A Study of Passengers’ Loyalty in a Hong Kong Franchised Bus Company

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Market share of franchised buses in Hong Kong decreases since 2004 irrespective of increase in service quality as reported by Tang and Lo (2010). This paper investigates how service quality, image, satisfaction and loyalty are related to gain insight on the decreasing market share problem based on data collected from a random sample of 636 passengers of a franchised bus company in Hong Kong in 2004. The structural equation modelling results support the hypothesis that (1) service quality affects satisfaction and image directly, (2) image affects overall satisfaction and loyalty directly, and (3) overall satisfaction affects loyalty directly. However, the results do not support the hypothesis that service quality affects loyalty directly. Service quality has only indirect effect on loyalty through image and overall satisfaction. So even though the service quality may be increasing, the indirect effect of service quality on loyalty is not adequate to increase market share.

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1. Introduction

In Hong Kong, public transport is the dominant transport mode, accounting for approximately 90% of daily passenger journeys over the past 10 years (Transport Department 2003). Public transport comprises railways, franchised buses, public light buses, taxi service, non-franchised bus services for residents, ferries, railway feeder buses, and peak tramways. Among these modes, railways and franchised buses play an important role, carrying over seven million passenger journeys per day, or approximately 70% of the total public transport patronage (Transport Department 1995-2010).

Market share of franchised buses is generally higher than that of railways. In 2002, market share of franchised buses peaked at 39.8%, whereas market share of railways at the time was a mere 32.3%. However, with the opening of new rails, market shares of franchised buses and railways were 32.4% and 38.8% respectively in 2010. Other than competition from other modes, franchised buses compete with each other as well for the operating right of new bus routes. Moreover, the franchise can be terminated based on poor performance. Thus, service quality is essential to maintain market share and increase profitability under fierce competition.

In fact, quality of services for both railways and franchised buses has continuously improved over the past years. Using Mass Transit Railway (MTR) and Kowloon Motor Bus Limited (KMB) as references, Tang and Lo (2010) commented that the quality of rail and bus service provision improved from 1984 to 2004, particularly in terms of service supply and based on technical measures such as vehicle-kilometre per capita and real fare increase rate.

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However, market share of franchised buses, including KMB, started to drop since 2004 irrespective of increase in service quality as reported by Tang and Lo (2010). As passengers decide on which transport mode to take, it is very important to consider their opinion in studying the reason behind the drop in market share of franchised buses. In this paper, there are two research questions. First, what attributes do Hong Kong franchised bus passengers use in evaluating service quality? Second, do service quality, corporate image and satisfaction affect passengers’ loyalty?

In line with Tang and Lo’s study, the analysis is based on a data set collected from passengers in 2004. Further, among all the franchised bus operators in Hong Kong, KMB has the longest history and hence its corporate image is deeply rooted in Hong Kong people’s mind. The effect of corporate image on loyalty has been much discussed in marketing and servicing literature. However, in bus transportation context, very rare empirical studies investigate the effect of corporate image on loyalty. To address this gap in the current literature, this paper considers corporate image together with service quality and satisfaction in studying bus passengers’ loyalty. Also, KMB is currently the largest bus operator, occupying approximately 70% of the franchised bus share in Hong Kong. Thus, KMB’s quality of service affects many people in Hong Kong; it is of interest to a large share of the population and therefore merits investigation.

The remainder of the paper is organized as follows. Section 2 presents the literature review of the four constructs (service quality, corporate image, satisfaction and loyalty) and the research hypotheses of the proposed structural model. Section 3 describes the research methodology. The demographic profile and the results of exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation model (SEM) are provided in Section 4. Finally, Section 5 presents the concluding remarks with limitations of the study and suggestions for future research directions.

