalty by incorporating behavioral, attitudinal and cognitive attributes. Comparing with the first two sets of attributes, only few studies try to extend the concept of cognitive measures into the domain of service loyalty perspective (Bloemer et al., 1999; Cauruana, 1999; Gremler and Brown, 1996). In fact, cognitive component of loyalty was initially used for the measurement

of brand loyalty by Newman and Werbel (1973). Thus, efforts spent on exploring the effectiveness of the cognitive component in measuring service loyalty are deserved.

Moreover, the present study tries to develop a conceptual model that can be applicable across different service industries. It is because evidence is lacking for the generalizability of studying perceived service quality in the development of service loyalty. Therefore, the measure of service loyalty suggested in the recent literature cannot be systematically investigated across different service settings (Bloemer et al., 1999). As recommended by recent academic scholars, an ideal measure should able to be generalized to different contexts (Blackwell et al., 1999; de Ruyter et al., 1999; Garbarino and Johnson, 1999; Sharp and Sharp, 1997).

2.3 Perceived Service Quality

The second area of interest here is related to the measurement tool of service quality. There is no doubt that the measurement model of service quality, named SERVQUAL, has occupied a prominent position in the services marketing literature. Until now, this instrument has been widely used to assess customer perceptions and expectations of overall service quality for a variety of services (Lassar et al, 2000), based on five generic dimensions: reliability, assurance, empathy, responsiveness and tangibles (Parasuraman et al., 1985; 1988). Reliability refers to the ability to deliver the promised service dependably and accurately; Assurance refers to the knowledge and courtesy of service staff as well as their ability to inspire trust and confidence to the customers; Empathy refers to the willingness to treat the customers as individuals and to provide caring; Responsiveness refers to the willingness to help customers and

provide prompt service; Tangibles refers to the dimension that focuses on the physical elements of the service.

SERVQUAL with these five generic dimensions was basically used for measuring service quality, but it was criticized of its measurement approach and its operationalization. These two criticisms are discussed in the following two sub-sections respectively.

2.3.1 SERVQUAL versus SERVPERF

Recently, the perceptions-minus-expectations based SERVQUAL has been criticized by many academic scholars (Buttle, 1996; Carman, 1990; Swan and Bowers, 1998). Brown et al. (1992) and Ennew et al. (1993) concluded that there were serious problems in conceptualizing service quality as a difference (perceptions-minus-expectations) score because it was difficult to determine whether confirmation /disconfirmation represented separate constructs or whether satisfaction was directly related to the comparison of expectations with perceived performance. On the other hand, Cronin and Taylor (1994) asserted that SERVQUAL could not fit in all kinds of industries, for example, the scale failed to exhibit the predicted generic five-factor structure when it was used for evaluating the quality of services provided by tire stores, placement centers and dental clinics. In addition, Crompton and Love (1995) compared seven different approaches for service quality measurement in evaluating quality of festival service, they concluded that the least valid was the disconfirmation-based approach in using to explain the variations in the measure of service quality. These unsolved questions challenged the usefulness of SERVQUAL.

Due to the above criticisms, SERVPERF (Cronin and Taylor, 1992), which is a performance based service quality measurement with the items similar to SERVQAUL, has been proposed as an alternative measurement tool for service quality (Cronin and Taylor, 1994; Crompton and Love, 1995). According to the study of Crompton and Love (1995), the best predictor of service quality is the performance-based approach. In fact, performance scores alone are more meaningful measures than gap scores (the disconfirmation-based approach) because customers mostly perceive expectation as the same term as performance and thus making no substantial difference between these two terms (Kivela et al., 1999). Therefore, the approach of performance-based SERVPERF is adopted for measuring perceived service quality in this study.

2.3.2 Process-Related and Outcome-Related Elements in the Scale

Despite the popularity of SERVQUAL and SERVPERF, these instruments have been challenged that service quality should not be only measured in terms of the five generic dimensions defined by Parasuraman et al. (1985; 1988). Either SERVQUAL or SERVPERF is strongly criticized that it is mainly focused on process quality (i.e. reliability, assurance, empathy and responsiveness), but ignores the importance of outcome quality (i.e. tangibles) (Kivela et al., 1999; Lassar et al., 2000; Luk, 1999; Powpaka, 1996; Smith, 1999; Stank et al., 1999). For example, the appearance and taste of the food provided (outcomes) are relatively critical for customers to evaluate the service quality of catering service (Powpaka, 1996), and thus SERVQUAL seems to be not relevant to measure service quality of catering service. Similarly, Bojanic and Rosen (1994) found that the tangibles or outcome dimension was especially important for forming customers' expectations in patronizing the restaurant.

As suggested by Kivela et al. (1999), SERVQUAL failed to assess the customers' perceptions on the food quality in restaurant and catering services. In addition, Lassar et al. (2000) reported that the five-factor SERVQUAL model was poor on predicting customer satisfaction in the banking service industry, due to the lack of items addressing the outcomes received by customers. According to the extant literature, SERVQUAL only simply expresses the process-related service quality (Grönroos, 1984). So that, SERVQUAL is not the only one, and also not the best measurement tool for assessing service quality of various service industries, especially the outcome-based services, like hospitality services (Powpaka, 1996).

Thus, this encourages the development of alternative instruments in measuring service quality by modifying the original SERVQUAL. For instance, DINESERV (Stevens et al., 1995) is constructed for adopting in the fine-dining service, or LODGSERV (Knutson et al., 1991) is constructed for adopting in the lodging or hotel service. Recently, Stank et al. (1999) further proposed that service quality should be measured by two sets of elements separately for the fast food industry: operational-related elements and relational-related elements, instead of measuring the overall service quality with a standard SERVQUAL scale. Operational-related elements are those activities that can contribute to consistent quality, productivity and efficiency, whereas relational-related elements are those activities that can enhance the close relationship with customers so as to gain better understand on their needs and expectations (Stank et al., 1999).

Similar to the idea of Stank et al. (1999), this study attempts to measure service quality by incorporating two sets of elements: *process-related* and *outcome-related.* Process-related elements concern the manner of interactions between customer and

service provider whereas outcome-related elements concern the received actual outcomes as well as the provided physical evidences from the service transactions (Luk, 1999). In Luk's (1999) study on room service quality with the use of SERVPERF approach, customer satisfaction was created on the basis of the actual outcome received as well as the quality of the service delivery process. This supports the idea of utilizing both sets of elements (process-related vs. outcome-related) simultaneously for evaluating the quality of services.

With this measurement, the different effects of two kinds of service quality elements on service loyalty will be investigated. There appears to be no study to address the effects of perceived service quality incorporating process-related and outcome-related elements in the linkage of the service loyalty development. So the present study has significant research and managerial implications for understanding the differences on the service loyalty development between process-based service industry and outcome-based service industry.

2.4 Research Questions and Research Objectives

The first research question for investigation in this study is:

Question 1: *Is the measurement of service loyalty conceived with behavioral, attitudinal and cognitive attributes?*

Thus, the primary objective of this study is to develop a measure of service loyalty incorporating behavioral, attitudinal as well as cognitive attributes, using two services

for investigation. It also serves to identify the possible impact of behavioral, attitudinal and cognitive attributes on the creation and development of service loyalty.

The second research question for investigation in this study is:

Question 2: *Is customer satisfaction a significant mediator on the relationship between perceived service quality and service loyalty?*

Thus, the second objective of this study is to investigate the relationship between perceived service quality and service loyalty, with customer satisfaction as a mediator, and then to compare the magnitude of impacts of perceived service quality and customer satisfaction on service loyalty. On the other hand, the direct effect of perceived service quality on service loyalty will be compared with its indirect effect on service loyalty via customer satisfaction, so as to investigate the enhancing effect of customer satisfaction from perceived service quality on service loyalty.

Another research question of the present study aims to answer is:

Question 3: *Is there any significant difference in the formation of service loyalty between process-based services and outcome-based services?*

Thus, the final objective of this study is to investigate the different effects of process-related elements and outcome-related elements in measuring perceive service quality, across two different types of service, process-based services and outcome-based services. On the other hand, it also examines the differences in creating service loyalty between process-based services and outcome-based services. This purpose aims to provide an intermediate step in understanding the complex relationship between service quality and service loyalty in different service industries.

3.1 Chapter Introduction

"Customer loyalty" is a general term referring to the loyalty level of customer toward "something", that can be a product, a service or an arbitrary brand name. Literature is first reviewed in section 3.2 to distinguish service loyalty from other types of customer loyalty on the basis of the classification suggested by Dick and Basu (1994). Then, there is an in-depth discussion on the evolution of the conceptualization and measurement of service loyalty in section 3.3. After that, the definition of service loyalty in this study is derived and given in section 3.4. In section 3.5, eight attributes are identified in terms of behavioral, attitudinal as well as cognitive attributes based on the extant literature review and the underlying rationale is also discussed. In section 3.6, the proposed conceptual framework is developed and justified through discussing the notion that perceived service quality and customer satisfaction should behave as two distinct constructs. Then, argument on the direction of impact between perceived service quality and customer satisfaction is discussed. After that, section 3.6 also provides supportive evidence on the positive relationships among perceived service quality, customer satisfaction and service loyalty. In addition, it describes an integrated conceptual model of service loyalty, which postulates the relationships of service loyalty with its two antecedents, perceived service quality and customer satisfaction. After an integrated model of service loyalty is proposed, seven research hypotheses of this study derived from the proposed model are stated in section 3.7 for running tests in later analysis. Finally, section 3.8 gives a brief summary of this Chapter.

Table 3.1: Summary of Recent Studies on Customer Loyalty

Author(s)	Antecedent(s)	Dimension(s)	Focus
Snyder (1986)	--	Behavioral & Attitudinal	Service Loyalty on Hairstylist, Expensive restaurant, Fast Food restaurant, Budget motel, Auto repair shop, Full service gas station, Dry cleaner, Full service car wash
Ostrowski et al. (1993)	Service Quality	Behavioral	Service Loyalty on Commercial Airline Industry
Dick and Basu (1994)	Cognitive, Affective & Conative (11 antecedents)	Behavioral & Attitudinal	Conceptual Framework with both brand or service related consequences
Uncles et al. (1994)	--	Behavioral	Brand Loyalty on 310 different brands
East et al. (1995)	--	Behavioral	Store Loyalty on Supermarkets
Knox and Walker (1995)	Brand Involvement	Behavioral & Attitudinal	Brand Loyalty on Grocery Markets
Andreassen and Lindestad (1998b)	Corporate Image and Customer Satisfaction	Behavioral	Service Loyalty on Package Tour Industry
Bloemer et al. (1999)	Service Quality	Behavioral, Attitudinal & Cognitive	Service Loyalty on Entertainment, Fast Food, Supermarkets and Health Care Services
de Ruyter et al. (1999)	Service Quality	Behavioral	Service Loyalty on Restaurants, Banking, Health Care, Shops, Government, Public Transportation
Stank et al. (1999)	Customer Satisfaction	Behavioral & Attitudinal	Service Loyalty on Fast Food Service

In the early customer loyalty literature, numerous measures emerged, for example, Jacoby and Chestnut (1978) cited nearly 53 measures of loyalty. Thus, those measures are proposed to act as a benchmark of loyalty measures in the service sector. In fact, various scales on customer loyalty are available, regardless of being in the service sector or tangible product. Table 3.1 lists a part of recent studies that worked on

developing or replicating the measurement of customer loyalty on various service industries or brands of tangible goods.

3.2 Classification of Customer Loyalty

Customer loyalty seems to be a collective term that is simply defined as a favorable attitude and tendency of customer to continue a rational relationship based on past experience (Czepiel and Gilmore, 1992). This implies the loyalty should be expressed toward the whole buying process, including the interactions between customer and company, between customer and external environment and so on. However, this causes confusion in the definition of "customer loyalty", and makes the measurement become unclear (Moon and Kang, 1999). Typically, customer loyalty can be classified into four types on the basis of the status of an entity (Dick and Basu, 1994). They are *brand loyalty, store loyalty, vendor loyalty* and *service loyalty*.

However, brand loyalty is still confused with service loyalty as most of the researchers often raise a common question like: *"how are brand and service loyalty different?"* (Javalgi and Moberg, 1997, p.166). In the brand loyalty literature, brand loyalty usually refers to the loyalty toward both products and services on the basis of the brand name (Fournier, 1998; Javalgi and Moberg, 1997). Thus, according to Snyder's (1991) idea, the simple difference between brand loyalty and service loyalty is the object on which the customers express their loyalty. The object of brand loyalty is only the brand name, while the object of service loyalty is the service company or a particular working staff who interacts with the customers.

Except the confusion between brand loyalty and service loyalty, it seems that other types of customer loyalty can be clearly differentiated. Consequently, the following is the distinction among these four types on the basis of their simple definitions with loyalty (Dick and Basu, 1994):

Brand loyalty means the relationship between an individual's relative attitude and repetition behavior toward a brand of product.

Store loyalty means the relationship between an individual's relative attitude and repetition behavior toward a store or branch.

Vendor loyalty means the relationship between an individual's relative attitude and repetition behavior toward a seller or supplier, this term is usually used in the organizational level, so it is also known as buyer-seller relationship.

Service loyalty means the relationship between an individual's relative attitude and repetition behavior toward the service staff or service organization.

Under these circumstances, service loyalty is different from other types of loyalty and it should be measured with different scales from that used in other types (Snyder, 1991). Therefore, the apparent differences addressed here are noteworthy to develop a systematic service loyalty measure specifically based on the current knowledge of customer loyalty.

3.3 Evolution of the Conceptualization and Measurement of Service Loyalty

Evolution of the conceptualization and measurement of service loyalty can be classified into three phases.

3.3.1 Phase I: Single measure with either behavioral or attitudinal attributes

In phase I, researchers mostly defined service loyalty in term of either repurchase behavior or favorable attitude of customer, and thus the common way to measure service loyalty was only based on single measure, either behavioral or attitudinal measure.

In the early literature, researchers and marketers simply defined loyalty as a behavior of customer (Jacoby and Chestnut, 1978; Tucker, 1964). In such behavioral measure of loyalty, customers showed their loyalty by repeating their purchase with substantial amount of money toward the same object. For example, Cunningham (1956) defined loyalty as *"90% or more of a family's purchases have been concentrated on a single brand over three whole years"* (p.116). Thus, customer retention with repetitive purchase in terms of volume and value was an important measure of loyalty in the 1950s.

However, researchers criticize that the domain of service loyalty should conceptually go beyond the customers' behavioral intention, as there is a problem of inaccuracy when relying on behavioral measures for measuring service loyalty (Kasper, 1988;

McGoldrick and Andre, 1997; O'Malley, 1998; Oliva et al., 1992). It is because repetitive purchase behavior can be induced by other situational factors (Dick and Basu, 1994; Sandell, 1968) or marketing variables (Kumar, et al., 1992). For example, a customer keeps repetitively purchasing may be merely lack of the knowledge about available alternatives (Jain et al., 1987) or the switching cost to other alternatives is very high (Bejou and Palmer, 1998). So the customer is forced to continue consumption on the services provided by the same provider if there is an urgent need of the product or service, even though he/she is not satisfied with it. On the other hand, such repurchasing behavior may be resulted from only inertia (Bejou and Palmer, 1998) or happenstance buying or a preference for convenience (Oliver, 1999). Therefore, behavioral measures are insufficient for measuring service loyalty (Dick and Basu, 1994; Knox and Walker, 1995; McGoldrick and Andre, 1997). However, the situational factors will not be explored in this study because it is impossible to incorporate all unexpected situational factors in a conceptual model. In addition, it is advisable to derive parsimonious model that is able to explain a significant amount of variance with relatively few constructs in the proposed model (Gotlieb et al., 1994).

Therefore, behavioral measures often rise the problem of "spurious loyalty" which means loyalty is resulted from the situational factors rather than the behavioral factors (Blackwell et al., 1999; Dick and Basu, 1994). Jain et al. (1987) indicated that even frequent users of banking services still had a tendency not to be loyal to a particular bank. The main reason was that those heavy users were sensitive to the fluctuation of interest rates and mostly concerned on the convenience aspect such as banking hours. Consequently, these behavioral measures cannot fully explain how service loyalty is developed.

It is especially true that customer loyalty in a service context cannot be solely explained by behavioral attributes. Due to the challenges of the service characteristics: intangibility, heterogeneity, inseparability and perishability, customers find it difficult to evaluate a particular service (Zeithaml, 1981). Thus, customers will mostly base on their subjective and emotional attitudes toward the service providers or service companies for evaluation (Gremler and Brown, 1996; Kandampully, 1998). In other words, it is obviously difficult to determine whether a customer is loyal or not by only measuring his/her repeat purchase behavioral pattern, without understanding his/her attitude toward the consumed company. So that, this implies a measure of service loyalty should be included the attitudinal attributes rather than merely the behavioral attributes (Czepiel and Gilmore, 1987).

Guest (1944) was among the first to define loyalty as the consistent preference over years of an individual. Tehrani (1995) argued that near 75% of the customers' purchasing decision was based on their own attitude and emotion. Similarly, Andreassen and Linderstad (1998a) showed that high level of loyalty was mostly determined on the basis of the customers' positive attitude toward the company. All of them showed that attitudinal attributes were important to measure loyalty.

But note that only attitudinal measures are also insufficient for measuring service loyalty. It is because attitudinal measures are oversimplified to assume that dissatisfied customers will switch to other alternatives and satisfied customers with positive attitude will remain loyal (Kasper, 1988; O'Malley, 1998). But, in the real world, it is found that customers with positive attitude toward the service company will still switch out (Reichheld, 1994). The main reason is that the link between customers' words and their actions is still questionable. As suggested by Reichheld

(1994): *"in most businesses, 60%-80% of customer defectors said that they were 'satisfied' or 'very satisfied' on the last satisfaction survey prior to their defection!"* (p.13). On the other hand, attitudinal measures incur the problem of unreliability or self-reported bias in measuring service loyalty (Kumar et al., 1992). Thus, it seems that service loyalty cannot be defined, explained or measured by using either behavioral or attitudinal measures only (O'Malley, 1998).

3.3.2 Phase II: Composite measures with both behavioral and attitudinal attributes

Because of the above criticisms, researchers started to utilize behavioral and attitudinal attributes in measuring service loyalty in the 1990s (Czepiel and Gilmore, 1992; Dick and Basu, 1994; East et al., 1998; Hallowell, 1996; Jacoby and Chestnut, 1978; Javalgi and Moberg, 1997; Kumar et al., 1992; Snyder, 1986; Snyder, 1991; Tranberg and Hansen, 1986). Thus, in phase II, a combined method with both behavioral and attitudinal measures was preferred so as to overcome the measurement errors that had been identified in using single type of measure. As advocated by Snyder (1986), a combined method can (1) reduce any spurious loyalty, (2) be a more sensitive measure of loyalty, and (3) have higher degrees of reliability and construct validity.

Typically, Dick and Basu (1994) emphasize that true sustainable loyalty can only be attained when customers express a high level of positive attitude toward the object, together with high level of repeat patronage behavior. Otherwise, they only express the status of "spurious loyalty" (low relative positive attitude and high repeat patronage behavior) or "latent loyalty" (high relative positive attitude and low repeat patronage behavior) as shown in Figure 3.1 (Dick and Basu, 1994). "Spurious

loyalty" refers to the fact that customers only behave with repeat patronage pattern but do not attach with a positive attitude toward the object, whereas "latent loyalty" refers to the fact that customers only reflect a positive attitude toward the object but do not behave with repeat patronage pattern.

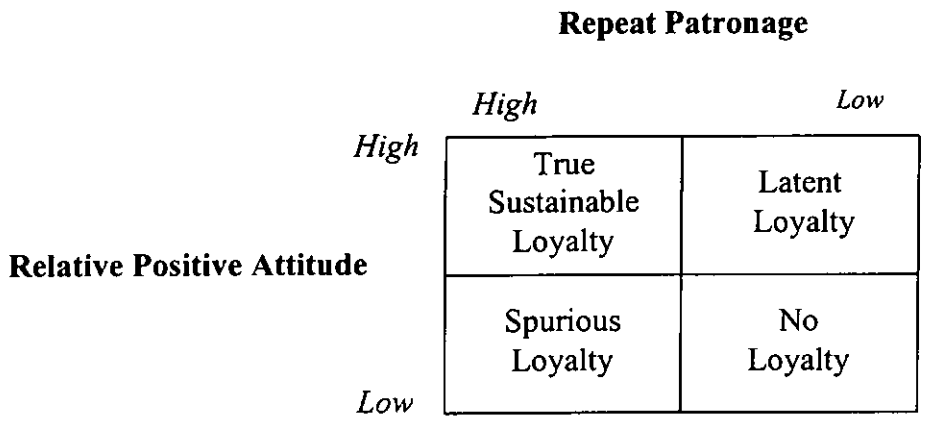


Figure 3.1: Categories of Service Loyalty

Source: Adapted from Dick, Alan S. and Basu, Kunal "Customer loyalty: Toward an integrated conceptual framework", *Journal of the Academy of Marketing Science*, Vol.22, No.2, 1994, p101.

Besides that, scholars such as Knox and Walker (1995) had measured loyalty with both attitudinal attributes and behavioral outcomes. They claimed that composite measures of loyalty construct could truly capture the underlying dimensions. In addition, Moon and Kang (1999) focused on behavioral measures as primary components for measuring loyalty and used attitudinal measures as secondary components to support the primary components so as to screen out any "spurious loyal" customers. The need of measuring service loyalty with composite measures is strongly emphasized by the recent researchers.

3.3.3 Phase III: Composite measures by adding cognitive attributes

In addition to behavioral and attitudinal measures of service loyalty, "cognitive" measures are included to measure service loyalty recently (Gremler and Brown, 1996). In the consumer behavior literature, "cognition" is conceptually different from "attitude" (Loudon and Della Bitta, 1993). The former relates to the actual and accumulative knowledge or belief about the service that is stored in the customer's memory, so as to interpret the incoming stimuli for making a purchase decision. The later is viewed as the feeling on service transactions (i.e. how positive or negative, favorable or unfavorable toward the service). When applying to study service loyalty, cognitive loyalty refers to the loyalty toward the service that is the first one comes to the customer's mind in making decision, close to the meaning of intuition (Bloemer et al, 1999; Schmid, 1997). For example, if a customer is loyal to restaurant A, he will immediately and cognitively think of restaurant A when he needs to have dinner and he will undoubtedly take action to go there for dining. In contrast, attitudinal loyalty refers to the response to an object that learned from accumulated experiences of several transactions (Loudon and Della Bitta, 1993). However, both are important to be included in the conscious decision making process for evaluation of the alternatives before a purchase is made (Caruana, 1999).

Therefore, the meaning of composite measures has been changed in recent years. Gremler and Brown (1996) define service loyalty as *"the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service arises"* (p.173), suggesting the composite measure of service loyalty should consist of three kinds of attributes: namely behavioral, attitudinal and cognitive attributes.

According to the conceptualized framework of Oliver (1999), loyalty (i.e. brand loyalty) should be developed in a sequence of "cognition-affect-conation" pattern. It shows that customers will first come in a stage called "cognitive loyalty", in which customers become loyal in a sense of cognition on the basis of prior knowledge or belief on the brand. Then, after several usage or interactions, a favorable attitude toward the brand will be developed on the basis of accumulative satisfaction in a stage of "affective loyalty". The next stage of developing loyalty is the conative stage, in which customers will hold strong commitment to have repurchase intention and to avoid any persuasion from other alternatives. Ultimately, the repurchase intention will be realized into action. Thus, this conceptualized framework suggests that analysis of loyalty requires to assess customer beliefs (cognition), affection (attitude) and repurchase action (behavior) simultaneously.

In fact, most researchers support that cognitive attributes should be conceptually added for measuring service loyalty as a truly loyal customer does not seriously consider other alternative service companies when making subsequent purchases (Caruana, 1999; Gremler and Brown, 1996; Ostrowski et al., 1993). Therefore, behavioral, attitudinal as well as cognitive, are currently recommended to be comprised as a construct for measuring service loyalty.

3.4 Definition of Service Loyalty

Based on the conceptual ideas of Caruana (1999), and Gremler and Brown (1996), service loyalty in this study is defined as:

The willingness of customers to consistently re-patronize the same service provider/service company, that is the first choice among alternatives, thereby complying with actual behavioral outcomes and attaching with favorable attitude and cognition, regardless of any situational influences and marketing efforts made to induce switching behavior.

However, service loyalty mentioned in this study does not imply the meaning of 100% loyalty or absolute loyalty because very few customers will have absolute loyalty toward a single service provider in reality (Dholakia, 1997; Latham, 1993; O'Malley, 1998; Oster, 1993; Sharp and Sharp, 1997). Take an example of retail banking industry, most people have more than one saving account or credit card. This shows that customers do not keep relationship with only one service provider, but they usually form a network with several service providers depending on their needs (Goodwin and Gremler, 1996). In addition, the idea of 100% loyalty will cause problems in measurement, as it is impossible to measure the entire expenditure of a customer spent on single service consistently. As a result, "polygamous loyalty" (Dowling and Uncles, 1997) is used to describe the situation of service loyalty in recent years, instead of using "100% loyalty". O'Malley (1998) provides a clear definition of this terminology: *"polygamous loyalty means the customers are rather to have a repertoire of two or three brands within any category from which they regularly buy"* (p.49). Certainly, this study will not strictly target on the samples with only "100% loyalty", the situation of "polygamous loyalty" is also applied.

In addition, the service loyalty defined here will exclude the meaning of "locking-in" customers or "membership" by forcing them to continue the consumption relationship

(Barnes, 1994). Therefore, the formation of service loyalty in this study must satisfy three conditions stated by Barnes (1994) as (1) customers should have strong desire for the service continuously or periodically; (2) customers should have freedom to choose their favorite service provider or service company; (3) there should have more than one service providers or service companies within the same service industry.

3.5 Attributes of Service Loyalty

Based on the literature review, this study identifies eight attributes in terms of behavioral, attitudinal and cognitive attributes, they are repeat purchase behavior, word of mouth recommendation, period of usage, price tolerance, repeat purchase intention, preference, choice reduction behavior and first-in-mind respectively. In the following sub-sections, eight attributes of service loyalty are discussed one by one with the rationale behind why they are chosen as major measures in this study.

3.5.1 Repeat Purchase Behavior

This indicator is the most common and frequently used in measuring customer loyalty (Andreassen and Lanseng, 1997; Blackwell et al., 1999; Danaher and Mattsson, 1998; Garbarino and Johnson, 1999; Guolla and Large, 1997; Loveman, 1998; Reynolds et al., 1974; Uncles et. al., 1994). In fact, consistent repeat purchase on an entity is one kind of "loyalty-prone" purchasing behavior (Cunningham, 1956). In the study of Bloemer and Kasper (1995) on assessing brand loyalty of blank audio cassettes and shampoo with a single measure of repeat purchase behavior, the repeat purchase behavior was proved to be a good measure of brand loyalty as it was highly correlated with brand loyalty ($r = 0.82$ and $r = 0.80$ respectively). Therefore, due to its frequently

use and high correlation with brand loyalty measurement, repeat purchase is proposed to be reliable in measuring service loyalty.

3.5.2 Word of Mouth

Together with the repeat purchase behavior, word-of-mouth are comprised as two main categories within the comprehensive behavioral taxonomy for measuring loyalty (de Ruyter et al. 1999). "Word-of-mouth" is similar to referrals and recommending or encouraging others to purchase through any common means such as personal contact, electronic mail and telephone (Crosby, 1991; Danaher and Mattsson, 1998; Guolla and Large, 1997; Loveman, 1998; Lu and Luk, 1999; Nguyen and LeBlanc, 1998; Söderlund, 1998).

This measure is important to determine the customer is loyal or not as most researchers result that loyalty will cause customers willing to provide positive word-of-mouth (Andreassen and Lindestad, 1998; Kandampully, 1998; Oliver, 1980). For instance, Gould (1995) stated: *"Loyal customer is defined as those who not only gladly use the services but they are so pleased with them that they tell other people about them"* (p.16). Similarly, Goodwin and Gremler (1996) defined loyalty as *"recommending the provider to others"* (p.261). Specifically, Shoemaker and Lewis (1999) found that 20% of the loyal customers would recommend the hotels, which they were loyal to, to their friends or colleagues. They also found that, in average, each loyal customer would go out to spread his/her feeling about his/her loyal hotels to 12 people. In the similar vein, Stevens et al. (1995) reported that 44% of the customers who went to a restaurant for the first time was because of the recommendation from others.

Besides the external communication of customers to others about the service (i.e. recommendation or referral), "word-of-mouth" also refers to internal communication of customers to the service staff. It is believed that loyal customers are likely to give positive feedback to the service company, especially when they are satisfied with the service. Söderlund (1998) claimed that customers for dining services in restaurant and other lodging services are likely to give compliments (positive feedback) rather than complaints (negative feedback). Consequently, giving positive feedback is one of the behavioral outcomes of service loyalty. Indeed, compliments from customers can stimulate further improvement on strengthening the relationship of service staff with customers as they are willing to point out which area the service provided needs to be improved (Andreassen, 1999; de Ruyter et al., 1999; Tax et al., 1998; Zeithaml et al., 1996).

3.5.3 Period of Usage

Period of usage means the length of time interval in which a customer keeps consuming the service from a particular service provider continuously. According to the customer loyalty literature, it is also a common measure for assessing customer loyalty (Hallowell, 1996; Kendrick, 1998; Rust and Williams, 1994). The main reason is that this measure can reflect the real situation of customer's consumption pattern from the same service provider. Basically, this measure can be referred as a time dimension (Reynolds et al., 1974). Therefore, the inclusion of such time dimension can emphasize the long-term characteristic of service loyalty.

3.5.4 Price Tolerance

Although researchers have identified that price reduction could induce customers' switching behavior to the low priced brand (Dick and Basu, 1994; Halinen, 1996;

Morgan and Dev, 1994; Yim and Kannan, 1999), some customers will remain loyal even the price offered by the same firm increases, and are willing to pay the premium (de Ruyter et al., 1999; Morgan and Dev, 1994; Yoon and Kim, 2000). So price reduction appears to be effective only when the customer has low level of loyalty (Cunningham, 1956). The reason may be the perceived risk or cost in switching to other alternatives of a loyal customer is very high, so he/she is more preferred to pay a higher price to avoid the risk of any change (Bejou and Palmer, 1998). Another reason may be that customers often attach high quality with a high price (Stevens et al., 1995). For example, in the restaurant context, customers who prefer good dining quality may be less price-sensitive, but they are more sensitive to the change of quality (Kivela et al., 1999).

