Market Competitiveness and Quality Performance in High-contact Service Industries

Purpose – The purpose of this study is to explore conceptually and examine empirically the impact of market competitiveness on employee satisfaction, service quality, and customer satisfaction in high-contact service industries.

Design/methodology/approach – An empirical study was conducted in high-contact service shops in Hong Kong. Dyadic data were collected from 210 high-contact service shops and were analysed using structural equation modelling.

Findings – The results confirm that market competitiveness has a direct impact on service quality, not employee satisfaction. The findings also reveal that service quality affects customer satisfaction, which in turn leads to employee satisfaction, forming a "quality - customer satisfaction - employee satisfaction cycle".

Practical implications – The results recommend that firms take a long-term perspective towards investment in understanding the competitiveness of the market. Such an understanding helps managers identify and implement appropriate quality-improvement activities, such as establishing quality standards, providing appropriate job description to service employees, and adopting customer-oriented strategy, leading to enhanced customer satisfaction and employee satisfaction in a cyclic manner.

Originality/value – This study contributes to a detailed understanding of how service firms should strategically respond to market competitiveness.

Keywords Market competitiveness; Service quality; Customer satisfaction; Employee satisfaction

Research type Research paper

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1. Introduction

It is widely recognized that today's service environment is highly competitive. Service sectors account for more than 70% of the GDP in such developed countries as the USA and Japan (Machuca *et al*., 2007). According to the Census and Statistics (2012) of Hong Kong, the service industry accounts for over 90% of Hong Kong's GDP. In response to the increasingly competitive environment, prices, customer service, and service standard become imperative concerns to service firms in Hong Kong. Such a competitive environment challenges firms to find ways and means to deliver services better than their competitors do.

Because of considerable heterogeneity of customer needs in the service industry, it has become increasingly important to successfully address the needs of each specific customer (Homburg *et al*., 2009). Under the competitive environment of the Hong Kong service industry, customers have a higher demand for new products and good quality level of services. Service firms are challenged to satisfy customers' diverse needs with superior service quality.

One typical characteristic of the service industry in Hong Kong is small firm size. This sector employed a service workforce of more than 254,947 persons in 63,277 service establishments, i.e., an average of four employees per firm (Census and Statistics, 2012). Small firms are more likely to experience constraints on organizational resources (e.g., Coviello *et al*., 2006). When a firm faces resource limitation, the investment on human capital is the first area to be cut (Yee *et al*., 2008). However, service employees are pivotal to shaping customers' perception of service quality as they are the first party to represent the

entire service firm (e.g., Liao and Chuang, 2004). The challenge of firms is whether to invest on developing service employees.

To deal with the increasing competitiveness in the service industry, firms strive to customize proper strategies to achieve desirable quality outcomes. According to research on operations management (OM), the effort has mainly focused on the standardization and optimization of service delivery processes as a means to profitably deliver value to customers and to meet, even exceed, customer expectations (e.g., Machuca *et al*., 2007). According to research on service management, the emphasis is to seek ways to manage customer-contact employees effectively so as to ensure that their attitudes and behaviours are conducive to the delivery of quality services to satisfy customers' needs (e.g., Crosno *et al*., 2009). Yet, neither perspective adequately accounts for service performance completely. The OM perspective tends to ignore employee participation in service encounters while the perspective of service management is likely to neglect the operational context in service delivery. Indeed, these perspectives have made significant contributions to customer outcomes. Hence, this study considers both perspectives in investigating how customer outcome is influenced by competitiveness in service industries.

High-contact service industries typically involve activities that service employees and customers have close and direct interactions for a prolonged period (Yee *et al*., 2008). Through close contact, employees and customers have ample opportunities to exchange information about purchases. This enhances the capability of employees to deliver a high level of service quality and the ability of customers to express their individual needs clearly. High-contact service firms are therefore particularly suited for examining how market competitiveness affects employee and quality performance indicators.

This research empirically examines the relationship between market competitiveness, employee satisfaction, service quality, and customer satisfaction using dyadic data from a survey of 210 service shops in Hong Kong and the development of theory-based structural equations models (SEM). This study contributes to OM theory and practice by offering guidelines how service firms should strategically respond to market competitiveness.

2. Theoretical background and hypothesis development

2.1 Theoretical background

Services are typically characterized by customer involvement, simultaneous production and consumption, and service employee participation. Customer contact is well recognized as one defining feature of services (Fitzsimmons and Fitzsimmons, 2007). Basically, it concerns customers' physical presence and employees' interacting with them in a service delivery process (Mayer *et al.*, 2009). Specifically, it introduces variability into service delivery processes. The presence and the active involvement of customers in service delivery processes as well as the heterogeneity and unpredictability of customer needs increase the uncertainty in interactions encountered by service employees. The higher contact between customers and employees, the greater uncertainty in their interaction, the more difficulty in control and standardizing service delivery processes.