2. Literature Review

2.1 Service Quality

Several service quality models have been proposed to measure customer perceptions of service quality during the past three decades. Parasuraman et al.' (1988) SERVQUAL model has been widely used in various industries and countries. They developed the SERVQUAL instrument, which consists of 22 attributes under five distinct dimensions (i.e., reliability, assurance, tangibles, empathy, and responsiveness). They defined service quality as the difference or gap between customers’ expectations and perceived performance and proposed to use gap scores to measure service quality. However, Cronin and Taylor (1992) developed the SERVPERF model, which used only perceived performance scores rather than the ‘gap’ scores in assessing service quality. Another criticism on the SERVQUAL instrument is that the 22 associated attributes have been deemed inappropriate, or that they cannot be simply adopted for measuring service quality in all service industries (Cronin and Taylor 1992, Lai and Chen 2011). In this study, 15 service quality attributes are developed to suit Hong Kong franchised bus service situation. This paper will adopt the concept of SERVPERF model and use passengers’ perceived performance data on the 15 service quality attributes to measure service quality.
2.2 Corporate Image

Corporate image can be defined as the overall impression that is formed in people’s minds about a firm (Chou and Kim 2009, Park et al. 2006). Some researchers thought that service quality affects image (See, for example, Aydin and Ozer 2005). Their argument is that with good service quality, customers tend to have a good impression of the company. Also, it has been reported that corporate image tends to have a positive effect on customer satisfaction and customer loyalty (see, for example, Hart and Rosenberger 2004). The contribution of this paper is to add corporate image in studying bus passengers’ loyalty.

2.3 Customer Satisfaction

According to Oliver (2010), customer satisfaction is defined as a judgment that a product or service provided a pleasurable level of consumption-related fulfilment. Also there are two levels of individual consumer’s satisfaction: transaction-specific satisfaction and cumulative satisfaction. Transaction-specific satisfaction or encounter satisfaction is identified as a fulfilment response to a single transaction or encounter, whereas cumulative satisfaction is a judgment based on many occurrences of the same experience and not just one-time experience. For both cases (encounter satisfaction and cumulative satisfaction), satisfaction is either defined as an overall judgment of satisfaction or decomposed into satisfaction with individual attributes (Cronin and Taylor 1992). This paper measures “overall” “cumulative” satisfaction based on all passengers’ experiences with riding KMB bus. Overall cumulative satisfaction has been used by researchers such as Brunner 2008, Floh and Treiblmaier 2006.

2.4 Loyalty

According to Oliver (2010), loyalty is defined as “a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts that have the potential to cause switching behaviour”. There are two approaches to customer loyalty: behavioural and attitudinal. Behavioural loyalty refers to a customer’s actual behaviour to repeat purchases of products or services and recommend whereas attitudinal loyalty refers to a customer’s intention to repurchase and willingness to recommend. This paper adopts attitudinal loyalty as it is more commonly used in many research studies (Loureiro and Kastenholz 2011) and relatively easy to measure.

2.5 Relationships among Perceived Service Quality, Corporate Image, Overall Satisfaction and Loyalty

There is much previous research exploring the quality-satisfaction-loyalty (QSL) relationship. It is generally believed in marketing and service industries that (1) good service quality results in customer satisfaction, (2) good service quality attracts customers and hence leads to customer loyalty and (3) high satisfaction level is likely to create customer loyalty. However, it has also been reported that satisfaction may not be adequate enough to lead to loyalty, though loyal customers are almost typically satisfied (Cronin and Taylor 1992, Cronin et al 2000).
Furthermore, corporate image is also found to affect customer satisfaction and loyalty. Customers who develop a positive image towards a company will tend to have high customer satisfaction through a halo effect (see, for example, Hart and Rosenberger 2004, Lai et al 2009). Hart and Rosenberger (2004) reported that image has a “marginally significant” direct effect on customer loyalty, but a substantial effect mediated by customer satisfaction. Therefore, image can affect loyalty directly and indirectly.

Based on the above literature review, this paper considers the structural model presented in Figure 1. The hypotheses proposed in the model are given below:

H1: Service quality has a significant, positive and direct effect on corporate image.
H2: Service quality has significant, positive, and direct effect on customer satisfaction.
H3: Service quality has a significant, positive and direct effect on loyalty.
H4: Corporate image has a significant, positive, and direct effect on customer satisfaction.
H5: Corporate image has a significant, positive and direct effect on loyalty.
H6: Customer satisfaction has a significant, positive and direct effect on loyalty.

