

# “Factors affecting service quality at Vietnamese retail banks”

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Tran Phi Hoang (Vietnam)

# FACTORS AFFECTING SERVICE QUALITY AT VIETNAMESE RETAIL BANKS

## Abstract

Sustainable growth and development can be the most important lesson that banks have learned in recent decades. Banks would gain many benefits, win the competition and develop sustainably if there have been more and more loyal customers. Customer satisfaction will help build customer loyalty. In order to have loyal customers, service quality must be good. Quality customer service of the bank is to ensure customer satisfaction and take their needs into consideration to improve service quality. High customer service quality will generate value not only to meet customer needs but also the expectations of customers and make banks more prominent than their competitors. This study identifies factors that affect customer satisfaction with the service quality at Vietnamese retail banks. The results are obtained by qualitative and quantitative method. The research model with a questionnaire consisting of 22 variables, 5 scales for a survey of 554 customers, is identified and developed through interviews with experts and group discussions. The findings show that customer satisfaction with the service quality at retail banks is influenced by "reliability", "responsiveness", "empathy", "security", and "tangibles". Based on the findings, solutions for improving service quality are proposed for Vietnamese retail banks.

## Keywords

bank services, bank service quality, satisfaction,  
customer satisfaction, competitiveness

## JEL Classification

G21, M11

## INTRODUCTION

Customers are prerequisites for enterprises to survive and grow. Maintaining and continually improving service quality by meeting the customer needs in the very best way is the key to success in the competition. In international integration trend, Vietnamese retail banks have been influenced by strong competition from foreign banks. Banks in Vietnam are competing in terms of service quality, scale of development, capital resources, distribution network and technology, etc. Banks are increasingly becoming aware of the important role of service quality. However, most Vietnamese banks have not really invested much in research to satisfy customer needs. While many studies have shown that excellent customer service has been the key in making a difference and important weapons in creating bank's competitiveness. World-wide research results are useful references for marketers in the banking sector; however, each bank needs specialized research to get a clear view of its service quality and determine its most effective marketing strategies.

## 1. LITERATURE REVIEW

Business services are a general industry, which is unlike any normal manufacturing; it is difficult to standardize the quality of service for service business because it does not only depend on the policy of its

enterprises (Angur et al., 1999; Arasli et al., 2005; Caruana et al., 2000; Consuegra et al., 2008; Zeithaml et al., 1996; Cronin et al., 2000; Mei Mei Lau et al., 2013), it does not rely on supply chain partners' related services but it also counts on the appreciation of our customers. Therefore, to satisfy the needs of customers and enhance competitiveness, every business needs to know how to assess the service quality provided, what factors to or not to meet customer demands, which factors to affect customer perceptions, etc. (Wirtz & Bateson, 1999; Liljander & Strandvik, 1997; Stauss & Neuhaus, 1997).

Lymperopoulos et al. (2006) carry out a study on the importance of service quality in bank selection. This research aims to provide in-depth understanding of customers buying behavior related to the bank selection process, and to provide bank managers with insight development of customer relationship and high service quality of the bank. Banking service quality is the most crucial factor that customers consider to choose their mortgage provider and establish a long-term relationship with them (Lymperopoulos et al., 2006; Bagozzi et al., 1999). Ladhari (2011) also studies the quality of banking services in Canada and Tunisia. The purpose of this study is to compare the perceptions of Tunisian and Canadian customers on the banking service quality and developing service quality scales for customer satisfaction and loyalty. It can be concluded that service quality is measured by the Servperl scale including five factors: reliability, tangibles, responsiveness, security, and empathy. The results show that Canadians perception on service quality is higher than Tunisians one. In Canada, empathy and reliability are the most important factors of satisfaction and loyalty, while in Tunisia, reliability and responsiveness are the main factors of satisfaction and loyalty (Ladhari et al., 2011).