Indeed, pricing factor is not the main concern of the customers for the dining service in moderate-price restaurants. Hume (1992) suggested that the attribute of price only ranked No. 7 in respondents' desires from restaurants among 11 attributes, following by cleanliness, food quality, freshness of ingredients, friendly staff, timely service and comfortable atmosphere. Therefore, this shows that customers do not place great concern on the price factor and implies that an absolute price increase does not automatically induce the switching behavior of customers. Therefore, service loyalty makes customers more price insensitive or have a higher level of price tolerant, because loyalty can discourage customers to have price comparison with others and to avoid shopping around (de Ruyter et al., 1999; Goodwin and Gremler, 1996; Grönroos, 1994; Johnson, 1998; Kumar, 1999; Stank et al., 1999).

3.5.5 Repeat Purchase Intention

Generally, service loyalty is mostly referred as the extent of repeat purchase intention from the same service provider (Hubbert et al., 1996; Söderlund, 1998). Repeat purchase intention is different from the repeat purchase behavior mentioned before. The former refers to willingness of customers to consume the service from the same service provider again, but it does not consider whether they have realized such willingness or not. In contrast, the later considers the actual behavior that the customers committed in the past. Combining these two attributes can have advantage on knowing the customers' behavioral pattern of regularity on repetitive consumption of the service.

Repeat purchase intention together with repeat purchase behavior are similar to the overall concept of commitment (Barnes, 1994; Goodwin and Gremler, 1996; Storbacka et al., 1994), which is composed of behavioral aspect and attitudinal aspect, named instrumental commitment and attitudinal commitment respectively (Dorsch et al., 1998; Halinen, 1996). The instrumental commitment, also called continuance commitment (Fullerton, 1999; Shemwell et al., 1998), refers to the behaviors of customers resulting from the creation of relationship with the service provider, such as spending more money or frequent purchase. The attitudinal commitment, also known as affective commitment (Fullerton, 1999; Shemwell et al., 1998), refers to the customers' intention to maintain a stable relationship with the service provider, as well as the intention to repetitive purchase from the same service provider. Thus, in this study, both repeat purchase intention as well as repeat purchase behavior is going to reflect the commitment level of customers, that is important for the measurement of service loyalty (Dorsch et al., 1998; Garbarino and Johnson, 1999; Yoon and Kim, 2000).

3.5.6 Preference

Customer preference is a typical attitudinal attribute for measuring service loyalty (Bloemer et al., 1999; Day, 1969; Gremler and Brown, 1996). Consistent with the concept of Dick and Basu (1994), "true" loyalty can be attained only when the customer expresses a high level of positive attitude or strong positive preference (O'Malley, 1998) as well as high repeat patronage on the entity. Similarly, Zeithaml et al. (1996) suggested that loyalty should be evident by expressing preference over others. Therefore, it is advisable to have a measure of knowing the customer's preference on the service provider or service company in this study.

3.5.7 Choice Reduction Behavior

In the study of Tucker (1964) on brand loyalty, loyalty was termed as "biased choice behavior". On the other hand, Sheth and Parvatiyar (1995) claimed that choice reduction behavior was a resultant behavior of service loyalty in making decision of consuming service. Gremler and Brown (1996) also suggested that a customer who was extremely loyal toward a brand would not seriously or actively seek for other alternatives. Similarly, Dick and Basu (1994) claimed that the reductive motivation to search for information should be one of the consequences of customer loyalty. It was because customers with high level of loyalty would appear to have little search motivation, and hence eventually reduced the number of choices in their evoked set, theoretical not more than three (East et al., 1998; Goodwin and Gremler, 1996; Kandampully, 1998; Oliver, 1999; Sheth and Parvatiyar, 1995). This means that unless customers are committed to reduce the number of alternatives in their choice set, they cannot be thought of having high level of loyalty.

3.5.8 First-in-mind

This measure is extended from the concept of choice reduction behavior. Consistent with the meaning of choice reduction behavior, the extremely loyal customers will be ideally limited to only one choice (i.e. service provider or service company) that should be the first choice in the customers' minds (Ostrowski et al., 1993). So it is considered as one of the cognitive attributes (Bloemer et al, 1999; Schmid, 1997). For the hospitality service, loyalty is strongly emphasized as the likelihood of customers' referring as "their restaurant" or "their hotel" that is the first come in the mind (Dick and Basu, 1994; Oliver, 1999; Shoemaker and Lewis, 1999). The rationale behind is that loyal customers usually hold a strong commitment toward specific service provider that they think the service provided is superior. Therefore, service loyalty can be defined as the degree to which a customer considers using the service provider who is the first in his/her mind (Caruana, 1999).

3.6 Conceptual Framework

In this section, the proposed conceptual framework is developed and justified. It postulates the relationships of service loyalty with its two antecedents, perceived service quality and customer satisfaction. Then, hypotheses derived from the proposed model will be highlighted in the next section. In the following subsections, discussions focus on three aspects: 1) perceived service quality and customer satisfaction should behave as two distinct constructs; 2) direction of impact between perceived service quality and customer satisfaction; and 3) the positive relationships among perceived service quality, customer satisfaction and service loyalty. After that, an integrated conceptual model of service loyalty is described.

3.6.1 Perceived Service Quality and Customer Satisfaction Behave as Two Different Constructs

Extant literature emphasizes that perceived service quality and customer satisfaction are most likely to be two distinct constructs (McDougall and Levesque, 2000; Taylor and Baker, 1994). Regarding the distinction between customer satisfaction and service quality, Dabholkar (1993) reviewed the relevant literature to discuss the differences between two constructs in terms of i) discomfirmation, ii) cognitive versus affective perspective, and iii) transactional versus global perspective.

For the discomfirmation paradigm, Dabholkar (1993) claimed that service quality was evaluated on the basis of the gap model between perception and expectation (Parasuraman et al., 1985) while customer satisfaction was mainly evaluated on the basis of perception only. However, recent literature argued that service quality was more likely to be evaluated on perception only, like SERVPERF (Cronin and Taylor, 1992), so there was no significant difference on the evaluation between service quality and customer satisfaction in term of discomfirmation paradigm.

For the separation from cognitive and affective perspective, Dabholkar (1993) suggested that service quality should be viewed in a cognitive manner, as perceptions about service quality were attribute-based. On the other hand, customer satisfaction was partly or totally affective because it was mainly described as post-purchase affect (La Tour and Peat, 1979) and it should be operationalized as the feeling about the past experience.

Comparatively, it is more understandable to differentiate these two constructs on the basis of transactional versus global perspective. Dabholkar (1993) strongly emphasized that these two constructs could be easily differentiated if one of them was measured at the transactional level and the other was measured at the global level. According to this paradigm, perceived service quality should be evaluated for a given purchase experience, whereas customer satisfaction should be measured in the overall global sense (Woodside et al., 1989). This approach is suggested to be much better in describing and predicting customer loyalty (Johnson, 1998), and thus, it is adopted for the present study.

3.6.2 Causal Relationships between Perceived Service Quality and Customer Satisfaction

For the causal relationship between service quality and customer satisfaction, there has been still considerable debate in recent years (Bitner, 1990; Brady and Robertson, 2001; Chenet et al., 1999; Kivela et al., 1999; Nguyen and LeBlanc, 1998; Shemwell et al., 1998; Storbacka et al., 1994; Zeithaml et al., 1993). Dabholkar (1995) indicated that the causal relationship between service quality and customer satisfaction was different under different service situations, mainly depending on the service type and customer type. For example, if customers are cognitively oriented, they will be more likely to evaluate the quality of service first and then follow with satisfaction judgment. Alternatively, for those who are affective-oriented or more emotional in making decision, they will be expected to first experience satisfaction with the service or service provider before an evaluation of service quality.

Therefore, this conflicting debate forms two schools. For those researchers support the linkage: service quality → customer satisfaction, they claim that customer

satisfaction should be the result of high level of perceived service quality (Caruana, 1999; Cronin and Taylor, 1992; Guolla and Large, 1997; Lassar et al., 2000; Nguyen and LeBlanc, 1998; Shemwell et al., 1998; Stank et al., 1999; Swan and Bowers, 1998; Woodside et al., 1989). As such, customer satisfaction is expected to directly affect behavioral intentions based on its more emotive nature (Gotlieb et al., 1994).

In contrast, another school of marketing scholars who support the linkage: customer satisfaction → service quality, question about the direction of the positive linkage from service quality to customer satisfaction and argue that customer satisfaction should be the determinant of perceived service quality (Athiyaman, 1997; Bitner, 1990; Kasper, 1988; Oliva et al, 1992; Parasuraman et al, 1988). In effect, the argument of this school is based on the definition of service quality as the "overall excellence or superiority" of a service provider (Parasuraman et al., 1988). It means service quality should be a global construct in cumulative terms, which directly affects behavioral intentions (Bitner, 1990).

3.6.3 Relationships among Perceived Service Quality, Customer Satisfaction and Service Loyalty

As mentioned in the previous section, the relationship between perceived service quality and customer satisfaction is a dual relationship. However, when perceived service quality and customer satisfaction act as antecedents in assessing service loyalty, the positive direction of impact from perceived service quality to customer satisfaction is more supported for assessing service loyalty by recent literature with highly empirical validation (Andreassen and Lindestad, 1998; Athanassopoulos, 2000; Barnes et al., 1996; Clark and Wood, 1998; Dubé et al., 1994; Dubé and Maute, 1996; Garbarino and Johnson, 1999; Gauvin et al., 1998; Javalgi and Moberg, 1997;

Johnson and Auh, 1998; Lassar et al., 2000; Loveman, 1998; Oliver, 1999; Prabhu, 1996; Söderlund, 1998; Spreng and Mackoy, 1996; Tax et. al., 1998). For instance, Fornell (1992) suggested that customer satisfaction exerted a stronger power on predicting service loyalty in the service industries like banking, insurance, and mail order than did service quality. In a similar vein, McDougall and Levesque (2000) reported that customer satisfaction was a strong predictor of service loyalty in four types of services: dentist, auto service, restaurant and haircut.

Furthermore, Johnson (1998) claimed that service performance was the main antecedent of customer satisfaction and loyalty is one of the consequences of satisfaction. Similarly, Stank et al. (1999) strongly emphasized that *"customer satisfaction is an important performance outcome.....and is one of the most viable means of influencing customer loyalty"* (p.430). They also reported that service quality failed to have significant influence on customer loyalty but it had significant indirect effect on customer loyalty through customer satisfaction.

In the study of Brady and Robertson (2001), they aimed to investigate whether service quality should universally be considered as an antecedent to customer satisfaction, by comparing the proposed model highlighting the positive impact from perceived service quality to customer satisfaction with its alternative model highlighting the positive impact from customer satisfaction to perceived service quality, across two different cultural samples in fast food industry. The findings showed that the positive direction of impact from perceived service quality to customer satisfaction provided better fit to the data in both cultural samples when comparing with the alternative model. In addition, they found that the proposed model explained comparatively greater variations in behavioral intention than the alternative model. These findings

suggested that most customers first evaluated the quality of service before satisfaction judgment, in creating favorable behavioral intention. The impact of service quality might indirectly affect service loyalty through customer satisfaction, and thus, gaining empirical support from these results.

Therefore, the conceptual framework highlighting the relationships among perceived service quality, customer satisfaction and service loyalty for this study is shown in Figure 3.2.

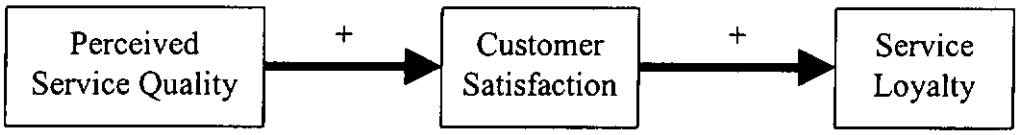


Figure 3.2: The Relationships between Perceived Service Quality, Customer Satisfaction and Service Loyalty

3.6.4 Integrated Conceptual Model

Although there are many supportable evidences on the positive linkage from perceived service quality to customer satisfaction, and ultimately to service loyalty, no study attempts to justify the use of customer satisfaction in mediating the relationship between perceived service quality and service loyalty by comparing the indirect impact of perceived service quality on service loyalty via customer satisfaction with the direct impact of perceived service quality on service loyalty in the same service context. Therefore, by integrating the perceived service quality, customer satisfaction with service loyalty, a proposed model is developed. As shown in Figure 3.3, it is proposed that there will be a positive impact from perceived service

quality via customer satisfaction on service loyalty. It is also proposed that perceived service quality will have positive direct impact on service loyalty. The indirect effect of perceived service quality on service loyalty via customer satisfaction is indicated by the thick blackened solid arrows, and its direct effect on service loyalty is indicated by the dotted arrow.

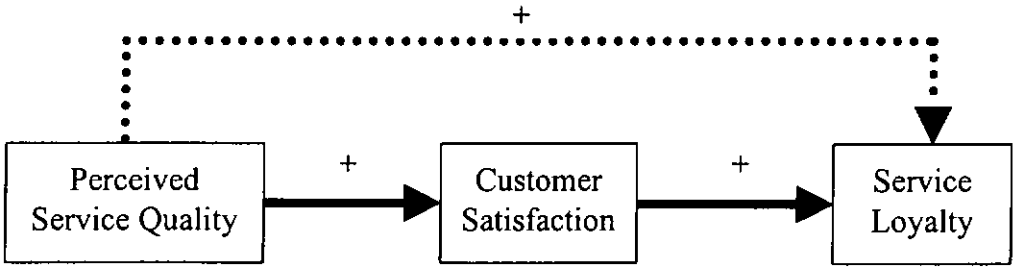


Figure 3.3: Proposed Integrated Model of Service Loyalty

3.7 Research Hypotheses

Based on the research questions stated in Chapter 2, seven hypotheses are developed accordingly for running tests.

The primary research question of this study is to investigate the dimensionality of service loyalty. It is proposed that service loyalty is conceived as a multidimensional structure with three distinct constructs: behavior, attitude as well as cognition, in different magnitude. Thus, the first research hypothesis is formulated as:

Hypothesis 1: Service loyalty is conceived as a multidimensional structure with three distinct dimensions: behavior, attitude as well as cognition.

Based on the proposed model, it is hypothesized that customer satisfaction is positively resulted from high level of perceived service quality and then it positively leads to affect service loyalty. Thus, the next three hypotheses are formulated as:

Hypothesis 2: Higher level of perceived service quality will lead to higher level of customer satisfaction with the service.

Hypothesis 3: Higher level of customer satisfaction with the service will lead to higher level of service loyalty.

Hypothesis 4: Higher level of perceived service quality will lead to higher level of service loyalty.

Referring to the second research question in questioning whether customer satisfaction is a significant mediator on the relationship between perceived service quality and service loyalty, it is hypothesized that the impact of customer satisfaction on affecting service loyalty is greater than that of perceived service quality. In turn, it implies that the total impact of perceived service quality through customer satisfaction indirectly on service loyalty is greater than its direct impact on service loyalty. Consequently, the fifth research hypothesis is formulated as:

Hypothesis 5: The impact of customer satisfaction is greater than that of perceived service quality on service loyalty.

Although the relationship between overall perceived service quality and service loyalty have been extensively explored by many researchers, there is no study to attempt in utilizing two different sets of elements of perceived service quality in addressing the service loyalty development issue. Referring to the third research question of this study, it is to investigate the difference in the formation of service loyalty between process-based services and outcome-based services. It is believed that the evaluation of process-based services will be mostly based on process-related elements while the evaluation of outcome-based services will be mostly based on outcome-related elements. The sixth and seventh hypothesis are, thus, formulated as:

Hypothesis 6: For process-based services, perceived service quality is largely determined by process-related elements than by outcome-related elements in creating high level of service loyalty.

Hypothesis 7: For outcome-based services, perceived service quality is largely determined by outcome-related elements than by process-related elements in creating high level of service loyalty.

3.8 Chapter Summary

This chapter had reviewed how service loyalty distinguished from other types of loyalty, such as brand product loyalty. In addition, this chapter had discussed the definition of service loyalty as well as the attributes that used to measure service

loyalty. After reviewing the conceptualization and measurement of service loyalty through extant literature, literature review was continued to focus on investigating the antecedents of service loyalty and their causal relationships with service loyalty, and to give evidences on supporting the positive direction of relationships among perceived service quality, customer satisfaction and service loyalty. Then, an integrated model of service loyalty was developed and seven research hypotheses were derived for running tests in later analysis.

4.1 Chapter Introduction

All three latent constructs, perceived service quality, customer satisfaction and service loyalty, in the proposed model were measured with multiple items for the purposes of achieving a valid scale as well as capturing the domain of the estimated constructs (Anderson and Gerbing, 1988). Thus, the development of the scales will be elaborated in this chapter.

Since the scales of perceived service quality and customer satisfaction had been adopted from the literature, only the scale of service loyalty was developed in this study. The procedures of scale development employed both qualitative and quantitative research methods following the guidelines offered by Churchill (1979) and Hinkin et al. (1997). It was articulated the underlying theory and concept so as to provide a foundation for content validity and to ensure that the instrument could measure the underlying construct. In the first stage, a literature review was undertaken to identify the items that reflected the domain of the underlying constructs. Then, additional items were identified through focus group discussion. Prior to the test of the structural equation model, a pilot study with a small sample size was conducted to refine the survey instruments. In the second stage, a large-sample survey with structured questionnaire was conducted to collect data for the test of hypotheses. Exploratory factor analysis was first employed to purify and identify the factor structure of the construct of service loyalty, and then confirmatory factor analysis was used to estimate each measurement model. In the third stage, structural equation modeling technique was employed to estimate the proposed structural model. In addition, reliability and construct validity of each construct were assessed. A

flowchart detailing the research design and data analysis strategies in this study is presented in Figure 4.1.

This chapter mainly focuses on the development of scale that guides the data collection activities. The selection criteria of two sampled services for the present study are described in section 4.2. This section also explains how to select the sampled services and target respondents for the present study. Section 4.3 describes the process and findings of item generation through literature review and focus group study. Then, the description of established scales with additional items that generated from the focus group is presented in section 4.4. The procedures and findings of pilot study are discussed in section 4.5, with the description of the refined scales of each construct. The discussion on the methodological issues pertaining to sampling method for the large-sample survey is illustrated in section 4.6. After that, section 4.7 describes the data collection method and the sampling procedures with target respondents. Then, section 4.8 presents the demographic profile of respondents. It also presents the procedures and results of performing the test of non-response bias and normality of sample respectively. Lastly, section 4.9 gives a brief summary of this chapter.

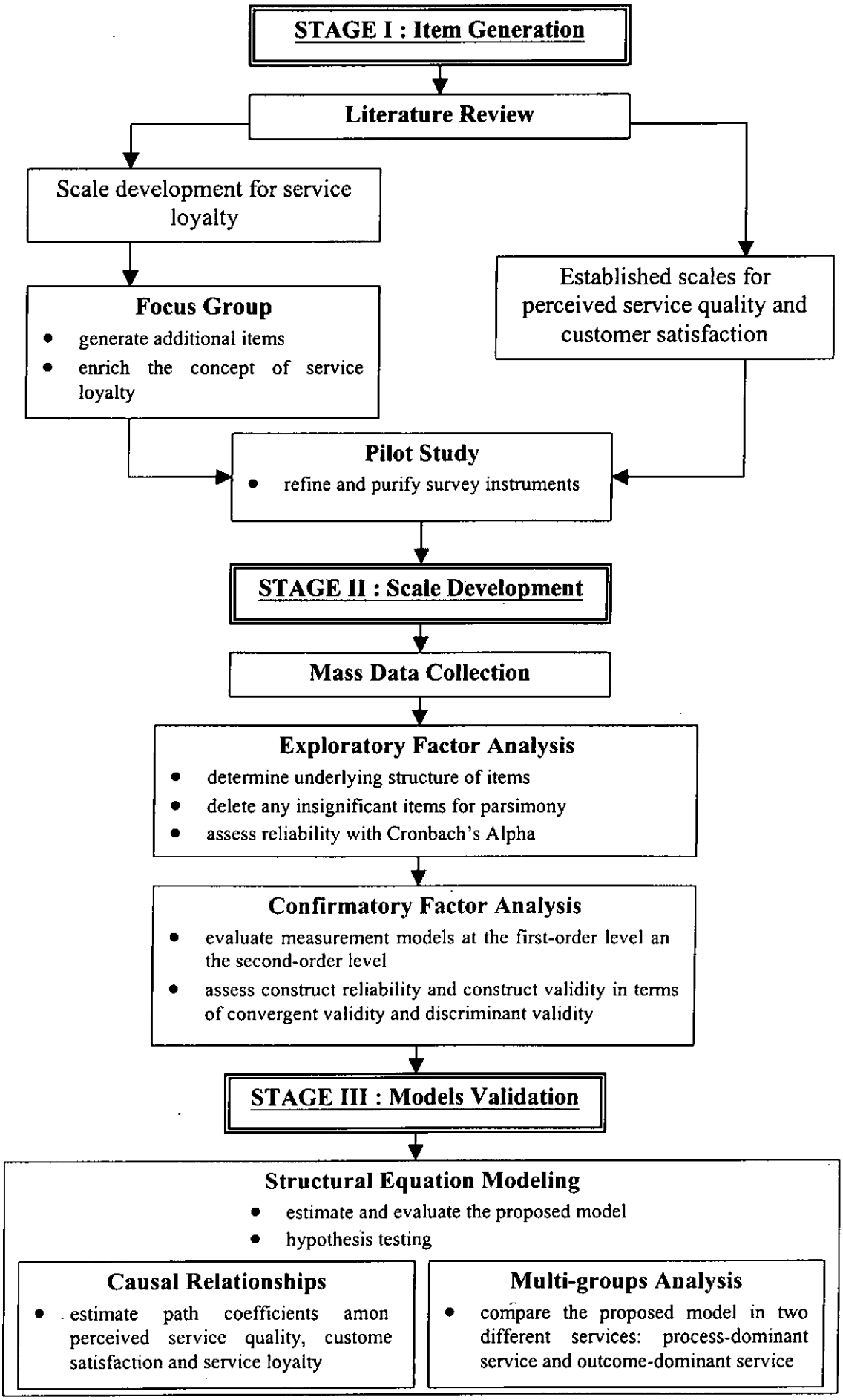


Figure 4.1: An Overview of the Research Design and Data Analysis Strategies

4.2 The Sampled Services

Two services, phone-banking service and restaurant dining service, were selected for this study on the basis of three requirements that are pointed out in the followings.

Firstly, in order to satisfy the condition that there should have more than one service providers or service companies within the same service industry, the selection of service industries was based on the situation that consists of many similar alternatives in the Hong Kong market. According to the Government's statistics in 1999[1], there were 156 licensed banks in Hong Kong, including local and overseas banks. In the same year, approximately 3,000 non-Chinese restaurants[2] were in Hong Kong. This indicates that customers can freely patronize other alternatives for consuming the services from any similar service providers, and thus minimizing the problem of "locking-in" customers (Nguyen and LeBlanc, 1998).

Secondly, the services selected were those that the respondents should be familiar with and they should use regularly. According to the survey conducted by Hong Kong General Chamber of Commerce in 2000, about 85% of target respondents who aged 15 or over had the experiences on consuming services through electronic devices in the twelve months before the survey, in which phone-banking service is one of the services covered in the survey[3]. In addition, James McMaster, director of Marketing for Citibank's global consumer banking division in Hong Kong, claimed that phone-

[1] Statistics are provided from *Hong Kong Economic Yearbook 2000*, Economic Information & Agency.
[2] The actual figure is 3,213 for non-Chinese restaurants in the Hong Kong market, provided from *Hong Kong Economic Yearbook 2000*, Economic Information & Agency.
[3] Besides the phone-banking services, the use of Octopus card, Automatic Teller Machine (ATM), e-cash, Easy Pay System (EPS), Payment by Phone Service (PPS), customer services provided by the interactive voice response system, on-line searching for financial information / information on goods and services / job vacancies, etc. were also included in the survey.

banking services and ATM services had accounted for about 58% of Citibank's all transactions (Mailloux, 1998). On the other hand, for the restaurant dining service, a worldwide research company reported that Hong Kong was the top among 32 countries for dining out with the average 8.7 times per month[4]. All these figures indicate that Hong Kong people have experience on consuming the phone-banking service and restaurant dining service and have frequently used the selected services.

Lastly, these two services were selected because of their importance on the economy of Hong Kong. This is determined from the contributions of the selected services in Hong Kong's Gross Domestic Product (GDP). In 1998, the banking industry and the restaurant industry contributed 9.3% and 2.3% of Hong Kong's GDP respectively[5]. As these two service industries have major contributions to the economic growth in Hong Kong, this indicates that it is worthwhile to have a study on explaining how service loyalty can be developed in these two service industries.

The phone-banking service refers to any banking services that are consumed by customers via the phone and the customers are mostly served by a customer service officer. The restaurant dining service refers to the Western restaurants of any style, such as American style or Italian style. But, fast food restaurants and those restaurants that only offered take away service are excluded because customers' patronage on these restaurants is believed to be mostly affected by the factor of convenience rather than loyalty (Oyewole, 1999).

[4] The survey was conducted by Roper Reports Worldwide through the interviews with 1,000 respondents of 32 different countries or areas, the findings were reported in Appledaily Newspaper on 19/5/2001.

[5] Statistics are provided from *Profiles of Hong Kong's Major Service Industries*, 2000 edition, Hong Kong Trade Development Council.

Since the recent literature has proposed that outcomes resulted from the service consumption have an important effect on the evaluation of service quality (Luk, 1999; Powpaka, 1996), it is essential to know the impact of outcome quality on the service loyalty development, rather than the overall service quality. Therefore, one of the selected services will be identified as outcome-based services and another one will be identified as process-based services, so as to find out the impact of outcome quality on the service loyalty development in two different kinds of services.

Based on the classification method of Lovelock (1996), restaurant dining service is classified as tangibles service while phone-banking service is classified as intangibles service. This illustrates that tangibles physical evidences, like facilities, decoration and food, are a major part for the evaluation on restaurant dining service while tangibles are only a comparatively minor part for the evaluation on phone-banking service, but the major part will be focused on intangibles, like the officer's manner and response time of answering calls. Similarly, based on the classification method of Powpaka (1996), restaurant dining service is classified as the service that can be easily evaluated or made comparison by customers as the outcomes are varied for different restaurants. On the other hand, phone-banking service is classified as the service that cannot be easily evaluated because customers are not technically competent to evaluate the outcomes, such as customers are difficult to determine the offered interest rate or currency rate is underpaid or overpaid. In addition, as the outcomes received in the phone-banking services are standardized for all different banks, customers are difficult to make comparison and determine the delivered service quality is good or not, so they mostly base on the interaction process for evaluating the quality of phone-banking service.

Therefore, customers often base on the outcomes or physical evidences to evaluate restaurant dining service, and hence restaurant dining service is considered as a kind of service that is mainly associated with the offer of tangible products (Bloemer et al., 1999; Garretson and Clow, 1997). But, customers mostly base on the transaction process for the evaluation of phone-banking service as there is not much physical evidences that customers can rely on (Oyewole, 1999). Regarding to the ideas from Lovelock (1996) and Powpaka (1996), phone-banking service is categorized as the process-based service and restaurant dining service is categorized as outcome-based service in this study.

4.3 Development of Survey Instruments: Item Generation

4.3.1. Focus Group Study

In the first stage, semi-structured focus group studies were conducted with two small groups of respondents. This stage serves the purpose of generating additional items for constructing the scales of perceived service quality and service loyalty so as to increase the face validity of these scales. It also serves to enrich the concept of service loyalty and to help on justifying research hypotheses with the benefits of simulating ideas and enhancing synergetic effects (Cooper and Schindler, 1998; Greenbaum, 1988; Halinen, 1996; Morgan, 1997).

As it is important to understand both service providers' and customers' point of view on the conceptualization and measurement of service loyalty, two focus groups were formed: one was the customer group for generating additional measures of the constructs and another was the service provider group for confirming the measures

that identified in the discussion with the customer group. Seven customers were recruited from the general public to form the customer group for focus group discussion. For the purpose of maximizing variance of responses, qualified participants were those who had experience on consuming a wide range of services (Goodwin and Gremler, 1996), including the phone-banking service and Western restaurant dining service. On the other hand, as this study focused on the phone-banking service and Western restaurant dining service, six participants were recruited as the service provider group from those who were working either in bank or Western restaurants. The service provider group was generated independent of the customer group, and no participants were interviewed twice. The size of focus group from 6 to 7 participants was recommended due to the effective dynamic interaction among participants (Cooper and Schindler, 1998; Greenbaum, 1988; Perry, 1998).

The focus group studies were conducted on 18th and 25th February 2000 for the customer group and service provider group respectively. The participants profile is given in Table 4.1. During the focus group interview, participants in the customer group were asked with two major questions. First, they were asked to define "service loyalty" in their own terms so as to avoid the bias of definition that given by this study (Baritz and Zissman, 1983). Second, they were asked to identify the antecedents of service loyalty, and to point out the attributes that reflected the consequences of service loyalty. For the participants in the service provider group, they were asked the similar questions. Besides, they were also asked to describe what loyal customers meant to the firm and to identify the factors that would contribute to the development of service loyalty.

