Measuring Quality of Outreach in Microfinance: Evidence from Vietnam

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Abstract

Microfinance outreach is a mission that encompasses all operations of microfinance institutions (MFIs), it is an important goal to achieve operational sustainability and performance for most microfinance service providers. Many researchers showed that quality of outreach is defined by the customer satisfaction. This study uses the five broad dimension theory of service quality, data will be collected from the way of survey from the MFIs' customers and later on will be analyzed by statistical technique and tools like descriptive statistics, and correlation method. The descriptive statistics are conducted to show out some specific areas in which MFIs need to pay more attention. The correlation analysis is to find out the relationship between each independent variable and the dependent variable. Finally, the conclusion and recommendation will summarize the key findings of the research and give suggestions to MFIs in Vietnam.

Keywords: Customer satisfaction, financial service, microfinance, microfinance institution, microfinance outreach.

1. Introduction

Microfinance refers to the provision of financial services to poor and low-income clients offered by different types of service providers. (Brady and Burton, 2016). Microfinance outreach is the provision of microfinance products and services of MFIs to microfinance customers including poor households, low-income people and micro enterprises. Accordingly, microfinance service providers provide loans, capital mobilization, payment, money transfer, insurance services and non-financial services to microfinance customers. The interest in microfinance outreach had burgeoned over the years, development practitioners, policy-makers, and multilateral and bilateral lenders recognized that providing an efficient, microfinance services was important for this segment of the population. Microfinance outreach could be a critical element of an effective poverty reduction strategy. Improved access and efficient provision of savings, credit, and insurance facilities in particular could enable the poor to smoothen their consumption, manage their risks better, build their assets gradually, develop their microenterprises, enhance their income in earning capacity, and enjoy an improved quality of life. Microfinance outreach could contribute to the promotion of markets, improvement of resource allocation, and microfinance could also contribute to the development of the overall financial system through integration of financial markets; thus, microfinance helps to promote economic growth and development.

However, microfinance outreach was not really diverse in Vietnam, and MFIs had only focus on credit and savings. The microfinance services were often designed in the direction of inheriting from the previous programs and projects so microfinance services still did not fully meet the needs of customers. The payment services have not provided for customers, insurance services had only been deployed to a limited extent. Therefore, increasing the quality of outreach, i.e., increasing

customer satisfaction towards microfinance outreach is the very first factor that counts. When customers are completely satisfied with microfinance outreach provided by MFIs, they will tend to use microfinance services more due to its convenience in the access to microfinance services, which increase their ability to actively participate in and benefit from the development opportunities. At the same time, MFIs can provide an effective way to assist and empower customers; thereby, microfinance outreach can contribute to the development of the overall financial system through integration of financial markets.

2. Literature Review

2.1 Quality of outreach and customer satisfaction

According to Copestake (2007), quality of outreach is defined by the MFIs' customer satisfaction. Satisfied customers were also likely to be good customers, and raising public expectations could raise current social performance by encouraging MFIs to invest more on service quality to win and maintain customer loyalty. Wagennar (2012) also showed that quality of outreach was the level of satisfaction to the microfinance customers.

There are many definitions that have been taken place for customer satisfaction by different researchers. Customer satisfaction research literature agreed that service quality was a measure of how well the service level delivered matches customer expectations. Delivering quality service meant conforming to customer expectations on a consistent basis. The study sought to maintain the position that service quality was a partial determinant of satisfaction (Parasuraman et al.,1985). According to Solomon et al. (2006), satisfaction or dissatisfaction was more than a reaction to the actual performance the quality of a product or service. Satisfaction was not just a matter of functional but also of the hedonic performance of the product-something which might be more difficult for the producer to ensure beforehand, and it was highly influenced by expectations regarding all aspects of quality. Sokefun (2011) showed that customer satisfaction provided an indication of how successful organisation was at providing products, services to the marketplace. According to Biesok and Wyród-Wróbel (2011), there are many definitions of satisfaction in the literature, which stress in the varying degrees the individual aspects of customer satisfaction, including: (i) Definitions of the satisfaction relates to the reaction to services and products: The client’s emotional response, combining his experiences and feelings after consumption of a product or service, with the expectations and perceived value. The consumers have positive emotions when evaluating a product or service, and they compare perceptions of a business performance with distinctive standards, which generally are their expectations. (ii) Definitions of the satisfaction relates to an opinion on compliance: The buyer opinion about degree of compliance of transactions in relation to his needs and expectations. At the same time, the customers' precept the degree to which the customer’s requirements have been fulfilled. Valuation of acquired product or service. (iii) Definitions of the satisfaction relates to the feelings of the purchaser related to the acquisition of a good: Feeling experienced by customer having used the offer meeting his expectations. The buyer’s awareness that his expectations were fully met or exceeded with the organization he was serviced by. Customer satisfaction caused by gaining something, fulfilling wishes, is a state of pleasure derived from the specific reason. Subjective impression formed gradually by repeated customer experiences with products and services of a certain company. Mind state is an emotion that expresses satisfaction or dissatisfaction of the choice made by buying. Reflection of a situation in which the final product offered by the organization meets a set of