Herington et al. (2007) also explore the impact of online service quality on the level of customers interest and the development of customer relationships. The research shows that the quality of online services does not affect the customers' interest, the trust or the development of the relationship with the customers, but it has the relationship with customer loyalty. However, the "efficiency" factor of online service quality is related to reliability and also indirectly affects customers' relationship through trust

(Tran Phi Hoang et al., 2016; Tsoukatos et al., 2010). The "personal needs" and "website online service quality of the bank" are related to loyalty, in which "individual needs" have the greatest impact. At the conference on banking service quality in Ho Chi Minh City, banking experts said that for retail service quality, Vietnamese banks need consolidating, improving and utilizing service quality as an effective competitive tool to form the foundation, to develop and step up activities for meeting the urgent requirements and conditions in regional and world integration process (Tran Phi Hoang et al., 2016; Zeithaml et al., 1990).

Most of the scientific studies on service quality, Servqual model (Parashuraman et al., 1985) and Servperf model (Cronin & Taylor, 1995) are used to evaluate service quality, especially the banking retail service quality (Hernon & Altman, 1998; Herington et al., 2007; Parasuraman et al., 1994; Parasuraman et al., 1985; Parasuraman et al., 1988; Wernerfelt, 1991). The Servqual model has 10 scales; however, there are many overlapping scales, so Servperf model is used. This model inherits the Servqual model, and has been reduced into a five-scale model, yet it still ensures its scientific merits, making the model more used. Service quality is often conceptualized as the comparison of service expectations with actual performance perceptions. In measuring service quality, Servqual model has been widely used. Originally, Servqual model consists of ten dimensions but reduced to five ones (tangibles, reliability, responsiveness, assurance and empathy). The idea of this model is to measure the gaps between expectations and perceptions. Service quality is also a multi-dimensional concept (Arasli et al., 2005; Caruana et al., 2000; Reichheld et al., 1990). Based on the theory, the research model is proposed by experts in the service industry including factors that affect customer satisfaction with the service quality at Vietnamese retail banks: reliability, responsiveness, empathy, assurance, and tangibles. The research model includes five independent variables and one dependent variable.

Reliability (trust, reputation of the bank's brand): the term refers to the ability to perform services on time and fix right the first time, the ability to ensure the service is performed as promised with certainty exactly (Cronin & Taylor, 1992, 1995).

## Hypotheses

*H1: There is a relationship between reliability and customer satisfaction.*

Responsiveness (availability of the company): the desire and willingness of staff to provide services to customers; the guarantee of the quality and quantity of services; the on-time guarantee and delivery schedules; the assurance of processes and process test work shows class carriage of the service provider (Cronin and Taylor, 1992, 1995).

*H2: There is a relationship between responsiveness and customer satisfaction.*

Empathy: the understanding, interest, sharing and considerate care reserved for customers, the offering of thorough treatment (Cronin and Taylor, 1992, 1995). Khoo et al. (2012) asserted that empathy to customers in business is not only to bring considerate understanding, interest, sharing and care to customers, but to make them feel like “guests of honor”.

*H3: There is a relationship between empathy and customer satisfaction.*

Assurance: security is the degree of resistance to, or protection from, harm. It applies to any vulnerable and/or valuable asset, such as customer's investment amount, a person, dwelling, community, item, nation, or organization.

*H4: There is a relationship between assurance and customer satisfaction.*

Tangibles: the set of elements as tangible evidence of physical material, equipment, people and information materials, service personnel costume, support equipment for the provision of services (Cronin and Taylor, 1992, 1995).

*H5: There is a relationship between tangibles and customers satisfaction.*

## 2. METHODS OF RESEARCH

This study is conducted in three phases. Phase 1, expert methodology is used with expert consultation and group discussions to improve the scale