From the OM perspective, organizations attempt to control service delivery processes by minimizing employee-customer contact (Hill, 2008), reducing human errors in service delivery processes (Chuang, 2010), and ensuring the reliability of the services offered (Pan and Kuo, 2010). These OM approaches are considered effective for performance enhancement in service operations, especially when the customer contact is relatively limited,

like cheque processing in banks (e.g., Soteriou and Chase, 2000). Nevertheless, when the contact is quite high, such as agency services, OM approaches appear ineffective to directly manage service delivery processes; hence, the processes must be managed indirectly through customer-contact employees (Voss *et al*., 2005). Prior research of service management has investigated some employee attributes, such as organizational citizenship and goal orientations, and their impacts on service performance (Yang, 2012). This research adopts these approaches to investigate how market competitiveness affects a firm's response toward service performance.

Given the challenges in the high-contact service industry, this study examines some potential consequences of market competitiveness in such a context. Service employees are greatly affected by market competitiveness as their major role is to deliver services directly to customers in purchases. Employee satisfaction is well recognized as a fundamental employee attribute in a work setting (e.g., Anosike and Eid, 2011). Furthermore, the level of competitiveness in the market influences how firms respond in service delivery. Such influence may be stronger in a high-contact service industry where customer needs are relatively diverse. Thus, this study is intended to explore the effect of market competitiveness on employee satisfaction and service quality. Besides, customer satisfaction is often considered as an outcome of quality or employee performance. Hence, this study is intended to explore how it is affected by service quality and employee satisfaction.

2.2 Development of hypotheses

Market competitiveness is the extent of the competitiveness of the operating environment in which a service firm operates. Employee satisfaction is concerned with the degree to which

service employees are satisfied with their jobs. To outperform competitors, managers may probably exert higher expectations on the service performance of customer-contact employees and greater demand on their work. This may enhance the stress felt by employees. Stress results from the relationship between a person and the environment the person considers demanding, in excess of his/her resource (e.g., Chan and Wan, 2011). High work stress could prompt employees to be less satisfied. Therefore, the following hypothesis is proposed.

Hypothesis 1 (H1): Market competitiveness has a negative influence on employee satisfaction.

In a highly competitive market, organizations require to be more attentive to customers' changing needs in the market (Homburg *et al*., 2002). Delivering superior service quality is one effective way to achieve this by adding customer value. Thus, organizations have to be more devoted to improving service quality. Conversely, in a less competitive environment, the potential amount and variance in customer needs are relatively limited, so offering high-quality services is relatively less important. Hence, firms may not be so committed to delivering high-quality services. Based on the above argument, the following hypothesis is formulated.

Hypothesis 2 (H2): Market competitiveness has a positive influence on service quality.

The relationship between service quality and customer satisfaction can be accounted for by the Attitude Theory proposed by Lazarus (1991) and Bagozzi (1992). Lazarus (1991) proposes that appraisal processes of internal and situational conditions lead to emotional

responses; in turn, these induce coping activities, i.e., establishing the chain "appraisal → emotional response → coping". Grounded in Lazarus' chain, Bagozzi (1992) proposes that individuals typically engage in activities because of a desire to achieve certain outcomes. Accordingly, if an individual's appraisal of an activity indicates that the person has achieved the planned outcome, "desire-outcome-fulfilment" emerges and an affective response follows, leading to satisfaction (Gotlieb *et al.,* 1994). When applied to service encounters, the framework infers that a favourable cognitive service quality evaluation, i.e., appraisal, leads to a primarily emotive satisfaction assessment (e.g., Yee *et al*., 2008). Empirical findings showed that service quality leads to customer satisfaction (Babakus *et al*., 2004). Customers who perceive the services with high-quality level will have a favourable emotional response, i.e., customer satisfaction. Thus, the following hypothesis is suggested.

Hypothesis 3 (H3): Service quality has a positive influence on customer satisfaction.

The association between customer satisfaction and employee satisfaction is established based on the Theory of Emotional Contagion (Hatfield *et al.,* 1992; Hatfield *et al.*, 1994). Emotional contagion is defined as the tendency of a person to *automatically* mimic and synchronize expressions, postures, and vocalizations with those of another person and, consequently, to converge emotionally (Hatfield *et al.,* 1992; Hatfield *et al.,* 1994). Accordingly, this study argues that when employees are exposed to the emotional displays of customers, they experience corresponding changes in their own affective status. Satisfied customers are likely to display pleasant emotions to service employees. Through emotional contagion, such pleasant emotion influence the satisfaction felt by employees. Hence, the following hypothesis is postulated.