customer requirements. Customers have positive, or negative feelings in relation to the value they receive when using a particular product offered in a particular situation. Providing to the customers a set of values which best meets their needs.

In banking sector, Kombo (2015) showed that customer satisfaction provides a platform for the banks to enhance relationships with their customers, thus, enabling the banks to achieve their objectives for long term success. The results also demonstrated that the most important factor for customer satisfaction is the wide availability of bank branches, and the factor most associated with customer dissatisfaction is the high prices of products and services. At the same time, the results showed that both satisfaction and dissatisfaction partially influence the number of banking services and banks that customers choose to open accounts with. Chocholáková et al. (2015) examined the dependence of additional purchases of banking products from customer loyalty and dependence of bank clients' loyalty from their satisfaction with the bank's customer service. The result was found that satisfied customers were significantly more likely to recommend their bank to their friends, they often considered that they would use their bank in the future. The customers are more interested in the services of their banks when they choice to keep their savings, take out mortgage loans from their bank and use other banking services offered by their bank. Therefore, the customer loyalty reflects the likelihood that customers will purchase additional banking products and services. The study of Ozatac et al. (2015) was to evaluate the determinants of customer satisfaction on higher service quality in banking sector. The perception of customers on determinants of service quality is analyzed by SERVQUAL model. Empirical results revealed that customer satisfaction in the banking sector depends on good, and firm relations, building trust between customers and bank employees. Abhijith and Menon (2018) showed that customer satisfaction for the banking sector has got many dimensions and varies from person to person. From the study it was found that the net profit and closing stock of a bank did not have an impact in improving the customer satisfaction. There were many other factors like credibility, customer services, easiness of operations, etc. Those were the factors that act as the driving factor in improving customer satisfaction. The study also showed that banks with very high profit and closing stock price does not guarantee good customer satisfaction. The indicators of customer satisfaction depended upon the intrinsic as well as extrinsic services rendered by the bank which would add value to the organization as well as the customer not on the share value price or the profit margin.

In microfinance sector, According to Kanyurhi, E. B. (2013), microfinance industry was affected by competition leading to customers' switching across MFIs. Therefore, many MFIs are interested about customer satisfaction and understand their customers' preferences to survive and develop in a competitive environment. The study found that responsiveness remains the most important dimension in microfinance sector. Results revealed that customer's branch, customer's revenue and number of services accessed by customers strongly influence customer's satisfaction. The study of Ali et al. (2016) showed the leading indicator of loyalty and repurchase intention is a customer satisfaction. This study was focused on identification of basic factors or areas which determine the customer satisfaction in microfinance industry. Results concluded that MFIs' policies and procedures, the physical appearance of the branch, empathy and commitment of staff with the customers are major factors which determine the customer satisfaction in microfinance sector.

The existence of MFIs on the financial market is conditioned with a number of satisfied customers. Microfinance customers are the key factor of the existence and MFIs' development on the financial market. The MFIs need to provide valuable and unique microfinance products and

services to their customers, that will satisfy their needs. This satisfaction includes not only the feelings associated with the microfinance outreach process, but also the atmosphere before and after the execution of microfinance outreach.