and design of the questionnaire. Phase 2, testing a reliability scale with Cronbach's alpha coefficient and exploratory factor analysis. According to Hair et al. (2006), the sample size must be at least  $\geq m \times 5$ , in which  $m$  is the number of observed variables. So, with 22 variables observed in this study, the sample size should be at least  $\geq 110$ . However, depending on the study object and research goals, increase in sample size will increase the reliability of data (Young Lee, 2012). Therefore, 554 customers are surveyed by face-to-face method and online surveys in Ho Chi Minh City. All data collected from the questionnaire are coded, processed by SPSS and AMOS. Any observational variable with a total correlation coefficient greater than 0.3 and Cronbach's alpha coefficient greater than 0.6 would ensure the scale reliability (Nunnally and Bernstein, 1994). This method is based on the eigenvalue, the appropriate factorial analysis and the observed variables in the whole, which are correlated when Average Variance Extracted is  $> 50\%$ , the KMO coefficient is within 0.5 to 1, Sig. coefficient  $\leq 5\%$ , the loading factors of all observed variables are  $> 0.5$ ; the weight difference  $\lambda_{iA} - \lambda_{iB}$  is  $> 0.3$  (Nguyen Dinh Tho, 2011). Phase 3, performing CFA and model testing with Structural Equation Modeling (SEM) analysis. The purpose of CFA is to clarify: (1) unilaterality, (2) reliability of scale, (3) convergence value, and (4) difference value. According to Steenkamp and Van Trijp (1991) and Hair et al. (1998), a research model is considered relevant to market data if Chi-square testing is  $P\text{-value} > 5\%$ ;  $CMIN / df \leq 2$ , some cases  $CMIN / df$  may be  $\leq 3$  (Carmines & McIver, 1981); GFI, TLI, CFI  $\geq 0.9$ . However, according to recent researchers' opinion, GFI is still acceptable when it is greater than 0.8;  $RMSEA \leq 0.08$ . Apart from the above criteria, the test results must also ensure the synthetic reliability of  $> 0.6$ ; Average Variance Extracted must be greater than 0.5 (Hair et al., 1998).

## 3. RESEARCH RESULTS AND DISCUSSION

The testing of Cronbach's alpha for the various factors influencing customer satisfaction and the service quality at Vietnamese retail banks.

Testing the results of reliability scales shows that the scale has good accuracy with Cronbach's alpha coefficient  $> 0.6$  and the correlation coefficients of

**Table 1.** Cronbach's alpha

Source: The researcher's collecting data.

| Model                 | Code | Factors               | Cronbach's alpha |
|-----------------------|------|-----------------------|------------------|
| Independent variables | REL  | Reliability           | 0.899            |
|                       | RES  | Responsiveness        | 0.830            |
|                       | EMP  | Empathy               | 0.876            |
|                       | ASS  | Assurance             | 0.764            |
|                       | TAN  | Tangibles             | 0.870            |
| Dependent variable    | CSA  | Customer satisfaction | 0.854            |

the total variables of measurement variables meet the allowed standard ( $> 0.3$ ), the scale will be accepted. The observed variables are used for factor analysis to discover in the next step.

**Table 2.** Exploratory factor analysis (EFA) for the independent variable

Source: The researcher's collecting data and SPSS.

|                          |         |
|--------------------------|---------|
| KMO                      | 0.801   |
| Sig. of Barlett test     | 0.000   |
| Eigenvalues              | 1.296   |
| Total variance deviation | 70.321% |

Table 2 briefly shows that KMO (Kaiser-Meyer-Olkin measure of sampling adequacy) = 0.801  $> 0.5$ . Sig. value (Barlett's test) = 0.000  $< 0.05$  so the fac-

tor analysis is reasonable and the analysis coefficient is satisfactory. Variables are correlated in the overall. Eigenvalues = 1.296  $> 1$  represent the variance explained by each of the factors and factors extracted that summarize the best information. Total variance deviation = 70.321%  $> 50\%$ . This proves that 70.321% variance of the data is explained by five factors in the study model. The Exploratory Factor Analysis (EFA) is a technique for minimizing and summarizing data to identify sets of variables that are necessary for research. Standards in EFA testing are factor loading factors: Factor loading  $\geq 0.3$ : sample size is at least 350; Factor loading  $\geq 0.5$ : sample size of 100 to 350; Factor loading  $\geq 0.75$ : sample size is about 50 to 100. The KMO coefficient must be 0.5 or higher ( $0.5 \leq \text{KMO} \leq 1$ ), factor analysis is appropriate.