Hypothesis 4 (H4): Customer satisfaction has a positive influence on employee satisfaction.

The argument that employee satisfaction improves service quality is grounded in the Theory of Equity in Social Exchanges (Blau, 1964). This theory assumes that most people expect social justice or equity to prevail in interpersonal transactions. An individual accorded some manner of social gift that is inequitably in excess of what is anticipated will experience gratitude and feel an obligation to reciprocate the benefactor. Such positive reciprocal relationships evolve over time into mutual trust, loyalty, and commitment (Cropanzano and Mitchell, 2005).Accordingly, when a firm offers favourable working conditions that make its service employees satisfied, the latter will in return tend to be committed to making extra effort to the firm as a means of reciprocity for their employer (Flynn, 2005), leading to a higher service quality. Therefore, the following hypothesis is posited.

Hypothesis 5 (H5): Employee satisfaction has a positive influence on service quality.

3. Methodology

3.1 Sample

This study focuses on small firms of high-contact service industries in Hong Kong. Twelve main shopping areas are identified in Hong Kong, five major shopping centres are randomly selected from each area, and shops are randomly chosen from each centre. Firm size is controlled by choosing small service organizations with between two and five service employees. Further, this study covers different types of service shops (except for those with

low customer contacts, such as convenient stores) to strengthen the generalizability of the results.

3.2 Data collection procedures

A pilot study was conducted in eight different types of service shops, through which the relevance of the measurement indicators to their corresponding constructs, appropriateness of the questionnaire wording, and clarity of the instructions to complete the survey were verified. Upon completing the pilot study, minor modifications were made to the questionnaire in order to improve its validity and readability.

Two survey packets were prepared. One is a "shop-in-charge' questionnaire that is used to acquire information about market competitiveness and customer satisfaction from the persons in charge of a shop. The persons in charge of a shop are normally the shop proprietors or shop managers with detailed understanding of the market, and thus are capable of providing very reliable market information. Although customers are more preferred to be the informants of customer satisfaction, empirical findings from similar studies have demonstrated that internal and external measures of customer satisfaction are highly correlated (Goldstein, 2003), justifying the use of internal measures of customer satisfaction in this study. Another is "service employee" questionnaire that is intended to collect information of employee satisfaction and service quality from service employees. Service employees refer to staff members who are directly responsible for service delivery. They therefore are knowledgeable informants of this questionnaire. Researchers of psychology and organizational behaviour have advocated the use of multiple informants from a business unit

where subjectivity in judgment is anticipated (Becker and Gerhart, 1996). For this reason, two service employees were surveyed in each shop.

A research team including one of the authors as the leader and some student helpers was deployed to solicit the participation of service shops. They visited each shop in person to clearly explain the requirements of this study. They distributed the questionnaires in person to three individual respondents. The respondents were allowed to complete the questionnaire at different times and different places (e.g., work vs. home) at their convenience. This helps mitigate the problem of transient mood state and common stimulus cues – a source of common method bias (Podsakoff and Organ, 1986). The team then collected the questionnaire from each respondent individually at his/her convenient time.

Of the total sample of 300 shops that were visited over a twelve-month period, 667 questionnaires from 232 shops were collected. After dropping 37 questionnaires with missing data, we obtained a final dataset comprising 210 shop-in-charge persons and 420 employees from 210 shops across different service sectors, including sectors of agency services (21%), beauty care services (19%), catering (10%), fashion retailing (19%), optometry services (11%), retailing of health care products (5%), retailing of valuable products (5%) and others (10%). The unit of analysis is at shop level for this study.

3.3 Variable measures

Construct indicators and statistics are presented in Appendix. All constructs were measured using a seven-point Likert-type scale anchored at 1=*totally disagree* and 7=*totally agree*.

Market competitiveness: Jones and Sasser (1995) suggest measuring market competitiveness by the availability of alternative products and services. To capture a

particular market characteristic in the service industry, an indicator of "availability of alternative benefit plans in the market" was added to assess market competitiveness. Thus, three questions related to the availability of alternative products, services, and benefit plans to measure market competitiveness are included in this study.

Service quality: This study adopts the SERVQUAL instrument developed by Parasuraman *et al*. (1988) and Parasuraman *et al*. (1991). The SERVQUAL instrument suggests there are five dimensions of perceived service quality, namely tangibles, reliability, responsiveness, assurance and empathy. Consistent with previous research on service quality (Gotlieb *et al.*, 1994), an item from each of the five dimensions that are most relevant to the service industry being studied is selected, instead of using all of the 22 items.