Table 4.1: Description of Focus Group Participants Profile

Service provider group				Consumer group			
Name	*Age*	*Position*	*Industry*	*Name*	*Age*	*Position*	*Industry*
DL	22	Assistant Supervisor	Restaurant	CM	29	Project Assistant	Internet
AN	22	Assistant Supervisor	Restaurant	KW	30	Quality Surveyor	Building Construction
AL	40	Assistant Manager	Restaurant	LA	27	Marketing Executive	Food and Beverage
SP	25	Senior Supervisor	Banking	SK	25	Administrator	Insurance
SL	25	Personnel Banking Officer	Banking	EC	25	Business Specialist	Insurance
VT	25	Bank Teller	Banking	MC	21	Year 2 Degree Student	Education
				SS	23	Master Student	Education

Each participant was encouraged to express his/her ideas on the questions asked. The whole process of these two focus groups was tape-recorded. Then, the answers were analyzed with content analysis technique, which should be an appropriate research method for coding open-ended questions and grouping the ideas into the categories that would be used for further analysis (Krippendorff, 1980; Weber, 1990). Following the procedures suggested by Weber (1990), a transcript of conversations in 35 single-spaced pages was produced for conducting the coding procedures.

Basically, the first step of content analysis was to develop a "word-frequency list", showing the frequency of relevant key words that occurred in the text. Contextual classification was done as the next step for classifying and grouping the relevant key words into categories on the basis of similarity (Krippendorff, 1980). For the purpose of obtaining high level of reliability, coding was done by two different coders independently at the same time. Then, inter-coder reliability[6] was assessed to find out the extent of consensus between two coders. In order to improve the reliability of the content analysis, the coding process was conducted for three times until there was a consensus on the identified categories between the two independent coders with the score of inter-coder reliability that was 0.9 or higher (Hermann, 1999). Consequently, the score of inter-coder was 0.93 and two sets of "word-frequency list" were established for the customer group and service provider group separately with identified categories. Two sets of "word-frequency list" are shown in Appendix I.

4.3.2 Outcomes from Focus Group Study

Three major outcomes were obtained from the focus group discussion. Firstly, new attributes or items were identified for the measurement of service loyalty and perceived service quality. Secondly, perceived service quality and customer satisfaction, in fact, affected service loyalty. Thirdly, process-related service quality and outcome-related service quality should have different level of impact on service loyalty development. Therefore, the first outcome enriched the scales of service loyalty and perceived service quality with additional attributes or items. The next two outcomes helped to justify the research hypotheses that stated in Chapter 3.

[6] Inter-coder reliability = (no. of agreements) / (total no. of agreements + disagreements)

In the following parts, the generated findings are discussed with the quotations of the participants' ideas. In which the participants' name, gender, age, job position and the field of working service industry are displayed in each quotation correspondingly.

4.3.2.1 Additional attributes for the measure of service loyalty

According to the participants' ideas, the eight attributes that identified from literature were supported for the measure of service loyalty, named as repeat purchase behavior, word of mouth recommendation, period of usage, price tolerance, repeat purchase intention, preference, choice reduction behavior and cognition (first in mind). Participants mostly mentioned these terms or similar meanings as important means for determining service loyalty. For instance,

> *"If loyal customers are satisfied with the service provided by the original service company, they will think that there is no need to seek other alternatives. Also, loyal customers only remember the information that is important to them and that they want to know about the original service company. If they think that there is no need to search for other alternatives, they will ignore the information provided by the other companies."* – ***Choice Reduction Behavior*** *(SL, Female, aged 25, Personnel Banking Officer, Banking)*

> *"In consuming the restaurant dining service, those customers with high level of service loyalty will suggest the service staff what kind of food is not so good or which aspect should be improved. That means they will have some compliments to the service staff."* – ***Word-of-mouth Recommendation*** *(EC, Male, aged 25, Business Specialist, Insurance)*

> *"Service loyalty is describing the service provider who is the first one in my mind."* – ***First-in-mind*** *(MC, Female, aged 21, Year 2 Student, Education)*

"A loyal customer should not be price-oriented, as well as he should trust on the service staff's advice and will not argue with the service staff." – ***Price Tolerance*** *(SL, Female, aged 25, Personnel Banking Officer, Banking)*

In addition, two more attributes were identified for the measure of service loyalty, including *change tolerance* and *willingness to adopt service innovation*. The former means the extent of customer's sensitivity to any change made by the service company, for example, move the store to other places or change of opening hours, other than the price factor. As suggested by participants, a loyal customer would keep repetitive consumption of the service regardless of everything had been changed somewhat within an acceptance level of tolerance. Participants also claimed that customers would still keep loyal even though the change became relatively unsatisfactory. At least they would come again for trial and would seek for any improvement made by the service provider. As suggested,

"I think service loyalty is the situation that a customer keeps consuming the service, regardless of everything that has been changed somewhat. Practically, I think the change should be within an acceptance range. If the change is acceptable, the customer will still keep consuming the service provided by the same provider, and behaves as a loyal customer." – ***Change Tolerance*** *(LA, Male, aged 27, Marketing Executive, Food & Beverage)*

"Service loyalty is ultimately describing the situation that, even though the service provider cannot provide a customer with the expected stuff, he/she will still keep consuming the service provided by the same provider." – ***Change Tolerance*** *(KW, Male, aged 30, Quality Surveyor, Building Construction)*

The second additional attribute refers to the extent of customers' willingness on trying new services (or food) introduced by the service provider. It is believed that loyal customers should willing to try any new services recommended by the service providers. For instance, participants had clearly pointed out this situation:

> *"I think service innovation is very important. It means service providers should introduce some new services to keep the customers stay." – **Service Innovation** (CM, Female, aged 29, Project Assistant, Internet)*

In the interview with the service provider group, they also confirmed that these two additional attributes were important as the measures of service loyalty. For instance,

> *"If the environment of a restaurant or the chief cook has been changed, loyal customers will still come back for trial. If the experience is very poor, they will switch to other restaurants in the next time. Otherwise, they will stay." – **Change Tolerance** (AN, Male, aged 22, Assistant Supervisor, Restaurant Dining Service)*

> *"We will first recommend our newly introduced food to the customers when they come. Even though they usually query about the taste and quality in the first time, most of them will try the new food. If it is good, they will try again." – **Service Innovation** (AN, Male, aged 22, Assistant Supervisor, Restaurant Dining Service)*

> *"A real loyal customer will trust on the service staff's recommended new service and will not challenge them." – **Service Innovation** (VT, Male, aged 24, Bank Teller, Banking Service)*

4.3.2.2 Relationships among service quality, customer satisfaction and service loyalty

The relationships among service quality, customer satisfaction and service loyalty were described as participants thought that service quality and customer satisfaction might be the vital antecedents of service loyalty. For instance,

> *"Only those service companies have excellent performance perceived by the customers can make customers reach a high level of satisfaction. Then the ultimate outcome of high level of satisfaction is loyalty." (SS, Male, aged 23, Master Student, Education)*

> *"The formation of loyalty will depend on whether the service company can satisfy customers' wants or not. Therefore, customers will repeatedly consume the service from the same service company because it can keep delivery of high service quality for every transaction that customers are satisfied." (LA, Male, aged 27, Marketing Executive, Food & Beverage)*

4.3.2.3 Process-related elements and outcome-related elements are important to be comprised as a construct

Participants enhanced the idea that the measure of perceived service quality should comprise of both process-related elements and outcome-related elements because the quality of some services was difficult to be evaluated during the interaction process. Therefore, they claimed that outcome-based services (e.g. haircut and restaurant) were mainly evaluated on the basis of factors like the decoration, environment and the appearance of received outcomes. On the other hand, process-based services (e.g. tour service package and insurance) were mainly evaluated on the basis of factors during the interaction, like the contacted staff's manner and serving technique. This showed

that the evaluation on these two different categories of service industry, process-based services and outcome-based services, were different. Thus, this finding resulted that service quality instruments by incorporating process-related and outcome-related elements were essential to examine the differences between the impact of process-based services and outcome-based services on the development of service loyalty.

> *"I don't care the process of a haircut or who serve me, what I need is a good haircut." (EC, Male, aged 25, Business Specialist, Insurance)*

> *"……for repetitively purchasing a tour service package, I will base on my actual experience to choose the tour service company, it can be divided into process-related aspects, like the daily schedule, and outcome-related aspects, like the hotels and the food provided etc. So, the combination of both process-related and outcome-related elements are also important, but maybe in different level of impact." (LA, Male, aged 27, Marketing Executive, Food & Beverage)*

> *"Outcome-based service (haircut) is the service on which the customers evaluate on the basis of outcome or appearance. As the process-based service is difficult to evaluate on the basis of outcome, the cost is very high to switch to others. For example, customers will not easily switch to other doctors as there is no guarantee on healing. Here is the danger." (MC, Female, aged 21, Year 2 Student, Education)*

Participants also confirmed that restaurant dining service was one kind of outcome-based services as they often based on the taste and appearance of food to evaluate the quality of restaurant dining service and the food quality was very important to determine the intention of repetitive consumption on the same restaurant. These showed that the basic determinant to evaluate dining service was the outcome-related elements, like food quality. On the other hand, the participants confirmed that phone-

banking service was one kind of process-based services as they mainly focused on the interaction process with the customer service officer to evaluate the phone-banking service, indicating phone-banking service was largely determined by the process-related elements, like the response time and manner of the customer service officer.

To conclude, from the participants' ideas, antecedents and measures of service loyalty that had been identified through literature review as stated previously were confirmed and they also generated with two additional attributes for the measure of service loyalty. In addition, they enriched the scales of perceived service quality and enhanced the understanding of research hypotheses that stated in this study.

4.4 Survey Instruments

According to the ideas and suggestions from the in-depth interviews with the participants in focus groups, survey instruments for perceived service quality, customer satisfaction and service loyalty were established. The lists of these survey instruments are shown in Appendix II. All the items were measured with 7-points Likert scale from strongly disagree (1) to strongly agree (7). For the items that the respondents did not utilize or familiar with, they were given the choice to mark as "Not Applicable" (NA).

4.4.1 Perceived Service Quality

Consistent with the extant literature (Luk, 1999; Smith, 1999; Stank et al., 1999), the measure of perceived service quality should be incorporated two sets of elements:

process-related and outcome-related elements in this study. Therefore, the process-related elements in the measure of perceived service quality were adapted from the original SERVPREF scale (Cronin and Taylor, 1992). On the other hand, the outcome-related elements of perceived service quality were mainly drawn from the DINESERV scale developed by Stevens et al. (1995) that measured the service quality of dining services.

In order to have a more valid and accurate measure, items of the perceived service quality scale was presented to accommodate the distinctive features of phone-banking service and restaurant service according to the suggestions by the participants in focus groups discussion. As a result, one additional item of process-related elements was identified for the measure of perceived service quality, it was "in emergencies, the service staff can make arrangement to assist customers". In addition, four additional items of outcome-related elements were also identified for the measure of perceived service quality. These included "the incentive given is attractive"; "the waiting time for the service is acceptable"; "the time cost in having the service is low" and "the benefits really meet the customers' expectations".

According to the argument on the use of SERVQUAL in Chapter 2, it was important to note that the performance-based approach was used for measuring perceived service quality in this study, in which only the customer's perceptions on the performance of service providers were collected.

4.4.2 Customer Satisfaction

As discussed before, customer satisfaction was measured in an overall global perspective, because it was empirically suggested that overall or aggregate

satisfaction performed better on predicting its effect on loyalty when compared to transaction-specific satisfaction (Dubé and Maute, 1996; Garbarino and Johnson, 1999; Jones and Suh, 2000; Oliver, 1999). Similarly, Johnson (1998) recommended that cumulative customer satisfaction with the use of performance based approach in assessing perceived service quality could be more powerful to predict loyalty. Therefore, the measure of customer satisfaction in this study was adapted from the well-established scale that developed by Taylor and Baker (1994), in which it served as direct global measures of customer satisfaction.

4.4.3 Service Loyalty

For the measure of service loyalty, it was based on the ten attributes that were identified through literature review and focus group discussion. The ten attributes used for measuring service loyalty were repeat purchase behavior, word of mouth recommendation, period of usage, price tolerance, repeat purchase intention, preference, choice reduction behavior, first in mind, change tolerance and willingness to adopt service innovation, resulting into 13 items to reflect the consequences of service loyalty.

4.5 Refinement of the Instruments

After that, a pilot study with a small sample of 100 respondents was conducted with the structured questionnaire. Generally, this stage serves three purposes: 1) detecting any weaknesses in the survey instruments; 2) deleting any items that are not relevant to the present study; and 3) testing the applicability of the scales.

4.5.1 Pilot Study

The survey questionnaire was first pre-tested to ensure the questions were understood by potential respondents, so as to maintain a high level of face or content validity (Churchill, 1979). This was achieved by selecting a panel of expert judges for their comments on the questions. The panel included three professors in Marketing, three postgraduate students with major in Marketing, two managers from a local bank and restaurant respectively, and four participants from the general public. The primary requirement for selecting such a panel of expect judges was that they might have experience in consuming phone-banking service and Western restaurant dining service. They were asked to identify the questions or items that were not clear to them and to make suggestions for modifying the items, in order to increase clarity and comprehension. From their comments, some of the statements were rephrased to ensure that the potential respondents would understand the questions. After that, the whole questionnaire was translated into Chinese by expert translators for easy readiness of local respondents. Since part of the target respondents may not be local Chinese, both questionnaires for phone-banking service and restaurant dining service were presented in bilingual language with both Chinese and English.

A pilot test was then undertaken for phone-banking service and restaurant dining service separately. Potential respondents were required to have experience in consuming these two services at least twice in the last three months. This ensured that they had fresh memory to complete the questionnaire. A total of 100 respondents were recruited for this pilot study with convenience sampling method. They were all part-time postgraduate students at a major university (The Hong Kong Polytechnic University) in Hong Kong. Among a total of 100 completed questionnaires, 46

questionnaires were collected for phone-banking service while 54 questionnaires were collected for restaurant dining service. In fact, Jones and Suh (2000) suggested that students were common to use as sample when testing theoretical frameworks. It was appropriate to use postgraduate students rather than undergraduate students for the pilot study because postgraduate students worked at daytime. Thus, it is believed that most of them are more familiar with the sampled services.

4.5.2 Findings from Pilot Study

After the completion of pilot study, the degree of significant contribution of items was investigated through correlation matrix. The correlation matrices of perceived service quality and service loyalty are presented in Appendix III. According to the correlation matrices, some items were statistically suggested to be deleted due to the problem of either highly correlation (i.e. >0.50) or insignificant correlation at the 0.05 significant level with most of the other items within the same construct (Churchill, 1979; Hinkin et al., 1997; Parasuraman et al., 1988). Items with very high correlation among others indicate the problem of multicollinearity, showing that their variances to explain the construct can be replaced by other items, whereas insignificant correlation indicates that those items are not generated for the appropriate construct (Hinkin et al., 1997). Therefore, five items for perceived service quality and two items for service loyalty were dropped for the mass data collection due to the overlapping of meaning and less contribution on capturing the domain of underlying construct, consistent to the comments of the "expert judges" in the pretest. The seven deleted items are labeled as "Deleted" in the lists of survey instruments in Appendix II. As a result, twenty-six items were retained for the measure of perceived service quality, and eleven items were retained for the measure of service loyalty.

After the refinement of instruments via the pilot test, the questionnaire was constructed. Besides the multiple items representing perceived service quality, customer satisfaction and service loyalty were constructed, the questionnaire also contained a series of questions designed for collecting the personal demographic information of the respondents. The finalized questionnaires used for the mass data collection are attached in Appendix IV.

4.6 Sampling Method of Large-Sample Survey

In the second stage, a field survey was conducted to collect data from individual customers in the general public. It is believed that those persons with working experience are the regular users of phone-banking service and Western restaurant dining service, and they should be mature enough to answer the questions asked in the questionnaire. Therefore, the target respondents were initially the customers who worked in any service industries. Hence, this study was performed in the form of mail survey with systematic sampling method. Aiming to reach the appropriate survey targets, a systematic probability sample was taken from the mailing lists that were freely offered by the Trade Development Council (TDC) via internet. The database of TDC originally contained 100,000 business contacts in Hong Kong, including 27 types of service industries. Mailing lists were systematically selected among 27 types of service industries. Consequently, the total population was 2,673 respondents, diversifying into 13 different nature of service industries in Hong Kong, which is shown in Table 4.2.

Table 4.2: Sampling Frame

Service Industries	Population
Accounting	462
Advertising & Market Research	451
Architecture & Planning	195
Business Management & Consultancy Services	448
Education & Training	197
Event Organization	149
Financial Institutes (excludes Banking)	130
Insurance	100
Media	58
Public Relations	61
Real Estate	98
Surveying & Quality Inspection / Testing	166
Telecommunication Services	115
Tourism	43
Total	**2673**

Potential respondents for phone-banking service and Western restaurant dining service were systematically selected through the following procedures: Odd number of potential respondent in each mailing list was selected for the survey on phone-banking service whereas even number was selected for the survey on Western restaurant dining service. In order to avoid respondents' bias of favoring their own service companies, potential respondents from financial service industry excluded those working in retail banking service industry. The same treatment was applied to

recruit respondents for Western restaurant dining service. No matter the mailing address belonged to a corporation with large number of staff or a one-man business, only the assigned contact person in the mailing lists received the questionnaire with a covering letter, and it was declared in the covering letter that only his/her personal opinion on the questionnaire items were collected.

Sample size plays a vital role in obtaining robust results for statistical analysis (Hinkin et al., 1997). Aiming to develop a scale of service loyalty, the sample collected is expected to split into two independent samples for exploratory factor analysis and confirmatory factor analysis separately. As a result, the sample size in this study should consider the adequacy requirement for conducting both exploratory factor analysis and confirmatory factor analysis.

Regarding the adequacy of the sample size for exploratory factor analysis, the recommended limit should be 10 to 1 ratio of observations to item (Hair et al., 1995). As the maximum number of items in the construct of service loyalty was 13 items in this study, the required sample size of this study should be minimum 130 samples for exploratory factor analysis. Such sample size was appropriate in the marketing research area to purify the initial instruments (Knutson et al., 1991; Stevens et al., 1995). For confirmatory factor analysis, a recommended sample size to assess model estimation should around 200 (Hair et al., 1995; Hinkin et al., 1997). Therefore, the total sample size should over 330, and this should be the guideline for collecting the data in the large-sample survey.

4.7 Data Collection

Two sets of questionnaire, one for phone banking service and the other for Western restaurant dining service, with a covering letter and a postage-paid reply envelope, were mailed to a total of 2673 potential respondents according to the sampling frame described in the previous section.

Data collection was conducted within three months and any questionnaire returned later than this period was not used for analysis. A total of 572 completed questionnaires were collected, representing a response rate of 21.40%. Among them, 553 questionnaires were returned with the attached postage-paid reply envelope and 19 questionnaires were returned by fax. Of these 572 returned questionnaires, 15 were invalid and excluded for analysis. They were considered as invalid for the following reasons: One questionnaire was returned by fax with missing pages, two questionnaires were returned by respondents who claimed that they had no interest in participating the survey and twelve questionnaires were answered incompletely. Finally, a total of 557 usable questionnaires were received, representing a usable response rate of 20.84%. This response rate is considered as acceptable and seems to be reasonable in the real business community (Dorsch et al., 1998; Duhan and Wilson, 1990; Hunt, 1990).

This sample size is sufficiently large for statistical analysis. From the statistical point of view, splitting the sample into two sub-samples whose size is still adequate for exploratory factor analysis, confirmatory factor analysis and structural equation modeling technique (Anderson and Gerbing, 1988; Hair et al., 1995; Hu and Bentler, 1995).

4.8 Descriptive Statistics

4.8.1 Demographic Profile of the Sample

As shown in Table 4.3, of the 557 returned questionnaires, 258 (46.3%) were collected from the phone-banking service and 299 (53.7%) were collected from the Western restaurant dining service. This shows that the distribution of respondents between two different service industries is quite even and reliable to have comparison between these two samples via structural equation modeling procedures. Both male and female respondents are evenly distributed with the percentage of 47.4 and 52.4 respectively. For the whole sample, 73.2% respondents fall in the age range of 26 to 45, and 51.9% have completed tertiary/university degree or above. In term of occupation, 25.1% work in the position of manager, 23.2% work as professional and 15.6% work in the clerical level. In term of monthly income, 51.4% of respondents have monthly income ranging from $15,001 to $45,000 and 20.6% of respondents have monthly income over $45,000.

4.8.2 Test of Non-Response Bias

Using mailing survey as data collection method, non-response bias is a problem that should be considered when the response rate is less than 65%-75% (Dorsch et al., 1998; Hunt, 1990). A low response rate represents the proportion of non-respondent is much larger than that of respondent, thus bias may exist by ignoring the ideas of non-respondents if there are significant difference between the characteristics of non-respondents and respondents (Scott, 1961). Even though 20.84% response rate of this

study is reasonable and acceptable in real life surveys, non-response bias should be tested.

Table 4.3: Demographic Profile of Respondents

Type of Service	No. of Respondents (N = 557)	%
Banking	258	46.3
Western Restaurant	299	53.7
Sex		
Male	264	47.4
Female	292	52.4
Missing	1	0.2
Age		
25 or below	72	12.9
26 – 35	219	39.3
36 – 45	189	33.9
46 – 55	64	11.5
56 or above	9	1.6
Missing	4	0.7
Educational Level		
Primary or below	10	1.8
Secondary	127	22.8
Post-secondary	45	8.1
Diploma/High Diploma/Certificate	85	15.3
Tertiary/University	219	39.3
Postgraduate or above	70	12.6
Missing	1	0.2
Occupation		
Clerk	87	15.6
Salesperson	14	2.5
Student	12	2.2
Marketing Executive	37	6.6
Manager	140	25.1
Professional	129	23.2
Self-employed	77	13.8
Others	60	10.8
Missing	1	0.2
Monthly Income		
$15,000 or below	149	26.8
$15,001 - $30,000	202	36.3
$30,001 - $45,000	84	15.1
$45,001 - $60,000	49	8.8
$60,001 or above	66	11.8
Missing	7	1.3

Two different methods of estimation were performed to detect the existence of non-response bias. Firstly, the respondents and the non-respondents were compared with the "known" information that was obtained from the sampling frame (Armstrong and Overton, 1977; Blackwell et al., 1999; Kanuk and Berenson, 1975; Scott, 1961). The mailing lists of this study provided readily useful variables in terms of receiver's gender, service sector and number of employee. In order to identify the characteristics of non-respondents, Scott (1961) suggested that incomplete responses or undeliverable responses could be assumed as a sample of non-respondents. Thus, those 15 invalid questionnaires in the survey, together with those questionnaires were returned as undeliverable, were used to identify the characteristics of non-respondents in terms of receiver's gender, service sector and number of employee. Chi-square test was employed to test whether there would be significant differences between respondents and non-respondents on the basis of gender and service sector. Similarly, two independent samples t-test was employed to test the mean difference between these two groups on the basis of number of employee. Both chi-square test and two independent samples t-test show that there is no significant difference between respondents and non-respondents in terms of gender, service sector and number of employee at the 0.05 significance level.

The second method for estimating non-response bias was known as "extrapolation" method (Armstrong and Overton, 1977; Scott, 1961). It was based on the assumption that those respondents who responded late were expected to be similar to non-respondents, so as to identify non-response bias by comparing the answers of early respondents and late respondents. According to the procedures mentioned in the relevant literature (Dorsch et al., 1998; Kanuk and Berenson, 1975; Li and Cavusgil, 1999; Sharma and Lambert, 1990), the whole sample was divided into two groups,

namely early respondents and late respondents. Therefore, the sample of 557 respondents was split into two groups on the basis of the received date chronologically, in which the first 50% of returned questionnaires were defined as the group of early respondents and the last 50% were considered as late respondents (Kanuk and Berenson, 1975). Two independent samples t-test was then employed to determine any significant difference in the mean composite score of perceived service quality, customer satisfaction and service loyalty between early respondents and late respondents. The results show that there is no significant difference at the 0.05 significance level between early respondents and late respondents in all mean composite scores of three constructs.

Armstrong and Overton (1977) strongly recommended that a combined method could provide better estimate of non-response bias. Thus, this study follows the combined method suggested by literature in testing the existence of non-response bias. Consequently, the findings of above methods indicated that non-response bias did not appear as a significant problem in this study.

4.8.3 Test of Normality

In order to implement the methodology for testing structural equation model, the assumption of multivariate normal distribution must be satisfied (Hoyle and Panter, 1995; West et al., 1995). When these assumptions are not met, there is no guarantee to ensure that the estimated parameters are asymptotically unbiased and efficient (West et al., 1995).

Statistically, Shaprio-Wilks' test and Lilliefors test (a modification of the Kolmogorov-Smirnov test) are suggested to test the hypothesis that the data are

collected from a normal distribution (Hair et al., 1995; Norušis, 1993). However, these two tests are considered as inappropriate when the sample size is large. This is because they are similarly testing whether if the data are "exactly" normal-distributed, making both tests result in rejecting the assumption of normal distribution (Hair et al., 1995). In reality, it is impossible to find data that are exactly normally distributed. Therefore, it is more appropriate to look at the actual departure from normality of the measured items (Norušis, 1993). In which it is assumed that if all the individual items appear to be normally distributed, the overall sample distribution is multivariate normal (Noronha, 1999).

For checking the extent of the actual departure from normality of each measured item, values of skewness, kurtosis, mean and standard deviation of total 42 measured items were computed (Hair et al., 1995; Lai, 1999; Li and Cavusgil, 1999; Norušis, 1993; Stevens et al., 1995; West et al., 1995). Skewness is a measure of a curve's deviation from symmetry (Hair et al., 1995). Positive skewness (toward the left) indicates the curve is above the normal diagonal while negative skewness (toward the right) indicates the curve is below the normal diagonal. The skewness values of the measured items range from -1.08 to -0.17, indicating a reasonably symmetric curve with scores somewhat clusters just to the right of the normal diagonal for all measured items. This situation can also be noticed by looking at the mean values, which range from 3.97 to 5.38, indicating the answers of respondents were slightly toward the favorable side.

Kurtosis is a measure of the peakedness of the curve, compared with the normal distribution (Hair et al., 1995). Positive kurtosis indicates the distribution is more peaked than the normal curve while negative kurtosis indicates the distribution is less

peaked than the normal curve. The kurtosis values for measured items in this study range from -0.79 to 1.17 indicating that the curve is slightly deviated from a perfectly normal distribution. As all values of skewness and kurtosis are smaller than the absolute value of 1, except the item "Operating hours of the services are convenient to customers", the data obtained from the sample are not considered to be deviated from normality and the existence of problems with a non-normal distribution does not appear to be significant (Ferrando and Lorenzo-Seva, 2000). In summary, the findings of skewness, kurtosis, mean and standard deviation of the measured items are presented in Appendix V.

4.9 Chapter Summary

The qualitative and quantitative research methods used in this study had been done through three stages: Item Generation, Scale Development and Models Validation. For the first stage, this Chapter had discussed the procedures of generating items for the scales of perceived service quality and service loyalty with focus group and pilot study. The findings of item generation were obtained for constructing questionnaires that were used in the mass data collection. At the later part of this Chapter, descriptive statistics of sample obtained from mass data collection were resulted. In a nutshell, the data collected from the sample were free from non-response bias, and met the normality requirement. These supported the use of this data set for multivariate statistical analysis in the next two stages.

5.1 Chapter Introduction

The common approach for scale development is conducting exploratory factor analysis and confirmatory factor analysis simultaneously to validate the scale (Friendly, 1995; Hinkin et al., 1997). In this study, exploratory factor analysis was first conducted to identify the underlying dimensions of construct, and confirmatory factor analysis was conducted to confirm the dimensionality of the constructs with the use of AMOS 4.0 causal modeling technique. Structural equation modeling technique was then employed to assess the relationships among the constructs and then to test the hypotheses because of its advantages in providing comprehensive assessment of proposed models, and in offering great potential for further model development and testing (Anderson and Gerbing, 1988).

Following the procedures as suggested by Friendly (1995), the whole sample (N_{all} = 557) collected from the survey was randomly split into halves, resulting into two independent samples namely sample 1 (N_1 = 278) and sample 2 (N_2 = 279). The first half (i.e. sample 1) was used for exploratory factor analysis whereas the second half (i.e. sample 2) was used for confirmatory factor analysis. As the constructs of perceived service quality and customer satisfaction employed in this study were well-established and were adapted from literature, only the construct of service loyalty needed to be assessed for its content adequacy through exploratory factor analysis. Therefore, a factorized structure of service loyalty was first developed through employing exploratory factor analysis to determine the items that could represent the domain of service loyalty. The measurement models of three latent constructs were then validated through confirmatory factory analysis. Next, the proposed structural

model was evaluated through structural equation modeling technique to examine the relationships among perceived service quality, customer satisfaction and service loyalty with the use of sample 2. After that, this study had found out the differences in creating high level of service loyalty between phone-banking service and Western restaurant dining service.

The proposed structural model with the relevant hypotheses is shown in Figure 5.1. The solid arrows between constructs indicate the direct effect from one construct to another as stated in hypothesis (2) and hypothesis (3). The dotted arrow between perceived service quality and service loyalty indicates the direct effect from perceived service quality to service loyalty as described in hypothesis (4).

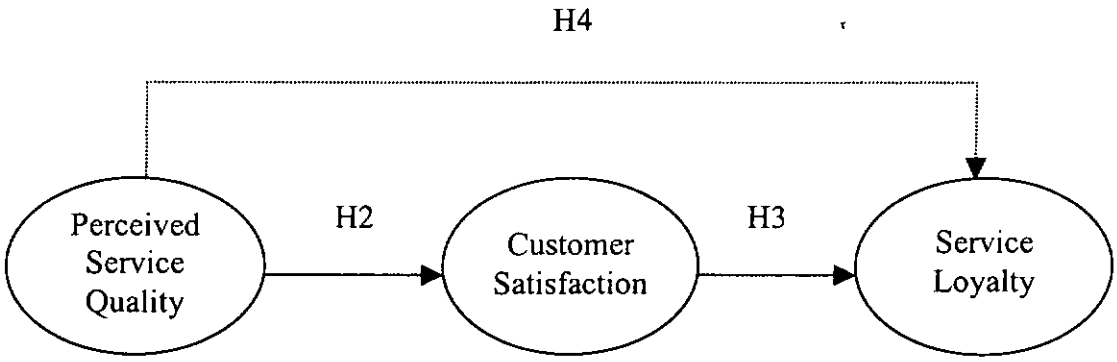


Figure 5.1: The Proposed Integrated Model with the Relevant Hypotheses

Prior to performing any statistical analysis, the treatment of missing value is discussed in section 5.2 of this chapter. Discussion of the results of exploratory factor analysis with the use of Cronbach's Alpha test is presented in section 5.3. Section 5.4 and 5.5 present the results of model estimation and evaluation for the measurement models and the proposed structural model respectively. The results of construct reliability and

construct validity are also discussed in terms of convergent validity and discriminant validity. Section 5.6 provides the results of the hypothesis test. Finally, a brief summary of this chapter is provided in section 5.7.

