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## **AN EMPIRICAL STUDY OF EMPLOYEE LOYALTY, SERVICE QUALITY AND FIRM PERFORMANCE IN THE SERVICE INDUSTRY**

### **ABSTRACT**

Taking an operational perspective on the relations between employee loyalty and business performance, we examine the relationships among employee loyalty, service quality, customer satisfaction, customer loyalty and firm profitability, and the contextual factors influencing these relationships. We developed a research model grounded in the service-profit chain notion of Heskett et al. (1994) and empirically tested the model by conducting a survey of 210 high-contact service shops in Hong Kong. Using structural equation modeling (SEM), we observed that employee loyalty is significantly related to service quality, which in turn impacts customer satisfaction and customer loyalty, ultimately leading to firm profitability in high-contact service industries. Using multiple-group analysis of SEM, we found that the effect of employee loyalty on firm profitability through service quality, customer satisfaction and customer loyalty is robust under different scenarios of employee-customer contact level, market competitiveness, and switching cost in the sampled shops. This finding supports the generalizability of the observed relationships in various operating contexts.

## 1. INTRODUCTION

Over the years, operations management (OM) has advocated the optimization of operational processes as an effective means to profitably deliver value to customers and meet, or even surpass, customer expectations. Considerable research has devoted to studying such topics as designing, managing and optimizing different service delivery systems in hopes of attaining higher service quality and operational efficiency (e.g., Frei et al., 1999, Soteriou and Zenios, 1999). This operational approach has been applied enthusiastically and has proved to be an effective means towards improving organizational efficiency. On the other hand, researchers of organizational behaviour (OB) have stressed that employee attributes are crucial to organizational effectiveness (Schwab and Cummings, 1970, Vroom, 1964). For a long time, the studies of OM and OB have long been viewed as distinct fields. An abundance of research has been conducted to examine employee attributes, as well as to investigate the extent of employee attributes influence job commitment and performance (Becker and Gerhart, 1996, Meyer et al., 2004). Recently, OM researchers have eagerly promoted inter-disciplinary studies by integrating various fields together (Boudreau et al., 2003), believing that inter-disciplinary studies would yield more fruitful outcomes in both research and practice.

Pioneers of this topic, Heskett et al. (1994) proposed the service-profit chain (S-PC) notion that highlights the importance of employee attributes to deliver high levels of service quality to satisfy customers in order to enhance business performance. The notion has triggered some researchers to study the impact of employee attributes and/or customer purchase indicators on business performance in specified service contexts (e.g., Hallowell, 1996, Voss et al., 2005). However, there is a dearth of research aimed at explicitly examining the relationships between employee attributes and firm performance through service operations based on a rigorous empirical study.

Besides, only a few researchers have recognized the need to examine the moderating factors influencing the relevant relations embedded in the S-PC in particular, and the associations between employee attributes and operational and firm performance in general (Anderson and Mittal, 2000, Ranaweera and Neerly, 2003, Silvestro and Cross, 2000). Jones and Sasser (1995) and Lee et al. (2001) attempted to investigate the moderating effects of market competitiveness and switching cost, respectively, on the association between customer satisfaction and customer loyalty. Ranaweera and Neerly (2003) studied the moderating effects of price perception and customer indifference on the relation between service quality and customer retention. The recognition of the existence of moderating factors emerges from the common knowledge that business performance is contingent upon environmental variables. However, there is a lack of a systematic approach to seeking an understanding of precisely how employee attributes affect service operations performance and business outcomes (Silvestro and Cross, 2000).

In this study we explore two important research questions: (1) What are the likely relationships among employee loyalty, service quality, customer satisfaction and customer loyalty, as well as firm performance in high-contact service industries where there are direct and close contacts between employees and customers? (2) How do various contextual factors, including employee-customer contact time, market competitiveness, and switching cost, moderate such relationships? We developed a research model grounded in the S-PC notion of Heskett et al. (1994) and tested the model by applying structural equation modelling to the empirical data collected from a survey of 210 high-contact service shops in Hong Kong.

## **2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT**

### **2.1 Theoretical Background**

Research on employee attributes and performance has traditionally resided in the domain of organizational psychology, not OM. However, as operations managers are increasingly involved in service management (Oliva and Sterman, 2001), they find employee attributes potentially a vital factor for operational efficiency enhancement. On the other hand, many behaviour psychologists have mainly focused on studying the relationships between employee attributes and individual work performance (e.g., Becker et al., 1996, Hunter and Thatcher, 2007, Meyer, Becker and Vandenberghe, 2004). Only a few organizational studies have contributed to examining the relationships between employee attributes and operational and firm performance (e.g., Hui et al., 2001, Sun et al., 2007). To the best of our knowledge, the relationship between employee loyalty and operational performance has not been explicitly examined.

Although much research in OM has been conducted to investigate the relationships between quality, customer satisfaction and business performance (e.g., Balasubramanian et al., 2003, Heim and Sinha, 2001, Nagar and Rajan, 2005), research on the impact of employee attributes on operational performance is relatively scarce. In the last decade, the importance of human resources to operational performance has been noted by a few researchers. Roth and Jackson III (1995) revealed that organizational knowledge residing in employees is the primary determinant of superior service quality, influencing market performance. Hays and Hill (2006) demonstrated that service organizations with highly motivated employees would enhance the level of service quality, customer satisfaction and loyalty.

Besides, examining the contextual factors that affect the relationships between employee attributes and operational performance is another important and pertinent research topic, which however has been under-researched for years. Loyal employees are presumed to be positively correlated with high service quality in the S-PC (Heskett, Jones, Loveman, Sasser

Jr. and Schlesinger, 1994). Nonetheless, Silvestro and Cross (2000) have identified an inverse relationship between employee loyalty and organizational performance in the industry they surveyed, where the interaction between employees and customers was not seen as a key driver of service value. This suggests that the level of contact between employees and customers may account for variations in the relationship between employee loyalty and business performance. Chase (1981) considered the degree of customer contact to be a key dimension in classifying service settings. This concept can help a service provider take appropriate measures to react and customize the services it offers to its customers. Soteriou and Chase (1998) investigated the influence of customer contact, in terms of communication time and intimacy between employees and customers, on customers' perceptions of the quality of the services that were delivered. Strictly speaking, Soteriou and Chase's (1998) study did not focus on investigating the moderating effect of customer contact on the perception of the quality of services. However, their study highlighted the significant impact of customer contact on customer perceptions of the quality of an organization's services. Based on the suggestion of Silvestro and Cross (2000), we speculate that the contact, in particular the contact time, between employees and customers may have a moderating effect on the link between employee loyalty and customer perception of service quality.