The concept of customer satisfaction has in general become of particular importance and customer satisfaction towards microfinance services provides an indication of how successful a microfinance institution is at providing microfinance services to the customers. The MFIs would expect to retain and expand customer base of microfinance services, if the microfinance services meet customers' expectations or surpasses expectations. Therefore, measuring customer satisfaction towards microfinance outreach is very important and necessary.

2.2 Measuring customer satisfaction

According to Biesok and Wyród-Wróbel (2011), The idea of the customer satisfaction is understood differently. At its base there is a concept of needs and their fulfilling. Various understanding of the needs and emotion leads to an alternating treatment of satisfaction, and to a different outreach to its measurement. In the operations of any institutions, measuring customer satisfaction is a very important aspect, especially in the changing market conditions. Customer satisfaction information can help guide the organization to address issues related to meeting stated customer's requirements. It can also help the organization to understand and address the customer's expectations, or issues related to the customer's perception of the delivered product or the organization, and thereby enhance customer satisfaction. The purpose of customer satisfaction measuring is: identification of criteria which play a key role of customers in evaluating the product or service, the perception of a product or service, the fulfillment of customer expectations for product or service, the level of customer satisfaction, comparing the level of customer satisfaction with products of the competition, understanding the main factors of customer satisfaction, determining customer's expectations, identifying the most important customer service elements, and individual factors influencing the customer service.

Table -1. Five broad dimension of service quality

Dimension	**Description**	**Specific Illustrative Criteria**
Tangibles	Appearance of physical facilities, equipment, personnel and communication materials.	Appearance of physical facilities, appearance of service personnel, appearance of tools or equipment used to provide service.
Reliability	Ability to perform the promised service dependably and accurately.	Accuracy of microfinance services, perform microfinance services effectively when promised, ependable and accurate performance.
Responsive	Willingness to help customers and provide prompt service.	Providing prompt service, readiness to service, handling of urgent request, romptness and helpfulness.
Assurance	Knowledge and courtesy, ability to inspire trust and confidence ability to win trust and confidence of customer.	Competence, courtesy, creditability and security.

Empathy	Caring, easy access, good communication, customer understanding and individualized attention given to customers.	Listening to customer needs, caring about customers' need, providing personalized attention, easy Access, good communication with customer and understanding.

Source: Parasuraman et al. (1990)

Therefore, the research on service quality is essential in customer satisfaction measuring. There are many definitions that have been taken place for service quality by different researchers. Service quality was defined the degree of discrepancy between customers' normative expectation for service and customer perception of service performance (Parasuraman et al., 1985). Beside the study of Parasuraman et al. (1988) showed that service quality was the simple or weighted average of the gap between the expectations of customers and customers' perceived performance along five dimensions. Service quality can be measured using five dimensions: Tangibility, reliability, assurance, responsiveness, and empathy as can be seen in Table 1.

The study of Al-Azzam (2015) found that service-offering channels in the banking system has emerged on the scene with a wide variety of forms such as internet banking, automated teller machine, telephone banking and banks. Growing competition and the financial systems have been forced to evaluate the importance of customer satisfaction. This study has used the model of service quality (Parasuraman et al., 1988) with five dimensions to evaluate its effect on the customer satisfaction among banks customers. The results indicated that the higher the service quality, the more the costumer's satisfaction. The findings indicated that these five factors have positively affected the customer satisfaction. This research also showed that the service quality was an appropriate tool to measure the quality of service in the banking sector in the bank. Therefore, the banking sector practitioners regarded this instrument a very important tool to evaluate, support, and improve the quality of their services.

Ramya et al. (2019) said that service quality means the ability of a service provider to satisfy customer in an efficient manner through which he can better the performance of business. The concept of service quality is not an independent term, means, its formation depends upon several factors related to service and service firms. These factors are tangibility, reliability, assurance, responsiveness, and empathy. (i) Tangibility is defined as the appearance of physical facilities, equipment, communication materials and technology. All these provide enough hints to customers about the quality of service of the banks or firms. Also, this dimension enhances the image of the banks or firms. Hence, tangibility dimension is very important to the banks or firms, and they need to invest heavily in arranging physical facilities. (ii) Reliability is defined as the ability to perform the promised service dependably and accurately. In broad sense reliability means, service providers' promises about delivery, provisions, problem resolutions and pricing of the products and services. Therefore, this is an important element in the service quality perception and loyalty of the customer. In the banking services, the reliability dimension includes regularity, attitude of service, keep customers informed, consistency, procedures, etc. (iii) Responsiveness is the willingness to help customers, and to provide prompt service. This dimension focuses in the attitude, and promptness in dealing with customer requests, questions, complaints, and problems. Responsiveness also focuses on punctuality, presence, professional commitment of the employees or staff, the length of time customers wait for assistance, answers to questions, the process of service delivery and employee attitude towards requests of customers. (iv) Assurance can be defined as employee's knowledge, courtesy and the ability of the firm and its employees to inspire trust and confidence in their customers. This dimension is important in banking services because