Structural equation model (Chou and Kim 2009, Lai and Chen 2011, Sumaedi et al. 2012) will be used to test all the above hypotheses simultaneously.

3. The Methodology and Model

3.1 Sampling and Data Collection

The target population of this study comprises purely KMB passengers. KMB has three main types of bus routes running through urban Kowloon, the New Territories, and cross-harbour. Stratified sampling was employed to select the bus routes within each type of stratum: urban Kowloon, New Territories, and cross-harbour. Passengers over 16 years old waiting at the bus stops or stations to ride the selected bus routes and had ridden a KMB bus in the previous month were invited for interview.

A total of 855 passengers were randomly selected to complete the questionnaire; only 636 samples were valid and included in the analysis. Successful response rate was 74.4%. To complete the questionnaire, passengers must be waiting for the bus at the bus stop. It should be noted that passengers arriving at the bus stop and boarding the
bus immediately with little or no waiting period are relatively difficult to interview. Thus, the questionnaire must be as short as possible to encourage response, taking into consideration that respondents may easily lose their patience or may be in a hurry, as well as the fact that buses may arrive during the interview. The time for conducting the survey was scheduled from 7:00 a.m. to 11:00 p.m. on both weekdays and weekends to interview both peak-hour and non-peak-hour passengers. The interview was conducted in Cantonese in March 2004.

3.2 Measurement and Data Analysis

Based on a comprehensive review of the transport literature, detailed search on the printed materials and KMB Web sites, and results of focus groups, 15 attributes of service quality were derived. The order of these attributes in the questionnaire is as follows: clarity of bus number design, bus route map, bus stop location, fare, discount, bus frequency, bus punctuality, bus service time, bus route coverage, travelling/driving safety, driver attitude (anything related to the driver other than driving such as politeness and friendliness, caring about the safety of passengers when they get on or off the bus), bus cleanliness, seat design (such as comfort, seat layout, leg space), air-conditioning, and bus stop information. Passengers’ perception of the performance of service quality are measured by asking them to rate each service quality attribute on a satisfaction scale (1 = very dissatisfied and 5 = very satisfied). This type of measurement scale is used by researchers such as Huang et al. (2006) and Lin et al. (2011).

The overall satisfaction, corporate image and loyalty are measured by a single-item. Although the use of single-item measures may weaken the estimated relationships, such measures have been used successfully in many research studies (see for example, Brunner et al. 2008, Chen 2008, Floh and Treibmaier 2006). As mentioned above, the questionnaire must be short enough to encourage response. Use of multi-item scales for overall satisfaction, corporate image and loyalty will mean longer questionnaire and may affect the response rate and overall reliability. Therefore, single-item measures for these three constructs are considered adequate for this exploratory study.

Overall satisfaction is measured on a 5-point Likert scale with (1 = very dissatisfied and 5 = very satisfied). As the respondents had ridden a KMB bus in the previous month, “overall” cumulative satisfaction is appropriate in this study. Corporate image is measured on a five-point scale from “very bad” to “very good” whereas customer loyalty is measured by the intention to increase ridership in the coming month on a five-point scale from “definitely will not” to “definitely will”. Repurchase intention and willingness to recommend others are two common indicators of loyalty. As Hong Kong people are already familiar with KMB and its service and hence it is less necessary for the respondents to recommend KMB bus service to others, so this study uses repurchase intention only to measure loyalty.

In this paper, we conduct exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation model (SEM) to these data. The research is quantitative and the study is causal in investigating the interrelationships among service quality, corporate image, customer satisfaction and loyalty.
4. The Findings

4.1 Sample Profile

The sample contains roughly the same percentage of male and female respondents (49% and 51% respectively). Majority of the respondents are aged between 16 and 54 years (95%) and are either studying or working (87%). So, the percentage of the elderly or non-economically active people in the sample is small, perhaps because they are not frequent travelers and hence not sampled. The education background of respondents is concentrated in secondary school (57%). Less than 13% of respondents have monthly income above HK$15,000, and so bus passengers mainly belong to the low-income group. Most passengers are frequent riders, with 42% of them travelling 8 to 14 times a week by KMB.