**Table 3.** Rotated component matrix<sup>a</sup>

Source: The researcher's collecting data and AMOS.

| Survey questions                                             | Component |      |      |      |      | Mean |
|--------------------------------------------------------------|-----------|------|------|------|------|------|
|                                                              | 1         | 2    | 3    | 4    | 5    |      |
| Personal information is always confidential                  | .792      |      |      |      |      | 3.37 |
| The bank always meets its commitments                        | .791      |      |      |      |      | 3.56 |
| The bank performs the service right at the first time        | .591      |      |      |      |      | 3.41 |
| Online paying banking system is safe                         | .792      |      |      |      |      | 3.43 |
| The bank has a wide network of branches                      |           | .795 |      |      |      | 3.44 |
| Serving time is convenient for customers                     |           | .765 |      |      |      | 3.35 |
| The transaction process is professional                      |           | .654 |      |      |      | 3.18 |
| Forms of payment are flexible and varied                     |           | .636 |      |      |      | 3.02 |
| Online banking interface is easy to use                      |           | .654 |      |      |      | 3.05 |
| Customers often receive information about the offer          |           | .654 |      |      |      | 3.11 |
| Facility is good                                             |           |      | .795 |      |      | 3.17 |
| Designed layout of transaction branch is good                |           |      | .765 |      |      | 3.16 |
| Equipment serving customers is good                          |           |      | .654 |      |      | 3.07 |
| Banking brochure is professional                             |           |      | .636 |      |      | 3.14 |
| The waiting room is beautiful, polite, modern and friendly   |           |      | .795 |      |      | 3.33 |
| The bank always listens to customers' comments               |           |      |      | .795 |      | 3.22 |
| The bank always inquires about the requirements of customers |           |      |      | .782 |      | 3.22 |
| The bank regularly contacts customers                        |           |      |      | .683 |      | 3.14 |
| The bank is always kind to customers                         |           |      |      | .680 |      | 3.35 |
| The bank provides complete, accurate information             |           |      |      |      | .795 | 3.17 |
| The bank solving complaints is good                          |           |      |      |      | .765 | 3.27 |
| The bank is a prestigious brand for many years               |           |      |      |      | .636 | 3.33 |

**Table 4.** CFA factor analysis

Source: The researcher's collecting data and AMOS.

| Model                                          | Re   | N = 554     | TINV(0.05, 248) | 1.871                   | N        |         |
|------------------------------------------------|------|-------------|-----------------|-------------------------|----------|---------|
| Correlations: (Group number 1 – Default model) |      |             |                 |                         |          |         |
| Scales                                         | t    | Scales      | r               | SE = SQRT[(1-r2)/(n-2)] | (1-r)/SE | P-value |
| Reliability                                    | <--> | Tangibles   | 0.383           | 0.058                   | 9.79     | 0.000   |
| Reliability                                    | <--> | Assurance   | 0.209           | 0.070                   | 11.36    | 0.000   |
| Reliability                                    | <--> | Reliability | 0.116           | 0.074                   | 12.26    | 0.000   |
| Reliability                                    | <--> | Empathy     | 0.192           | 0.068                   | 14.08    | 0.000   |
| Tangibles                                      | <--> | Assurance   | 0.273           | 0.072                   | 11.12    | 0.000   |
| Tangibles                                      | <--> | Reliability | 0.341           | 0.059                   | 13.15    | 0.000   |
| Tangibles                                      | <--> | Empathy     | 0.049           | 0.061                   | 12.06    | 0.000   |
| Assurance                                      | <--> | Reliability | 0.321           | 0.065                   | 12.32    | 0.000   |
| Assurance                                      | <--> | Empathy     | 0.215           | 0.059                   | 8.76     | 0.000   |
| Reliability                                    | <--> | Empathy     | 0.140           | 0.068                   | 11.17    | 0.000   |
| E8                                             | <--> | e13         | 0.353           | 0.070                   | 12.16    | 0.000   |

Barlett's test – statistically significant (sig. < .05), indicates that the observed variables are correlated in overall. Factor loading factors must ensure a realistic level of EFA  $\geq 0.5$ . Total Variance Explained is 50% or over. Eigenvalue (representing the variance explained by each factor) > 1, the factor that the best summarizes the information (Hair et al., 1998).