customers feel uncertain about their ability to evaluate outcome. In banking services, this dimension focuses on job knowledge and skill, accuracy, courtesy of employees and security ensured by the banks. (v) Empathy is defined as the caring, individualized attention provides to the customers by their banks or service firms. This dimension tries to convey the meaning through personalized or individualized services that customers are unique and special to the banks or firms. The focus of empathy is on the services' diversification that satisfies different needs of customers, personalized services, etc. Therefore, the service providers need to understand customers personal needs and preferences.

In microfinance sector, Jain (2017) found that service quality has been considered as an important tool to gain success and to sustain in the business world. The MFIs have been facing various challenges in retaining their customers because of aggressive competition as well as their weakness to satisfy clients or customers. The microfinance clientele is becoming more sophisticated concerning the quality of service they require or expect from these institutions. For the study, five dimensions of service quality have been taken i.e., tangibility, reliability, empathy, responsiveness and assurance. The study results showed that the customers of MFIs are most satisfied with the tangibility dimension. Reliability, assurance and empathy holds third, fourth and fifth position respectively to make the customers feel satisfied. This result indicated that there was a significant difference in the perception of customers regarding various dimensions in MFIs.

The study of Mary and Musa (2018) examined the influence of MFIs' service quality dimensions on customers' satisfaction. The results of the study showed that customers were satisfied with the service quality attributes such as service tangible, service reliability, bank responsiveness and service assurance. However, the customers were dissatisfied with MFIs empathy towards their customers. The results also showed there was significant relationship between customers satisfaction with MFIs' service quality dimensions and their satisfaction with service quality provided. However, customers satisfaction with MFIs' service quality dimensions provided by MFIs did not significantly influence their satisfaction of the service quality offered.

3. Research Methodology

The impact of five service quality dimensions on customer satisfaction was significant in the banking and microfinance sectors. The microfinance customers indicated high satisfaction with the five dimensions of service quality examined in many studies, i.e., Tangibility, Reliability, Responsiveness, Empathy, and Assurance. This study utilized five broad dimensions to measure the quality of outreach in microfinance. In other words, it used five broad dimensions to ascertain customer satisfaction with microfinance outreach in Vietnam. They are five independent variables including Tangibility, Reliability, Responsiveness, Assurance and Empathy. The dependent variable is the customer satisfaction towards microfinance outreach as can be seen in Table 2.

Tabel - 2. Independent and Dependent variables in the research

No.	Code	Item
Tangibility		
1	Tang1	The transaction offices are conveniently located
2	Tang2	The MFIs have a wide range of the branches systems
3	Tang3	There are many points to outreach customers
4	Tang4	The transaction offices provide variety of services
5	Tang5	The technology and equipment used by the MFIs are modern