Employee satisfaction: This study uses indicators from the Job Descriptive Index (Smith *et al.*, 1969). Four questions out of the five classical satisfaction facets, namely salary, job nature, promotion, and relationships with colleagues listed in the Job Descriptive Index are chosen. Employees' relationships with supervisors are not measured. This is because such a relationship might highly depend on their performance in service delivery (Teas, 1981) – a close indicator of service quality in this research.

Customer satisfaction: Customer satisfaction is defined as the pleasurable emotional state of a customer from his experience with a shop, i.e., a summary evaluative response (Fornell, 1992). This summary response contains evaluations of the key facets that customers consider important in the service context (Oliver, 1997). Four questions relating to feature performance that drives satisfaction are developed, including enquiry service, price, customer service in transactions, and handling of dissatisfaction (Oliver, 1997).

3.4 Interrater agreement and reliability

Responses on employee satisfaction and service quality were obtained from two service employees in each shop. Following suggestions in psychology, within-shop interrater agreement is estimated (James, 1982). The average within-group interrater reliability values, $r_{wg(j)}$, for the constructs of employee satisfaction and service quality are 0.937 and 0.950, respectively. The interrater reliability values are higher than the commonly accepted criterion of 0.7 (James, 1982), suggesting sufficient within-group agreement to aggregate the data to shop level for analysis.

Intra-class correlation (ICC) statistics, ICC(1) and ICC(2), is used to assess interrater reliability (Bartko, 1976; Schneider *et al.*, 1998) within shops. The ICC(1) values are 0.531 and 0.435 for employee satisfaction 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 are 0.694 and 0.606 for employee satisfaction and service quality, respectively, which are slightly higher than the cut-off point of 0.60 (James, 1982), rendering sufficient interrater reliability within shops for further analysis at the shop level.

3.5 Further validation

As mentioned in Section 3.2, we follow previous studies to assess service quality and customer satisfaction using internal customer data. To validate the use of internal measures by employees, instead of external measures by customers, we collected data on service quality and customer satisfaction from both employees and customers in another 42 service shops. In each shop we surveyed three employees (including the shop-in-charge and two service employees) and five randomly selected customers. We examined the correlations

between the average ratings of employees and of customers. Despite the small sample size (n=42), the correlations for all the items of service quality and customer satisfaction between employees and customers were significant at p=0.1, providing empirical support for the use of internal measures of service quality and customer satisfaction in our study.

4. Data analysis and results

SEM is applied to examine the proposed model, using Analysis of Moment Structures (AMOS). SEM is capable of providing estimation of multiple and interrelated dependence relationships and representing unobserved concepts in relationships (Hair *et al*., 2009). For this reason, it was employed for data analysis in this study. Follow Anderson and Gerbing's (1988) two-step approach, a measurement model is estimated prior to a structural model. In what follows, the analyses of the measurement and structural models, the results of hypothesis testing, and comparison of competing models are presented.

4.1. Measurement model results

The results of convergent validity and discriminant validity are shown in the Appendix. Convergent validity can be assessed by standardized measurement loading, construct reliability and average variance extracted (AVE) (Fornell and Larcker, 1981). All the item loadings for the constructs are significant, with t-values higher than 7.66 (p<0.001). In addition, all the measures of the instrument are found to be highly reliable with construct reliability greater than 0.8 (Nunnally, 1978). The AVE values are all above the suggested criterion of 0.5 (Fornell and Larcker, 1981), except for service quality. Fornell and Larcker (1981) stated that AVE is a conservative measure of convergent validity. Hence, though the

AVE value for service quality is 0.492, which is only marginally below the suggested criterion, it still shows convergent validity. The results of convergent validity for the scales are shown in the Appendix.

Discriminant validity can be evaluated by comparing the squared correlation between two constructs with their AVE estimates (Fornell and Larcker, 1981). Discriminant validity exists if the AVEs of two constructs are greater than their squared correlation (Fornell and Larcker, 1981). Table 1 shows the results of discriminant validity for the scales. As can be seen in the table, for each listed pair of constructs, the mean value of their average variances extracted is greater than their squared correlations, providing support for discriminant validity for the scales.

Table 2 shows the results of absolute fit measures, incremental fit measures, and parsimony fit measures. All the results of these measures support the belief that the measurement models achieve satisfactory fit and are ready to be used in the analyses of structural models.