The competitive environment of the service sector has been identified as a factor that influences the link between customer satisfaction and loyalty (Jones and Sasser, 1995). In a highly competitive market where there are many alternative products and services for customers to select from and the cost of switching is low, customers are not loyal unless they are fully satisfied. Conversely, in a monopolistic market, customer satisfaction seems to have very little impact on loyalty. Jones and Sasser's (1995) study inspired Lee et al. (2001) to examine how switching cost affects the link between customer satisfaction and loyalty in the cell phone market. Lee et al. (2001) postulated that the impact of switching cost on the relationship

between customer satisfaction and loyalty is affected by market structure. Their findings showed that switching cost plays a significant role in moderating the relationship between customer satisfaction and loyalty. The link between customer satisfaction and loyalty is weak for price-sensitive users. But the cost of switching does not affect customer loyalty in the group of price-insensitive users. On the basis of Jones and Sasser's (1995) and Lee et al.'s (2001) studies, one may infer that market competitiveness, as reflected by the switching cost, affects the relationship between customer satisfaction and loyalty. However, these two studies were only limited to a particular industry and based on a small sample, so their findings may not be generalizable to other service settings.

## **2.2 Development of Hypotheses**

### **Hypotheses on main factors**

*Employee loyalty and service quality.* The S-PC purports that employee loyalty affects the customer's perception of service quality (Heskett, Jones, Loveman, Sasser Jr. and Schlesinger, 1994). Loyal employees who are satisfied with their job demonstrate their loyalty to the employing organization by working hard and being committed to delivering services with a high level of quality to customers. Loveman (1998) demonstrated that employee loyalty is positively correlated with service quality.

Social exchange theory can be applied to account for the relationship between employee loyalty and service quality. The norm of reciprocity in social exchange theory states that an action by one party leads to a response by another party. A positive reciprocity orientation involves the tendency to return positive treatment for positive treatment (Eisenberger et al., 2004, Uhl-Bien and Maslyn, 2003). Furthermore, the norm of equity in social exchanges suggests that people expect social equity to prevail in interpersonal transactions (Cropanzano et al., 2003, Organ, 1977). An individual accorded some manner of a social gift that is

inequitably in excess of what is anticipated will experience gratitude and feel an obligation to reciprocate the benefactor. In the context of the social exchange theory, the employer is devoted to building a relationship of long-term employment with his employees by fulfilling their needs through offering them favourable working conditions; in return, employees will be loyal to their employer by being committed to making extra efforts to offer services with a high level of quality as a means of reciprocity to their employing organizations (Flynn, 2005, Wayne et al., 1997). The employer's willingness to build a relationship with his employees and the employee's commitment to delivering high-quality services are key characteristics of a social exchange (Blau, 1964).

Drawing on the norms of reciprocity and equity of social exchange theory, we argue that employees who are loyal to their employing organizations are prone to delivering services of a higher level of quality. Therefore, we theorize that employee loyalty has a positive impact on service quality. Hence,

*Hypothesis 1: Employee loyalty has a positive influence on service quality.*

***Service quality and customer satisfaction.*** Yi (1990) stated that service quality is an essential determinant of customer satisfaction. The conceptualization of the S-PC suggests that external service value, i.e., the value of services perceived by customers, is linked with customer satisfaction (Heskett, Jones, Loveman, Sasser Jr. and Schlesinger, 1994). The rationale behind this is that high-quality services offered by a firm would lead to customer satisfaction. This rationale is perceived as a common phenomenon in the service industry. In the empirical study of Voss et al. (2005), service quality was shown to be positively related to customer satisfaction in service organizations regardless of their being private or not-for-profit organizations. In line with this phenomenon, we have

*Hypothesis 2: Service quality has a positive influence on customer satisfaction.*

*Customer satisfaction, customer loyalty and firm profitability.* Customer satisfaction has a long-term financial impact on the business (Nagar and Rajan, 2005). Previous research has investigated the links between customer satisfaction and its various outcomes, such as customer loyalty (Stank et al., 1999, Verhoef, 2003) and profitability (Anderson et al., 1994, Mittal and Kamakura, 2001). Highly satisfied customers of a firm are likely to purchase more frequently, in greater volume and buy other goods and services offered by the same service provider (Anderson, Fornell and Lehmann, 1994, Gronholdt et al., 2000). Research in accounting has also shown that customer satisfaction is an intangible asset and a leading indicator of business unit revenues (Ittner and Larcker, 1998). More recently, Hays and Hill (2006) strongly recommended that customer satisfaction and loyalty are integral to the contribution of economic outcome.

Customer satisfaction has a positive impact on firm profitability due to a number of reasons. First, customer satisfaction enhances customer loyalty and influences customers' future repurchase intentions and behaviours (e.g., Stank, Goldsby and Vickery, 1999, Verhoef, 2003). When this happens, the profitability of a firm would increase (Anderson, Fornell and Lehmann, 1994, Mittal and Kamakura, 2001). Second, highly satisfied customers are willing to pay premium prices and less price-sensitive (Anderson, Fornell and Lehmann, 1994). This implies customers tend to pay for the benefits they receive and be tolerant of increases in price, ultimately increasing the economic performance of the firm. The last premise is that satisfaction results in enhanced overall reputation of the firm, which in turn can be beneficial to establishing and maintaining relationships with key suppliers and distributors (Anderson, Fornell and Lehmann, 1994). Reputation can provide a halo effect on the firm that positively influences customer evaluation. This discussion suggests that customer satisfaction generates more future sales, reduces price elasticity, and increases the reputation of the firm. Thus, we hypothesize that



*Hypothesis 3: Customer satisfaction has a positive influence on customer loyalty.*

*Hypothesis 4: Customer loyalty has a positive influence on firm profitability.*

### **Hypotheses on potential moderating factors**

The preceding discussion is concerned with developing hypothesized relationships between employee loyalty, service quality, and service performance indicators, based on the OM and OB literature. Another, relatively scarce, stream of work is the investigation of the potential moderating effects on the hypothesized relationships. Not the dominant area of research, this has attracted little attention (e.g., Ranaweera and Neerly, 2003, Silvestro and Cross, 2000). In keeping with this trend, we examine the influence of employee-customer contact time, market competitiveness, and switching cost as moderators of the postulated relationships among employee loyalty, service quality, customer satisfaction and customer loyalty, and firm profitability.