5.2 Treatment of Missing Values

The impact of missing values should be considered before performing any statistical analysis. It should ensure that the number of missing value in an individual item should not be too large. In this study, the maximum number of missing value for an individual item was only 4 cases out of 557 cases. This indicated that the statistical analysis would not suffer serious problem from the present of little missing data. As suggested by researchers (Hair et al., 1995; Norušis, 1993), the missing values were replaced by the overall mean, so as to avoid the loss of much useful information.

5.3 Exploratory Factor Analysis

Exploratory factor analysis was first performed to identify the initial underlying dimensions of service loyalty with the use of sample 1 (N_1 = 278). Principal component extraction method with Varimax rotation was used, as well as the eigenvalues greater than unity was used as the cutoff point to identify the factor structure. Another criterion for identifying the factor structure laid on the total variance explained after extraction, that should be over the minimum acceptable level recommended by Hinkin et al. (1997), i.e. 60%. For the subsequent factor structure, a factor loading higher than 0.40 was employed to identify the composites of each

factor as meaningful and significant, as this level was commonly used by researchers (Ford et al., 1986; Hinkin et al., 1997).

5.3.1 Factor Structure of Service Loyalty

The test of KMO yields a value of 0.87, and the Barlett's test of sphericity yields a value of 1217.32 with an associated significance of 0.00, indicating that the data set is adequate for factor analysis and suggesting that the correlations matrix is unlikely an identity matrix (Hair et al., 1995). A 3-factor solution is extracted with the total variance of 64.86%. These three factors are defined as *behavior, attitude* and *cognition*, according to the meaning of the items that load on each of these factors. The factor structure, as presented in Table 5.1, is supported by the recent conceptual theory (Oliver, 1999; Sivadas and Baker-Prewitt, 2000), suggesting service loyalty should be composed of cognitive loyalty, attitudinal loyalty and behavioral loyalty.

Cronbach's alpha reliability test was then performed to test the internal consistency of each factor (Churchill, 1979; Hair et al., 1995; Knutson et al., 1991; Stevens et al., 1995). The Cronbach's alpha values of behavior, attitude and cognition are 0.82, 0.65 and 0.82 respectively. The values of behavior and cognition exceed the suggested cutoff value of 0.70, revealing an acceptable level of reliability (Nunnally, 1978). Although the attitudinal dimension is marginally below the suggested cutoff line, it is over 0.60 that is still considered as adequate (Dean, 1999).

Table 5.1: Results of Factor Analysis for the Dimensions of Service Loyalty (N = 278)

Items (version of dining service)	Factor Loadings	Cronbach's alpha (α)
Behavior		
1. There is a very high probability that you will dine at this restaurant again.	0.72	
2. You have recommended other people to patronize this restaurant.	0.80	
3. You will say positive thing to other people about the service provided by this restaurant.	0.80	**0.82**
4. You will give positive feedback to this restaurant.	0.63	
8. You will try the new food or drinks that are recommended by this restaurant.	0.46	
Attitude		
5. You will continue to dine at this restaurant even if the price or service charge is increased somewhat.	0.66	
6. You have strong preference on this restaurant.	0.50	**0.65**
7. You will keep dine at this restaurant, regardless of everything being changed somewhat.	0.85	
Cognition		
9. This restaurant is the first choice in your mind when you consider to have dinner outside.	0.81	
10. Assumed that you have only three choices when you are in need of having dinner, this restaurant must be one of them.	0.81	**0.82**
11. You have regularly dined at this restaurant for a long period of time.	0.82	

Therefore, the attitudinal dimension is retained as a reliable measure of service loyalty because the items contribute significantly to this dimension and result in high item-to-total correlation. In fact, the three items loading on the attitudinal dimension have the factor loading exceeding 0.40 as shown in Table 5.1, showing that those items perform satisfactory to group as meaningful construct in the preliminary stage (Ford et al., 1986; Hair et al. 1995; Hinkin et al., 1997).

5.4 Evaluation of the Measurement Models

The two-step modeling procedures, recommended by Anderson and Gerbing (1988) were followed to evaluate the proposed structural model with the use of sample 2 (N_2 = 279). In the first step, each of the three measurement models was evaluated separately with the use of confirmatory factor analysis to assess the internal and external consistency for each set of items at the level of first order constructs. Next, each first order construct was transformed into composite score for estimating the measurement model at the second order level. For the confirmatory factor analysis, full-information estimation approach – maximum likelihood (ML) method was employed for estimating the parameters of measurement models in this study.

In the second step, the proposed structural model was estimated with the prescribed relationships between the fixed measurement models. These two-step modeling procedures is preferred as it can avoid the interactions among measurement models and the overall structural model, by reducing the chance for one model with poor fit to be compensated by another model with good fit (Anderson and Gerbing, 1988; Hair et

al., 1995). In this section, the findings of evaluating the measurement models are first discussed. Then, the findings of evaluating the proposed structural model are discussed in section 5.5.

The procedures of confirmatory factor analysis for evaluating the measurement models at the first-order level as well as those at the second-order level are described in the following subsection 5.4.1 and section 5.4.2 respectively. In which the procedures of assessing reliability and validity of each scale for all measurement models at both first order and second order level are also described in terms of construct reliability, convergent validity and discriminant validity (Hair et al., 1995). Construct reliability is a measure of the internal consistency of the construct items (Hair et al., 1995). Convergent validity refers to the extent to which the measures used in this study are highly correlated with other different measures of the same construct (Anderson and Gerbing, 1988; Hinkin, et al., 1997; Fornell and Larcker, 1981; van Birgelen et al., 2000). Discriminant validity refers to the degree of measures in conceptually different constructs are distinct with very low or even no correlation (Fornell and Larcker, 1981; Hinkin et al., 1997; Li and Cavusgil, 1999; van Birgelen et al., 2000).

5.4.1 Confirmatory Factor Analysis at the First Order Level

At the first order level, there are three measurement models of perceived service quality, customer satisfaction and service loyalty as presented in Figure 5.2, Figure 5.3 and Figure 5.4 respectively.

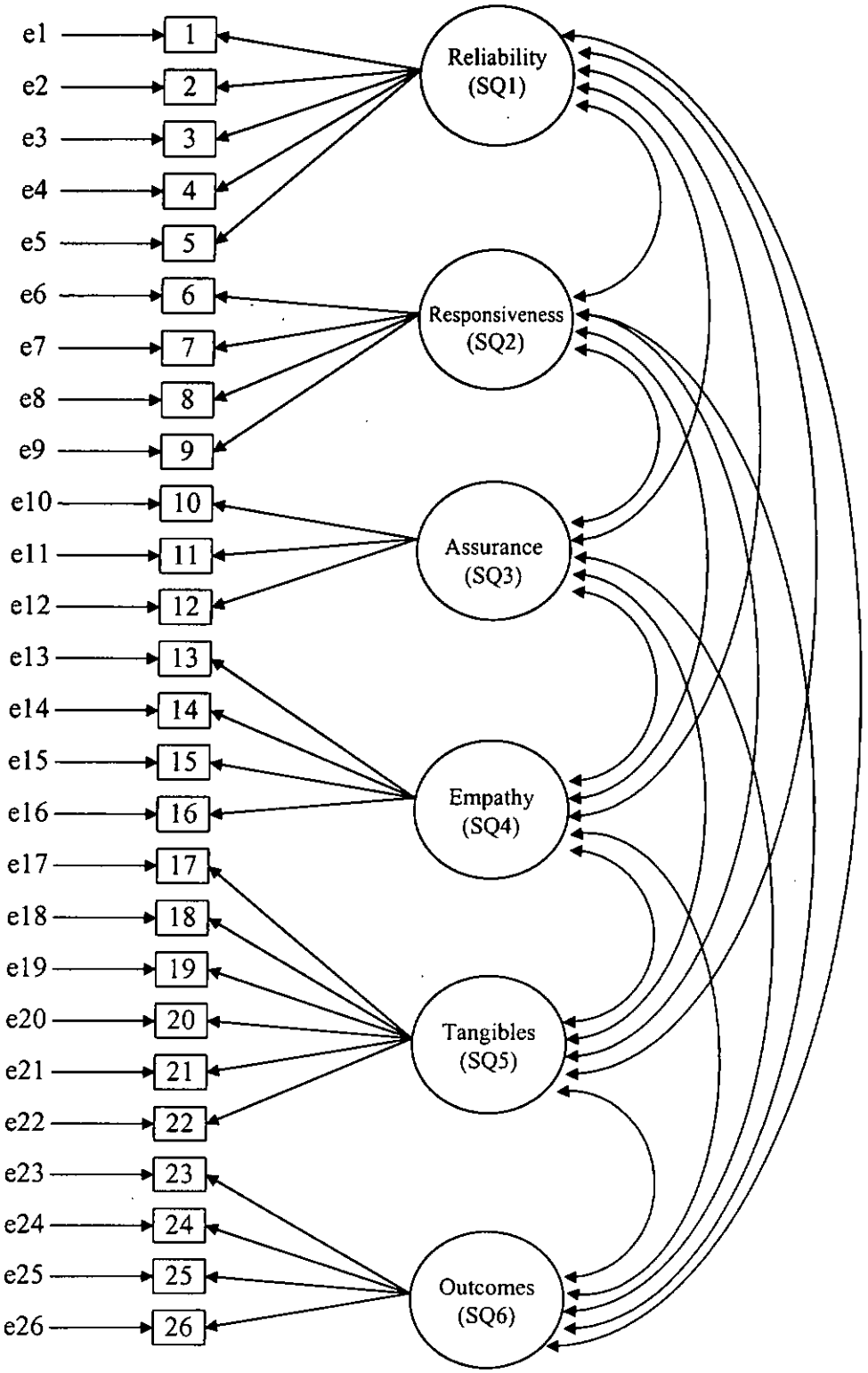


Figure 5.2: The Measurement Model for Perceived Service Quality (At First Order Level)

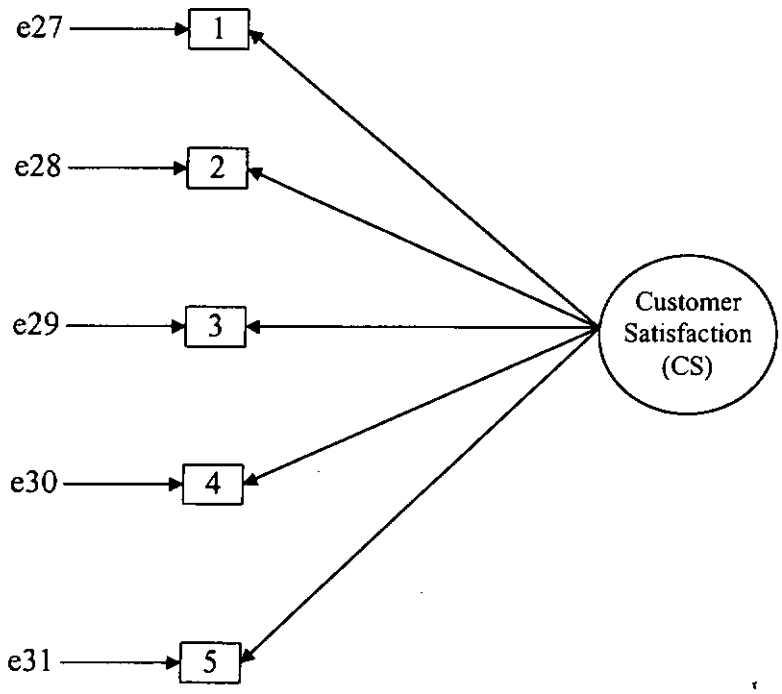


Figure 5.3: The Measurement Model for Customer Satisfaction (At First Order Level)

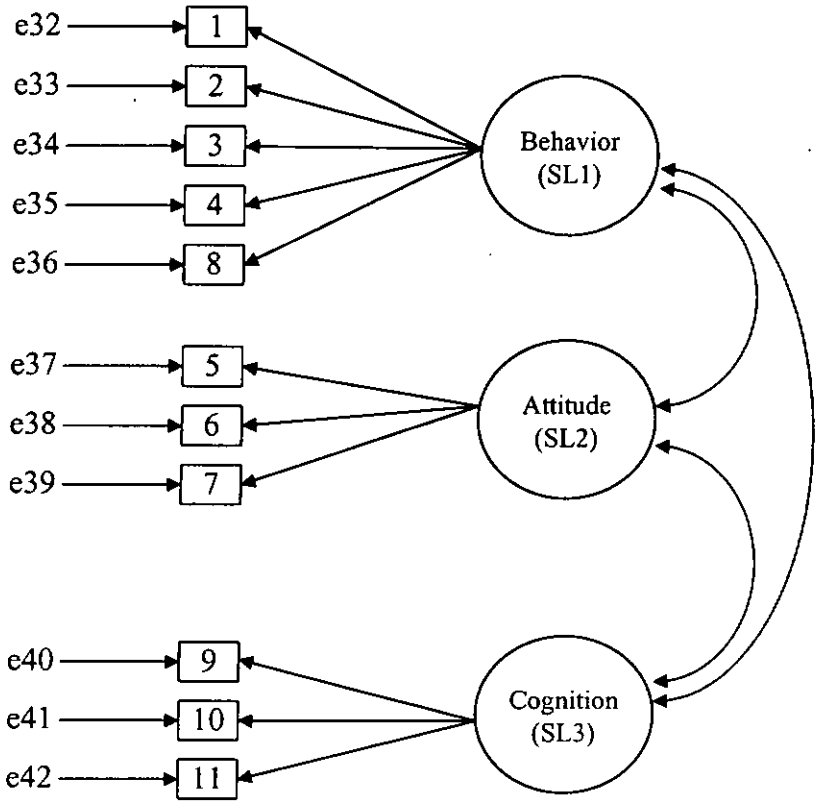


Figure 5.4: The Measurement Model for Service Loyalty (At First Order Level)

In the confirmatory factor analysis, all forty-two questionnaire items were forced to load on their corresponding first order factors among the underlying constructs on the basis of literature and the results obtained in exploratory factor analysis. Each item, represented by a rectangular box, was specified with an error term (e1 to e42) that involved measurement error, systematic unique variance components and random error (Arbuckle, 1997; Armstrong and Tan, 2000). In order to cope with identifiability, one of the paths for each construct was constrained to 1 (Noronha, 1999). All first order factors were allowed to correlate freely in each of these three measurement models. However, the unique error terms were assumed to be uncorrelated with each other and with the underlying common latent variable (Anderson and Gerbing, 1988; Bagozzi and Yi, 1988; Hughes et al., 1986).

The results of confirmatory factor analysis of these three measurement models at the first order level are presented in Table 5.2, Table 5.3 and Table 5.4 respectively. All forty-two items attach with a critical ratio that greater than 1.96 at the 0.05 significance level, and most of them have a high standardized estimated loading (i.e. larger than 0.50) on the relationship with the underlying construct, indicating that the items are statistically significant in measuring the corresponding first order construct (Arbuckle, 1997).

Table 5.2: Results of Confirmatory Factor Analysis on the Measurement Model for Perceived Service Quality at the First Order Level

Parameters	Standardized Estimate	Standard Error	Critical Ratio**	Error Term	Critical Ratio of Variance**	Variance Estimate of Error Term
SQ1					6.29	***0.78***
1*	0.70	--	--	e1	10.18	0.80
2	0.79	0.11	11.88	e2	9.55	0.73
3	0.79	0.10	11.92	e3	9.58	0.68
4	0.74	0.09	11.11	e4	10.05	0.64
5	0.66	0.09	9.90	e5	10.28	0.82
SQ2					7.10	***1.08***
6*	0.76	--	--	e6	9.98	0.79
7	0.74	0.08	12.49	e7	10.41	0.77
8	0.81	0.07	13.78	e8	9.55	0.53
9	0.71	0.08	11.79	e9	10.67	0.89
SQ3					9.27	***1.34***
10*	0.89	--	--	e10	7.61	0.35
11	0.80	0.05	17.04	e11	10.06	0.55
12	0.77	0.05	15.99	e12	10.21	0.68
SQ4					8.16	***1.51***
13*	0.83	--	--	e13	8.96	0.70
14	0.88	0.06	17.04	e14	7.44	0.48
15	0.81	0.06	15.40	e15	9.19	0.69
16	0.42	0.08	6.91	e16	11.49	1.91
SQ5					5.61	***0.86***
17*	0.63	--	--	e17	10.87	1.30
18	0.45	0.09	6.67	e18	11.15	1.26
19	0.68	0.09	9.61	e19	10.51	0.82
20	0.59	0.09	8.62	e20	11.02	1.00
21	0.57	0.08	8.41	e21	11.15	0.86
22	0.52	0.11	7.50	e22	10.75	1.49
SQ6					5.02	***0.52***
23*	0.57	--	--	e23	11.30	1.08
24	0.68	0.13	8.98	e24	10.94	0.84
25	0.70	0.14	9.20	e25	10.74	0.84
26	0.69	0.15	9.00	e26	10.66	1.02

* The corresponding parameter was constrained to unity (1.00) to ensure model identification

** Significant at the 0.05 significance level

Table 5.3: Results of Confirmatory Factor Analysis on the Measurement Model for Customer Satisfaction at the First Order Level

Parameters	Standardized Estimate	Standard Error	Critical Ratio**	Error Term	Critical Ratio of Variance**	Variance Estimate of Error Term
CS					8.45	***1.00***
1*	0.83	--	--	e27	10.32	0.44
2	0.91	0.06	19.98	e28	8.51	0.25
3	0.88	0.06	18.77	e29	9.55	0.31
4	0.88	0.06	18.71	e30	9.59	0.31
5	0.91	0.05	19.70	e31	8.81	0.24

* The corresponding parameter was constrained to unity (1.00) to ensure model identification

** Significant at the 0.05 significance level

Table 5.4: Results of Confirmatory Factor Analysis on the Measurement Model for Service Loyalty at the First Order Level

Parameters	Standardized Estimate	Standard Error	Critical Ratio**	Error Term	Critical Ratio of Variance**	Variance Estimate of Error Term
SL1					6.73	***1.13***
1*	0.72	--	--	e32	10.47	1.04
2	0.87	0.09	13.92	e33	7.75	0.56
3	0.87	0.08	13.87	e34	7.91	0.46
4	0.63	0.09	10.10	e35	10.99	1.40
8	0.59	0.07	9.40	e36	11.13	1.03
SL2					6.55	***1.32***
5*	0.75	--	--	e37	7.92	1.01
6	0.63	0.08	9.33	e38	9.97	1.23
7	0.62	0.08	9.21	e39	10.08	1.20
SL3					8.94	***1.89***
9*	0.88	--	--	e40	6.46	0.53
10	0.92	0.06	19.03	e41	4.57	0.39
11	0.70	0.07	13.37	e42	10.70	1.76

* The corresponding parameter was constrained to unity (1.00) to ensure model identification

** Significant at the 0.05 significance level

5.4.1.1 Overall Model Fit of Measurement Models at the First Order Level

When considering the extent of goodness-of-fit of each measurement model, Chi-square test (χ^2) was first employed to evaluate model fit (Bagozzi and Yi, 1988; Hu and Bentler, 1995). In the χ^2 test, model fit appears unacceptable for the measurement models of perceived service quality (χ^2 = 944.62, d.f. = 284, p = 0.00), customer satisfaction (χ^2 = 38.26, d.f. = 5, p = 0.00) as well as service loyalty (χ^2 = 118.06, d.f. = 41, p = 0.00). Even though the Chi-square statistics for three measurement models are statistically significant with the significance level of 0.00, they should not be rejected for model fit (Anderson and Gerbing, 1988). This is because the significant results of χ^2 test are expected when there are a large number of variables in a model (Baggozi and Yi, 1988; Walter et al., 2000), or a model being evaluated with a large sample size (Anderson and Gerbing, 1988).

In fact, the use of χ^2 is not a satisfactory test for goodness-of-fit of a model with a large sample size because the result of χ^2 test is very sensitive to sample size, resulting the rejection of a model even there is only small discrepancies and thus making all good fit models indicate a poor fit (Anderson and Gerbing, 1988; Armstrong and Tan, 2000; Bagozzi and Yi, 1988; Hair et al., 1995; Noronha, 1999). Therefore, model evaluation should not be based solely on the χ^2 test (Hughes et al., 1986), other indicators of goodness-of-fit should be considered, like absolute fit measures and incremental fit measures (Hair et al., 1995; Hu and Bentler, 1995). The absolute fit measures refer to those measures that directly assess how well a proposed model represents the sample data. This type of measures includes Chi-square (χ^2) test and Root mean square error of approximation (RMSEA). The incremental fit measures

refer to those evaluate the proportionate improvement in fit by comparing the proposed model with a baseline model which is a single-factor model with no measurement error (Hair et al., 1995). This type of measures includes Incremental fit index (IFI), Normed fit index (NFI) and Comparative fit index (CFI). Thus, these indices were also employed for evaluating the measurement models in this study.

As shown in Table 5.5, the values of IFI, NFI and CFI show that all three measurement models fit the input data well as these statistics reach the acceptable level that suggested by Hair et al. (1995), and Hu and Bentler (1995). However, the values of RMSEA of the measurement models on perceived service quality and on customer satisfaction are over the recommended value of 0.08, suggesting these two measurement models can be further improved. Generally speaking, the results provide satisfactory evidence on the model fit of the three measurement models with very high values (i.e. >0.90) on IFI, NFI and CFI at the first order level.

5.4.1.2 Reliability and Validity Assessment at the First Order Level

It is important to ensure the multiple indicators of each latent variable in the measurement models are converging to measure one single construct (Gerbing and Anderson, 1988; Hughes et al., 1986). Major criteria for assessing measurement properties, i.e. internal consistency and external consistency (Anderson and Gerbing, 1988; Gerbing and Anderson, 1988), of a proposed model include construct reliability, convergent validity and discriminant validity (Peter, 1981).

Table 5.5: Goodness-of-fit Indices of Measurement Models for Perceived Service Quality (SQ), Customer Satisfaction (CS) and Service Loyalty (SL) at the First Order Level

Goodness-of-fit Indices	Level of Acceptable Fit	Perceived Service Quality	Customer Satisfaction	Service Loyalty
Chi-square (χ^2) test	$p > 0.05$ (95% Sig. level)	$\chi^2 = 944.62$ d.f. = 284 p = 0.00	$\chi^2 = 38.26$ d.f. = 5 p = 0.00	$\chi^2 = 118.06$ d.f. = 41 p = 0.00
Root mean square error of approximation (RMSEA)	Acceptable value < 0.08	0.09	0.16	0.08
Incremental fit index (IFI)	Recommended level: > 0.90	0.97	0.99	0.99
Normed fit index (NFI)	Recommended level: > 0.90	0.96	0.99	0.99
Comparative fit index (CFI)	Recommended level: > 0.90	0.97	0.99	0.99

Prior to proceed further steps in assessing construct reliability and construct validity, estimated loadings were first examined for the existence of any offending estimates (Hair et al., 1995) or anamolies (Bagozzi and Yi, 1988). The problem of offending

estimates will be encountered when an estimated loading is associated with: 1) a negative error variance or non-significant variance; 2) a standardized estimated loading exceeding 1.0; or 3) a standard error greater than half of the corresponding estimated loading (Hair et al., 1995). As shown in Table 5.2, Table 5.3 and Table 5.4, all measurement models at the first order level do not suffered from the problem of offending estimates.

Construct reliability was assessed for each construct with multiple indicators in the proposed model to ensure adequate internal consistency (Hair et al., 1995). According to Hair et al. (1995), construct reliability was examined by calculating the composite reliability of a construct with the following equation:

$$\text{Construct Reliablity} = \frac{\left(\sum std.\ \ loading\right)^2}{\left(\sum std.\ \ loading\right)^2 + \sum \varepsilon_j}$$

std. loading = standardized estimate of each observable indicator

ε_j = measurement error of corresponding j indicator which is calculated by 1 – (standardized loading)^2

As presented in Table 5.6, the construct reliability of each construct exceeds the recommended level of 0.70 (Hair et al., 1995), indicating high level of internal consistency for all first order constructs.

Table 5.6: Construct Reliability of First Order Constructs

First Order Construct	Construct Reliability	Average Variance Extracted
Perceived Service Quality		
Reliability	0.86	0.54
Responsiveness	0.84	0.57
Assurance	0.86	0.67
Empathy	0.84	0.58
Tangibles	0.75	0.33
Outcomes	0.76	0.44
Customer Satisfaction	0.95	0.78
Service Loyalty		
Behavior	0.86	0.56
Attitude	0.71	0.45
Cognition	0.88	0.70

Another measure of construct reliability is the average variance extracted (AVE) measure, which reflects the overall amount of variance of each observable item accounted for by the latent construct (Hair et al., 1995). As suggested by Hair et al. (1995), AVE was computed by the following equation:

$$AVE = \frac{\sum std.\ \ loading^2}{\sum std.\ \ loading^2 + \sum \varepsilon_j}$$

std. loading = standardized estimate of each indicator

ε_j = measurement error of corresponding j indicator which is calculated by 1 – (standardized loading)^2

As indicated in Table 5.6, most constructs have AVE values over the recommended cutoff point of 0.50 (Fornell and Larcker, 1981; Hair et al., 1995), except the construct of Tangibles (0.33), Outcomes (0.44) and Attitude (0.45). High AVE value represents the observable items can truly explain the underlying construct with the variances more than that are explained by the measurement error. Although the variance extracted values of these constructs are marginally below the suggested cutoff value, it is still considered as reliable measures of the underlying constructs on the basis of theory and content considerations (Anderson and Gerbing, 1988), as well as the associated high construct reliability (Hinkin et al., 1997).

Convergent validity was assessed by determining whether the estimated loading of each indicator on the underlying first order construct was significant or not (Anderson and Gerbing, 1988; Bagozzi et al., 1991; Fornell and Larcker, 1981; van Birgelen et al., 2000). As recommended by Armstrong and Tan (2000), convergent validity can be determined by looking at the critical ratio that is generated as an indicator of significant correlation between the item and the respective construct. For a 0.05 significance level in AMOS application, any critical ratio that exceeds 1.96 in absolute magnitude is considered as statistically significant (Arbuckle, 1997). Alternatively, an estimated loading of item is also considered as statistically significant to posit on the respective construct when the estimated loading is greater than twice of its standard error (Anderson and Gerbing, 1988). Therefore, convergent validity was assessed by checking both the critical ratio and standard error for each item on its underlying first order construct. As shown in Table 5.2, Table 5.3 and Table 5.4, all items of the three measurement models are associated with a critical

ratio exceed 1.96 and their values of standard error are smaller than half of the corresponding standardized estimates, providing evidence of high convergent validity.

Discriminant validity for the measurement models at the first order level was assessed by comparing the inter-correlation among the multi-scales that measuring the same concept (R_{xx} and R_{yy}) with those measuring different concepts (R_{xy}) (Fornell and Larcker, 1981; Taylor and Baker, 1994). The results of a correlation matrix among the multi-scaled constructs (i.e. perceived service quality and service loyalty) are shown in Table 5.7. It indicates that all the correlations in R_{xx} and R_{yy} are significant at the 0.01 significance level, and most of these correlations are larger than the correlations in R_{xy}. Therefore, discriminant validity is achieved (Anderson and Gerbing, 1988; Fornell and Larcker, 1981; Walter et al., 2000).

Table 5.7: Correlations of Measurement Models at the First Order Level

	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SL1	SL2	SL3
SQ1	1.00								
SQ2	0.77*	1.00							
SQ3	0.76*	0.78*	1.00						
SQ4	0.63*	0.67*	0.69*	1.00					
SQ5	0.55*	0.59*	0.57*	0.70*	1.00				
SQ6	0.63*	0.64*	0.69*	0.70*	0.79*	1.00			
SL1	0.64*	0.61*	0.61*	0.55*	0.55*	0.67*	1.00		
SL2	0.45*	0.44*	0.46*	0.50*	0.43*	0.49*	0.67*	1.00	
SL3	0.48*	0.51*	0.42*	0.29*	0.24*	0.40*	0.55*	0.48*	1.00

* Significant at the 0.01 significance level

P.S. The gray areas represent R_{xx} and R_{yy} and the white area represents R_{xy}

Note: SQ1 – Reliability
SQ2 – Responsiveness
SQ3 – Assurance
SQ4 – Empathy
SQ5 – Tangibles
SQ6 – Outcomes
SL1 – Behavior
SL2 – Attitude
SL3 - Cognition

In summary, according to the tests of reliability, convergent validity and discriminant validity, the evidence on construct reliability and construct validity of the three measurement models at the first order level are highly supported by the data.

5.4.2 Confirmatory Factor Analysis at the Second Order Level

At the second order level, there are two measurement models (i.e. perceived service quality and service loyalty) as presented in Figure 5.5 and Figure 5.6 respectively by using the composite scores of the corresponding first order factors as observed variables. The composite scores were computed by averaging each set of items in the underlying first order construct. Specifically, the six first order factors (i.e. Reliability, Responsiveness, Assurance, Empathy, Tangibles and Outcomes) were comprised with a second order construct of perceived service quality. In the same way, the three first order factors (i.e. Behavior, Attitude and Cognition) were comprised with a second order construct of service loyalty.

The second order measurement models were analyzed by assessing the relationship with the corresponding first order factors. The results of confirmatory factor analysis in two measurement models with parameter estimates and variances at the second order level are presented in Table 5.8.