4.2 Exploratory and Confirmatory Factor Analysis

EFA is initially carried out on the perceived performance scores of all 15 service quality attributes. Two attributes – ‘bus route coverage’ and ‘bus stop information’ – are deleted because of cross loading and low reliability problems. EFA is finally performed on the remaining 13 service quality attributes using principle axis factoring method and orthogonal varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.797, which suggests that it is appropriate to carry out EFA for the data. Five factors with eigenvalue greater than one and accounting for 68.7% of the total variance are extracted. Based on the attributes whose factor loadings are greater than 0.4, the five factors are labelled as follows. Bus punctuality, bus frequency, and service time have high factor loadings (0.902, 0.652 and 0.407 respectively) on factor 1; thus, factor 1 represents reliability. Bus route map, bus number sign, and bus stop information have high factor loadings (0.865, 0.632 and 0.449 respectively) on factor 2; thus, it represents bus travelling information. Seat arrangement, cleanliness and air-conditioning have high factor loadings (0.780, 0.52 and 0.495 respectively) on factor 3; thus, it represents bus environment. Fare and discount have high factor loadings (0.777 and 0.649 respectively) on factor 4; thus, it represents price factor. Finally, travel safety and driver attitude have high factor loadings (0.799 and 0.551 respectively) on factor 5; thus, it represents driving or travelling factor. The overall Cronbach’s alpha level is 0.816 whereas the Cronbach’s alpha level for the five factors varies from 0.658 to 0.745. This result indicates that the measurement scale for service quality based on these 13 attributes is acceptable.

CFA is carried out further to empirically validate the five-factor structure obtained in EFA for service quality. The CFA analysis suggests that the measurement model for service quality has a good fit to the data: small ratio of chi-square value to degrees of freedom (2.03); goodness of fit index (GFI), goodness of fit index adjusted for degrees of freedom (AGFI), Bentler’s comparative fit index (CFI), normed fit index (NFI), and non-normed fit index (NNFI) are greater than the threshold value of 0.9; and root mean square residual (RMR) and root mean square error of approximation (RMSEA) are much below the threshold value of 0.05. Additionally, the measurement model for service quality has high validity and reliability. For example, standardized factor loadings and t values of the factor loadings being significantly different from zero at the 0.001 level support the convergent validity of all attributes. The composite reliability of all five factors exceeds the minimally acceptable value of 0.6. Having established the appropriateness of the measurement model for service quality, five summated scales
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are created corresponding to the five-factor structure and used as indicators for the latent construct “perceived service quality” in the subsequent structural equation model.

4.3 Structural Equation Model (SEM)

A structural equation model is fit to the perceived service quality, corporate image, overall satisfaction and loyalty data according to the model structure given in Figure 1. The path between service quality and loyalty is found to be insignificant and dropped based on Wald tests. The goodness of fit indices for the revised structural model, shown in the bottom part of Table 1, suggest a good fit to the data: small ratio of chi-square to degree of freedom (< 2), great values of GFI, AGFI, CFI, NFI, NNFI (> 0.9) and small RMR and RMSEA values (< 0.05).

Table 1: Standardized Path Coefficients of the Structural Model

<table>
<thead>
<tr>
<th>Independent variable → Dependent variable</th>
<th>Standardized parameter estimates</th>
<th>t-value</th>
<th>Hypothesis</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service quality → Bus information</td>
<td>0.566</td>
<td>9.99</td>
<td>1</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>0.558</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reliability</td>
<td>0.641</td>
<td>10.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driving</td>
<td>0.586</td>
<td>10.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bus environment</td>
<td>0.503</td>
<td>9.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corporate image</td>
<td>0.523</td>
<td>9.4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Overall satisfaction</td>
<td>0.386</td>
<td>6.6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Loyalty</td>
<td>--</td>
<td>--</td>
<td>4</td>
</tr>
<tr>
<td>Corporate image → Overall Satisfaction</td>
<td>0.192</td>
<td>4.26</td>
<td>4</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Loyalty</td>
<td>0.105</td>
<td>2.47</td>
<td>5</td>
</tr>
<tr>
<td>Overall satisfaction → Loyalty</td>
<td>0.124</td>
<td>2.92</td>
<td>6</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Fit indices: Chi-square = 27.7, df = 18, Chi-square / df = 1.54
GFI = 0.989, AGFI = 0.978, CFI = 0.988, NFI = 0.967, NNFI = 0.981
RMR = 0.009, RMSEA = 0.029