***Employee-customer contact time:*** Up to this juncture, we have considered the service context between employees and customers to be a relatively fixed phenomenon in organizations as the prevailing condition that exists. However, Chase (1981) attempted to classify service organizations into forms that are pure services, mixed services, or quasi-manufacturing. Soteriou and Chase (1998) and Kellogg and Chase (1995) further advocated the defining characteristic of a service context to be the existence of some form of contact between employees and customers. The time spent for the contact between employees and customers is recognized as a key dimension to operationalize customer contact (Kellogg and Chase, 1995, Soteriou and Chase, 1998). It varies with various factors, including the servers, the service and the environment (Kellogg and Chase, 1995). Thus, we argue that a more realistic portrayal of the contact between employees and customers is to identify the service environment according to the contact time between employees and customers in the service

delivery process. Contact time reflects the interaction between a service employee and a customer regarding the transaction in which they are engaged.

The contact time might moderate the relationship between employee loyalty and service quality. When a service sector is characterized by high customer contact, the service context is most potent, and thus the loyal employees would be more capable of having a greater control of the level of quality in the services they offer. The longer the time a loyal service employee interacts with a customer, the more time there will be for the customer to express his/her needs to the loyal service employee, the easier the loyal service employee will understand and react to the customer's needs, and consequently the higher the quality of service the loyal service employee will deliver to the customer. Hence, we suggest the following hypothesis

*Hypothesis 5: The contact time between service employees and customers moderates the relationship between employee loyalty and service quality in such a way that the greater the contact time, the stronger the relationship.*

**Market competitiveness:** The theories that provide the foundation for the relationship between customer satisfaction and customer loyalty are useful for determining how customer satisfaction influences loyalty in a monopoly or competitive market (Jones and Sasser, 1995). Nevertheless, given the potentially negative repercussions of switching intention and behaviour encouraged by competitors who offer a greater variety of products and services with better quality, service firms typically have a strong interest in preventing such an intention and action, even if switching is explicitly or implicitly encouraged in the market. For example, a service organization may prevent its customers from forming the intention to switch and act on this intention by delivering services of a high level of quality to satisfy customers' needs and introduce loyalty programs to retain customers. But competitors in the market are eager to encourage switching by offering more products and better quality in services to customers. This

contrast presents an interesting dilemma: if the market encourages switching, but a service firm discourages this, will the customer respond by switching?

We expect that a service firm's ability to retain customers will depend on how it satisfies its customers and encourages its customers to make repeat purchases. Conditions that diminish the level of customer satisfaction and/or enhance the switching intent and action of customers would certainly weaken the firm's influence on the customers' decisions to make repeated purchases. A competitive market often strengthens the switching intention and behaviour of customers by making available to them a wider variety of products and services of a higher level of quality to satisfy them. This, in turn, affects customers' intentions to make and behaviours of making repeated purchases and, ultimately, has an impact on their loyalty towards the service provider. We consider that a firm's influence on customers is limited by market competitiveness. We suggest that market competitiveness would have a moderating effect on the relationship between customer satisfaction and loyalty as postulated in the hypothesis below.

*Hypothesis 6: Market competitiveness moderates the relationship between customer satisfaction and customer loyalty in such a way that the higher the market competitiveness, the weaker the relationship.*

**Switching cost:** Switching cost is regarded as the costs that a customer has to pay during the process of switching from one service firm to another. Compared with a customer who perceives a low cost to be paid for switching, the customer who perceives a high switching cost is likely to be loyal to his/her current service firm. This customer is, therefore, more likely to make repurchases from his/her present service firm. The higher a customer perceives the switching cost, the more likely that the customer has to consider repurchases from his/her current service firm. Hence, we consider that switching cost would have a moderating effect

on the relationship between customer satisfaction and customer loyalty, as stated in the following hypothesis:

*Hypothesis 7: Switching cost moderates the relationship between customer satisfaction and customer loyalty in such a way that the greater the switching cost, the stronger the relationship.*

### **3. METHODOLOGY**

#### **3.1 Sample**

This study focuses on the high-contact service industries in Hong Kong. High-contact service industries typically involve activities in which service employees and customers have close and direct interaction for a prolonged period (Chase, 1981). A high contact environment of services is characterized by long communication time, intimacy of communications and richness of information exchanged (Kellogg and Chase, 1995). Through high contacts, service employees and customers have ample opportunities to build up their ties and exchange information about purchase. This enhances the ability of service employees to deliver a higher level of service quality to satisfy and retain customers, contributing to firm performance. Researchers have argued that loyal employees are more committed to serving customers (e.g., Loveman, 1998, Silvestro and Cross, 2000, Yoon and Suh, 2003). In line with the above arguments, loyal employees in a high-contact environment are more likely to have greater influence on service quality, customer satisfaction and customer loyalty, and firm performance. Thus, organizations in high-contact service sectors are particularly suited for examining how employee loyalty affects organizational performance through direct customer contacts.

We identified 12 main shopping areas in Hong Kong (e.g., Tsimshatsui and Causeway Bay) and randomly selected five major shopping centres or avenues from each area. We

controlled firm size by choosing small service organizations with two to five service employees. Service employees are defined as customer-contact persons whose major responsibility is sales and customer services in a shop. Being small organizations, their employee loyalty level tends to be more consistent (George and Bettenhausen, 1990) and easier to assess. We avoided choosing large chain stores as the customer satisfaction and loyalty of such firms are more likely reflected at the corporate level, rather than at the individual shop level. Nevertheless, we intended to cover different types of service shops, except for those with extremely low customer contacts (e.g., convenient stores), to enhance the generalizability of our study. Table 1 shows the major service sectors covered in our sample.

### **3.2 Data Collection Procedures**

We conducted a pilot study in eight different types of service shops, through which we verified the relevance of the indicators to their corresponding constructs, appropriateness of the questionnaire wording, and clarity of the instructions to fill in the survey. Upon completing the pilot study, we made minor modifications to the questionnaire in order to improve its validity and readability. We prepared survey packets, which included a “shop-in-charge” questionnaire and two “service employee” questionnaires. The persons in charge of a shop are responsible for answering questions on customer satisfaction, customer loyalty, firm profitability, employee-customer contact time, market competitiveness, and switching cost. They are normally the shop proprietors or shop managers with the ultimate responsibility for profits and a comprehensive understanding of the market situation, and thus are capable of providing very reliable financial information. Although customers are more preferred to be informants of customer satisfaction, empirical findings from similar studies have demonstrated that internal and external measures of customer satisfaction are highly correlated (Goldstein, 2003, Schneider and Bowen, 1985), justifying our study’s use of internal measures of customer satisfaction (Soteriou and Zenios, 1999). Because of the proven high correlation between

internal and external measures of customer satisfaction in particular and customer data in general, we also used the internal measures of customer loyalty.