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

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

4.2 Structural model results and hypothesis testing

Table 3 shows the goodness-of-fit statistics for the hypothesized model (Model H). The overall fit of the structural model is good: χ^2=148.511, χ^2/df=1.500, GFI=0.921, CFI=0.970, TLI=0.963, and RMSEA=0.049. Hypotheses H2-H5 are supported at the significance level of p<0.05. The estimate of the standardized path coefficient (P) indicates that the linkage

between market competitiveness and service quality (H2) is significant (P=0.140, S.E.=0.060, C.R.=2.337, p<0.05). The association between service quality and customer satisfaction (H3) is highly significant (P=0.454, S.E.=0.118, C.R.=3.850, p<0.001). Customer satisfaction has a significant impact on employee satisfaction, supporting H4 (P=0.173, S.E.=0.063, C.R.=2.728, p<0.01). The relationship between employee satisfaction and service quality (H5) is also highly significant at p=0.001 (P=0.331, S.E.=0.088, C.R.=3.777, p<0.001). However, market competitiveness has no significant direct impact on employee satisfaction, not supporting H1 (P=0.054, S.E.=0.060, C.R.=0.909, *n.s.*). The hypothesized model and its path estimates are shown in Figure 1.

(------ Table 3 about here ------)

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

4.3. Comparison of competing models

SEM is best conducted in the form of comparisons among different plausible models that can be justified theoretically (Shah and Goldstein, 2006). Bentler and Chou (1987) point out that in an ideal situation, a researcher should build a few alternative models that shed light on the key features of the hypothesized model. Alternative models can increase the alignment of the modelling results with existing knowledge and theories (Shah and Goldstein, 2006). Accordingly, two alternative models are developed based on different arguments in the literature as shown in Figure 2.

The literature of service management generally advocates that firms rely heavily on service employees to deliver high-quality services to meet the heterogeneous needs of customers (Schneider, 2004). Following this line of reasoning, the direct impact of market competitiveness on service quality should be minimal but the one on employee satisfaction should be maximal. Thus, the first alternative model, Model A_1, is developed that market competitiveness affects solely employee satisfaction, not service quality.

The literature of OM recommends that firms would focus on designing, managing, and optimizing service delivery systems to enhance service quality and operational efficiency (e.g., Krishnan *et al*., 2011). In line with this thought, market competitiveness has a minimal influence on employee satisfaction, yet a maximal effect on service quality. Hence, the second alternative model, Model A_2, is developed that market competitiveness impacts only service quality, not employee satisfaction.

The results of analyses of the alternative models are shown in Table 3. Both of the two alternative models, Model A_1 and Model A_2, are all good fit models as they meet the general criteria of both absolute and comparative fit measures. Compared with the baseline model, i.e., Model H (χ^2=148.511), Model A_1 (χ^2=154.04) has a significantly higher χ^2 value ($\Delta\chi^2$=5.529). With an increase in one degree of freedom, the change in the χ^2 value is significant at p = 0.05 ($\Delta\chi^2$>3.841). Hence, Model A_1 is rejected, providing evidence against the alternative hypothesis that market competitiveness has a direct impact on employee satisfaction. The χ^2 value for Model A_2 (χ^2=149.21) is a little bit higher than that of the hypothesized model (χ^2=148.511). The increase in the χ^2 value ($\Delta\chi^2$=0.699) is insignificant at p<0.05 ($\Delta\chi^2$>3.841) for a change in one degree of freedom. Since Model A_2 is a nested (more restricted) model compared with the baseline model (Model H), the former is preferred

(being more parsimonious). Thus, the analysis of Model A_2 provides evidence supporting the hypothesis that market competitiveness directly influences service quality directly, but not employee satisfaction. Hence, Model A_2, instead of the originally hypothesized model (Model H), is selected because it best represents the "true model". Figure 2 shows the alternative models and their estimates.

(------ Figure 2 about here ------)

5. Discussion

Despite its importance for tailoring strategies and practices to enhance service performance, the direct impact of market competitiveness on a firm is often ignored. Only a handful of research explored the moderating effect of market competitiveness on service performance (Jones and Saser, 1995). This research explicitly investigated the direct impact of market competitiveness on a firm's service performance in a survey. This study contributes to the existing literature in several ways.

First, this research clearly reveals that market competitiveness has a direct effect on service quality. Given that the high-contact service context is typically characterized by the diversity and unpredictability of service operations, it is always difficult for firms to deliver services that can fulfil customers' diverse needs exactly (Homburg *et al*., 2009). Yet, this study's results suggest that market competitiveness exerts an influence on the quality performance of high-contact services. Perhaps market competitiveness acts as an external force that directly drives service firms to seek possible ways for achieving performance gain in high-contact services.

Next, countering prediction, the results concerning employee satisfaction recommend that it is not associated with market competitiveness, yet is affected by customer satisfaction. Unlike employers or shop managers, service employees might be less sensitive to the market environment, but more often influenced by the emotions expressed by their customers through daily close interactions in the high-contact service setting (Gountas and Gountas, 2007). Hence, employee satisfaction is affected by customer satisfaction, not market competitiveness in the high-contact service context.