The estimation results in Table 1 indicate that both H1 (quality → image) and H2 (quality → satisfaction) are strongly supported, with standardized path coefficients of 0.523 and 0.386 respectively. However, H3 (quality → loyalty) is not supported based on insignificant standardized path coefficient. It can be seen below that service quality has only indirect effect on loyalty through overall satisfaction and corporate image. So it indicates that high service quality is not adequate to create loyal customers for franchised bus company.

The estimation results show moderate support for H4 (image → satisfaction) with the standardized path coefficient of 0.192 whereas weak support for H5 (image → loyalty) and H6 (satisfaction → loyalty), with the corresponding standardized path coefficients of 0.105 and 0.124 respectively. To summarize, the results support five out of six hypotheses (H1 - H2, H4 – H6). Furthermore, the magnitude of the support is strong for H1 and H2, medium for H4 and weak for H5 and H6.
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In terms of explanatory power, the model accounts for 26.3% of the variance in overall satisfaction, 27.4% of the variance in image and 3.6% of the variance in loyalty. In other words, the model has medium explanatory power for both overall satisfaction and image but low explanatory power for loyalty. The low explanatory power for loyalty may imply that there is not much guarantee that a customer with good perceived service quality, overall satisfaction and corporate image will be loyal and repeat purchase. The management should consider other factors that affect loyalty apart from service quality, overall satisfaction and corporate image.

The direct, indirect and total effects of service quality, corporate image and overall satisfaction on loyalty are given in Table 2. It is interesting to see that corporate image plays a more important role than overall satisfaction in affecting loyalty, which are consistent with the findings of researchers such as Abdullah 2000. So the hypotheses testing results in Table 1 and the total effect in Table 2 show that it is useful to add corporate image in studying bus passengers' loyalty.

Table 2: Direct, Indirect and Total Effects on Loyalty

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service quality</td>
<td>--</td>
<td>0.115</td>
<td>0.115</td>
</tr>
<tr>
<td>Image</td>
<td>0.105</td>
<td>0.024</td>
<td>0.129</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.124</td>
<td>-</td>
<td>0.1240</td>
</tr>
</tbody>
</table>

5. Summary and Conclusions

EFA concludes that there are five factors behind the perceived service quality scores. According to CFA, the measurement model for this five-factor structure performs well in terms of validity and reliability and hence five summated scales can be used as indicators for service quality in developing structural model. SEM supports the sequence: service quality → corporate image → overall satisfaction → loyalty. However, it is found that service quality affects loyalty only indirectly through overall satisfaction and corporate image. So it may explain why high service quality is not adequate to lead to customer loyalty. The table of indirect, direct and total effects of service quality, overall satisfaction and image on loyalty shows that corporate image has higher total impact on loyalty, as compared with satisfaction. So to increase loyalty, improving the corporate image of KMB in passengers' mind is more important than improving satisfaction. As the explanatory power of these three constructs (service quality, overall satisfaction and image) for loyalty is very low (3.6%), it seems that efforts are still needed to increase loyalty through other means.

There are several limitations in this study. The generalizability of this study is limited due to three reasons. Firstly, this study used one single item only to measure overall satisfaction, corporate image and loyalty to reduce the burden of respondents and the time for the interview. For further research, multiple-item scales are preferred so that their validity and reliability can be assessed through CFA. Also they may enhance the interpretation and prediction of overall satisfaction and loyalty. Secondly, the analysis is based on a survey data set collected in March 2004 when the market share of franchised buses such as KMB began to decrease. However, further study is necessary to examine whether the relationships among service quality, customer satisfaction, corporate image and customer loyalty change with time. Thirdly, the explanatory power
for loyalty in terms of service quality, customer satisfaction and corporate image is low. Further analysis to investigate the predictors of loyalty other than service quality, overall satisfaction and corporate image is needed.

References