Service employees refer to employees responsible for service deliveries in shops. They therefore are relevant informants of employee loyalty and service quality. We surveyed two service employees in each shop. Although customers are more preferred to be informants of service quality, empirical findings from relevant studies have established that employee perception data are proxy for customer perception data to assess service quality (Hays and Hill, 2006).

Researchers of psychology and organizational behavior have advocated the use of multiple informants from a business unit where subjectivity in judgment is anticipated (Becker and Gerhart, 1996). Our questionnaire was developed in English and translated to Chinese. To maximize translation equivalence, we followed Mullen's (1995) suggestion to translate the questionnaire items into a foreign language and then back-translate them to identify any discrepancies in meaning on syntax.

We deployed a research team consisting of one of the authors as the leader, a research assistant, and some student helpers to solicit the participation of service shops in our study. From our experience, deploying a team rather than relying on individuals improves the response rate. Our research team visited each shop in person to show our sincerity and clearly explained our requirements of the survey. For instance, we required the shop-in-charge person to fill in the questionnaire based on actual accounting data and recent customer survey data, if available. To further enhance the response rate and reduce the non-response bias, we rewarded each respondent a cash coupon of HK\$50 (US\$6.5), which is roughly the wage of two hours of an unskilled service employee in Hong Kong. Experimental psychologists have shown that recruiting participants with monetary rewards greatly improves the quality of responses (Brase

et al., 2006, Camerer and Hogarth, 1999). To the best of our knowledge, there is no reason to believe that such a practice would induce any systematic bias to the study. Our research team distributed the questionnaires in person to each of the three respondents in each shop. The respondents were allowed to complete the questionnaire at different time and various places (e.g., work vs. home) at their convenience. This helped mitigate the problem of transient mood state and common stimulus cues – a source of common method bias (Podsakoff and Organ, 1986). Our research team then collected the questionnaire from each respondent individually at his/her convenient time with the cash coupon rewarded. The research team also re-visited individual participants that had not returned the questionnaire by the due date to re-invite them to participate. Re-visiting indeed helped improve the response rate.

Almost 300 shops were visited over a twelve-month period. However, because of company policies of not responding to surveys or confidentiality of the information sought, we only obtained 677 questionnaires from 232 shops. We dropped the returns of 22 shops because data on either the shop-in-charge or one of the service employee questionnaires were missing or the questionnaires were not duly completed, leaving 210 sets of usable questionnaires from 630 participants (Table 1).

(----- Table 1 about here -----)

### **3.3 Variable Measures**

The measures used in this study were drawn from well-established instruments in psychology, human resources management, marketing, or operations management. A complete list of the items used is exhibited in the Appendix.

***Employee loyalty:*** Employee loyalty refers to a service employee's feeling of attachment to his/her employing organization. We assessed this construct by psychological measures that are able to capture a service employee's feelings towards his/her service shop.

We included four indicators for employee loyalty, namely intention to stay, willingness to perform extra work, sense of belonging, and willingness to take up more responsibility (Mccarthy, 1997). A seven-point Likert-type scale anchored at 1 = “totally disagree” and 7 = “totally agree” was used.

***Service quality:*** Service quality is concerned with the overall perception of the performance of the services offered by the service employees within a service shop. We adopted the SERVQUAL instrument developed by Parasuraman et al. (1988) and Parasuraman et al. (1991). The SERVQUAL instrument suggests that there are five dimensions of perceived service quality, namely tangibles, reliability, responsiveness, assurance, and empathy. Since the items under each of these dimensions are not equally appropriate in the service context of this study, we chose the most relevant item from each of the five dimensions for this study, instead of using all the 22 items. This is consistent with previous research in service quality (e.g., Gotlieb et al., 1994). Respondents were asked to rate these five items on a seven-point Likert-type scale with 1 = “totally disagree” and 7 = “totally agree”.

***Customer satisfaction:*** Customer satisfaction is defined as the pleasurable emotional state of a customer from his/her experience with the shop, i.e., a summary evaluative response (Anderson, Fornell and Lehmann, 1994, Fornell, 1992). This summary response contains evaluations of the key facets that customers consider important in the service context (Oliver, 1997). Compared with more transaction-specific measures of performance, an overall evaluation is more likely to influence customer repurchase (Gustafsson et al., 2005). Four questions related to feature performance that drive satisfaction were developed, including enquiry service, price, customer service in transactions, and service of handling of dissatisfaction (Gustafsson, Johnson and Roos, 2005, Heskett et al., 1997, Oliver, 1997). A



seven-point Likert-type scale anchored at 1 = “totally disagree” and 7 = “totally agree” was used.

**Customer loyalty:** We referred customer loyalty to the feeling of attachment that a customer has to the service shop. Following past relevant research of marketing, we selected consideration of the service shop as the first priority for purchase, recommendation to others, speaking good words, and encouragement of others to purchase (Gronholdt, Martense and Kristensen, 2000, Liao and Chuang, 2004, Zeithaml et al., 1996). Respondents were asked to rate each item on a seven-point Likert-type scale anchored at 1 = “totally disagree” and 7 = “totally agree”.

**Firm profitability:** Firm profitability reflects the financial performance of a shop. Consistent with previous research, we chose return on assets (ROA), return on sales (ROS), and return on investment (ROI) as indicators (Schneider et al., 2003, Staw and Epstein, 2000). Perceptual data were obtained. We asked shop-in-charge persons to assess their shops' profitability relative to industry norms (Delaney and Huselid, 1996, Sakakibara et al., 1997) with regard to the above three indicators on a seven-point Likert-type scale ranging from 1 = “much lower” to 7 = “much higher”. Although perceptual data may impose limitations through increased measurement error, the use of such measures is not without precedence (Delaney and Huselid, 1996, Powell, 1995). Research has found measures of perceived organizational performance data to correlate positively (with moderate to strong associations) with objective measures of firm performance (Dollinger and Golden, 1992, Powell, 1992).

**Employee-customer contact time:** Contact time is defined as the perceptual time that service employees and customers contact and communicate directly for the purposes of personal selling and service delivery within a transaction. We measured contact time by asking

the respondents to estimate the average times they spend for personal selling and service delivery within a transaction.

**Market competitiveness:** We referred market competitiveness to the degree to which the market of the service industry is competitive. Jones and Sasser (1995) suggested measuring market competitiveness by the availability of alternative products and services. To capture a particular characteristic of the market in the service industry, we added the indicator of “availability of attractive benefit plans in the market” to assess market competitiveness. Thus, we included three questions related to the availability of alternative products, services and attractive benefit plans to measure market competitiveness in this study. Respondents were asked to rate these three items on a seven-point Likert-type scale anchored at 1 = “totally disagree” and 7 = “totally agree”.