Last, previous research has suggested that the emotions of both customers and employees have a contagion effect in their service encounter (Lin and Lin, 2011), while this research extends previous research by identifying a "quality - customer satisfaction - employee satisfaction cycle". The true model, i.e., Model A_2, of this research shows that the relationships among service quality, customer satisfaction, and employee satisfaction appear to follow a self-reinforcing loop – high-quality services induce enhanced customer satisfaction that leads to higher employee satisfaction, which in turn results in increased service quality. These findings supplement the prior results of this study that market competitiveness has a direct effect on service quality. Stated clearly, market competitiveness affects service quality, which contributes to customer satisfaction and employee satisfaction through a cyclic effect. Driven by the competitiveness in the market, firms tend to provide high-quality services to make customers happier. Such positive emotion felt by customers would induce a contagion effect on employees' emotion. Employee would appear more pleasant to deliver high-quality services that can better satisfy customers.

Understanding how firms can satisfy customers better has great strategic importance for operations managers. The findings of this research provide key implications for high-contact service firms. First, this study's results reveal a positive effect of market

competitiveness on service quality. Unlike the traditional OM practices whereby managers apply mainly optimization or standardization techniques to achieve desirable service outcomes, this study recommends that managers acquire a detailed understanding of the competitiveness of the market, e.g., competitors' service offerings, customers' responses on service offerings, and customers' expectations and needs for services. Such an understanding offers managers with valuable insights into taking corresponding actions to achieve superior service quality in high-contact service firms. Managers may establish proper quality standards for their services offered. Furthermore, managers may provide appropriate job descriptions and sufficient support to their service employees who are responsible for service delivery. This enables employees deliver services that can meet the quality standards established. Moreover, firms may adopt customer-oriented strategy for their businesses. Therefore, managers may align organizational resources and activities to tailor customer-oriented services with high-quality level to suit customers' individual needs the best.

Next, the findings of this study show that employee satisfaction is affected by customer satisfaction. This suggests that managers may make an effort to satisfy customers so as to satisfy employees. In the high-contact service environment, customers are exposed to service encounters for a prolong time; thus, the atmosphere of the service shop may affect customers' satisfaction levels. Therefore, we suggest that managers may create and maintain a pleasant shopping atmosphere by employing proper visual mechanising effects to attract customers and arouse their hedonic emotion; in return, they would become more satisfied. Satisfied customers would have a contagion effect on making employees happier during service encounters. Satisfying service employees is significant in high-contact service firms that managers are more likely to rely heavily on service employees for performance gain.

Service employees are the key party that has direct impact on the quality level of services they delivery and close interaction with customers.

Last, this research demonstrates that market competitiveness affects service quality, which contributes to customer satisfaction and employee satisfaction in a cyclic manner. To initiate the cycle, firms should invest organizational resources in quality-improvement activities, e.g., understanding the market, customizing services, and promulgating a quality culture, throughout the organization. Hence, we suggest that service firms take a long-term perspective towards enhancing the service performance. Managers should not be overly concerned about incurring costs from investment in quality-improvement activities because in practice such costs are likely to be offset by the benefits of providing superior quality service to customers in the long run.

6. Conclusions and Recommendations

This study is a conceptual and empirical examination of the direct effect of market competitiveness on employee satisfaction and quality performance outcomes in a high-contact service environment. Further, special attention is paid to the research methodology to ensure its rigour. Multiple informants are employed in each unit of analysis in the measurement of employee attribute and quality performance indicators. Related multi-rater measures are assessed before aggregating the data to form the dataset. By making on-site visits to each of the service shops in the data collection process, this ensures that the firms involved in this study genuinely operate in a high-contact service environment. In sum, this study offers empirical evidence that advances the knowledge frontier of OM by using a rigorous research methodology.

The Hong Kong service industry is very competitive that it is typically characterized with a large amount of service shops, customers' heterogeneous needs, and limited organizational resources. Such characteristics make the industry more challenging. To prosper, it is vital that firms are devoted to understanding the market environment, then tailor-making appropriate quality standards for service and allocating resources to improve the quality level of services.

In this research the major predictor variable studied is market competitiveness. Further research is necessary to investigate how other environmental factors, like switching cost and market uncertainty, influence service performance. It is hoped that this study provides an impetus to researchers of OM to more critically examine the impacts of contextual factors on operational performance in service industries.