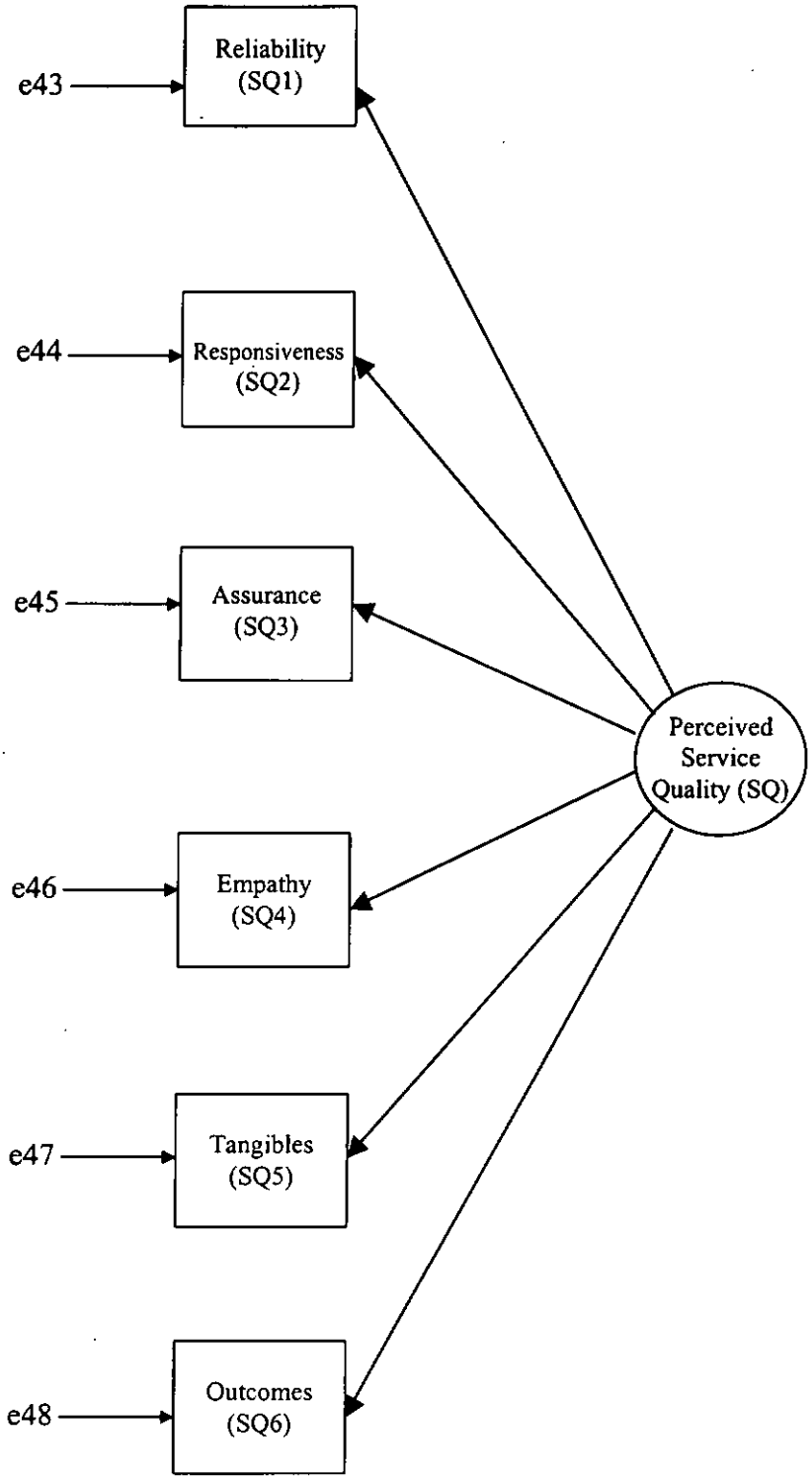


Figure 5.5: The Measurement Model for Perceived Service Quality (At Second Order Level)

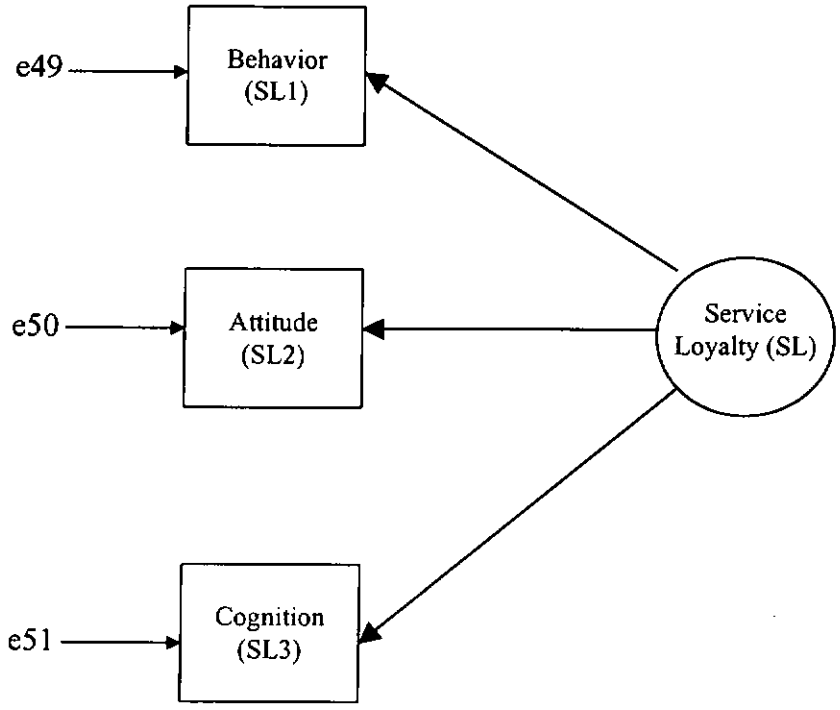


Figure 5.6: The Measurement Model for Service Loyalty (At Second Order Level)

Table 5.8: Results of Confirmatory Factor Analysis for Two Measurement Models at the Second Order Level

Parameters	Standardized Estimate	Standard Error	Critical Ratio**	Error Term	Critical Ratio of Variance**	Variance Estimate of Error Term
SQ					8.25	***0.72***
SQ1*	0.83	--	--	e43	9.84	0.34
SQ2	0.86	0.06	17.23	e44	9.27	0.31
SQ3	0.87	0.07	17.55	e45	9.02	0.32
SQ4	0.81	0.07	15.85	e46	10.05	0.47
SQ5	0.75	0.05	14.25	e47	10.62	0.33
SQ6	0.82	0.06	16.18	e48	9.90	0.32
SL					7.45	***0.99***
SL1*	0.87	--	--	e49	3.71	0.31
SL2	0.76	0.09	10.40	e50	7.15	0.56
SL3	0.63	0.10	9.46	e51	9.99	1.32

* The corresponding parameter was constrained to unity (1.00) to ensure model identification

** Significant at the 0.05 significance level

As shown in Table 5.8, all observed first order factors have a high standardized estimated loading (i.e. larger than 0.50) on the underlying latent construct and associate with a critical ratio that is larger than 1.96 and a relatively low error variance, indicating the first order factors are statistically significant to measure the corresponding concept at the 0.05 significance level.

5.4.2.1 Overall Model Fit of Measurement Models at the Second Order Level

Similarly, Chi-square (χ^2) test, Root mean square error of approximation (RMSEA), Incremental fit index (IFI), Normed fit index (NFI) and Comparative fit index (CFI) were employed for evaluating the second order measurement models of perceived service quality and service loyalty (Bagozzi and Yi, 1988; Hu and Bentler, 1995). In the χ^2 test, model fit appears unacceptable for perceived service quality (χ^2 = 150.46, d.f. = 9, p = 0.00). However, all standardized regression weights (estimated loadings) and variances were statistically significant at the 0.05 significance level. For the latent construct of service loyalty, the Chi-square value cannot be computed, suggesting a perfect good fit. It is noticed that such perfect good fit of service loyalty construct is inflated as a result of just identification of measurement model with zero degree of freedom (Chou and Bentler, 1995).

The results of those five goodness-of-fit indices as presented in Table 5.9, indicate that both measurement models at the second order level fit the input data well on the basis of IFI, NFI and CFI as the statistics reach the acceptable level. However, the value of RMSEA in the measurement model of perceived service quality is over the recommended value of 0.08, suggesting this measurement model can be further improved. Generally speaking, the results still provide satisfactory evidence on the model fit of two measurement models with very high values (i.e. >0.90) on IFI, NFI and CFI. Especially, the measurement model of service loyalty exhibits perfect fit with the values of 1 in the goodness-of-fit measures of IFI, NFI and CFI.

Table 5.9: Goodness-of-fit Indices of Measurement Models for Perceived Service Quality (SQ) and Service Loyalty (SL) at the Second Order Level

Goodness-of-fit Indices	Perceived Service Quality	Service Loyalty
Chi-square (χ^2) test	$\chi^2 = 150.46$ d.f. = 9 p = 0.00	$\chi^2 = 0.00$ d.f. = 0 p = 1.00
Root mean square error of approximation (RMSEA)	0.24	0.00
Incremental fit index (IFI)	0.98	1.00
Normed fit index (NFI)	0.98	1.00
Comparative fit index (CFI)	0.98	1.00

5.4.2.2 Reliability and Validity Assessment at the Second Order Level

Same as the procedures at the first order level, the existence of offending estimates was first examined (Hair et al., 1995). As a result, no estimates of measurement models at the second level encounters the problem of offending estimates that described by Hair et al. (1995).

For assessing the construct reliability of the second order constructs, the composite reliability of a construct as well as the AVE value were again calculated with the equations stated by Hair et al. (1995). The calculated construct reliability of each second order construct is presented in Table 5.10. The values of composite reliability

of both second order constructs exceed the recommended level of 0.70 (Hair et al., 1995). Similarly, the AVE values of both constructs exceed the suggested cut-off value of 0.50 (Fornell and Larcker, 1981; Hair et al., 1995), indicating the specified first order factors are sufficient in representing the underlying second order constructs.

Table 5.10: Construct Reliability of Second Order Constructs

Second Order Construct	Construct Reliability	Average Variance Extracted
Perceived Service Quality	0.90	0.68
Service Loyalty	0.71	0.58

Convergent validity was then assessed by checking the critical ratio and standard error of each first order factor on its underlying second order construct (Anderson and Gerbing, 1988; Armstrong and Tan, 2000; Bagozzi et al., 1991; Fornell and Larcker, 1981; van Birgelen et al., 2000). Consequently, all first order factors are statistically significant to load on their corresponding second order constructs at the 0.05 significance level with large critical ratios and small standard errors, providing evidence of adequate convergent validity on both measurement models of perceived service quality and service loyalty at the second order level.

Discriminant validity for the measurement models at the second order level was assessed by comparing the average variance extracted (AVE) of each second order construct to the square of the correlation between the two constructs (Brady and

Robertson, 2001; Fornell and Larcker, 1981; Spreng and Mackoy, 1996). In Table 5.10, AVE values of perceived service quality and service loyalty are obtained with the value of 0.68 and 0.58 respectively. To compare with the correlation between perceived service quality and service loyalty, the AVE value of each latent construct is greater than the square of their inter-correlation ($0.66^2 = 0.44$) as stated in Table 5.11. Thus, discriminant validity has been demonstrated.

In summary, according to the tests of reliability, convergent validity and discriminant validity, evidence on construct reliability and construct validity of the two measurement models at the second order level are highly supported by the data.

Table 5.11: Correlations of Measurement Models at the Second Order Level (N = 279)

	Service Quality (SQ)	Service Loyalty (SL)
Service Quality (SQ)	1.00	
Service Loyalty (SL)	0.66*	1.00

* Significant at 0.01 the Significance level

5.5 Estimation of Structural Model

Having determined the construct properties of the three measurement models, as recommended by Anderson and Gerbing (1988), the next step was to evaluate the overall proposed structural model of this study and to estimate its model fit. Figure 5.7 presents the proposed structural model that is the interest of the discussion in this

study, in which the three measurement models (i.e. perceived service quality, customer satisfaction and service loyalty) are connected with each other by specifying the hypothesized relationships with the parameters $\gamma_{i,j}$ and $\beta_{i,j}$. The latent variables measuring customer satisfaction (CS) and service loyalty (SL) are represented by the symbol η_i, that indicates an endogenous variable and its value is determined within the model (Hughes et al., 1986). The latent variable measuring perceived service quality (SQ) is represented by the symbol ξ_i, that indicates an exogenous variable and its value is determined by factors outside the model (Hughes et al., 1986). The parameters $\delta_{i,j}$ and $\varepsilon_{i,j}$ represent the error variance of the observed variables that measure exogenous and endogenous variables respectively, while $\zeta_{i,j}$ represents the error variances of those endogenous variables.

Similar procedures in the estimation of measurement models at the second order level were followed, composite scores of the first order factors were computed and represented the observed variables on the corresponding second order construct. $\lambda_{x,i,j}$ and $\lambda_{y,i,j}$ indicate the relationships between observed first order variables and the underlying latent independent and dependent variables respectively. These standardized parameter estimates, in fact, provide the important information about the relative strength of relationship between them.

As shown in Table 5.12, all the observed first order factors have a high standardized estimated loading on the corresponding construct with a critical ratio larger than 1.96, indicating the tested first order factors are statistically significant in measuring the corresponding concept at the 0.05 significance level (Arbuckle, 1997). The results of standardized estimates and error variances are also presented graphically in Figure 5.8.

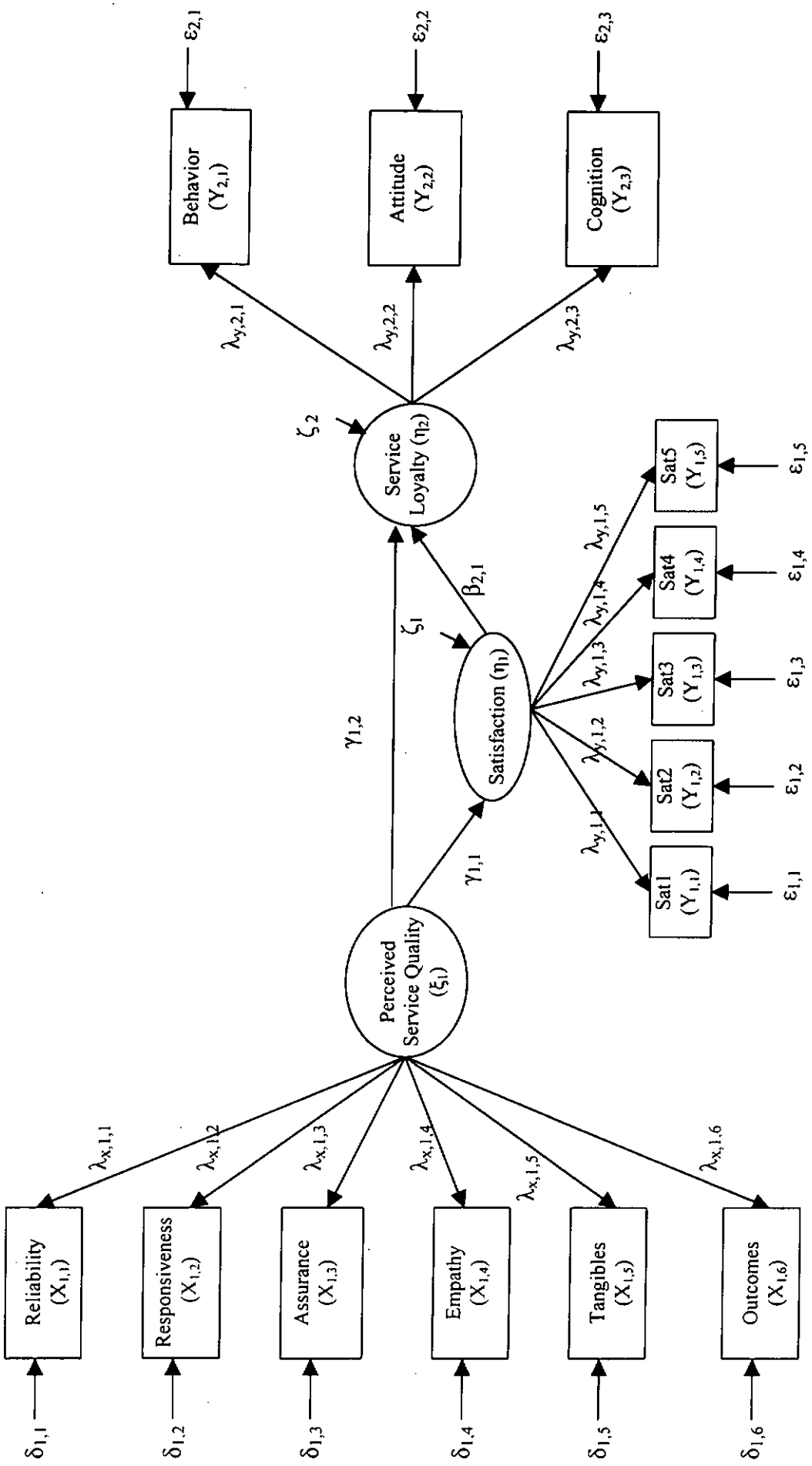


Figure 5.7: The Proposed Structural Model

Table 5.12: Results of Confirmatory Factor Analysis on the Proposed Structural Model

Parameters	Standardized Estimate	Standard Error	Critical Ratio**	Error Term	Critical Ratio of Variance**	Variance Estimate of Error Term
Paths						
SQ → CS ($\gamma_{1,1}$)	0.86	0.07	15.45	--	--	--
SQ → SL ($\gamma_{1,2}$)	0.41	0.12	4.21	--	--	--
CS → SL ($\beta_{2,1}$)	0.44	0.10	4.63	--	--	--
SQ					8.28	***0.72***
SQ1 $\lambda_{x,1,1}$*	0.82	--	--	$\delta_{1,1}$	10.18	0.34
SQ2 $\lambda_{x,1,2}$	0.85	0.06	17.22	$\delta_{1,2}$	9.79	0.32
SQ3 $\lambda_{x,1,3}$	0.86	0.07	17.35	$\delta_{1,3}$	9.71	0.34
SQ4 $\lambda_{x,1,4}$	0.79	0.07	15.48	$\delta_{1,4}$	10.51	0.51
SQ5 $\lambda_{x,1,5}$	0.76	0.05	14.62	$\delta_{1,5}$	10.76	0.32
SQ6 $\lambda_{x,1,6}$	0.84	0.06	16.89	$\delta_{1,6}$	9.93	0.29
CS				ζ_1	6.98	***0.27***
b1 $\lambda_{y,1,1}$*	0.83	--	--	$\varepsilon_{1,1}$	10.52	0.45
b2 $\lambda_{y,1,2}$	0.91	0.06	19.99	$\varepsilon_{1,2}$	9.03	0.25
b3 $\lambda_{y,1,3}$	0.88	0.05	18.91	$\varepsilon_{1,3}$	9.81	0.30
b4 $\lambda_{y,1,4}$	0.88	0.06	18.75	$\varepsilon_{1,4}$	9.90	0.31
b5 $\lambda_{y,1,5}$	0.91	0.05	19.84	$\varepsilon_{1,5}$	9.17	0.23
SL				ζ_2	6.43	***0.37***
SL1 $\lambda_{y,2,1}$*	0.94	--	--	$\varepsilon_{2,1}$	3.34	0.16
SL2 $\lambda_{y,2,2}$	0.71	0.06	13.54	$\varepsilon_{2,2}$	10.36	0.66
SL3 $\lambda_{y,2,3}$	0.61	0.08	10.96	$\varepsilon_{2,3}$	11.05	1.40

* The corresponding parameter was constrained to unity (1.00) to ensure model identification

** Significant at the 0.05 significance level

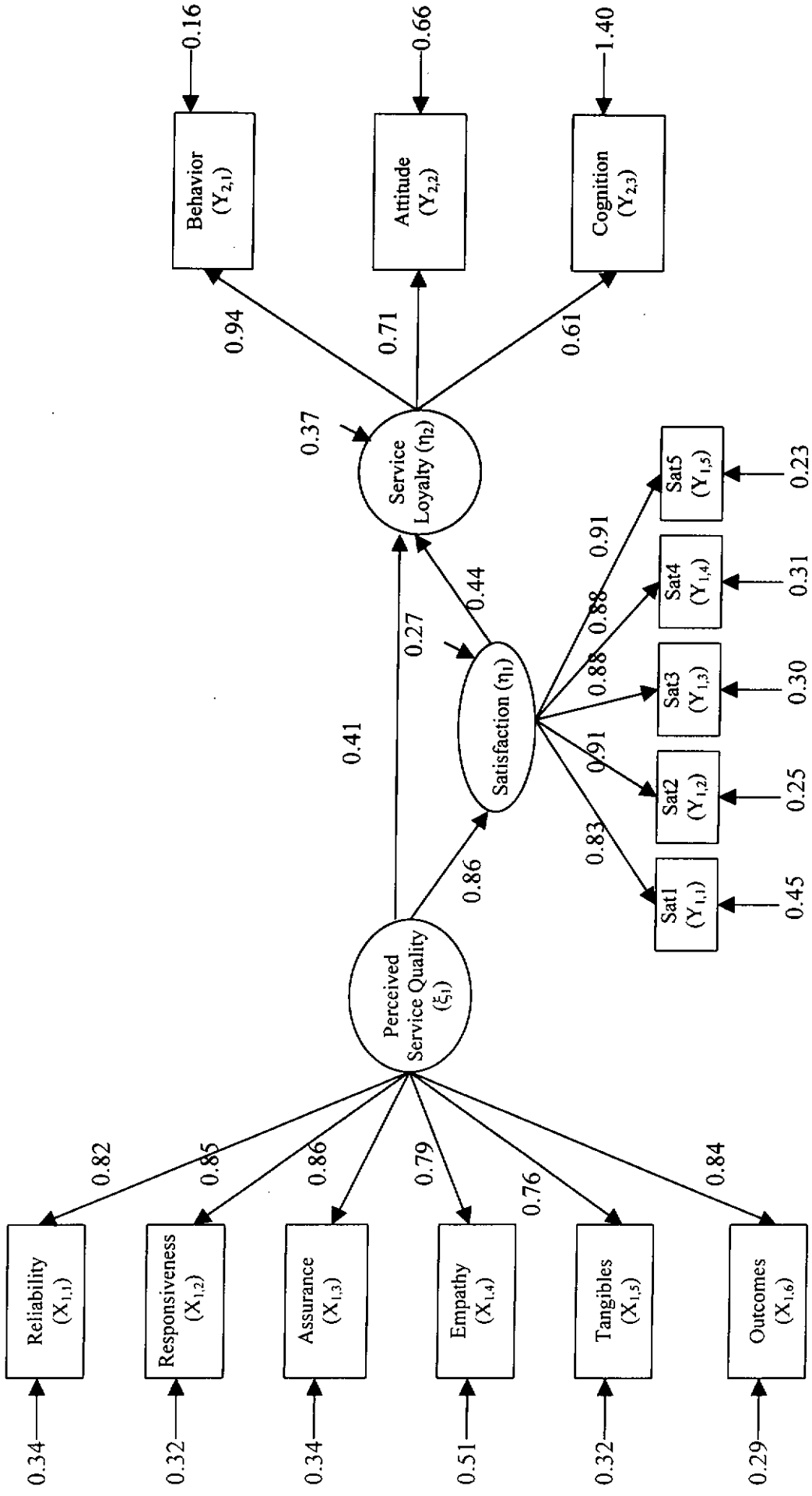


Figure 5.8: The Proposed Structural Model (M_0) with Standardized Path Estimates and Error Terms

5.5.1 Overall Model Fit of the Proposed Structural Model

When considering the extent of goodness-of-fit of the proposed structural model, Chi-square test (χ^2) was initially employed to evaluate model fit (Bagozzi and Yi, 1988; Hu and Bentler, 1995). Even though the chi-square statistics ($\chi^2 = 348.17$, d.f. = 74, p = 0.00) are statistically significant with the probability level of 0.00, the proposed structural model should not be rejected (Anderson and Gerbing, 1988). Instead, model fit of a structural model should be assessed by a relative Chi-square ratio that is yielded by dividing the Chi-square value over the corresponding degrees of freedom (Armstrong and Tan, 2000). A relative Chi-square ratio of 4.71 is yielded for the proposed structural model as shown in Table 5.13, indicating a reasonable model fit with a ratio lower than 5 (Armstrong and Tan, 2000; Marsh and Hocevar, 1995).

Table 5.13: Goodness-of-fit Indices of the Proposed Structural Model

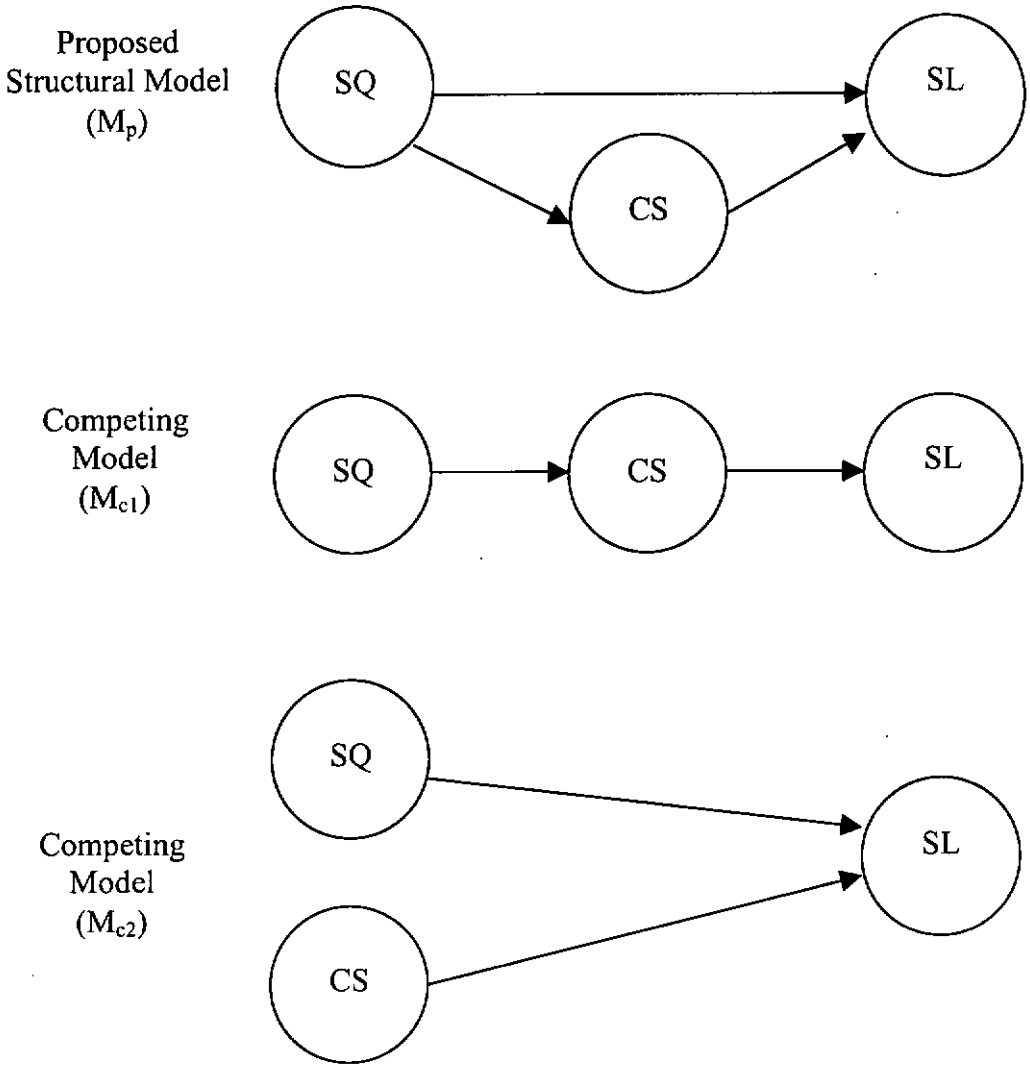
Goodness-of-fit Indices	Proposed Model
Chi-square (χ^2) test	$\chi^2 = 348.17$ d.f. = 74 p = 0.00
Relative Chi-square ratio	4.71
Root mean square error of approximation (RMSEA)	0.11
Incremental fit index (IFI)	0.98
Normed fit index (NFI)	0.98
Comparative fit index (CFI)	0.98

The other goodness-of-fit indices: RMSEA (0.11), IFI (0.98), NFI (0.98) and CFI (0.98), all reach the acceptable level that suggested by Hair et al. (1995), and Hu and Bentler (1995), indicating a good model fit, except RMSEA which indicates that there

is a room for improvement. However, the results of goodness-of-fit indices provide satisfactory evidence on the model fit of the proposed structural model.

In order to provide greater confidence on accepting the proposed structural model and to find out whether if any better-fit or more parsimonious model, the proposed structural model (M_p) was compared with two competing or alternative models (M_{c1} and M_{c2}) (Anderson and Gerbing, 1988; Hair et al., 1995). Based on the theoretically foundations, perceived service quality was argued to have no or non-significant direct impact on service loyalty (Brady and Robertson, 2001; Stank et al., 1999). Thus, the first competing model (M_{c1}) was developed by deleting the relationship between perceived service quality and service loyalty (SQ→SL), and reserved the sequence of single route: SQ→CS→SL, indicating perceived service quality only had significant effect on customer satisfaction and ultimately on service loyalty indirectly. Then, a second competing model (M_{c2}) was developed by deleting the relationship between perceived service quality and customer satisfaction (SQ→CS), based on the argument that perceived service quality had significant direct impact on service loyalty without any indirect impacts through customer satisfaction (Oliver, 1980). Thus, M_{c2} indicated the scenario that both perceived service quality and customer satisfaction had direct impact on service loyalty independently. Both competing models and the proposed structural model are simply presented in Figure 5.9, in which only the second order constructs are displayed with the path relationships.

Previous set of five goodness-of-fit indices as well as the relative Chi-square ratio were calculated for each model. Then, the statistics were compared among the proposed model and the competitive models to determine which one was the best model to fit the sample data. The results are illustrated in Table 5.14.