**Switching cost:** Switching cost is concerned with the costs that a customer has to pay during the process of switching from one service provider to another. It covers the costs of switching in terms of economics, psychology and marketing aspects (e.g., Guiltinan, 1989, Jones et al., 2002). Based on the six indicators developed by Jones et al. (2002) for switching cost, we chose four indicators that are relevant to the service environment. The selected indicators are pre-switching cost for search and evaluation, post-switching cost for learning new services, after-switching cost for building a relationship with new service provider, and lost performance cost due to switching (Jones, Mothersbaugh and Beatty, 2002). We adopted these four dimensions since they are more relevant to our studied context. A seven-point Likert-type scale anchored at 1 = “totally disagree” and 7 = “totally agree” was used.

### **3.4 Interrater Agreement and Reliability**

We obtained responses on employee loyalty and service quality from two service employees in each shop. We estimated within-shop interrater agreement following suggestions

in psychology research (James et al., 1984, Lindell and Brandt, 1999). The average within-group interrater reliability values,  $r_{wg(j)}$ , for the constructs of employee loyalty and service quality were 0.919 and 0.950, respectively. The interrater reliability values are higher than research studies of similar types (e.g., Ryan et al., 1996, Schneider, Hanges, Smith and Salvaggio, 2003) and than the commonly accepted criterion of 0.7 (James, 1982), suggesting sufficient within-group agreement to aggregate the data to the shop level for analysis.

To further justify aggregation to the shop level, we used intra-class correlation (ICC) statistics, ICC(1) and ICC(2), to assess interrater reliability (Bartko, 1976, Schneider et al., 1998, Shrout and Fleiss, 1979) within shops. ICC(1) compares the variance between units of analysis (shops) to the variance within units of analysis using the individual ratings of each respondent. ICC(2) assesses the relative status of between and within variability using the average ratings of respondents within each unit (Bartko, 1976, Schneider, White and Paul, 1998). The ICC(1) values were based on a one-way analysis of variance (ANOVA). In this study, the ICC(1) values were 0.428 and 0.435 for employee loyalty and service quality, respectively, which are much higher than the cutoff value of 0.12 (James, 1982), indicating a sufficient inter-shop variability ratio. The ICC(2) values were acquired from Spearman-Brown formula. The ICC(2) values of this study were 0.600 and 0.606 for employee loyalty and service quality, respectively, which are equal to or slightly higher than the cutoff point of 0.60 recommended in fields of psychology (Glick, 1985) and OM (Boyer and Verma, 2000), rendering sufficient interrater reliability within the shops for further analysis at the shop level. Taken together, the  $r_{wg(j)}$ , ICC(1), and ICC(2) values justified the aggregation of the data of employee loyalty and service quality to the shop level.

### **3.5 Common Method Variance**

When two or more variables are collected from the same respondents and an attempt is made to interpret their correlation, a problem of common method variance could happen (Podsakoff and Organ, 1986). In our study, there are two relations that might be affected by this problem, namely the relations between (1) employee loyalty and service quality, and (2) customer satisfaction, customer loyalty and firm profitability. One proactive approach to avoid common method variance is to separate the measurement items within the questionnaire, which was adopted in this research. We also applied Harman's one-factor test to assess the influence of common method variance (Podsakoff and Organ, 1986) in our collected data. We conducted Harman's one-factor test on items for employee loyalty and service quality. We also combined all items of customer satisfaction, customer loyalty and firm profitability for another Harman's one-factor test. All the tests yielded clearly separate factors, except the pair of customer satisfaction and loyalty. This suggests that common method bias might exist in the pair of customer satisfaction and loyalty. However, the major objectives of this research are not to find out the relationship in this pair. Thus, common method bias should not cause serious problems to our research. In addition, referring to the test of discriminant validation conducted for customer satisfaction and loyalty, the results provide strong evidence that customer satisfaction and loyalty are different and unique constructs. As a whole, we believe that common method variance was not serious in this research. In particular, there was no sign of common method variance among the five key components, i.e., employee loyalty, service quality, customer satisfaction and loyalty, as well as profitability.

## **4. DATA ANALYSIS AND RESULTS**

We applied structural equation modelling (SEM) to examine the proposed model and multiple-group analysis of SEM to investigate the influence of moderator variables, using

Analysis of Moment Structures (AMOS). Similar to relevant studies (e.g., Fynes et al., 2005, Skerlavaj et al., 2007), we followed Anderson and Gerbing's (1988) two-step approach to estimate a measurement model prior to the structural model. In what follows, we present the results of measurement model analysis, structural model analysis, hypothesis testing, and analysis of moderating effects.

#### **4.1 Measurement Model Results**

We assessed the convergent and discriminant validity of the scales by the method outlined in Fornell and Larcker (1981) and Chau (1997). Convergent validity can be assessed by the significance of the *t*-values for item loadings, construct (composite) reliability, and average variance extracted (AVE) (Chau, 1997, Fornell and Larcker, 1981). All the item loadings for the constructs were significant, with *t*-values higher than 7.66 ( $p < 0.001$ ). In addition, as shown in the Appendix, all the measures of our instrument were found to be highly reliable with construct reliability greater than 0.8 (Nunnally, 1978). The values of construct reliability ranged from 0.827 for service quality to 0.954 for switching cost. The AVE values were all above the suggested criterion of 0.5 (Fornell and Larcker, 1981), except the one for service quality, with a range from 0.623 to 0.838. The AVE value for service quality was 0.492, which is only marginally below the suggested criterion. These results provide sufficient evidence of convergent validity of the scales.

Discriminant validity can be evaluated by fixing the correlation between any pair of related constructs at 1.0, prior to re-estimating the modified model (Chau, 1997, Segars and Grover, 1993). A significant difference in the chi-square statistics between the fixed and unconstrained models indicates high discriminant validity. By fixing the correlation between any pair of related constructs in the measurement model to the perfect correlation of 1.0, the chi-square values increased by at least 259.285. With an increase in one degree of freedom,

these chi-square values were highly significant at  $p = 0.01$  ( $\Delta\chi^2 \geq 6.635$ ). In addition, discriminant validity exists if the AVEs of two constructs are greater than their squared correlation (Chau, 1997, Fornell and Larcker, 1981). For example, the AVEs for employee loyalty, service quality, customer satisfaction, customer loyalty, firm profitability, market competitiveness and switching cost were 0.728, 0.492, 0.711, 0.805, 0.816, 0.623 and 0.838, respectively, while the highest value of the squared correlation between any pair of those constructs was only 0.287.