The results from the matrix show that the 22 observed variables are grouped into five factorial groups, all variables with a Factor loading factor  $\geq 0.5$  satisfying the conditions and statistical significance. Descriptive statistics show that customer satisfaction for service quality at banks is average. The observed variables in scales "Assurance" fluctuate from 3.37 to 3.43, "Reliability" fluctuates from 3.17 to 3.33, "Empathy" fluctuates from 3.14 to 3.35, "Tangibles" fluctuates from 3.07 to 3.33, and "Reliability" fluctuates from 3.02 to 3.44. In which, the "Responsiveness" scale has the lowest satisfaction index (mean: 3.02-3.44). The above results also reflect the fact that the service quality at retail banks in Vietnam has been limited.

In the satisfaction study by Stauss and Neuhaus (1997), it was confirmed that the level of satisfaction greatly influenced customer behavior. That is to say that even if the customer is satisfied with the business, he can also look to other businesses and cannot continue using the services of this business. Only those who have the highest level of satisfaction are "completely satisfied" on their five-level scale, they will surely be loyal and supportive customers.

Therefore, when researching customer satisfaction, banks should pay attention not only to making customers "satisfied", but also making them "completely satisfied". For general happy customers, they can leave the business at any time, while the "completely satisfied" customer group will be loyal to the bank. This understanding will enable banks to take measures to improve the service quality offered to different groups of customers.

The CFA (Confirmatory factor analysis) results show that the research model is consistent with the data, CMIN (Chi squared) = 240.062, freedom level = 554, P-value (Significance level) = 0.000; CMIN/ df = 1.936. Other metrics are also satisfactory (GFI = 912, TLI = 915, CFI (Comparative fit index) = 924, RMSEA (Root Mean Square Error Approximation) = 0.064 < 0.8). All normalized regression weights in the model are meaningful and significant, ranging from 0.058 to 0.074, are all greater than 0.5. The results show that the components in the model are unilateral and convergent as to the results of the differences between the variables in the model, all estimated correlation coefficients associated with the standard error (SE) for the p-value are less than 0.05, so the correlation coefficient of each pair of different concepts is from 1 at 95% reliability. Consequently, the concepts in the model achieve distinct values.

CFA has clarified the assessment criteria. The main indicators used are Chi-square (CMIN); Chi-square adjusted to freedom level (CMIN/df); GFI –

Good of Fitness Index; Comparative Fit Index (CFI); Tucker and Lewis (TLI – Tucker and Lewis Index); the model's RMSEA (Root Mean Square Error Approximation) rating is consistent with the data, which is necessary and sufficient for the observed variables to be unilateral. Chi-square tests have P-value > 5%; CMIN/df ≤ 2, some CMIN/df cases can be ≤ 3; GFI, TLI, CFI ≥ 0.8 showing that the study model is dependable with the market survey data. The variance of each concept is greater than 0.5; therefore, the scale has a value or scale is reliable when the synthetic reliability is greater than 0.6 (Hair et al., 1998). Synthetic reliability is a better indicator of Cronbach's alpha because it does not make a mistake assuming the reliability of variables equal (Gerbing and Anderson, 1988).

$$p_c = \frac{\left(\sum_{i=1}^p \lambda_i\right)^2}{\left(\sum_{i=1}^p \lambda_i\right)^2 + \sum_{i=1}^p (1 - \lambda_i^2)},$$

$$p_{vc} = \frac{\sum_{i=1}^p \lambda_i^2}{\sum_{i=1}^p \lambda_i^2 + \sum_{i=1}^p (1 - \lambda_i^2)},$$

where  $\lambda_i$  is a normalized weight of observation variable  $i$ ;  $1 - \lambda_i^2$  – the variance of the observed variable  $i$ . The overall suitability of the model is good and consistent with a set of data, thus it can be confirmed that the observed variables of each scale are unilateral. The weights of the observed variables on hidden corresponding variables are > 0.5 and the weights are statistically significant ( $p < 0.05$ ); therefore, all scales achieve convergence values. In other words, the correlation coefficient among concept pairs is different so that the research concepts are distinguished. The Average Variance Extracted is also a measure of reliability reflecting the overall variability of observed variables computed by hidden variables. The Average

Variance Extracted is greater than 0.5, so the scale is valid (Hair et al., 1998).

$$P_{vc} = \frac{\sum_{i=1}^p \lambda_i^2}{\sum_{i=1}^p \lambda_i^2 + \sum_{i=1}^p (1 - \lambda_i^2)},$$

where  $\lambda_i$  – normalized weight of observation variable  $i$ ;  $1 - \lambda_i^2$  – the variance of the proposed error of the observation variable  $i$ ;  $P$  – number of observations of the scale. The normalization weight of the scale are all high > 0.5, so it is concluded that the scale is convergent and statistically significant ( $p < 0.05$ ). The correlation between the two components of a concept or between two concepts is significantly smaller and this research model satisfies the data suitability; therefore, it is ended that the discriminating value will meet the requirement. Scales are different, so the concepts of this model are really distinctive.