SQ = Perceived Service Quality
CS = Customer Satisfaction
SL = Service Loyalty

Figure 5.9: Path Diagrams of Proposed Structural Model and Competing Models

Table 5.14: Comparison of Goodness-of-fit Indices of the Proposed Structural Model against the Competing Models

Goodness-of-fit Indices	Proposed Model (M_p)	Competing Model (M_{c1})	Competing Model (M_{c2})
Chi-square (χ^2) test	χ^2 = 348.17 d.f. = 74 p = 0.00	χ^2 = 365.40 d.f. = 75 p = 0.00	χ^2 = 636.17 d.f. = 75 p = 0.00
Relative Chi-square ratio	4.71	4.87	8.48
Root mean square error of approximation (RMSEA)	0.11	0.12	0.16
Incremental fit index (IFI)	0.98	0.98	0.96
Normed fit index (NFI)	0.98	0.98	0.96
Comparative fit index (CFI)	0.98	0.98	0.96

To compare between M_p and M_{c1}, it seems that there is no substantial difference on incremental fit measures (IFI, NFI and CFI), but the relative χ^2 ratio and RMSEA indicates that M_p is preferred with better fit comparably to M_{c1}. Then, in comparing between M_p and M_{c2}, all statistics of goodness-of-fit indices significantly favor M_p, especially in the relative Chi-square (χ^2) ratio, indicate that M_p is preferred with better fit comparably to M_{c2}. Particularly, M_p results with a significantly lower Chi-square value when comparing with M_{c1} and M_{c2} in terms of $\Delta\chi^2$ (17.23) and $\Delta\chi^2$ (288.00) with the Δd.f. of 1 respectively.

Consequently, the comparison with two competitive models illustrates that M_p is the model with better fit comparably to M_{c1} and M_{c2}. Thus, the proposed structural model is accepted and is used for the upcoming hypothesis test.

5.5.2 Reliability and Validity Assessment

Prior to the hypothesis test, existence of offending estimates was first examined (Hair et al., 1995). As shown in Table 5.12, no estimate appears as either associating with negative error variance or standardized estimated loading that exceeded 1 or non-significant error variance. Thus, there was no need to have re-specification on the proposed structural model.

Then, the construct reliability of the constructs in the proposed structural model was assessed by calculating the composite reliability of each construct as well as the AVE value. The calculated values for assessing the construct reliability of each second order construct are presented in Table 5.15. All composite reliability of constructs exceed the recommended level of 0.70 (Hair et al., 1995). Similarly, all AVE values exceed the suggested cut-off value of 0.50 (Fornell and Larcker, 1981; Hair et al., 1995), providing supportive evidence on the high construct reliability of the latent constructs.

For assessing convergent validity and discriminant validity of the proposed structural model, same procedures that described in previous subsections were followed. As shown in Table 5.12, all first order factors result in the critical ratio exceeding 1.96 and associate with a standard error that was smaller than half of the standardized estimates, indicating the relationships between first order factors and their underlying second order constructs are statistically significant at the 0.05 significance level

(Arbuckle, 1997). Thus, these findings provide great evidence of adequate convergent validity on the proposed structural model (Anderson and Gerbing, 1988; Armstrong and Tan, 2000; Bagozzi et al., 1991; Brady and Robertson, 2001; Fornell and Larcker, 1981; van Birgelen et al., 2000).

Table 5.15: Construct Reliability of Latent Constructs

Second Order Construct	Construct Reliability	Average Variance Extracted
Perceived Service Quality (SQ)	0.93	0.67
Customer Satisfaction (CS)	0.95	0.78
Service Loyalty (SL)	0.71	0.58

Discriminant validity for the structural model was assessed by comparing AVE of each latent construct (i.e. SQ, SC and SL) to the square of the correlation between pairs of latent constructs (Brady and Robertson, 2001; Fornell and Larcker, 1981; Spreng and Mackoy, 1996). As shown in Table 5.15, AVE of SQ, CS and SL is the value of 0.67, 0.78 and 0.58 respectively. The correlations between pairs of latent constructs (i.e. SQ↔CS, SQ↔SL and CS↔SL) are displayed in Table 5.16 with the value 0.80, 0.66 and 0.67 respectively. Therefore, the AVE values of three individual latent constructs were greater than the square of these correlation (i.e. 0.64, 0.44 and 0.45 respectively) as stated. Consequently, discriminant validity is achieved in the proposed structural model.

Table 5.16: Means, Standard Deviations, and Correlations of Latent Constructs in Proposed Structural Model (N = 279)

	Mean	S. D.	Service Quality (SQ)	Customer Satisfaction (CS)	Service Loyalty (SL)
Service Quality (SQ)	4.78	0.90	1.00		
Customer Satisfaction (CS)	4.80	1.07	0.80* (0.64)	1.00	
Service Loyalty (SL)	4.29	1.06	0.66* (0.44)	0.67* (0.45)	1.00

* Significant at the 0.01 significance level

Square of correlation coefficient of respective latent construct is presented inside the parentheses.

More specifically, discriminant validity of the proposed structural model was assessed by a series of model estimation in which the latent constructs were allowed to freely correlate with each other, but the correlation between a pair of latent constructs was constrained to unity at a time (Anderson and Gerbing, 1988; Bagozzi and Yi, 1988; van Birgelen et al., 2000; Walter et al., 2000). Then, Chi-square difference test was performed on the values obtained for the comparison between the unconstrained model with each constrained model (i.e. M1, M2 and M3). M1 constrained the relationship between perceived service quality and customer satisfaction. M2 constrained the relationship between perceived service quality and service loyalty and M3 constrained the relationship between customer satisfaction and service loyalty. In Table 5.17, except the comparison between M0 and M1, Chi-square difference tests

(i.e. M0-M2 and M0-M3) are statistically significant at the 0.01 significance level as the values of $\Delta\chi^2$ are greater than the threshold value of 6.63 corresponding to 99% confidence level with one degree of freedom (Churchill, 1995). These results indicate that the latent constructs are not perfectly correlated and thus discriminant validity is achieved with a significantly lower χ^2 value for the unconstrained model.

Table 5.17: Results of Chi-square Difference Test on Unconstrained Model and Constrained Models

	χ^2 value	d.f.		$\Delta\chi^2$	Δd.f.
M0 (Unconstrained)	348.17	74		--	--
M1 (Constrained SQ↔CS)	348.80	75	**M1-M0**	0.63	1
M2 (Constrained SQ↔SL)	362.03	75	**M2-M0**	13.86*	1
M3 (Constrained CS↔SL)	374.96	75	**M3-M0**	26.16*	1

* Significant at the 0.01 significance level

In summary, according to the tests of construct reliability, convergent validity and discriminant validity, the evidence on construct validity in the proposed structural model are supported by the data.

5.6 Hypothesis Test

The hypotheses that developed in Chapter 3 are stated below, in which the first one is relevant to the measurement of service loyalty so as to determine whether service

loyalty is conceived as a multidimensional structure with three distinct components: behavior, attitude as well as cognition or not. Then, the next three hypotheses are relevant to the relationships among perceived service quality, customer satisfaction and service loyalty. The fifth one are hypothesized that customer satisfaction is a major mediator in between perceived service quality and service loyalty by having greater impact on service loyalty than perceived service quality. Finally, the sixth and the seventh hypothesis are hypothesized to point out whether if any significant differences between two groups, phone-banking sample and Western restaurant dining sample, in evaluating perceived service quality so as to create high level of service loyalty.

Hypothesis 1: Service loyalty is conceived as a multidimensional structure with three distinct dimensions: behavior, attitude as well as cognition.

Hypothesis 2: Higher level of perceived service quality will lead to higher level of customer satisfaction with the service.

Hypothesis 3: Higher level of customer satisfaction with the service will lead to higher level of service loyalty.

Hypothesis 4: Higher level of perceived service quality will lead to higher level of service loyalty.

Hypothesis 5: The impact of customer satisfaction is greater than that of perceived service quality on service loyalty.

Hypothesis 6: For process-based services, perceived service quality is largely determined by process-related elements than by outcome-related elements in creating high level of service loyalty.

Hypothesis 7: For outcome-based services, perceived service quality is largely determined by outcome-related elements than by process-related elements in creating high level of service loyalty.

5.6.1 The Measure of Service Loyalty

For the scale of service loyalty, totally eleven items were identified. Under the exploratory factor analysis, these eleven items were grouped into three dimensions, namely behavior, attitude and cognition. Then, confirmatory factor analysis further confirmed this factor structure of service loyalty with satisfactory goodness-of-fit.

As presented in Table 5.12, all the standardized estimates of first order factors of service loyalty (i.e. SL1, SL2 and SL3) are statistically significant in the proposed structural model. These significant estimates between service loyalty and its first order factors support the hypothesis (1) that service loyalty is conceived as multidimensional structure with behavioral, attitudinal and cognitive attributes with the standardized path coefficients of 0.94, 0.71 and 0.61 respectively. The absolute magnitude of these standardized path coefficients in the structural model reflects the dimension of behavior (SL1) having the greatest standardized path estimate of 0.94 on service loyalty. Hence, from the squared multiple correlations, behavioral attributes (87.6%) capture almost all the interest domain in measuring service loyalty, when compared with attitudinal (50.3%) and cognitive attributes (36.6%). Consequently, hypothesis (1) is supported.

5.6.2 Relationships between Perceived Service Quality, Customer Satisfaction and Service Loyalty

An examination of the estimated path coefficients among the second order constructs in the proposed structural model, indicating the relationships of SQ→CS (0.86), CS→SL (0.44) and SQ→SL (0.41) are statistically significant at the 0.05 significance level in terms of the corresponding critical ratio. Therefore, hypothesis (2) is supported that perceived service quality is positively and significantly related to the customer satisfaction with a standardized path estimate ($\gamma_{1,1}$) of 0.86, standard error of 0.07 and associates with a critical ratio of 15.45. Similarly, hypothesis (3) is also supported that customer satisfaction of the service is positively and significantly related to the service loyalty with a standardized path estimate ($\beta_{2,1}$) of 0.44, standard error of 0.10 and associates with a critical ratio of 4.63. In addition, hypothesis (4) is supported that perceived service quality is positively and significantly related to the service loyalty with a standardized path estimate ($\gamma_{1,2}$) of 0.41, standard error of 0.12 and associates with a critical ratio of 4.21.

5.6.3 Role of Customer Satisfaction

Hypothesis (5) states that customer satisfaction is a significant mediator on the relationship between perceived service quality and service loyalty and that it should have comparatively greater impact on service loyalty than perceived service quality. In order to test this hypothesis, the findings obtained from the comparisons among the proposed model (M_p) with two competitive models (i.e. M_{c1} and M_{c2}) that described in Figure 5.9, were further analyzed. In the proposed structural model (M_p), perceived service quality served to constitute both direct and indirect effects on service loyalty. On the other hand, the competitive model 1 (M_{c1}) represented the present of solely

indirect effect of perceived service quality on service loyalty whereas the competitive model 2 (M_{c2}) represented the solely direct effect of perceived service quality on service loyalty.

The competitive models were assessed for estimating the model fit with a previous set of goodness-of-fit indices. The standardized estimated path coefficients with the corresponding standard errors (S.E.) and critical ratio (C.R.), and the results of goodness-of-fit measures are presented and compared with those of the proposed structural model in Table 5.18.

By comparing the standardized path coefficient between perceived service quality and service loyalty ($\gamma_{1,2}$) and that between customer satisfaction and service loyalty ($\beta_{2,1}$) in M_{c2} as shown in Table 5.18, indicating that the direct effect of customer satisfaction (0.56) exerts greater impact on service loyalty than perceived service quality (0.47) with a difference of 0.09. This indicates that perceived service quality exerts greater impact on service loyalty than customer satisfaction when both are assigned to predict service loyalty independently.

From the comparison of goodness-of-fit indices of M_{c1} against M_{c2}, M_{c1} was preferred to be a better-fit model on the basis of all goodness-of-fit measures against M_{c2}. This suggested that the indirect effect was more appropriate to describe the actual influence from perceived service quality to service loyalty indirectly through customer satisfaction than the direct effect.

Table 5.18: Comparison of the Estimated Path Coefficients and Goodness-of-fit Indices of the Proposed Structural Model (M_p) and the Competitive Models (M_{c1} and M_{c2})

	Proposed Structural Model (M_p)			Competitive Model (M_{c1})			Competitive Model (M_{c2})		
	Std. Estimate	S.E.	C.R.*	Std. Estimate	S.E.	C.R.*	Std. Estimate	S.E.	C.R.*
Paths									
SQ → CS ($\gamma_{1,1}$)	0.86	0.07	15.45	0.87	0.07	15.58	--	--	--
SQ → SL ($\gamma_{1,2}$)	0.41	0.10	4.63	--	--	--	0.47	0.06	8.75
CS → SL ($\beta_{2,1}$)	0.44	0.12	4.21	0.80	0.05	16.59	0.56	0.05	10.72
Fit Indices									
χ^2 test	χ^2 = 348.17 d.f. = 74 p = 0.00			χ^2 = 365.40 d.f. = 75 p = 0.00			χ^2 = 636.17 d.f. = 75 p = 0.00		
Relative χ^2 ratio	4.71			4.87			8.48		
RMSEA	0.11			0.12			0.16		
IFI	0.98			0.98			0.96		
NFI	0.98			0.98			0.96		
CFI	0.98			0.98			0.96		
PNFI	0.69			0.70			0.68		
PCFI	0.69			0.70			0.69		

* Significant at the 0.01 significance level

In addition, the standardized direct, indirect and total effects of perceived service quality and customer satisfaction on service loyalty in all three models are visualized in Table 5.19. In the effect analysis (Fox, 1980), the standardized direct effect of

customer satisfaction on service loyalty (0.44) is greater than that of perceived service quality (0.41) in M_p. On the other hand, perceived service quality also exhibits indirect effect on service loyalty through customer satisfaction with a standardized value of 0.38, resulting a total standardized effect of 0.79 on service loyalty. This shows that customer satisfaction acted as a mediator by nearly doubling the effect of perceived serviced quality on service loyalty.

Table 5.19: Direct, Indirect and Total Standardized Effects of Perceived Service Quality and Customer Satisfaction on Service Loyalty

Variables	Standardized Direct Effects	Standardized Indirect Effects	Standardized Total Effects
(M_p)			
Perceived Service Quality	0.41	0.38	0.79
Customer Satisfaction	0.44	--	0.44
(M_{c1})			
Perceived Service Quality	--	0.70	0.70
Customer Satisfaction	0.80	--	0.80
(M_{c2})			
Perceived Service Quality	0.47	--	0.47
Customer Satisfaction	0.56	--	0.56

Furthermore, by comparing M_{c1} and M_{c2}, perceived service quality exerts a greater impact on service loyalty indirectly through customer satisfaction with a standardized

indirect effect of 0.70. But, perceived service quality only exerts a standardized direct effect of 0.47 on service loyalty. These comparisons consistently illustrate that customer satisfaction is an important mediator in catalyzing the relationship between perceived service quality and service loyalty.

To conclude, the findings on the statistical point of view suggest that perceived service quality is more efficient and effective to affect service loyalty through customer satisfaction, providing sufficient evidence to support hypothesis (5).

5.6.4 Multi-Groups Analysis

Hypothesis (6) and hypothesis (7) state that the evaluation of service quality between process-based services and outcome-based services should be different. Therefore, multi-groups analysis with the use of AMOS (Byrne, 2001) was conducted to investigate the causal parameters of the proposed structure model across two sub-samples, which were obtained by further splitting sample 2 (N = 279). These two sub-samples were phone-banking sample (N_1 = 129) and Western restaurant dining sample (N_2 = 150) respectively.

Again, structural equation modeling technique with Maximum Likelihood (ML) estimation method was employed to test these two hypotheses. Since the measurement model of perceived service quality was proved to be valid and reliable for evaluation, the full set of measurement scale of perceived service quality with six first order constructs was used for this test.

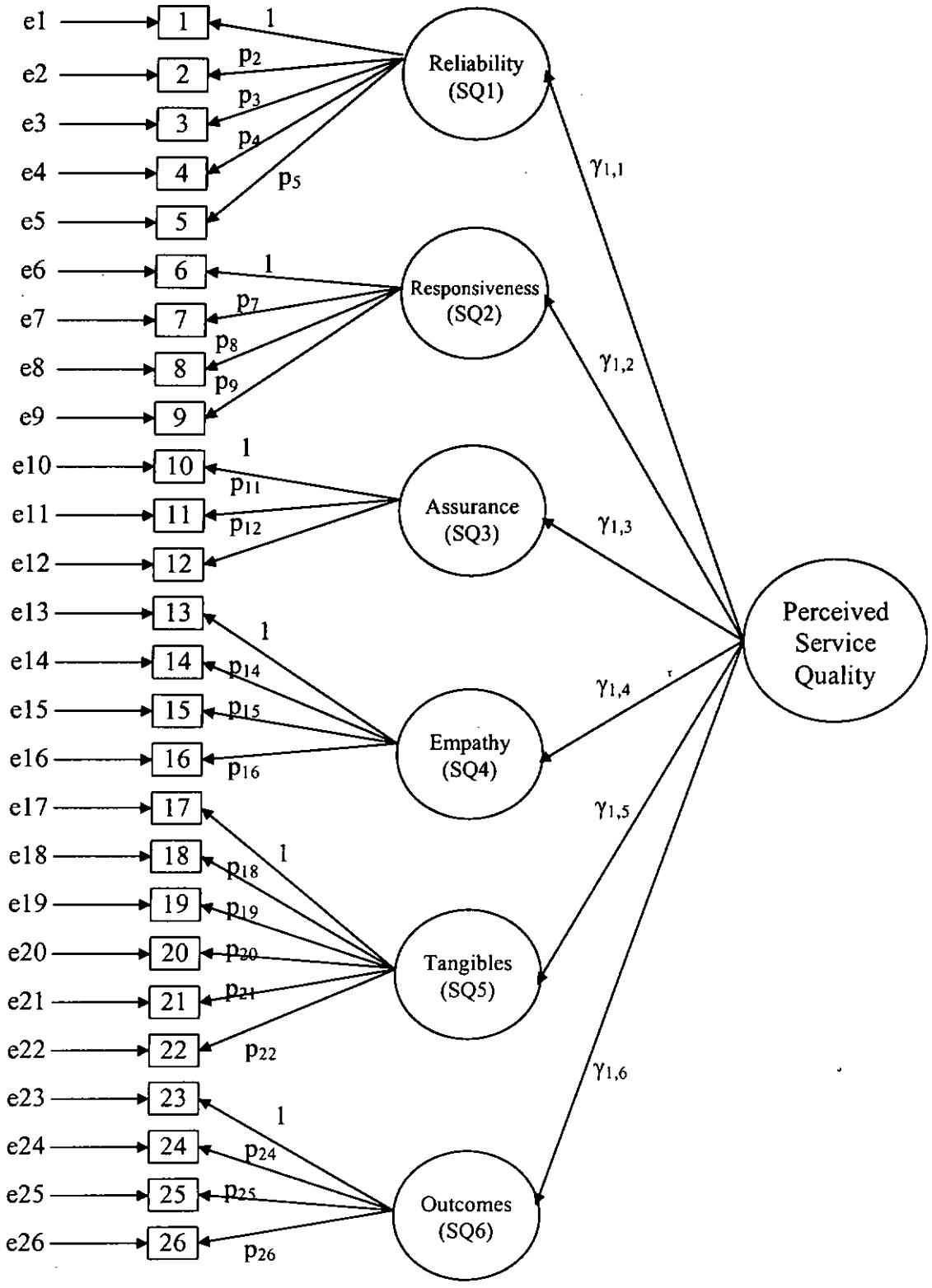


Figure 5.10: Model of Perceived Service Quality with Equality Constraints for Multi-Groups Analysis

According to Byrne's (2001) procedures, first of all, the model was freely estimated and obtained the corresponding Chi-square statistics. Secondly, all parameters of the model were constrained to be equal across phone-banking and restaurant samples by giving a label of p_i and $\gamma_{1,j}$ to the parameters for the relationships between each questionnaire item and its corresponding first order construct and to those for the relationships between each first order construct and its corresponding latent construct of perceived service quality respectively. The constrained model of perceived service quality with equality constraints for multi-group analysis is shown as Figure 5.10. The corresponding Chi-square statistics for the fully constrained model was obtained as well. Chi-square difference test was then conducted to test whether if the difference between the freely estimated model and the constrained model was significant or not. The comparison of Chi-square statistics between freely estimated model (M_{free}) and fully constrained model (M_{fix}) on perceived service quality is presented in Table 5.20.

As shown in Table 5.20, the comparison yields a $\Delta\chi^2$ of 38.06 with Δd.f. of 26, which is statistically significant at the 0.10 probability level, indicating that some equality constraints do not hold across two samples. Therefore, multi-groups analysis was re-ran by fixing one γ parameter to be equal at a time and got the corresponding Chi-square statistics for comparing with the Chi-square statistics of M_{free}. The results of Chi-square different test are also presented in Table 5.20.

As reported in the findings of Chi-square difference test, the significant difference at 0.05 probability level only appears in the dimension of Tangibles (M_5) by yielding a $\Delta\chi^2$ of 15.10 with Δd.f. of 6. For the other dimensions, multi-groups analysis with equality constraints illustrates that two samples are considered to be equivalent.

Table 5.20: Chi-square Statistics for Multi-Groups Analysis on Perceived Service Quality

Model Description		Comparison with M_{free}
M_{free} (Free all coefficients)	$\chi^2 = 1453.66$ d.f. = 586 p = 0.00	
M_{fix} (Fix all coefficients)	$\chi^2 = 1491.72$ d.f. = 612 p = 0.00	$\Delta\chi^2 = 38.06^*$ Δd.f. = 26
M_1 (Fix Reliability ($\gamma_{1,1}$) only)	$\chi^2 = 1457.00$ d.f. = 591 p = 0.00	$\Delta\chi^2 = 3.34$ Δd.f. = 5
M_2 (Fix Responsiveness ($\gamma_{1,2}$) only)	$\chi^2 = 1460.71$ d.f. = 590 p = 0.00	$\Delta\chi^2 = 7.05$ Δd.f. = 4
M_3 (Fix Empathy ($\gamma_{1,3}$) only)	$\chi^2 = 1459.74$ d.f. = 589 p = 0.00	$\Delta\chi^2 = 6.08$ Δd.f. = 3
M_4 (Fix Assurance ($\gamma_{1,4}$) only)	$\chi^2 = 1460.22$ d.f. = 590 p = 0.00	$\Delta\chi^2 = 6.56$ Δd.f. = 4
M_5 (Fix Tangibles ($\gamma_{1,5}$) only)	$\chi^2 = 1468.76$ d.f. = 592 p = 0.00	$\Delta\chi^2 = 15.10^{**}$ Δd.f. = 6
M_6 (Fix Outcome ($\gamma_{1,6}$) only)	$\chi^2 = 1455.04$ d.f. = 590 p = 0.00	$\Delta\chi^2 = 1.38$ Δd.f. = 4

* Significant at the 0.10 significance level

** Significant at the 0.05 significance level

Then, comparison of parameter of Tangibles is made between the phone-banking sample and the restaurant dining sample. According to the parameters shown in Table

5.21, the restaurant dining sample places greater concern on the dimension of Tangibles in assessing perceived service quality than the phone-banking sample does.

Table 5.21: Comparison of Parameters with Perceived Service Quality between Phone-Banking Sample and Restaurant Dining Sample

	Phone-Banking (N=129)			Restaurant (N=150)		
Parameters	**Standardized Estimate**	**Std. Error**	**Critical Ratio***	**Standardized Estimate**	**Std. Error**	**Critical Ratio***
Service Quality						
Reliability	0.86	0.10	7.97	0.95	0.08	9.86
Responsiveness	0.96	0.10	9.92	0.95	0.11	9.28
Empathy	0.93	0.09	10.72	0.96	0.09	12.82
Assurance	0.83	0.11	8.91	0.86	0.10	10.29
Tangibles	0.91	0.13	6.14	0.95	0.10	8.60
Outcome	0.97	0.11	5.77	0.92	0.09	8.52

* Significant at the 0.05 significance level

For the remaining five dimensions, all these parameters are statistically significant in terms of standard errors and critical ratios in both samples, indicating that all first order dimensions are significantly related to the corresponding latent construct of perceived service quality. This suggests that both samples place similar significant concern on these elements in assessing perceived service quality.

Overall speaking, this finding shows that both process-related elements and outcome-related elements are equally important for the phone-banking sample and the restaurant dining sample to assess perceived service quality, neither process-related nor outcome-related elements can be ignored as measures for perceived service

quality in a particular service setting. Specifically, restaurant dining sample places comparatively higher concern in outcome-related elements (i.e. Tangibles).

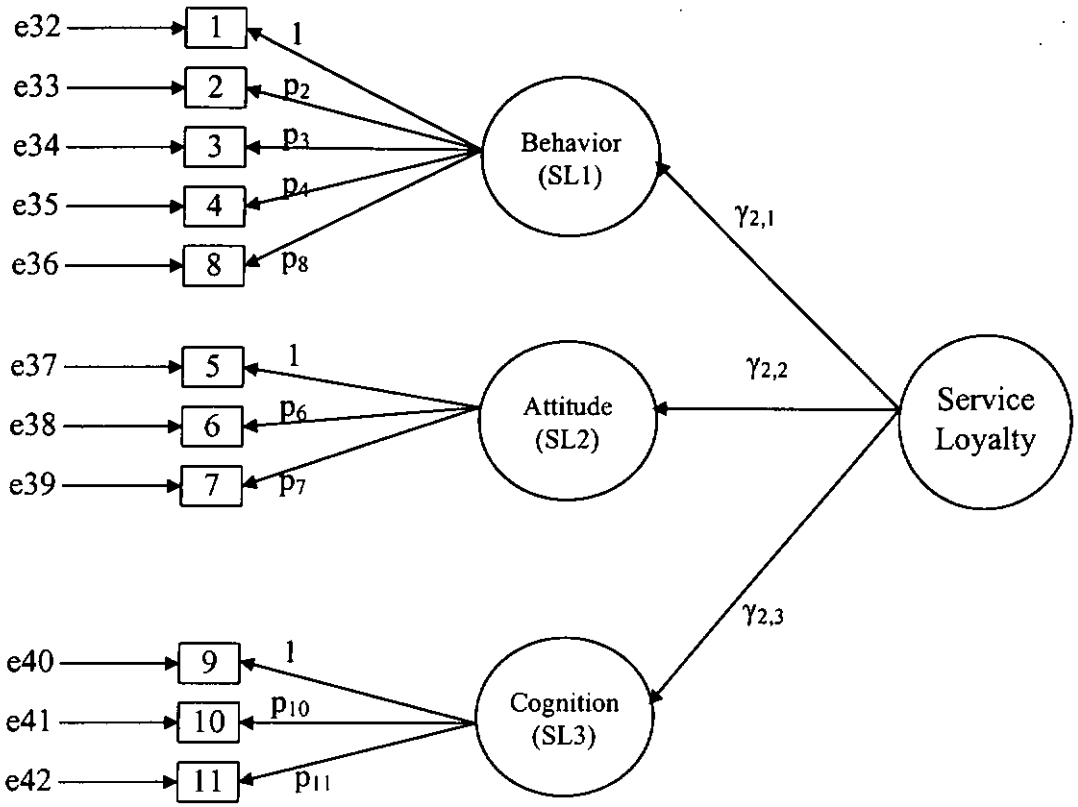


Figure 5.11: Model of Service Loyalty with Equality Constraints for Multi-Groups Analysis

Besides, the multi-group analysis reveals significant differences between the two samples regarding the consequences of service loyalty. To achieve this, same procedures were followed. The model was freely estimated and fully constrained to be equal across phone-banking and restaurant samples, and then obtained the corresponding Chi-square statistics respectively. The constrained model of service

loyalty with equality constraints for multi-group analysis is shown as Figure 5.11. Chi-square difference test was then conducted to compare the Chi-square statistics between freely estimated model (M_{free}) and fully constrained model (M_{fix}) on service loyalty. The findings of Chi-square difference test are presented in Table 5.22.

Table 5.22: Chi-square Statistics for Multi-Groups Analysis on Service Loyalty

Model Description		Comparison with M_{free}
M_{free} (Free all coefficients)	$\chi^2 = 231.88$ d.f. = 82 p = 0.00	
M_{fix} (Fix all coefficients)	$\chi^2 = 260.59$ d.f. = 93 p = 0.00	$\Delta\chi^2 = 28.71^{***}$ Δd.f. = 11
M_1 (Fix Behavior ($\gamma_{2,1}$) only)	$\chi^2 = 250.89$ d.f. = 87 p = 0.00	$\Delta\chi^2 = 19.01^{***}$ Δd.f. = 5
M_2 (Fix Attitude ($\gamma_{2,2}$) only)	$\chi^2 = 239.78$ d.f. = 85 p = 0.00	$\Delta\chi^2 = 7.90^{**}$ Δd.f. = 3
M_3 (Fix Cognition ($\gamma_{2,3}$) only)	$\chi^2 = 244.03$ d.f. = 87 p = 0.00	$\Delta\chi^2 = 12.15^{**}$ Δd.f. = 5

** Significant at the 0.05 significance level

*** Significant at the 0.01 significance level

As shown in Table 5.22, the comparison between M_{free} and M_{fix} yields a $\Delta\chi^2$ of 28.71 with Δd.f. of 11, which is statistically significant at the 0.01 probability level, indicating that some equality constraints do not hold across two samples. Therefore, multi-groups analysis was re-ran by fixing one γ parameter to be equal at a time and got the corresponding Chi-square statistics for comparing with the Chi-square

statistics of M_{free}. The results of such Chi-square different test are also presented in Table 5.22.

As reported in the findings of Chi-square difference test, the significant difference appears in the dimension of Behavior (M_1) by yielding a $\Delta\chi^2$ of 19.01 with Δd.f. of 5 at 0.01 probability level, and significant differences also appear in the dimension of Attitude (M_2) and Cognition (M_3) by yielding $\Delta\chi^2$ of 7.90 with Δd.f. of 3 and $\Delta\chi^2$ of 12.15 with Δd.f. of 5 respectively at 0.05 probability level. This mean the path relationships of all three dimensions of service loyalty are different between phone-banking sample and restaurant dining sample.