Table 2 shows the results of the analysis of the individual measurement models (Chau, 1997) of the seven constructs. The values of absolute fit measures for employee loyalty, service quality, customer satisfaction, customer loyalty, firm profitability, market competitiveness and switching cost were above their corresponding acceptable criteria, suggesting the measurement models are capable of predicting the observed covariance or correlation matrix. The values of comparative fit measures were also above the acceptable criteria, providing evidence against the hypothesis of a null model. All the results of absolute fit measures and comparative fit measures supported the belief that the measurement models achieve satisfactory fit and are ready to be used in the analysis of structural models.

(----- Table 2 about here -----)

#### **4.2 Structural Models Results and Hypothesis Testing**

Table 3 shows the goodness-of-fit statistics for our hypothesized model. The overall fit of our structural model is good:  $\chi^2 = 218.896$  ( $p = 0.004$ ),  $\chi^2/df = 1.319$ , GFI = 0.908, AGFI = 0.883, CFI = 0.983, NFI = 0.934, NNFI = 0.981 and RMSR = 0.039. All the four hypothetical relationships were supported at the significance level of  $p = 0.001$ . The estimate of the standardized path coefficient ( $P$ ) indicates that the linkage between employee loyalty and service quality (Hypothesis 1) is highly significant ( $P = 0.531$ ,  $t = 6.286$ ,  $p < 0.001$ ). Service

quality has a significant and direct impact on customer satisfaction, supporting Hypothesis 2 ( $P = 0.388, t = 4.768, p < 0.001$ ). The relationship between customer satisfaction and loyalty (Hypothesis 3) is also highly significant at  $p = 0.001$  ( $P = 0.818, t = 11.215$ ). The association between customer loyalty and firm profitability (Hypothesis 4) is highly significant ( $P = 0.300, t = 4.190, p < 0.001$ ). The hypothesized model and its path estimates are depicted in Figure 1.

(----- Figure 1 about here -----)

### 4.3 Results of Moderating Effects Testing

After the analysis of the main effects shown in the hypothesized model, we examined the hypothesized moderating effects to gain a deeper understanding of the relationships between employee loyalty and service quality, customer satisfaction and customer loyalty, as well as firm profitability. We assessed the influence of three moderator variables on different relationships depicted in the previous section using multiple-group analysis of SEM. To conduct multiple-group analysis, we followed Homburg and Giering's (2001) suggestion. We first conducted separate median splits in the collected sample, based on the values of an individual moderator variable. We then performed multiple-group analysis by comparing the two sub-samples (i.e., high versus low values of the moderator variable). Accordingly, we compared three pairs of models, each of which included different moderators and relationships. The first hypothesis test was concerned with the moderating effect of employee-customer contact time on the effect of employee loyalty and service quality. The other two investigations were concerned with the moderating impacts of market competitiveness and switching costs on the relationship between customer satisfaction and customer loyalty.

Multiple-group analysis of SEM involves the comparison of a general model with a restricted model. The general model normally has one degree of freedom less than the restricted model. The chi-square value is also always lower for the general model than that of the

restricted model. If the improvement in chi-square value is significant when moving from the restricted model to the general model, it indicates the existence of differential effects of the moderator on the corresponding relationship in the two sub-samples. This provides statistical support for the hypothesis of a moderating effect.

The results of the multiple-group SEM analysis are shown in Table 3. Regarding the moderator of employee-customer contact time, the chi-square difference ( $\Delta\chi^2 = 0.055$ ,  $p < 0.001$ ) did not indicate the presence of a significant moderating impact on the relationship between employee loyalty and service quality (since  $\Delta\chi^2 < 3.841$ ). Thus, Hypothesis 4 was not supported. Hypothesis 5 and Hypothesis 6 consider the moderating effects of market competitiveness and switching cost on the relationship between customer satisfaction and customer loyalty. As shown in Table 3, the differences of chi-square ( $\Delta\chi^2 = 0.563$  for market competitiveness and  $\Delta\chi^2 = 0.581$  for switching cost) were not significant at  $p = 0.001$ . These results did not support Hypothesis 5 or Hypothesis 6.

In sum, the chi-square differences in the multiple-group analysis for each of the three suggested moderator variables were not significant with one degree of change. Thus, this study does not offer statistical support for the suggested moderator variables on the corresponding relationships. In other words, Hypotheses 4, 5 and 6 were not supported by the results of this empirical study.

## 5. DISCUSSION AND CONCLUSIONS

In this study we developed and tested the relationships among employee loyalty, service quality, customer satisfaction and customer loyalty, and firm profitability in the context of high-contact services. The results lend strong support for the assertion that employee loyalty is an important determinant of firm profitability. The findings are consistent with the popular S-



PC concept that the key driver of firm performance is employee attributes, such as employee loyalty, in service organizations (Heskett, Jones, Loveman, Sasser Jr. and Schlesinger, 1994). Similarly, anecdotal evidence from service firms, such as Domino's pizza, where researchers found that an increase in employee loyalty triggers a corresponding change in customer satisfaction; in turn, this leads to a dramatic increase in sales revenues.

According to the social exchange theory, service employees who are loyal to their employing organizations will be committed to delivering services with higher levels of quality to customers. It seems quite logical to consider that customer contact time is a moderator on the relationship between employee loyalty and service quality. As the duration of the service encounter in a transaction increases, the intimacy between the employee and the customer may be also enhanced. In this case, during the encounter time, a loyal employee has more opportunities to understand and fulfill the specific needs of his/her customers, leading to a greater impact of employee loyalty on service quality. Surprisingly, the result of the sampled firms in this study did not support this argument. A possible cause was homogeneity, in terms of the overall customer contact level, of the sampled firms of this study.

For the service sector in which the contact time between employees and customers is very short (e.g., convenience stores and postal services), the quality of the service encounter is relatively less important, and so is the commitment of service employees to offering high levels of quality in their services. Thus, given the short contact time, loyal employees would have limited influence on service quality. At the other extreme, for service firms that operate in a very high employee-customer contact environment (e.g., estate agencies and beauty services), the intimate relationship between employees and customers in service delivery allows a loyal employee to deliver a higher level of service quality through the environment where he/she can be in contact with customer in a prolonged time. Nevertheless, service organizations with

extremely low customer contact (e.g., convenience stores and postal services) were not included in this study because they are not in the scope of this research. Given this result, we speculate that the relationship between employee loyalty and service quality would diminish only in a service context that is characterized by extremely low customer contact.