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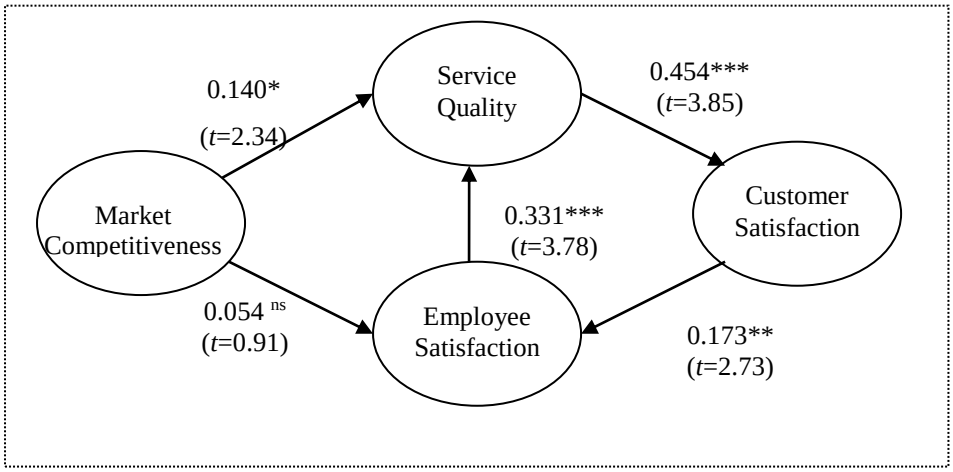
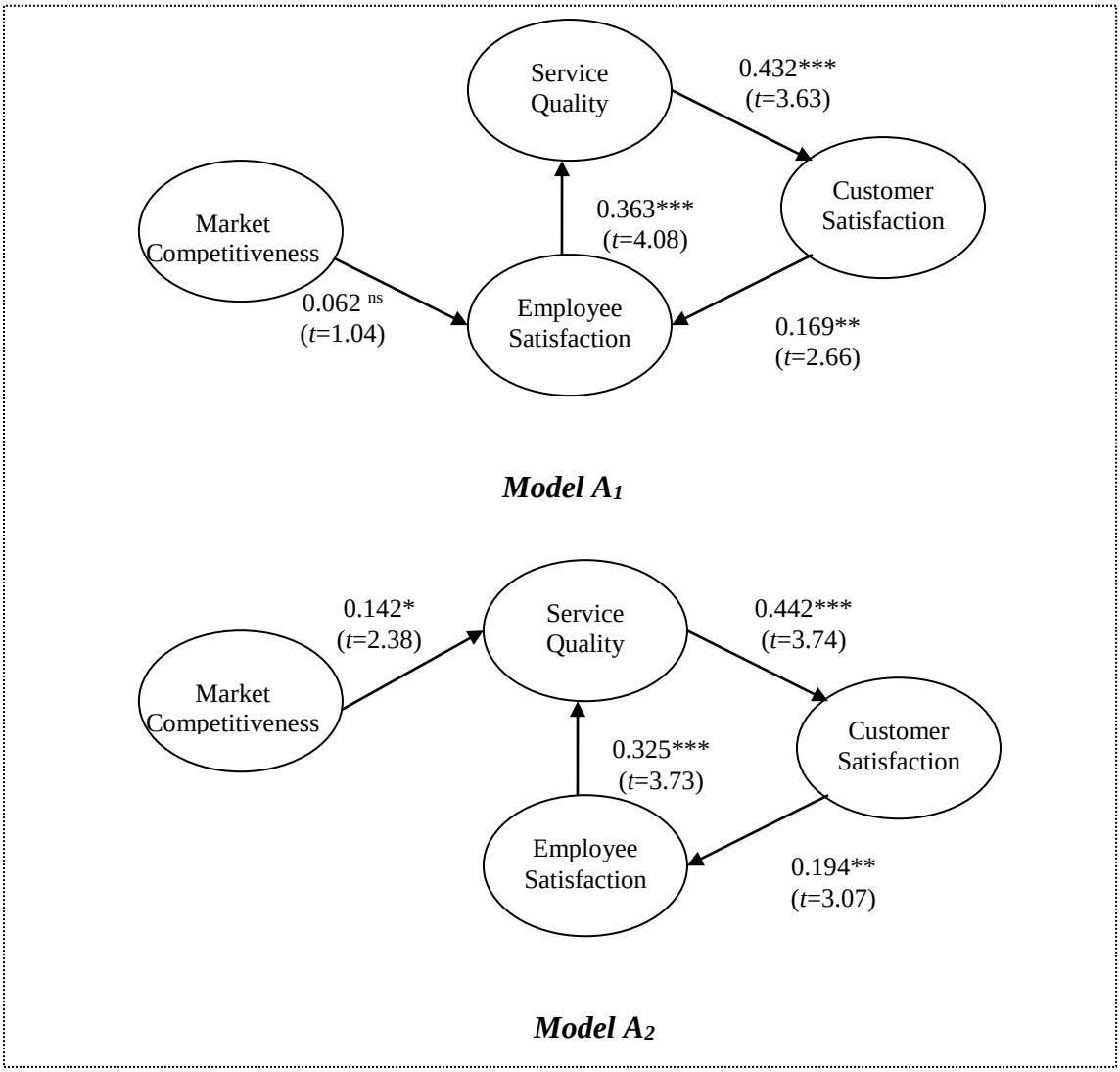
Figures and Tables:



***p<.001; **p<.01; *p<.05

Figure 1 Hypothesized model (Model H) and its path estimates



***p<.001; **p<.01; *p<.05

Figure 2 Alternative models and their path estimates

Table 1 Results of average variance extracted and squared correlations for constructs

Constructs	Average Variance Extracted	Squared Correlation
Market competitiveness versus service quality	0.558	0.01
Market competitiveness versus employee satisfaction	0.618	0.01
Service quality versus customer satisfaction	0.602	0.05
Customer satisfaction versus employee satisfaction	0.663	0.04
Employee satisfaction versus service quality	0.553	0.05

Table 2 Goodness of fit indices of measurement models

Goodness of Fit Measures	Criteria	Measurement Model
Absolute Fit Measure	-	
Chi-square (χ^2) of Estimated Model	-	127.47
Degree of Freedom (*df*)	-	98
Normed Chi-square	≤3.0	1.301
Goodness of Fit Index (GFI)	≥.90	.930
Root Mean Square Error of Approximation (RMSEA)	≤.10	.036
Incremental Fit Measures		
Normed Fit Index (NFI)	≥.90	.954
Tucker-Lewis Index (TLI)	≥.90	.987
Comparative Fit Index (CFI)	≥.90	.989
Parsimony Fit Measures		
Adjusted Goodness of Fit Index (AGFI)	≥.80	.903
Parsimony Normed Fit Index (PNFI)	≥.50	.780

Table 3 Goodness of fit indices of hypothesized and competing structural models

Goodness of Fit Measures	Criteria	Model H	Model A_1	Model A_2
Absolute Fit Measure	-			
Chi-square (χ^2) of Estimated Model	-	148.511	154.04	149.21
Degree of Freedom (*df*)	-	99	100	100
Normed Chi-square	≤3.0	1.500	1.540	1.492
Goodness of Fit Index (GFI)	≥.90	.921	.919	.921
Root Mean Square Error of Approximation (RMSEA)	≤.10	.049	.051	.049
Incremental Fit Measures				
Normed Fit Index (NFI)	≥.90	.915	.912	.915
Tucker-Lewis Index (TLI)	≥.90	.963	.960	.964
Comparative Fit Index (CFI)	≥.90	.970	.967	.970
Parsimony Fit Measures				
Adjusted Goodness of Fit Index (AGFI)	≥.80	.893	.889	.893
Parsimony Normed Fit Index (PNFI)	≥.50	.782	.788	.789

APPENDIX: QUESTIONNAIRES AND THEIR MEASUREMENT PROPERTIES

(a) Service employee questionnaire

Responses to the following questions range from 1=*totally disagree* to 7=*totally agree*.

Employee satisfaction [Cronbach's α=0.860, $r_{wg(j)}$=0.936, ICC(1)=0.531, ICC(2)=0.694, AVE=0.615, Construct reliability=0.863]

We are satisfied with …….

ES1	the salary of this company. (0.83)[1]
ES2	the promotion opportunities within this company. (0.87)
ES3	our job nature within this company. (0.78)
ES4	our relationships with our fellow workers within this company. (0.64)
ES5*	the supervision of our supervisors within this company.

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

SQ1	Our appearance is neat and appropriate. (0.71)
SQ2	We provide services at the time we promise to do so. (0.78)
SQ3	We provide prompt services to our customers. (0.62)
SQ4	We can be trusted by our customers. (0.80)
SQ5	We do not understand our customers' needs. (0.57)

(b) Shop-in-charge questionnaire

Responses to the following questions range from 1=*totally disagree* to 7=*totally agree*.

Customer satisfaction [Cronbach's α=0.907, AVE=0.711, Construct reliability=0.908]
Our customers are satisfied with …….

CS1	the price of their purchased product(s) sold by this company. (0.77)
CS2	the enquiry service provided by this company. (0.89)
CS3	the customer service in transactions. (0.88)
CS4	the service of handling customer dissatisfaction in this company. (0.3)

Market competitiveness [Cronbach's α=0.828, AVE=0.623, Construct reliability=0.831]

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)

[1]Standardarized measurement loading
*Deleted item