Table 5.23: Comparison of Parameters with Service Loyalty between Phone-Banking Sample and Restaurant Dining Sample

	Phone-Banking (N=129)			**Restaurant (N=150)**		
Parameters	**Standardized Estimate**	**Std. Error**	**Critical Ratio***	**Standardized Estimate**	**Std. Error**	**Critical Ratio***
Service Loyalty						
Behavior*	1.00	0.11	7.47	0.88	0.11	9.85
Attitude	0.81	0.13	6.73	1.00	0.11	11.37
Cognition	0.79	0.11	7.69	0.67	0.12	8.15

* Significant at the 0.05 significance level

Then, comparison of parameters is made between the phone-banking sample and the restaurant dining sample. According to the parameters shown in Table 5.23, behavioral and cognitive attributes contribute comparatively more to the strength of

service loyalty in the phone-banking service than that to the restaurant dining service. Conversely, attitudinal attributes contribute comparatively more to the strength of service loyalty in the restaurant dining service than that to the phone-banking service.

As hypothesis (6) states that perceived service quality is largely determined by the process-related elements for the phone-banking service, it is only partially supported as the findings indicate both process-related and outcome-related elements are equally important in the evaluation of perceived service quality of phone-banking service, but perceived service quality is not largely determined by process-related elements than by outcome-related elements in creating high level of service loyalty. However, hypothesis (7), which states that perceived service quality is largely determined by the outcome-related elements for the restaurant dining service, is supported as the findings indicate that perceived service quality is largely determined by tangibles elements when comparing with phone-banking service.

However, the findings support that customers are statistically and significantly differed in evaluating perceived service quality and differed in expressing resultant consequences in terms of behavioral, attitudinal and cognitive attributes when performing high level of service loyalty between process-based service and outcome-based service.

5.7 Chapter Summary

To conclude, the findings confirmed that the proposed structural model was well fitted with satisfactory goodness-of-fit index for determining the relationships among

perceived service quality, customer satisfaction and service loyalty through the use of exploratory factor analysis, confirmatory factor analysis and structural equation modeling technique. For testing the hypotheses stated in this study, all hypotheses were supported by the collected sample data, except hypothesis (6). The findings firstly indicated that measures of service loyalty should be incorporated behavioral, attitudinal as well as cognitive attributes. Next, the positive and significant relationships among perceived service quality, customer satisfaction and service loyalty were identified through the analysis of a proposed structural model, in which customer satisfaction was identified as an critical mediator on the relationship between perceived service quality and service loyalty. Then, the proposed structural model was supported by the goodness-of-fit measures to examine both direct and indirect effects of perceived service quality on service loyalty, rather than either direct or indirect effect in an integrated model of service loyalty only.

Lastly, the differences on developing service loyalty between process-based service (i.e. phone-banking service) and outcome-based service (i.e. Western restaurant dining service) were identified. The first difference laid on the elements on evaluating perceived service quality. The second difference laid on the consequences that customers exhibited with high level of service loyalty. In summary, for phone-banking service, customers equally focused on both process-related and outcome-related elements in evaluating perceived service quality for building up service loyalty, resulting in the behavioral and cognitive consequences with high level of service loyalty. Comparatively, customers of restaurant dining service focused on the aspects of tangibles in evaluating perceived service quality for building up service loyalty, resulting in the attitudinal consequences with high level of service loyalty.

6.1 Chapter Introduction

In the earliest part of this Chapter, contributions to the present study are concluded in section 6.2. Next, managerial implications on the findings are examined in section 6.3. Section 6.4 points out the limitations of this study. Finally, suggestions for the direction of future research are made in section 6.5.

6.2 Conclusions of this Study

The main achievement of this study is to indicate that the measure of service loyalty is conceived with behavioral, attitudinal as well as cognitive attributes simultaneously. In fact, the extant literature has pointed out that the composite measure with both behavioral and attitudinal attributes is a valid and reliable measure of service loyalty. However the findings of this study suggest that the inclusion of cognitive attributes in measuring service loyalty should be made, together with behavioral and attitudinal attributes. Therefore, this study provides a better understanding of how customers express high level of service loyalty through different components of loyalty.

In the study on the differences between phone-banking services and restaurant dining services with respect to the consequences of service loyalty, the statistical results indicate that loyal customers of phone-banking services are more willing to regard the behavioral and cognitive attributes as the consequences of high level of service loyalty. This suggests that a high level of service loyalty in phone-banking services is determined by positive word-of-month recommendations, frequent and regular use of

the services as well as considering a particular bank as the first choice in mind. On the other hand, loyal customers of restaurant dining service are more willing to regard the attitudinal attributes as the consequences of high level of service loyalty. The main reason is that different customers will have different tastes or preferences. They will continuously patronize a particular restaurant if the food provided matches their taste or preference. Therefore, customers who have strong preference on a particular restaurant will be considered as loyal.

In addition, as indicated by multi-groups analysis, the proposed structural model can be generalized beyond one single service setting, as the proposed structural model results in significant statistics when applied to both phone-banking services and restaurant dining services. As a result, a similar structural path relationship between the two services can be found.

The positive and significant relationships among perceived service quality, customer satisfaction and service loyalty are supported in the proposed model. Customer satisfaction is identified as a significant mediator between perceived service quality and service loyalty by enhancing the impact of perceived service quality on service loyalty. In addition, the direct impact of perceived service quality is not as strong as its indirect impact on service loyalty, providing evidence to confirm the role of customer satisfaction as a mediator, which cannot be ignored as a factor for building stronger and more durable service loyalty. Therefore, the sequential flow from perceived service quality to service loyalty through customer satisfaction suggests that service loyalty can be built up with high satisfaction on the service provided from the service staff, together with excellent perceived service quality. In fact, the relationships among perceived service quality, customer satisfaction and service

loyalty are postulated in the early stages of this study. It is a new concept with little empirical study. It must be noted that aside from the results of this particular study, there are already comparatively more works in existence that study these relationships in detail. Despite this, the study can still serve to enhance the general ability of the model in different service settings and achieve consistency with the findings of recent studies.

Incorporating process-related elements and outcome-related elements in assessing service loyalty provides a consideration on whether the common SERVQUAL instrument with five generic factors can be used to evaluate service quality in various service settings. The findings reveal that these service quality instruments are statistically significant in that it incorporates both process-related elements and outcome-related elements in assessing perceived service quality, especially within phone-banking services. This shows that outcome-related elements cannot be ignored as measures of perceived service quality recently even in a process-based service. As indicated, customers of phone-banking service place an equal emphasis on process-related elements as well as outcome-related elements in evaluating perceived service quality. Comparatively, customers of restaurant dining services place greater emphasis on the outcome-related elements, like for example the surrounding environment and food quality, which are important factors for customers to evaluate the restaurant dining service quality.

To conclude, Table 6.1 summarizes the results of hypothesis test. On the whole, all hypotheses are statistically supported, except hypothesis (6), which is only partially supported. An interesting finding extracted from hypothesis (6) showed that customers of phone-banking service not only placed high emphasis on process-related

elements, but also placed higher emphasis on outcome-related elements when evaluating perceived service quality. It is reasonable to suggest that both process-related elements and outcome-related elements are important for customers to evaluate perceived service quality of phone-banking service.

Table 6.1: Results of Hypothesis Test

Hypothesis	Supported	Partially Supported
H1: Service loyalty is conceived as a multidimensional structure with three distinct dimensions: behavior, attitude as well as cognition.	✓	
H2: Higher level of perceived service quality will lead to higher level of customer satisfaction with the service.	✓	
H3: Higher level of customer satisfaction with the service will lead to higher level of service loyalty.	✓	
H4: Higher level of perceived service quality will lead to higher level of service loyalty.	✓	
H5: The impact of customer satisfaction is greater than that of perceived service quality on service loyalty.	✓	
H6: For process-based services, perceived service quality is largely determined by process-related elements than by outcome-related elements in creating high level of service loyalty.		✓
H7: For outcome-based services, perceived service quality is largely determined by outcome-related elements than by process-related elements in creating high level of service loyalty.	✓	

6.3 *Managerial Implications*

Basically, several interesting managerial implications can be derived from the findings of this study for service marketers. In the first instance, the positive linkage among perceived service quality, customer satisfaction and service loyalty can provide actionable insights for individual companies to guide their administrative policies aimed at maintaining service loyalty. The findings confirm that merely excellent perceived service quality is insufficient to develop long-term service loyalty without investigating the mediating effect of customer satisfaction. Thus, service managers should ensure that the performance on all components of delivered service is perceived as excellent by customers and should also manage how to keep them in a high level of satisfaction.

Although hypothesis (6) is only partially supported that perceived service quality of phone-banking service is largely determined by process-related elements than by outcome-related elements in creating high level of service loyalty, outcome-related elements are statistically significant in measuring perceived service quality. Therefore, as suggested from the measurement of perceived service quality, besides the quality of interactions between service staff and customers, physical outcomes are also important to be well managed. Especially in the outcome-based services, like the restaurant dining service where the surrounding environment and food quality are the major attributes for customers to evaluate the service quality of a particular restaurant. Therefore, in order to enhance customer satisfaction in consuming the restaurant dining service, a comfortable and clean environment must be provided with the provision of tasty food to customers.

The emphasis on "Tangibles" in restaurant dining services suggests that service managers should bear in mind the guarantee on consistently delivering service to customers with excellent physical evidences. For example, the environment of a restaurant must be decorated in providing a comfortable and warm feeling to the customers. In addition, the decoration should match the restaurant's image and price range. This explains why theme restaurants are very popular in Hong Kong recently, for example, Hello Kitty Café and Rain Forest Restaurant. The former one is decorated as a popular cartoon fashion that targets the youth market, whereas the latter is decorated like a rain forest depicting excitement that attracts customers who love exciting and exotic matters.

Aside from the aforementioned, service staff must be well trained in order to keep good relations with their customers and to respond quickly to their orders in a more effective and efficient way. Especially, as an example, long waiting times for a table in a restaurant will make customers unsatisfied and feel frustrated. This can be solved by providing attractive reading materials or special playthings to customers to make up for the time spent waiting. Like most of the theme restaurants, a gift shop is usually set up nearby for the sole purpose of selling their own registered or own label products. Not only can such an establishment provide a shopping outlet for the customers during their wait for the table, but it can also serve to increase revenues for the restaurant.

Given that the consumers' taste changes frequently, it is highly recommended that restaurants should regularly change their theme to keep their customers curious about the restaurant. For example, the restaurants can be decorated in a style to match a particular holiday, like Christmas or Easter. An ideal consequence of this strategy is

that consumption in the restaurant each time can be a new experience to the customers. This makes customers desire to return to the restaurant because each dining experience is treated like a brand new one.

Furthermore, service managers should ensure the excellent quality of the provided food and drinks, and make sure the serving area is thoroughly clean, so as to give the customers an image of hygiene. More importantly, a restaurant could do with avoiding negative reports or rumors of disease or infection. Recently, cholera has resurfaced to become a common disease in Hong Kong. Service managers should strive to keep their restaurant in a highly hygienic condition in order to avoid the spread of cholera by keeping the food fresh and by cleaning the serving area regularly.

In effect, quality control is a good way for consistently keeping the quality of service at a superior level. This can be achieved by conducting internal monitoring programs and external customer surveys. The first one aims to monitor the behavior of service staff in dealing with customers implicitly. In Hong Kong, some service companies employ the "mysterious shopper" method to evaluate the performance of frontline service staff. The major duty of the mysterious shopper is to normally consume the service and to deal with the frontline service staff, and then he/she is required to make a report concerning any areas for improvement. The advantages of employing the mysterious shopper method is that such a method can monitor frontline service staff from the customer's perspective and reduce the human resource burden when assigning a full-time member of staff to take on the monitoring duty. On the other hand, external customer surveys can collect customers' opinions through the use of a questionnaire. Customers' opinions can provide ideas for improvement and for

fulfilling customers' needs in a more effective and customized way. It is highly recommended that external customer survey should be conducted repetitively and periodically, if necessary, so as to trace any changes in customers' needs and tastes.

This study identifies that service loyalty is composed of three dimensions, they are behavioral loyalty, attitudinal loyalty and cognitive loyalty. Thus, the results of decomposing service loyalty into three sets of components provide service managers with an idea that "loyal customers" can be differentiated into three different types. For example, some of the "loyal customers" may express their loyalty in a more attitudinal way as in the case of restaurant dining service, or some of them may express in a more behavioral and cognitive way as in the case of phone-banking service. Therefore, service managers should employ different marketing strategies to capture different kinds of "loyal customers". For example, service managers should notify those customers with high behavioral and attitudinal loyalty but have low cognitive loyalty that the company has offered better service than the other alternative companies with extensive advertising promotion, so as to strengthen customers' beliefs that the service provided is the best, and in turn increase their level of cognitive loyalty.

Finally, the assessment of service loyalty can provide useful information to service managers in terms of identified measures for segmenting their own "loyal customers". Particularly, for different types of services, the relative importance of these three sets of attributes to the development of service loyalty is different. For the restaurant dining service, service managers can place more attention on attitudinal attributes to determine the customer's loyalty, such as whether the customer poses favorable preference toward the restaurant. On the other hand, for phone-banking services,

service managers can place more attention on behavioral and cognitive attributes, such as whether the bank is considered to be the first choice in the customer's mind or whether the customer is willing to provide positive recommendations and comments. In effect, no matter what nature of the service is, all share the same key to success by carefully retaining the "loyal customer" group through quality evaluation and effective segmentation.

6.4 *Limitations*

The present study raises some interesting issues based on the obtained results. However, this study is subject to several shortcomings that limit the interpretation of the findings as it is so often the case in consumer research. Firstly, this study was performed in a cross-sectional design format for the survey in collecting data, in which the perceptions of respondents on the questionnaire items were captured. Although this study can provide empirical evidence to support the relationships among perceived service quality, customer satisfaction and service loyalty specified in the proposed model, the reinforcing effect of service loyalty on perceived service quality has not been tested on a longitudinal basis, as the data collected from the cross-sectional survey cannot capture any continuous impacts among constructs that may affect the hypothesized relationships. For example, whether continuous improvement in service quality may increase the level of service loyalty is still unknown.

Another limitation refers to the sampling frame for selecting target respondents and the selection of sampled service industries. On the basis of mailing survey, the

sampling frame in this study only covered 13 different service industries as stated in Chapter 4. In order to be as representative as possible, more different types of service industries or other potential respondents from manufacturing industries should be included.

As this study only attempts to generalize the proposed model in process-based services and outcome-based services, phone-banking services and Western restaurant dining services were selected as sampled services in testing the hypothesized relationships among constructs in the proposed model. Thus, the results in this study may only be valid for the phone-banking service and Western restaurant dining service. When replicating the proposed model in the other types of service settings, the predicted findings maybe somewhat different. Therefore, the proposed model reported in the present study should be further validated by replicating it in other service industries. From the findings of Hypothesis 6 in this study, showing that the selection of sampled services is not the ideal choice as the sampled services cannot be clearly differentiated into process-based and outcome-based services. However, it is hard to select a service industry with pure process elements or a service industry with pure outcome elements that most of the respondents are familiar with. This may be the main reason that explain why hypothesis 6 is only partially supported as phone-banking service is not a pure process-based service.

According to the results of exploratory factor analysis, a 3-factor structure of service loyalty is extracted with behavioral, attitudinal and cognitive dimensions and each has high Cronbach's alpha reliability, except attitudinal dimension which suffers the problem of relatively low construct reliability in term of average variance extracted value (AVE = 0.45). In addition, two of the dimensions of perceived service quality

suffer the same problem of low average variance extracted value. They are Tangibles (AVE = 0.33) and Outcomes (AVE = 0.44). Due to the relatively low average variance extracted value in these three first order constructs, causing the later measurement models and proposed structural model result in a RMSEA value of 0.11 slightly larger than the recommended level (i.e. >0.90). Even though the resultant RMSEA value is considered to be marginally acceptable (Anderson and Gerbing, 1988), this value implies room for further improvement. The reasons for such low construct reliability are perhaps two fold. Firstly, the item pool used for those constructs may not capture all aspects of the domain. Secondly, the respondents are confused on the questions asked. In particular, some respondents may be confused on the definition of phone-banking services, as they may consider phone-banking services to be services that deal with pre-recorded voice-only machines. Therefore, further justification and validation of the scales are necessary.

6.5 Further Research

It appears that there is much to be known about the concept of service loyalty, as it is still only being understood partially and only a few areas have been explored at the current level. Many research questions directing to the work on service loyalty and its relationship with other proposed constructs will be posed in the future. Thus, it is highly recommended to further enhance the knowledge of service loyalty by extending to other new perspectives, so as to capture the full picture in reflecting how service loyalty is developed.

This study attempts to incorporate outcome-related elements and process-related elements into six dimensions in measuring perceived service quality. However, directions of further research can go to separate outcome-related elements and process-related elements into two distinct dimensions with the aim to determine their influences on the measurement of perceived service quality. In addition, extra effort is needed to explore other addition items of the process-related and outcome-related service quality constructs.

With respect to the construct of service loyalty, it is recommended to generate more items for the measure of service loyalty in further research. Besides the favorable measures of service loyalty, it may also be argued that unfavorable behavioral consequences should also be operationalized as measures of service loyalty (Zeithaml et al., 1996). In the category of unfavorable behavioral consequences, switching behavior and complaint behavior are the most common indicators for reflecting the negative responses of customers resulted from dissatisfaction (Bejou and Palmer, 1998; de Ruyter et al., 1999; Dubé and Maute, 1996; Kandampully, 1998; Mittal and Lassar, 1998; Morgan and Dev, 1994; Zeithaml et al., 1996).

Since this study mainly focuses on the relationships among perceive service quality, customer satisfaction and service loyalty (SQ → CS → SL), these relationships can be further examined by considering other external effects. For example, further studies can focus on the new perspectives of service loyalty in answering the research questions like 1) how can the level of service loyalty be affected by situational factors? or 2) how can the level of service loyalty be affected by the quality of relationship with the contacted service staff?

Besides, future studies can adapt the model developed in this study in various service industries to further enhance its generalizability. For example, loyalty of Internet business or electronic loyalty (e-loyalty) is a hot topic of recent research. In addition, the data in this study were collected in Hong Kong only. Future research should consider to use subjects in other Asian countries as well, like Japan and China, so as to further challenge the question of whether there "is there any difference on the impact of service loyalty in different countries with different cultural and social contexts". Since numerous research has been conducted in Western countries, there is a potential and an opportunity presented here to compare the strength of relationships among perceived service quality, customer satisfaction and service loyalty between Eastern and Western countries.

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For Customer Group

	Frequency
Antecedents of Service Loyalty	
Outcome Related Service Quality	
• Benefits/Rewards/Extra values/Value-added	9
• Uniqueness/Availability of alternatives	5
• Brand name	3
Process Related Service Quality	
• Relationship/Familiarity	11
• Accurate and fast service delivery	8
• Personal Staff's attitude	6
• Good experience on service transactions	2
• Trust	2
Customer Satisfaction	
• Meet customer's needs or expectations	11
Situational Factors	
• Habitual pattern/Inertia	4
• Price oriented	1
• Switching cost	1
• Lock-in	1
Outcomes of Service Loyalty	
Repeated Purchase Behavior & Intention	
• Repeated purchase	5
Word-of-mouth	
• Recommendation/Repetition	4
• Appreciation	1
Period of Usage	
• Period of usage	1
Price Tolerance	
• Ignorance of price factor	4
Switching Behavior	
• Switching behavior	3
Preference	
• Favorable attitude	2
Cognition	
• First thing in mind (Cognition)	3
Change Tolerance	
• Tolerance level of change sensitivity	1

For Service Provider Group

	Frequency
Antecedents of Service Loyalty	
Outcome Related Service Quality	
• Brand name	8
• Benefits/ Value-added/Value for money	6
• Food quality	5
• Impersonal factors (Location, Environment, convenience, opening hour)	3
Process Related Service Quality	
• Personal factors (service staff's technique)	20
• Relationship/Familiarity (keep contact)	18
• Accurate and fast service delivery	13
• Trust/Confidence	8
• Good experience on service transactions	3
• Commitment	1
Customer Satisfaction	
• Satisfaction (solve customers' problem)	5
Situational Factors	
• Habitual pattern/Inertia	2
Outcomes of Service Loyalty	
Repeated Purchase Behavior & Intention	
• Repeated purchase	9
• Transaction amount	2
• Consume a wide range of services in a particular company	2
Word-of-mouth	
• Willing to voice out/Giving feedback/Complaints	6
• Recommendation	2
Period of Usage	
• Period of usage	1
Price Tolerance	
• Price tolerance (no bargain on price)	4
Switching Behavior	
• Switching behavior	2
Preference	
• Favorable attitude	2
Choice Sets Reduction	
• Choice sets reduction (brainwash)	2
Cognition	
• First thing in mind (Cognition)	3
Change Tolerance	
• No argue/No complaint	3
• Accept new advice and new service/food	3
• Willing to wait	2
Adoption on Service Innovation	
• Service innovation	2
• New food provided	1

Items Used for the Measurement of Perceived Service Quality

Process Related Elements *

Reliability
1. When the service staff promise to do something by a certain time, they do so
2. When you have a problem, they show sincere interest in solving it
3. Perform the service right the first time
4. Provide the service at the time they promise to do so
5. Company or service staff insist on error-free records

Responsiveness
6. Tell you exactly when the service will be performed
7. Gives prompt service
8. Willing to help you
9. Service staff will never be too busy to respond to your requests
10. In emergencies, the service staff can make arrangements to assist you ## *(Deleted)*

Assurance
11. The behavior of service staff instill confidence in you
12. You feel secure and comfortable in dealing with service staff *(Deleted)*
13. Service staff who are consistently courteous
14. Service staff have sufficient knowledge to answer your questions

Empathy
15. Service staff who give you personal attention
16. Have your best interests at heart
17. Understand the specific needs of you
18. Operating hours of the services are convenient to customers

Outcome Related Elements

Tangibles
19. Modern looking equipment * *(Deleted)*
20. Materials associated with the service are visually appearing *
21. The incentive given is attractive ##
22. The waiting time for the service is acceptable ##
23. The decoration can keep with the image and price range **
24. Serving areas are thoroughly clean **
25. Serving areas are visually attractive ** *(Deleted)*
26. Menus (or instructions) are easily readable (or understandable) **

Outcome
27. Quality of food (or required information) is excellent **
28. Orders (or instructions) can be done accordingly and accurately **
29. The service is value for money #
30. The time cost in having the service is low ## *(Deleted)*
31. The benefits really meet your expectations ##

* items are based on SERVQUAL (Zeithaml et al., 1985; 1988)
** items are extracted from DINESERV (Stevens et al., 1995)
# item is adapted from Luk (1999)
items are extracted from the conducted focus groups

Items Used for the Measurement of Customer Satisfaction *

1. Compared to the previous experience with this service provider/company, you are happy in consuming the service from this service provider/company in the most recent experience.
2. The services provided by this service provider/company do meet your satisfaction level.
3. You believe that consuming the service from this service provider/company is usually satisfying experience.
4. Overall speaking, you believe that you are pleased with the service provided.
5. Until now, you are satisfied on the overall delivered service.

* items are modified from Taylor and Baker (1994)

Items Used for the Measurement of Service Loyalty

1. There is a very high probability that you will consume at the same service provider/company again. *
2. You have repeatedly consumed at the same service provider/company in the past few years. * *(Deleted)*
3. You have recommended other people to patronize this service provider/company. **
4. You will say positive things to other people about the service provided by this service provider/company. **
5. You will give positive feedback to this service provider/company. *
6. You will continue to consume at this service provider/company even if the price is increased somewhat. **
7. You have a strong preference on this service provider/company. *
8. You will keep consuming at this service provider/company, even if everything being changed somewhat. *
9. You will try the new services (food or drinks) that are recommended by this service provider/company. *
10. You will try to use other related services or purchase related products of this service provider/company. * *(Deleted)*
11. This service provider/company is the first choice in your mind when you consider to use the service. *
12. Assumed that you have only three choices when you are in need of using the service, this service provider/company must be one of them. #
13. Yon have regularly consumed at this service provider/company for a long period of time. *

* items are extracted from the conducted focus groups
** items are adapted from de Ruyter et al. (1999)
# item is driven from the concept of Sheth and Parvatiyar (1995)

Correlation Matrix of Questionnaire Items for Pilot Study

Perceived Service Quality (SQ)

	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	SQ9	SQ10	SQ11	SQ12	SQ13	SQ14	SQ15	SQ16
SQ1	1.000															
SQ2	0.568*	1.000														
SQ3	0.634*	0.627*	1.000													
SQ4	0.555*	0.554*	0.675*	1.000												
SQ5	0.556*	0.449*	0.625*	0.645*	1.000											
SQ6	0.399*	0.473*	0.548*	0.594*	0.589*	1.000										
SQ7	0.464*	0.566*	0.590*	0.646*	0.485*	0.565*	1.000									
SQ8	0.436*	0.458*	0.553*	0.497*	0.448*	0.546*	0.578*	1.000								
SQ9	0.172	0.271*	0.417*	0.406*	0.329*	0.562*	0.262*	0.468*	1.000							
SQ10	0.495*	0.505*	0.387*	0.435*	0.482*	0.426*	0.419*	0.460*	0.358*	1.000						
SQ11	0.664*	0.668*	0.624*	0.532*	0.575*	0.615*	0.645*	0.701*	0.385*	0.587*	1.000					
SQ12	0.539*	0.557*	0.570*	0.473*	0.487*	0.541*	0.455*	0.723*	0.510*	0.612*	0.724*	1.000				
SQ13	0.412*	0.531*	0.475*	0.563*	0.483*	0.488*	0.443*	0.544*	0.463*	0.554*	0.544*	0.698*	1.000			
SQ14	0.451*	0.412*	0.426*	0.502*	0.465*	0.604*	0.551*	0.620*	0.388*	0.438*	0.613*	0.598*	0.678*	1.000		
SQ15	0.414*	0.512*	0.388*	0.295*	0.380*	0.389*	0.264*	0.412*	0.381*	0.536*	0.539*	0.638*	0.498*	0.353*	1.000	
SQ16	0.377*	0.351*	0.391*	0.439*	0.305*	0.410*	0.464*	0.437*	0.433*	0.598*	0.498*	0.579*	0.533*	0.385*	0.683*	1.000
SQ17	0.403*	0.260*	0.352*	0.425*	0.397*	0.381*	0.445*	0.470*	0.286*	0.540*	0.455*	0.521*	0.511*	0.565*	0.608*	0.655*
SQ18	0.031	0.135	0.126	0.017	0.085	0.070	0.259*	0.223*	0.057	0.183	0.221*	0.114	0.122	0.261*	0.163	0.167
SQ19	0.082	0.193	0.261*	0.109	0.165	0.151	0.264*	0.297*	0.158	0.217*	0.313*	0.348*	0.342*	0.283*	0.414*	0.390*
SQ20	0.101	0.169	0.166	0.104	0.051	0.150	0.252*	0.262*	0.120	0.246*	0.155	0.292*	0.281*	0.258*	0.271*	0.298*
SQ21	0.235*	0.258*	0.279*	0.215*	0.203	0.268*	0.366*	0.446*	0.302*	0.408*	0.387*	0.489*	0.390*	0.296*	0.539*	0.554*
SQ22	0.313*	0.370*	0.476*	0.476*	0.425*	0.411*	0.515*	0.359*	0.386*	0.414*	0.464*	0.407*	0.381*	0.439*	0.289*	0.462*
SQ23	0.273*	0.335*	0.247*	0.330*	0.312*	0.237*	0.416*	0.420*	0.123	0.479*	0.434*	0.434*	0.499*	0.475*	0.428*	0.502*
SQ24	0.413*	0.349*	0.391*	0.424*	0.428*	0.452*	0.441*	0.466*	0.369*	0.460*	0.458*	0.561*	0.669*	0.581*	0.376*	0.505*
SQ25	0.342*	0.391*	0.367*	0.357*	0.306*	0.294*	0.388*	0.390*	0.294*	0.457*	0.558*	0.557*	0.595*	0.423*	0.445*	0.463*
SQ26	0.110	0.106	0.100	0.236*	0.102	0.029	0.220*	0.204*	-0.151	0.119	0.114	0.083	0.275*	0.302*	0.126	0.253*
SQ27	0.347*	0.382*	0.353*	0.320*	0.202*	0.315*	0.420*	0.441*	0.197	0.420*	0.498*	0.457*	0.390*	0.404*	0.446*	0.476*
SQ28	0.445*	0.418*	0.421*	0.458*	0.473*	0.406*	0.405*	0.291*	0.259*	0.425*	0.439*	0.322*	0.391*	0.433*	0.246*	0.346*
SQ29	0.333*	0.448*	0.472*	0.452*	0.403*	0.404*	0.584*	0.513*	0.259*	0.438*	0.537*	0.503*	0.451*	0.500*	0.404*	0.459*
SQ30	0.170	0.187	0.439*	0.279*	0.325*	0.374*	0.308*	0.321*	0.221*	0.137	0.330*	0.290*	0.128	0.173	0.201	0.125
SQ31	0.420*	0.459*	0.402*	0.373*	0.338*	0.357*	0.498*	0.450*	0.231*	0.470*	0.569*	0.394*	0.472*	0.588*	0.439*	0.474*

* Significant at the 0.05 Significance Level

Correlation Matrix of Questionnaire Items for Pilot Study

Continued

	SQ17	SQ18	SQ19	SQ20	SQ21	SQ22	SQ23	SQ24	SQ25	SQ26	SQ27	SQ28	SQ29	SQ30	SQ31
SQ1															
SQ2															
SQ3															
SQ4															
SQ5															
SQ6															
SQ7															
SQ8															
SQ9															
SQ10															
SQ11															
SQ12															
SQ13															
SQ14															
SQ15															
SQ16															
SQ17	1.000														
SQ18	0.152	1.000													
SQ19	0.348*	0.303*	1.000												
SQ20	0.205*	0.290*	0.481*	1.000											
SQ21	0.399*	0.270*	0.450*	0.427*	1.000										
SQ22	0.333*	0.272*	0.255*	0.160	0.204	1.000									
SQ23	0.421*	0.301*	0.461*	0.502*	0.411*	0.372*	1.000								
SQ24	0.432*	0.105	0.369*	0.312*	0.358*	0.562*	0.560*	1.000							
SQ25	0.461*	0.156	0.467*	0.289*	0.417*	0.480*	0.484*	0.599*	1.000						
SQ26	0.231*	0.312*	0.257*	0.199	0.166	0.195	0.456*	0.351*	0.198	1.000					
SQ27	0.388*	0.325*	0.411*	0.424*	0.395*	0.417*	0.496*	0.520*	0.527*	0.348*	1.000				
SQ28	0.360*	0.205*	0.251*	0.250*	0.222*	0.582*	0.465*	0.569*	0.351*	0.389*	0.385*	1.000			
SQ29	0.528*	0.294*	0.366*	0.283*	0.432*	0.472*	0.553*	0.499*	0.494*	0.362*	0.462*	0.417*	1.000		
SQ30	0.213*	0.201*	0.097	0.029	0.309*	0.162	-0.032	-0.016	0.051	0.014	0.032	0.068	0.316	1.000	
SQ31	0.503*	0.363*	0.443*	0.300*	0.613*	0.432*	0.515*	0.450*	0.484*	0.345*	0.544*	0.529*	0.622	0.250*	1.000