Jones and Sasser (1995) suggested that the relationship between customer satisfaction and customer loyalty is affected by the level of market competitiveness. However, the results of this study showed that market competitiveness does not have a significant moderating influence on this relationship in the sampled firms. Neither did we find that switching cost moderates the relationship between customer satisfaction and loyalty. Similarly, we suspect that this is because the operating environment of the investigated sample was in fact rather homogenous in terms of market competitiveness and switching cost. As a whole, the service sectors we examined operate in a rather competitive business environment. Unlike service sectors that require professional skills (e.g., legal, architectural and medical services) or high-capital investment (e.g., electricity and broad-band services), we focused on labour-intensive service sectors with a relatively low initial capital investment. In other words, these service sectors in the sample of this research are generally operating in a competitive market with low switching cost. As a result, we did not find any significant moderating effects. Furthermore, as can be seen in the hypothesized model, the relationship between customer satisfaction and customer loyalty is very strong ( $P = 0.818$ ). This suggests that satisfied customers always tend to be loyal to their service providers. For this reason, other environment factors, such as market competitiveness and switching cost, may not have a significant moderating effect on such a strong relationship between the satisfaction and loyalty of customers.

Our findings bear some practical implications for service operations management. Employee loyalty is an essential factor for operations managers to boost service quality,

customer satisfaction and customer loyalty, and plays a significant role in enhancing the performance of organizations in high-contact service sectors. It seems essential that management commitment to enhancing employee loyalty through such means as facilitating employee training, empowerment, compensation and so on – influential factors for building employee loyalty to organizations – be strengthened. Employee loyalty to an organization promotes a favourable work environment where employees tend to be committed to serving customers with a high level of quality in their services, which leads to enhanced firm profitability. Furthermore, this work environment can also satisfy customers' needs and retain customers, with an increase of organizational profitability being the ultimate consequence.

The findings suggest the payoff to build employee loyalty in service organizations. The test results of the hypotheses on the moderating factors recommend that the performance effects induced by employee loyalty are not contingent upon customer contact, market competitiveness, and switching cost. Consequently, managers need to determine their expected return from the payoff for building employee loyalty. This is helpful for the firm to optimize its resources expended and the return achieved.

As mentioned in Section 3.2, we followed previous studies to assess the levels of service quality, as well as satisfaction and loyalty of customers by using internal customer data. We therefore intended to validate whether the use of internal measures by employees, instead of external measures by customers directly, was reliable in this study. We collected the data of service quality, customer satisfaction and customer loyalty from both employees and customers from an extra sample of 38 service shops. In each shop, we surveyed three service employees and five randomly selected customers. We examined the correlations between the averaged ratings obtained from employees and from customers. We found that, given the small sample size ( $n = 38$ ), the correlations of all the items of service quality, customer satisfaction and

loyalty between the two sources were highly significant at  $p < 0.1$ , providing empirical support for the use of internal measures of service quality, customer satisfaction and loyalty in this study. Table 4, 5 and 6 show the results of these correlation tests.

In this study our focus was on investigating the impact of employee loyalty on firm performance; however, the need for employee learning in organizations is likely a success factor of businesses in the service industry. For future research, we believe that it would be interesting to find out the relationships between employee loyalty, organizational learning and firm performance. For example, would a lack of employee loyalty impede organizational learning, hindering operational efficiency? We also examined the contingent effects of customer contact, market competitiveness and switching cost on the hypothesized relationships in this study. Further research can explore the impacts of other potential moderators on the hypothesized relationships, such as employee retention package and customer reward program. For instance, would employee retention package moderate the relationship between employee loyalty and service quality? Would customer reward program be a moderator of the relationship between satisfaction and loyalty in customers? We hope this research will provide an impetus to OM researchers to more critically examine the relationships between employee attributes and operational performance. We also hope that further research will seek to move beyond the demonstration of main effects to an investigation of how and why employee attributes are related to operational performance and organizational outcomes under different operating contexts in the service industry.

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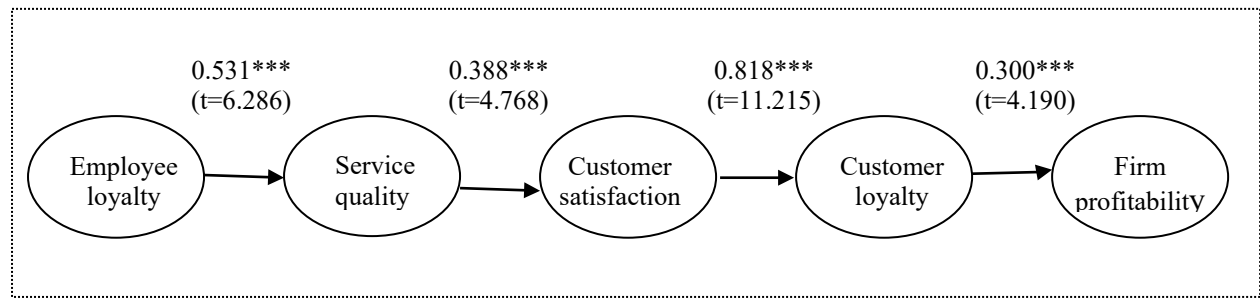
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## Figures and Tables



\*\*\* $p < .001$

**Figure 1. Hypothesized model and its path estimates.**

**Table 1. Distribution of sampled shops.**

Service Sector	Number of shops
Agency service (e.g., estate agencies and travel agencies)	45
Beauty care services (e.g., salons and beauty shops)	40
Catering (e.g., steakhouses)	22
Fashion retailing (e.g., dress shops)	40
Optical services (optometry shops and optical shops)	22
Retailing of health care products (e.g., cosmetic shops)	10
Retailing of valuable products (e.g., jewelry shops)	10
Others	21
Total	210

**Table 2. Goodness of fit indices for measurement models.**

Goodness of Fit Measures	Criteria	Employee loyalty	Service quality	Customer satisfaction	Customer loyalty and firm profitability	Market competition and switching cost
<i>Absolute Fit Measures</i>						
Distinct Parameters	-	2	5	2	13	15
Chi-square ( $\chi^2$ ) of Estimated Model	-	5.307	7.594	5.111	21.895	15.129
Probability of $\chi^2$	$p \geq .05$	.070	.180	.078	.057	.299
Chi-square/Degree of Freedom	$\leq 3.0$	2.654	1.519	2.556	1.684	1.164
Goodness of Fit Index (GFI)	$\geq .90$	.988	.986	.989	.971	.981
Root Mean Square Residual (RMSR)	$\leq .10$	.089	.050	.086	.057	.028
<i>Comparative Fit Measures</i>						
Normed Fit Index (NFI)	$\geq .90$	.991	.979	.991	.984	.987
Non-normed Fit Index (NNFI)	$\geq .90$	.984	.985	.983	.989	.997
Comparative Fit Index (CFI)	$\geq .90$	.995	.993	.994	.993	.998
Adjusted Goodness of Fit Index (AGFI)	$\geq .80$	.938	.957	.943	.937	.958