### Model analysis using bootstrap

The results of the bootstrap analysis with absolute CR value show that bias is small but it can be concluded that the deviation is very small. Thus, it can be concluded that the estimation in the research model can be reliable.

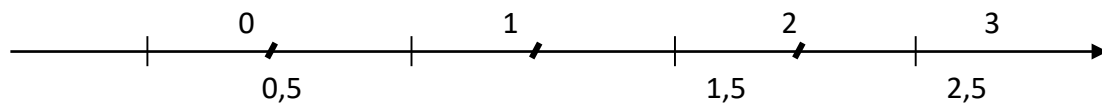
### Testing hypotheses by SEM linear model

The results of the study and bootstrap model estimation in the linear structural model analysis (SEM) show that the relationships hypothesized in the formal research model are statistically significant, because the p-values are smaller than 0.05, reaching the necessary level (at 95% reliable). In other words, the hypotheses in the formal research model are accepted.

**Table 5.** Regression coefficients of the formal research model table

Source: The researcher's collecting data.

| Relationships |    |                | B    | Beta | S.E. | C.R.  | P | Conclusion     |
|---------------|----|----------------|------|------|------|-------|---|----------------|
| Satisfaction  | <= | Responsiveness | .316 | .575 | .064 | 6.663 | – | H2 is accepted |
| Satisfaction  | <= | Assurance      | .292 | .309 | .057 | 7.031 | – | H4 is accepted |
| Satisfaction  | <= | Empathy        | .281 | .511 | .051 | 4.613 | – | H3 is accepted |
| Satisfaction  | <= | Reliability    | .105 | .194 | .063 | 5.604 | – | H1 is accepted |
| Satisfaction  | <= | Tangibles      | .142 | .170 | .054 | 4.006 | – | H5 is accepted |



**Figure 1.** Scale with the values and ranges

The results of CFA to measure the relevance of concepts in the research model with the above data are appropriate and used to identify discriminant values, synthetic reliability, Average Variance Extracted, and unilateral of scales. The GFI, CFI, TLI, RMSEA, Chi-Square/Freq degrees are consistent, showing that all scales are suitable, ensuring convergence values and ensuring reliability and different value. The research model is consistent with the market survey data.

In summary, the results of the study show that five factors affect customers' satisfaction with the service quality at retail banks in Vietnam. The importance of each different factor is as follows: responsiveness (beta: 0.575), empathy (beta: 0.511), assurance (beta: 0.309), reliability (beta: 0.194), and tangibles (beta: 0.170). The results of this study are the basis for retail banks to propose solutions as to improving the quality of customer service.

Based on the regression analysis results and average values, solutions are proposed. However, because there are "urgent" but not "feasible" recommendations whereas there are "feasible" but not "urgent" recommendations, the researcher used expert method for more persuasive measures. 30 experts in Ho Chi Minh City specializing in retail banks are asked to give recommendations which are well-founded, quantifiable and more satisfactory. There are eight groups of recommendations, which are as follows: recommendation 1: Vietnamese retail banks sector should organize training courses providing intensive professional knowledge; recommendation 2: Vietnamese retail banks sector should improve service quality such as responsiveness; recommendation 3: Vietnamese retail banks sector should mobilize the cooperation, association and joint venture for investment in the construction of supply chain in retail banks sector; recommendation 4: Vietnamese retail banks sector should build distinct and impressive service style; recommendation 5: Vietnamese retail banks sector should build consulting, customer support and online

sales professional departments; recommendation 6: Vietnamese retail banks sector should apply diversifying, flexible and more modern forms and modes of payment; recommendation 7: Vietnamese retail banks sector should modernize its services provided; and recommendation 8: Vietnamese retail banks sector should strengthen links with overseas agencies. 30 questionnaires were sent to experts for recommendations concerning three factors: Responsiveness, Empathy and Assurance, which are the most influencing ones on the quality of customer services at Vietnamese retail banks. The number of questionnaires received from the experts was 30, in which each recommendation provided was about the necessity and feasibility of eight solution groups constructed by a scale with four levels: 0, 1, 2 and 3 (Figure 1).