* Significant at the 0.05 Significance Level

Appendix III:

Correlation Matrix of Questionnaire Items for Pilot Study

Items of Perceived Service Quality

Items	Description
SQ1	When the service staff promise to do something by a certain time, they do so
SQ2	When you have a problem, they show sincere interest in solving it
SQ3	Perform the service right the first time
SQ4	Provide the service at the time they promise to do so
SQ5	Company or service staff insist on error-free records
SQ6	Tell you exactly when the service will be performed
SQ7	Gives prompt service
SQ8	Willing to help you
SQ9	Service staff will never be too busy to respond to your requests
SQ10	In emergencies, the service staff can make arrangements to assist you
SQ11	The behavior of service staff instill confidence in you
SQ12	You feel secure and comfortable in dealing with service staff
SQ13	Service staff who are consistently courteous
SQ14	Service staff have sufficient knowledge to answer your questions
SQ15	Service staff who give you personal attention
SQ16	Have your best interests at heart
SQ17	Understand the specific needs of you
SQ18	Operating hours of the services are convenient to customers
SQ19	Modern looking equipment
SQ20	Materials associated with the service are visually appearing
SQ21	The incentive given is attractive
SQ22	The waiting time for the service is acceptable
SQ23	The decoration can keep with the bank's image and price range
SQ24	Serving areas are thoroughly clean
SQ25	Serving areas are visually attractive
SQ26	Menus (or instructions) are easily readable (or understandable)
SQ27	Quality of food (or required information) is excellent
SQ28	Orders (or instructions) can be done accordingly and accurately
SQ29	The service is value for money
SQ30	The time cost in having the service is low
SQ31	The benefits really meet your expectations

Customer Satisfaction (CS)

	CS1	CS2	CS3	CS4	CS5
CS1	1.000				
CS2	0.836*	1.000			
CS3	0.796*	0.735*	1.000		
CS4	0.622*	0.590*	0.695*	1.000	
CS5	0.719*	0.771*	0.811*	0.744*	1.000

* Significant at the 0.05 Significance Level

Service Loyalty (SL)

	SL1	SL2	SL3	SL4	SL5	SL6	SL7	SL8	SL9	SL10	SL11	SL12	SL13
SL1	1.000												
SL2	0.599*	1.000											
SL3	0.569*	0.418*	1.000										
SL4	0.486*	0.288*	0.771*	1.000									
SL5	0.277*	0.194	0.455*	0.558*	1.000								
SL6	0.388*	0.251*	0.441*	0.448*	0.469*	1.000							
SL7	0.365*	0.337*	0.535*	0.428*	0.355*	0.361*	1.000						
SL8	0.165	0.178	0.318*	0.314*	0.270*	0.444*	0.377*	1.000					
SL9	0.261*	0.189	0.279*	0.334*	0.423*	0.439*	0.274*	0.252*	1.000				
SL10	0.111	0.302*	0.033	-0.081	0.085	0.040	-0.048	0.063	0.232*	1.000			
SL11	0.370*	0.541*	0.405*	0.343*	0.173*	0.155	0.570*	0.270*	0.285*	0.408*	1.000		
SL12	0.465*	0.623*	0.435*	0.382*	0.300*	0.224*	0.525*	0.186	0.336*	0.314*	0.763*	1.000	
SL13	0.586*	0.703*	0.413*	0.273*	0.186	0.193	0.332*	0.173	0.218*	0.311*	0.647*	0.686*	1.000

* Significant at the 0.05 Significance Level

Correlation Matrix of Questionnaire Items for Pilot Study

Items of Customer Satisfaction

Items	Description
CS1	Compared to the previous experience with this service provider/company, you are happy in consuming the service from this service provider/company in the most recent experience.
CS2	The services provided by this service provider/company do meet your satisfaction level.
CS3	You believe that consuming the service from this service provider/company is usually satisfying experience.
CS4	Overall speaking, you believe that you are pleased with the service provided.
CS5	Until now, you are satisfied on the overall delivered service.

Items of Service Loyalty

Items	Description
SL1	There is a very high probability that you will consume at the same service provider/company again.
SL2	You have repeatedly consumed at the same service provider/company in the past few years.
SL3	You have recommended other people to patronize this service provider/company.
SL4	You will say positive things to other people about the service provided by this service provider/company.
SL5	You will give positive feedback to this service provider/company.
SL6	You will continue to consume at this service provider/company even if the price is increased somewhat.
SL7	You have a strong preference on this service provider/company.
SL8	You will keep consuming at this service provider/company, even if everything being changed somewhat.
SL9	You will try the new services (food or drinks) that are recommended by this service provider/company.
SL10	You will try to use other related services or purchase related products of this service provider/company.
SL11	This service provider/company is the first choice in your mind when you consider to use the service.
SL12	Assumed that you have only three choices when you are in need of using the service, this service provider/company must be one of them.
SL13	Yon have regularly consumed at this service provider/company for a long period of time.

B□□□

INSTRUCTION: For the following parts, please first consider a retail bank where you have experienced its service, including the phone-banking service. Hereafter, "the/this bank" mentioned in following statements refers to the same bank only. Then, indicating your feeling to each of the following statements according to the most recent experience with the bank. There is no right or wrong answer for each statement. Please indicate how much you agree/disagree with each of the following statements, and circle the appropriate number to reflect your feeling according to the below scale.

指示：在以下各部份，請先想出一間你曾經選用服務經驗的銀行，而曾使用的服務當中應該包括銀行電話理財服務。此後，在以下所有句子中提及的"這銀行"一詞只是指同一間銀行。然後根據你在這銀行的最近一次經驗，表示出你對於每一句子的感受。你的答案在以下每一句子是沒有對或錯之分。請根據以下的比例，指示出閣下對於以下句子有多同意/不同意，及圈出最適合的數字去表示你的感受。

Strongly disagree 非常不同意	Disagree 不同意	Slightly disagree 少許不同意	Neutral 無意見	Slightly agree 少許同意	Agree 同意	Strongly agree 非常同意
1	2	3	4	5	6	7

Part 1: Perceived Service Quality (NA = not applicable)

第一部份： 服務質素的感受 (NA=不適用)

	Strongly disagree 非常不同意						Strongly agree 非常同意	
1. When the bank promises to do something by a certain time, it does so. 當這銀行作出承諾時，它能如期辦到。	1	2	3	4	5	6	7	NA
2. When you have a problem, the bank shows sincere interest in solving it. 當你遇到困難時，這銀行能以誠懇的態度幫助你解決問題。	1	2	3	4	5	6	7	NA
3. The bank performs the services right the first time. 這銀行表現出準確無誤的服務。	1	2	3	4	5	6	7	NA
4. The bank provides the service at the time it promises to do so. 這銀行會在承諾的時間內提供服務。	1	2	3	4	5	6	7	NA
5. The bank insists on error-free records. 這銀行會盡力保持沒有犯錯記錄。	1	2	3	4	5	6	7	NA
6. Service staff tell you exactly when the service will be performed. 服務人員會準確地告知你於何時履行服務。	1	2	3	4	5	6	7	NA
7. Service staff give prompt service. 服務人員會提供快捷服務。	1	2	3	4	5	6	7	NA
8. Service staff are willing to help you. 服務人員會樂意地去幫助你。	1	2	3	4	5	6	7	NA
9. Service staff are never too busy to respond to your requests. 服務人員永遠不會太匆忙地去回應你的要求。	1	2	3	4	5	6	7	NA
10. The behavior of service staff instills confidence in you. 服務人員的行爲表現能給予你信心。	1	2	3	4	5	6	7	NA
11. Service staff are consistently courteous. 服務人員會貫徹一致地保持禮貌。	1	2	3	4	5	6	7	NA
12. Service staff have sufficient knowledge to answer your questions. 服務人員能有足夠的知識去回答你的問題。	1	2	3	4	5	6	7	NA
13. Service staff give you personal attention. 服務人員會給予你個別的關注。	1	2	3	4	5	6	7	NA
14. Service staff have your best interests at heart. 服務人員會以你的最佳利益爲先。	1	2	3	4	5	6	7	NA

15. Service staff understand the specific needs of you.
服務人員能明白你的特別需要。 1 2 3 4 5 6 7 NA
16. Operating hours of the bank are convenient to you.
這銀行的營業時間對你非常方便。 1 2 3 4 5 6 7 NA
17. The waiting time for the service is acceptable.
等候服務的時間可以接受。 1 2 3 4 5 6 7 NA
18. Materials associated with the service are visually appealing (e.g. pamphlets, posters).
有關這項服務的印刷品在視覺上很吸引(例如，小冊子或宣傳海報)。 1 2 3 4 5 6 7 NA
19. The decoration matches with the bank's image and price range.
室內的裝飾能夠配合這銀行的形象及收費。 1 2 3 4 5 6 7 NA
20. Instructions or information relating to the phone-banking service are easy to understand.
銀行電話理財服務的指示或有關資訊容易令人明白。 1 2 3 4 5 6 7 NA
21. Serving areas of the bank are thoroughly clean.
這銀行的服務地方非常整潔。 1 2 3 4 5 6 7 NA
22. The gifts or incentives given from the bank are attractive.
這銀行所給予的禮物或獎勵十分吸引。 1 2 3 4 5 6 7 NA
23. Your instructions through the use of phone-banking service can be done accordingly and accurately.
在使用銀行電話理財服務時，你的指示能夠順序地及準確地一一辦妥。 1 2 3 4 5 6 7 NA
24. Information received from the bank is useful.
由這銀行收到的資訊是十分有用的。 1 2 3 4 5 6 7 NA
25. The service is value for money.
這項服務是物有所值的。 1 2 3 4 5 6 7 NA
26. The benefits provided by the bank really meet your expectations.
這銀行所給予的利益能達到你的期望。 1 2 3 4 5 6 7 NA

	Strongly disagree 非常不同意						Strongly agree 非常同意
Overall, the perceived service quality of this bank is excellent. **整體上**，你感受到這銀行提供優越的服務質素。	1	2	3	4	5	6	7

Part 2: Customer Satisfaction

第二部份： 顧客滿意程度

	Strongly disagree 非常不同意						Strongly agree 非常同意
1. Compared to previous experiences with this bank, you are happy in using the phone-banking service from this bank in the most recent experience. 與以往在這銀行的經驗比較，你對於最近一次使用這銀行所提供的電話理財服務感到開心。	1	2	3	4	5	6	7
2. The services provided by this bank do meet your satisfaction level. 這銀行所提供的服務能達到你心目中的滿意程度。	1	2	3	4	5	6	7
3. You believe that consuming services from this bank is usually a satisfying experience. 你相信在這銀行使用所提供的服務通常是一個滿意的經驗。	1	2	3	4	5	6	7
4. Overall, you believe that you will be pleased with this bank's services when using the phone-banking service. 整體上，在使用銀行電話理財服務時，你相信你會對這銀行所提供的服務感到愉快。	1	2	3	4	5	6	7
5. Until now, you are satisfied with the service delivered by this bank. 直到目前，你滿意這銀行整體上所提供的服務。	1	2	3	4	5	6	7

Part 3: Service Loyalty

This part is to measure your level of loyalty to this bank. Please circle the appropriate number to reflect your feeling.

第三部份： 服務忠誠度

這部份是去量度閣下對這銀行的忠誠度。請圈出最適合的數字去表示你的感受。

	Strongly disagree 非常不同意						Strongly agree 非常同意
1. There is a very high probability that you will use the phone-banking service from this bank again. 你有很高的可能性再次使用由這銀行所提供的電話理財服務。	1	2	3	4	5	6	7
2. You have recommended other people to use the services from this bank. 你會建議別人去使用這銀行所提供的服務。	1	2	3	4	5	6	7
3. You will say positive things to other people about the services provided by this bank. 你會告知別人一些關於這銀行所提供的服務的正面資訊。	1	2	3	4	5	6	7
4. You will give positive feedback to this bank. 你會提供善意的意見給予這銀行。	1	2	3	4	5	6	7
5. You will continue to use the service even if the service charge increases somewhat. 儘管這銀行所徵收的服務費用有某程度的增加，你仍會繼續使用這銀行所提供的服務。	1	2	3	4	5	6	7
6. You have a strong preference on this bank. 你對於這銀行有很強烈的偏愛。	1	2	3	4	5	6	7
7. You will keep using this bank, regardless of everything being changed somewhat. 儘管這銀行內的一切有某程度的轉變，你仍會繼續使用這銀行所提供的服務。	1	2	3	4	5	6	7
8. You will try to use the new services that are recommended by this bank. 你會嘗試去使用這銀行所介紹的新服務。	1	2	3	4	5	6	7
9. This bank is the first choice in your mind when you want to use the phone-banking service or other related banking services. 當你想使用銀行的電話理財服務或其他銀行服務，這銀行是你心目中的第一選擇。	1	2	3	4	5	6	7
10. Assumed that you have only three choices when you are in need to use any type of banking services, including the phone-banking service, this bank must be one of them. 當你需要使用任何一種銀行服務時，包括銀行電話理財服務，假設你只有三個銀行選擇，這銀行必定是其中之一。	1	2	3	4	5	6	7
11. You have regularly used the phone-banking service of this bank for a long period of time. 你有一段很長的時間定期地在這銀行使用其所提供的電話理財服務。	1	2	3	4	5	6	7

12. How long have you regularly used the phone-banking service provided by this bank? _____ year/month*
你曾經定期地在這銀行使用其所提供的電話理財服務多久？ _____ 年 / 月*

* Please deletes the inappropriate one.
* 請刪除不適合的。

Please circle the appropriate number to indicate the level of your loyalty to this bank according to the below scale.
根據以下的比例，請圈出最適合的數字去表示出你對這銀行的忠誠度。

Lowest 最低						Highest 最高
1	2	3	4	5	6	7

Part 4: Personal Data

第四部份： 個人資料

1.	Sex: 性別:	❑ Male ❑ Female	男 女
2.	Age: 年齡:	❑ 25 or below ❑ 26 - 35 ❑ 36 - 45 ❑ 46 - 55 ❑ 56 or above	25 或以下 26 - 35 36 - 45 46 - 55 56 或以上
3.	Educational Level: 教育程度:	❑ Primary or below ❑ Secondary ❑ Post-Secondary ❑ Diploma/High Diploma /Certificate ❑ Tertiary/University ❑ Postgraduate or above	小學或以下 中學 預科 文憑/高級文憑 /證書 大專/大學 碩士或以上
4.	Occupation: 職業:	❑ Clerk ❑ Salesperson ❑ Student ❑ Marketing Executive ❑ Manager ❑ Professional ❑ Self-employed ❑ Others	文職人員 營業人員 學生 市場策劃人員/主任 經理 專業人員 自僱 其他
5.	Monthly Income: 平均月薪:	❑ 15,000 or below ❑ 15,001 – 30,000 ❑ 30,001 – 45,000 ❑ 45,001 – 60,000 ❑ 60,001 or above	15,000 或以下 15,001 – 30,000 30,001 – 45,000 45,001 – 60,000 60,001 或以上

End of Questionnaire -- Thank You

全卷完 -- 多謝合作

R□□□

INSTRUCTION: For the following parts, please first consider a western restaurant where you have experienced its service. Hereafter, "the/this restaurant" mentioned in following statements refers to the same western restaurant only. Then, indicating your feeling to each of the following statements according to the most recent experience with the restaurant. There is no right or wrong answer for each statement. Please indicate how much you agree/disagree with each of the following statements, and circle the appropriate number to reflect your feeling according to the below scale.

指示：在以下各部份，請先想出一間你曾經享用過晚餐服務的西式餐廳。此後，在以下所有句子中提及的"這餐廳"一詞只是指同一間的西式餐廳。然後根據你在這餐廳的最近一次經驗，表示出你對於每一句子的感受。你的答案在以下每一句子是沒有對或錯之分。請根據以下的比例，指示出閣下對於以下句子有多同意/不同意，及圈出最適合的數字去表示你的感受。

Strongly disagree 非常不同意	Disagree 不同意	Slightly disagree 少許不同意	Neutral 無意見	Slightly agree 少許同意	Agree 同意	Strongly agree 非常同意
1	2	3	4	5	6	7

Part 1: Perceived Service Quality (NA = not applicable)

第一部份： 服務質素的感受 (NA=不適用)

	Strongly disagree 非常不同意						Strongly agree 非常同意	
1. When the restaurant promises to do something by a certain time, it does so. 當這餐廳作出承諾時，它能如期辦到。	1	2	3	4	5	6	7	NA
2. When you have a problem, the restaurant shows sincere interest in solving it. 當你遇到困難時，這餐廳能以誠懇的態度幫助你解決問題。	1	2	3	4	5	6	7	NA
3. The restaurant performs the services right the first time. 這餐廳表現出準確無誤的服務。	1	2	3	4	5	6	7	NA
4. The restaurant provides the service at the time it promises to do so. 這餐廳會在承諾的時間內提供服務。	1	2	3	4	5	6	7	NA
5. The restaurant insists on error-free records. 這餐廳會盡力保持沒有犯錯記錄。	1	2	3	4	5	6	7	NA
6. Service staff tell you exactly when the service will be performed. 服務人員會準確地告知你於何時履行服務。	1	2	3	4	5	6	7	NA
7. Service staff give prompt service. 服務人員會提供快捷服務。	1	2	3	4	5	6	7	NA
8. Service staff are willing to help you. 服務人員會樂意地去幫助你。	1	2	3	4	5	6	7	NA
9. Service staff are never too busy to respond to your requests. 服務人員永遠不會太匆忙地去回應你的要求。	1	2	3	4	5	6	7	NA
10. The behavior of service staff instills confidence in you. 服務人員的行爲表現能給予你信心。	1	2	3	4	5	6	7	NA
11. Service staff are consistently courteous. 服務人員會貫徹一致地保持禮貌。	1	2	3	4	5	6	7	NA
12. Service staff have sufficient knowledge to answer your questions. 服務人員有足夠的知識去回答你的問題。	1	2	3	4	5	6	7	NA
13. Service staff give you personal attention. 服務人員會給予你個別的關注。	1	2	3	4	5	6	7	NA
14. Service staff have your best interests at heart. 服務人員會以你的最佳利益爲先。	1	2	3	4	5	6	7	NA

15. Service staff understand the specific needs of you.
服務人員能明白你的特別需要。 1 2 3 4 5 6 7 NA
16. Operating hours of the restaurant are convenient to you.
這餐廳的營業時間對你非常方便。 1 2 3 4 5 6 7 NA
17. The waiting time for the service is acceptable.
等侯服務的時間可以接受。 1 2 3 4 5 6 7 NA
18. Materials associated with the service are visually appealing (e.g. pamphlets, posters).
有關這項服務的印刷品在視覺上很吸引(例如，小冊子或宣傳海報)。 1 2 3 4 5 6 7 NA
19. The decoration matches the restaurant's image and price range.
室內的裝飾能夠配合這餐廳的形象及收費。 1 2 3 4 5 6 7 NA
20. The menu is easily readable.
餐牌是容易閱讀的。 1 2 3 4 5 6 7 NA
21. Serving areas of the restaurant are thoroughly clean.
這餐廳的服務地方非常整潔。 1 2 3 4 5 6 7 NA
22. The discount or coupon given from the restaurant is attractive.
這餐廳所給予的折扣或優惠券十分吸引。 1 2 3 4 5 6 7 NA
23. The restaurant serves your food exactly as you ordered it.
這餐廳會依照你的指示去奉上你指定的食物。 1 2 3 4 5 6 7 NA
24. Quality of food is excellent.
食物的質素是優越的。 1 2 3 4 5 6 7 NA
25. The service is value for money.
這項服務是物有所值的。 1 2 3 4 5 6 7 NA
26. The benefits provided by the restaurant really meet your expectations.
這餐廳所給予的利益能達到你的期望。 1 2 3 4 5 6 7 NA

	Strongly disagree 非常不同意						Strongly agree 非常同意
Overall, the perceived service quality of this restaurant is excellent. **整體上**，你感受到這餐廳提供優越的服務質素。	1	2	3	4	5	6	7

Part 2: Customer Satisfaction

第二部份： 顧客滿意程度

	Strongly disagree 非常不同意						Strongly agree 非常同意
1. Compared to the previous experiences with this restaurant, you are happy in having the dining service from this restaurant in the most recent experience. 與以往在這餐廳的經驗比較，你對於最近一次享用這餐廳所提供的晚餐服務感到開心。	1	2	3	4	5	6	7
2. The services provided by this restaurant do meet your satisfaction level. 這餐廳所提供的服務能達到你心目中的滿意程度。	1	2	3	4	5	6	7
3. You believe that having dinner in this restaurant is usually a satisfying experience. 你相信在這餐廳享用晚餐通常是一個滿意的經驗。	1	2	3	4	5	6	7
4. Overall, you believe that you are pleased with this restaurant's services when dining. 整體來說，在享用晚餐時，你相信你會對這餐廳所提供的服務感到愉快。	1	2	3	4	5	6	7
5. Until now, you are satisfied with the service delivered by this restaurant. 直到目前，你滿意這餐廳整體上所提供的服務。	1	2	3	4	5	6	7

Part 3: Service Loyalty

This part is to measure your level of loyalty to this restaurant. For each of the following statements, please circle the appropriate number to reflect your feeling.

第三部份： 服務忠誠度

這部份是去量度閣下對這的餐廳的忠誠度。請圈出最適合的數字去表示你的感受。

	Strongly disagree 非常不同意						Strongly agree 非常同意
1. There is a very high probability that you will dine at this restaurant again. 你有很高的可能性再次在同一間的餐廳享用晚餐。	1	2	3	4	5	6	7
2. You have recommended other people to patronize this restaurant. 你會建議別人去享用這餐廳所提供的服務。	1	2	3	4	5	6	7
3. You will say positive things to other people about the service provided by this restaurant. 你會告知別人一些關於這餐廳所提供的服務的正面資訊。	1	2	3	4	5	6	7
4. You will give positive feedback to this restaurant. 你會提供善意的意見給予這餐廳。	1	2	3	4	5	6	7
5. You will continue to dine at this restaurant even if the price or service charge increases somewhat. 儘管這餐廳的晚餐服務價格或其他服務費用有某程度的增加，你仍會繼續在這餐廳享用晚餐服務。	1	2	3	4	5	6	7
6. You have a strong preference on this restaurant. 你對於這餐廳有很強烈的偏愛。	1	2	3	4	5	6	7
7. You will keep dining at this restaurant, regardless of everything being changed somewhat. 儘管這餐廳內的一切有某程度的轉變，你仍會繼續在這餐廳享用晚餐服務。	1	2	3	4	5	6	7
8. You will try the new food or drinks that are recommended by this restaurant. 你會嘗試這餐廳所推介的新食品或飲品。	1	2	3	4	5	6	7
9. This restaurant is the first choice in your mind when you consider to have dinner outside. 當你考慮出外享用晚餐，這餐廳是你心目中的第一選擇。	1	2	3	4	5	6	7
10. Assumed that you have only three choices when you are in need of having dinner, this restaurant must be one of them. 當你需要享用晚餐時，假設你只有三個餐廳選擇，這餐廳必定是其中之一。	1	2	3	4	5	6	7
11. You have regularly dined at this restaurant for a long period of time. 你有一段很長的時間定期地在這餐廳享用晚餐。	1	2	3	4	5	6	7

12. How long have you regularly dined at this restaurant? _____ year/month*
你曾經定期地在這餐廳享用晚餐多久？ _____ 年 / 月*

* Please deletes the inappropriate one.
* 請刪除不適合的。

Please circle the appropriate number to indicate the level of your loyalty to this restaurant according to the below scale.
根據以下的比例，請圈出最適合的數字去表示出你對這餐廳的忠誠度。

Lowest 最低						Highest 最高
1	2	3	4	5	6	7

Part 4: Personal Data

第四部份： 個人資料

1.	Sex: 性別:	❑ Male ❑ Female	男 女
2.	Age: 年齡:	❑ 25 or below ❑ 26 - 35 ❑ 36 - 45 ❑ 46 - 55 ❑ 56 or above	25 或以下 26 - 35 36 - 45 46 - 55 56 或以上
3.	Educational Level: 教育程度:	❑ Primary or below ❑ Secondary ❑ Post-Secondary ❑ Diploma/High Diploma /Certificate ❑ Tertiary/University ❑ Postgraduate or above	小學或以下 中學 預科 文憑/高級文憑 /證書 大專/大學 碩士或以上
4.	Occupation: 職業:	❑ Clerk ❑ Salesperson ❑ Student ❑ Marketing Executive ❑ Manager ❑ Professional ❑ Self-employed ❑ Others	文職人員 營業人員 學生 市場策劃人員/主任 經理 專業人員 自僱 其他
5.	Monthly Income: 平均月薪:	❑ 15,000 or below ❑ 15,001 – 30,000 ❑ 30,001 – 45,000 ❑ 45,001 – 60,000 ❑ 60,001 or above	15,000 或以下 15,001 – 30,000 30,001 – 45,000 45,001 – 60,000 60,001 或以上

End of Questionnaire -- Thank You

全卷完 -- 多謝合作

Appendix V:

Skewness, Kurtosis, Mean & Standard Deviation of Measured Items

Measured Variables	Skewness	Kurtosis	Mean	S. D.
Perceived Service Quality				
When the service staff promise to do something by a certain time, they do so	-0.70	0.20	5.00	1.28
When you have a problem, they show sincere interest in solving it	-0.83	0.29	4.95	1.32
Perform the service right the first time	-0.69	0.05	4.87	1.29
Provide the service at the time they promise to do so	-0.72	0.18	5.05	1.19
Company or service staff insist on error-free records	-0.51	0.08	4.91	1.26
Tell you exactly when the service will be performed	-0.48	-0.29	4.66	1.35
Gives prompt service	-0.58	-0.14	4.95	1.25
Willing to help you	-0.81	0.53	5.29	1.16
Service staff will never be too busy to respond to your requests	-0.39	-0.41	4.73	1.30
The behavior of service staff instill confidence in you	-0.76	0.30	4.93	1.24
Service staff who are consistently courteous	-0.89	0.58	5.29	1.20
Service staff have sufficient knowledge to answer your questions	-0.62	0.02	4.92	1.25
Service staff who give you personal attention	-0.31	-0.36	4.36	1.39
Have your best interests at heart	-0.17	-0.25	4.09	1.36
Understand the specific needs of you	-0.45	-0.18	4.37	1.34
Operating hours of the services are convenient to customers	-0.59	-0.25	4.55	1.45
Materials associated with the service are visually appearing	-1.08	1.17	5.38	1.24
The incentive given is attractive	-0.35	-0.21	4.67	1.25
The waiting time for the service is acceptable	-0.39	-0.04	4.74	1.26
The decoration can keep with the bank's image and price range	-0.53	0.24	5.04	1.19
Serving areas are thoroughly clean	-0.89	0.69	5.17	1.23
Menus (or instructions) are easily readable (or understandable)	-0.59	0.16	4.83	1.30
Quality of food (or required information) is excellent	-0.82	0.77	5.34	1.17
Orders (or instructions) can be done accordingly and accurately	-0.18	-0.31	3.97	1.41
The service is value for money	-0.42	0.09	4.45	1.30
The benefits really meet your expectations	-0.62	-0.19	4.72	1.49

Skewness, Kurtosis, Mean & Standard Deviation of Measured Items

Measured Variables	Skewness	Kurtosis	Mean	S. D.
Customer Satisfaction Items				
Compared to the previous experience with this service provider/company, you are happy in consuming the service from this service provider/company in the most recent experience.	-0.45	0.16	4.78	1.17
The services provided by this service provider/company do meet your satisfaction level.	-0.53	0.01	4.81	1.18
You believe that consuming the service from this service provider/company is usually satisfying experience.	-0.41	-0.22	4.83	1.16
Overall speaking, you believe that you are pleased with the service provided.	-0.50	0.15	4.85	1.12
Until now, you are satisfied on the overall delivered service.	-0.50	0.23	4.94	1.11
Service Loyalty Items				
There is a very high probability that you will consume at the same service provider/company again.	-0.87	0.55	5.17	1.40
You have repeatedly consumed at the same service provider/company in the past few years.	-0.80	-0.12	4.98	1.66
You have recommended other people to patronize this service provider/company.	-0.50	-0.22	4.74	1.45
You will say positive things to other people about the service provided by this service provider/company.	-0.49	0.08	4.79	1.30
You will give positive feedback to this service provider/company.	-0.37	-0.24	4.42	1.46
You will continue to consume at this service provider/company even if the price is increased somewhat.	-0.23	-0.73	4.00	1.51
You have a strong preference on this service provider/company.	-0.29	-0.06	4.00	1.40
You will keep consuming at this service provider/company, even if everything being changed somewhat.	-0.41	-0.06	3.97	1.37
You will try the new services (food or drinks) that are recommended by this service provider/company.	-0.66	0.64	4.75	1.23
You will try to use other related services or purchase related products of this service provider/company.	-0.37	-0.60	4.03	1.57
This service provider/company is the first choice in your mind when you consider to use the service.	-0.23	-0.54	4.13	1.49
Assumed that you have only three choices when you are in need of using the service, this service provider/company must be one of them..	-0.54	-0.17	4.64	1.50
Yon have regularly consumed at this service provider/company for a long period of time.	-0.30	-0.79	4.28	1.73