**Table 3. Results of multiple-group analyses.**

Moderator variable	Low value of moderator	High value of moderator	Chi-square difference ( $\Delta df = 1$ )
Employee-customer contact time	0.528 (t = 4.239)	0.533 (t = 4.693)	0.055 (= 440.593 – 404.538)
Market competitiveness	0.784 (t = 6.898)	0.827 (t = 8.638)	0.563 (= 383.488 – 382.925)
Switching cost	0.865 (t = 8.921)	0.726 (t = 6.449)	0.581 (= 481.311 – 480.730)

**Table 4. Results of zero-order correlations for the items of service quality by the data of employees and customers.**

Items	Employees					
	1	2	3	4	5	
Customers	1. Tangibles	<b>.368*</b>				
	2. Reliability	.418**	<b>.332*</b>			
	3. Responsiveness	.296	.250	<b>.360*</b>		
	4. Assurance	.503**	.350*	.339*	<b>.381*</b>	
	5. Empathy	-.143	-.218	-.142	-.054	<b>.312<sup>†</sup></b>

<sup>†</sup>p < 0.1

\*p &lt; 0.05

\*\*p &lt; 0.01

**Table 5. Results of zero-order correlations for the items of customer satisfaction by the data of employees and customers.**

Items	1	2	3	4
<b><i>Customer satisfaction</i></b>				
1. Price		<b>.379*</b>		
2. Enquiry service	.271	<b>.323*</b>		
3. Customer service in transactions	.245	.332*	<b>.424**</b>	
4. Service handling of dissatisfaction	.240	.212	.345*	<b>.441**</b>

\*p &lt; 0.05

\*\*p &lt; 0.01

**Table 6. Results of zero-order correlations for the items of customer loyalty by the data of employees and customers.**

Items	1	2	3	4
<i>Customer loyalty</i>				
1. Considering as their first choice	<b>.534**</b>			
2. Recommending to people	.433**	<b>.387*</b>		
3. Saying good words	(.141)	(.141)	<b>.308*</b>	
4. Encouraging friends and relatives to purchase	.492**	.489*	(.035)	<b>.429*</b>

\*p < 0.05

\*\*p < 0.01

## The Appendix

### (a) Service employee questionnaire

Responses to the following questions ranged from “1=totally disagree” to “7=totally agree”.

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*Employee loyalty* [Cronbach's  $\alpha=0.909$ ,  $r_{wg(j)}=0.986$ ,  $ICC(1)=0.428$ ,  $ICC(2)=0.600$ ,  $AVE=0.728$ , Construct reliability= $0.914$ ]

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EL1*	be absent from work.
EL2	continue our employment in this company. (0.760)
EL3	contribute extra effort for the sake of this company. (0.943)
EL4	become a part of this company. (0.904)
EL5*	turn down other jobs with more pay in order to stay with this company.
EL6	take any job to keep working for this company. (0.792)

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*Service quality* [Cronbach's  $\alpha = 0.820$ ,  $r_{wg(j)} = 0.950$ ,  $ICC(1) = 0.435$ ,  $ICC(2) = 0.606$ ,  $AVE = 0.492$ , Construct reliability =  $0.827$ ]

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SQ1	Our appearance is neat and appropriate. (0.705)
SQ2	We provide services at the time we promise to do so. (0.780)
SQ3	We provide prompt services to our customers. (0.623)
SQ4	We can be trusted by our customers. (0.803)
SQ5	We do not understand our customers' needs. (0.567)

---

### (b) Shop-in-charge questionnaire

Responses to the following questions ranged from “1=totally disagree” to “7=totally agree”.

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*Customer satisfaction* [Cronbach's  $\alpha=0.907$ ,  $AVE=0.711$ , Construct reliability= $0.908$ ]

---

Our customers are satisfied with .....

CS1	the price of their purchased product(s) in this company. (0.772)
CS2	the enquiry service provided by this company. (0.887)
CS3	the customer service in transactions. (0.881)
CS4	the service of handling customer dissatisfaction in this company. (0.828)

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*Customer loyalty* [Cronbach's  $\alpha = 0.942$ ,  $AVE = 0.805$ , Construct reliability =  $0.943$ ]

---

Our customers intend to .....

CL1*	do more transactions with this company in the coming years.
CL2	consider this company as their first choice for purchases. (0.858)
CL3	recommend this company to people who seek their advice on purchases. (0.928)
CL4	say something good about this company to others. (0.914)
CL5	encourage their friends and relatives to purchase from this company. (0.888)

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*Market competition* [Cronbach's  $\alpha = 0.828$ , AVE = 0.623,  
Construct reliability = 0.831]

Characteristics of the current market:

MC1	High availability of alternative products offered in the market. (0.718)
MC2	High availability of alternative services offered in the market. (0.867)
MC3	Attractive benefit plans offered in the market. (0.776)

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*Switching cost* [Cronbach's  $\alpha = 0.954$ , AVE = 0.838,  
Construct reliability = 0.954]

SC1	Customers have to pay a high cost for searching and evaluating information of alternative service providers before changing service provider. (0.919)
SC2	Customers have to pay a high cost to learn new services after changing service provider. (0.953)
SC3	Customers have to pay a high cost to build new relationships after changing service provider. (0.912)
SC4	Customers have to pay a high cost for the benefits lost by changing service provider. (0.876)

---

Responses to the following questions ranged from "1=much worst", through "4=no change" to "7=much better" for financial performance of the firm as compared to industrial norms.

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*Firm profitability* [Cronbach's  $\alpha=0.961$ , AVE=0.828, Construct reliability=0.930]

FP1	Return on assets (0.912)
FP2	Return on sales (0.923)
FP3	Return on investment (0.908)

---

Responses to the following question by estimation.

*Contact time*

Average total time for personal selling and service in a transaction in your company (i.e. time spent on direct contact and communication with customers):

\_\_\_\_\_ hour(s) \_\_\_ minutes

<sup>1</sup>Standardised path weight from the latent variable to the measurement item.

\*Deleted item.