Using the continuous borders, the average of two adjacent points is used to create the continuity of scores so as to evaluate the survey criteria. According to the scale, values of 0.5, 1.5, and 2.5 are obtained displaying the continuity of the two scores, the new scale with ranges as follows: from 0 to 0.5 approximately: level 0 (not necessary/not feasible); from 0.5 to 1.5 approximately: level 1 (less necessary/less feasible); from 1.5 to 2.5 approximately: level 2 (necessary/feasible); from 2.5 to 3: Level 3 (very essential/very feasible). The GPA of the necessity and the feasibility of each evaluating criteria for solutions is determined by the formula:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^4 x_i n_i,$$

where  $x_i$  – the scores for each criterion  $x_i \in \{0, 1, 2, 3\}$ ;  $n_i$  – number of people with  $x_i$  corresponding to each criterion;  $N$  – total number of people with marks for each criterion. Table 6 below summarizes opinions of the experts evaluating the necessity and feasibility of management solutions to improve customer satisfaction toward services quality.

**Table 6.** Expert survey results on the feasibility and necessity of management recommendations

| No.     | Recommendations  | Necessity |         | Feasibility |         |
|---------|------------------|-----------|---------|-------------|---------|
|         |                  | GPA       | Ranking | GPA         | Ranking |
| 1       | Recommendation 1 | 1.93      | 7       | 2.57        | 1       |
| 2       | Recommendation 2 | 2.60      | 1       | 2.23        | 2       |
| 3       | Recommendation 3 | 2.30      | 2       | 2.00        | 4       |
| 4       | Recommendation 4 | 2.03      | 5       | 1.90        | 6       |
| 5       | Recommendation 5 | 2.00      | 6       | 2.03        | 3       |
| 6       | Recommendation 6 | 2.07      | 4       | 1.83        | 7       |
| 7       | Recommendation 7 | 1.83      | 8       | 1.73        | 8       |
| 8       | Recommendation 8 | 2.10      | 3       | 1.93        | 5       |
| General |                  | 2.11      |         | 2.00        |         |

The data results show that most of the criteria to evaluate management recommendations in order to improve customer satisfaction through service quality proposed by the author, achieve the required necessity and the feasibility. About the necessity, experts assess the 2<sup>nd</sup> recommendation: Vietnamese retail banks sector should formulate strategic service quality such as “responsiveness” as the most necessary (an average of 2.6 according to the scale at 3: the essential level). The remaining recommendations are underestimated, but are also at the required levels (GPA 1.83 to 2.3 according to the scale at level 2). About the feasibility, experts assess the 1<sup>st</sup> recommendation: Vietnamese retail banks sector should organize professional intensive training courses” (GPA 2.57 according to the scale at 3: very feasible level). Other criteria according to the order are also evaluated to be feasible (grade point average from 1.73 to 2.23 according to the scale of 1.5 to 2.5 approximately at 2: feasibility level).

$$p = 1 - \frac{6 \sum d^2}{N^3 - N}$$

To test the correlation of feasibility and necessity of management recommendations, the author uses the Spearman correlation testing method. The coefficient is tested by the formula:

$$p = 1 - \frac{6 \sum d^2}{N^3 - N}$$

where  $N$  – number of pairs;  $d$  – ranking difference in a pair. Results from calculation of Spearman correlation coefficient are presented in Table 7.

$$p = 1 - \frac{6 \sum d^2}{N^3 - N} = 1 - \frac{6 \cdot 64}{512 - 8} = 1 - \frac{384}{504} \approx 1 - 0.7619 \approx 0.2381.$$

**Table 7.** Correlation coefficient of the necessity and feasibility of management recommendations

| No.                   | Recommendations  | Necessity |              | Feasibility |              | D = (R1-R2)    | d2 |
|-----------------------|------------------|-----------|--------------|-------------|--------------|----------------|----|
|                       |                  | GPA       | Ranking (R1) | GPA         | Ranking (R2) |                |    |
| 1                     | Recommendation 1 | 1.93      | 7            | 2.57        | 1            | 6              | 36 |
| 2                     | Recommendation 2 | 2.6       | 1            | 2.23        | 2            | -1             | 1  |
| 3                     | Recommendation 3 | 2.3       | 2            | 2           | 4            | -2             | 4  |
| 4                     | Recommendation 4 | 2.03      | 5            | 1.9         | 6            | -1             | 1  |
| 5                     | Recommendation 5 | 2         | 6            | 2.03        | 3            | 3              | 9  |
| 6                     | Recommendation 6 | 2.07      | 4            | 1.83        | 7            | -3             | 9  |
| 7                     | Recommendation 7 | 1.83      | 8            | 1.73        | 8            | 0              | 0  |
| 8                     | Recommendation 8 | 2.1       | 3            | 1.93        | 5            | -2             | 4  |
| N = 8 pairs; N3 = 512 |                  |           |              |             |              | $\sum d2 = 64$ |    |

Let's analyze the significance of Spearman correlation coefficient.

### Hypotheses:

- $H_0$ :  $p = 0$  (No correlation of the necessity and feasibility of recommendations).
- $H_1$ :  $p \neq 0$  (Correlation of the necessity and feasibility of recommendations).

With the probabilistic significance:  $\alpha = 0.05$  (5%). Using the table:  $p_{0.05} = 0.620$  (Table 7, critical values for the Spearman rank – order correlation coefficient,  $r_s$ ,  $N = 8$ ). Since  $|p| = 0.2381 < p_{0.05} = 0.620$ ,  $H_0$  is rejected and  $H_1$  is accepted. There is a positive correlation ( $p > 0$ ) of significance at  $\alpha = 5\%$  of the necessity and feasibility of the recommendations offered. Therefore, according to the experts, eight groups of recommendations are necessary and feasible to improve service quality of retail banks leading to higher customer satisfaction.

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## CONCLUSION AND RECOMMENDATION

The results of the study show that standardized beta coefficients are bigger than “0”, so there are positive relationships between the independent variables and customer satisfaction toward service quality at Vietnamese retail banks. Particularly, customer satisfaction will increase by 0.575, 0.511, 0.309 and 0.194 units when we increase investing in factors of “Responsiveness”, “Empathy”, “Assurance”, “Reliability”, and “Tangibles” by one unit respectively.

Based on the research findings, the following recommendations are proposed. Firstly, banks need to be more drastic in connecting, interacting, consulting, online consultancy with customers to improve service quality in the coming time which have been considered much. Through these activities, banks also analyze and assess some level of customer satisfaction so that the banks have appropriate adjustment policies. In addition, banks also should build a database to enhance their reputation and identity. In a competitive environment, if banks have an enthusiastic staff and good interaction with their customers, those banks will attract a lot of good customers.

Secondly, banks need to invest in communication and psychology training courses and courses of the art of conquering customers for staff so that they have good knowledge and skills of understanding and serving customers. Because sincerity, understanding, sharing and caring will help build trust among customers.

Thirdly, Vietnamese banks need to invest more in security systems to ensure the confidentiality of customers' information, which enables transactions to be accurate and secure. Through these activities, banks also examine and assess some level of customer satisfaction so that banks have appropriate adjustment policies. In addition, customers also build a database to enhance the bank reputation and identity. In a competitive environment, if banks have an enthusiastic staff and good interaction with their customers, those banks will attract a lot of good customers.

Fourthly, banks need to increase the level of customers' trust at the highest reliability level. If customers have the highest level of satisfaction, they can be loyal to the banks. Customers with average levels of satisfaction are able to leave the bank and find other institutions (Stauss & Neuhaus, 1997).

Fifthly, banks need to invest and upgrade the quality of facilities, machinery and equipment to adapt to the development of technology such as smartphone, lap top, Ipad, internet and social network etc. to maximize the efficiency of the physical facilities, machinery, equipment of the bank in serving customers.

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