6	Tang6	The guidance information are fully listed for customers
7	Tang7	The forms are conveniently designed and fully provided for the customers
8	Tang8	The MFIs have enough staff to serve the customers
Reliability		
9	Reli1	The microfinance services provided by the MFIs are reliable
10	Reli2	The process of microfinance service transaction is done clearly
11	Reli3	The MFIs ensure the security of customers' transaction informations
12	Reli4	The online transaction system provides full information for customers
13	Reli5	The MFIs perform microfinance services accurately for customers
14	Reli6	The MFIs are always ready to solve customer problems
Responsiveness		
15	Resp1	The procedure for microfinance services transaction is convenient
16	Resp2	The MFIs perform microfinance services quickly and promptly for customers
17	Resp3	The MFIs grant a credit line to meet the needs of the customer fully
18	Resp4	The employees are always willing to serve customers
19	Resp5	The MFIs feedback to customers' transactions immediately
20	Resp6	The employees have the ability to perform professional microfinance services
21	Resp7	The online transaction system meets all customers' needs
22	Res8	The MFIs always solve to emergency cases for customers
Assurance		
23	Assu1	The microfinance services provided by MFIs are satisfactory for customer
24	Assu2	The MFIs secure the online transactions for customer
25	Assu3	The MFIs secure the offline transactions fof customer
26	Assu4	The employees are always polite in dealing with customers
27	Assu5	The MFIs ensure the appropriate transaction costs for customers
28	Assu6	The MFIs ensure to apply the competitive interest rates for customers
Empathy		
29	Empa1	The online transaction system has an easily accessible for customers
30	Empa2	The customers receive prompt attention from the employees of the MFIs
31	Empa3	The employees are very friendly in transaction with customers
32	Empa4	The employees are always listening to customer needs
33	Empa5	The employees are enthusiastically guide for customers
34	Empa6	The MFIs are trying to give customer the best they can
Customer Satisfaction		
35	Sati1	Customer satisfaction towards microfinance services provided by MFIs
36	Sati2	The MFIs' customers will continue to use the microfinance services
37	Sati3	The MFIs' customers will recommend microfinance services to friends and relatives
38	Sati4	The MFIs' customers will use a variety and diversity of microfinance services
39	Sati5	The MFIs' customers appreciate highly for microfinance outreach

Source: Own study.

Explanatory research design will be used to analyze the data which collected from the microfinance customers in Vietnam. A sample of 450 customers (150 customers from low-income households, 250 customers from poor and 50 customers from microenterprises) were taken on judgmental basis and 392 useable questionnaires were analyzed. Those 392 responses that

collected 216 from low-income households, 148 from poor and 28 from microenterprises. The parameters of service quality were identified after analyzing the extensive literature review of the related to work done in the past.

The appropriate sample size is very important part of the study. According to Green (1991), a study in behavior statistic should have medium effect size, and the minimum number of subjects required for study with the number of predictors which is between range of 30-40, a sample size of 187 to 213 objects is sufficient to create an effective study. Beside sample size required to test the hypothesis that the population multiple correlations equal Zero with a Power of 0.80 (Alpha = 0.05). This research studies 39 indicators as can be seen in Table 1.2, and a sample of 392 is sufficient and covering to create an effective study.

The questionnaire has two parts and structured questionnaire will be used to collect data. The first part of the research is about the demographic characteristics of customers including age range, gender, income range, education level. The second section designed to measure the microfinance service quality, customers satisfaction about the microfinance service delivery system.

The measurement scales have eight items in the tangibles dimension, six items in the reliability dimension, eight items in responsiveness dimension, six items in assurance dimension and six items in empathy dimension. This study uses 5 points Likert scale to measure the variables in which there are 5 levels of satisfaction, 1 is lowest and 5 is highest.

This study uses Stata 15.0 software and this software will be used for evaluate the quality of scale, reliability analysis with Cronbach's Alpha, analyze the exploratory factors, matrix rotation, test the appropriateness of the model. At the same time, multiple regression analysis will be used to investigate the effect of five independent variables including Tangibility, Reliability, Responsiveness, Assurance and Empathy on dependent variable is the customer satisfaction towards microfinance outreach. The basic objective of using regression equation on this study is to make the study more effective at describing, understanding, predicting, and controlling the stated variables. The regression equation of this study is as follows.

$$y_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

Where,

y is the dependent variable, customer satisfaction towards microfinance outreach. x_1, x_2, x_3, x_4, and x_5 are the independent variables. β_0 is the intercept term, it gives the mean or variables excluded average effect on y of all the form the equation and its mechanical interpretation is the average value of y when variables β_1, β_2, β_3, β_4, and β_5 are set equal to zero. Variables β_1, β_2, β_3, β_4, and β_5 refer to the coefficient of respective independent variable which measures the change in the mean value of y, per unit change in their respective independent variables.

4. Research Results

4.1 Demographic profile of the microfinance customers and item reliability test

There are 392 respondents are microfinance customers who completed the whole survey in 2022. The respondents age ranges from 22 to 56 and 56.72% of them are female. Respondents income range is from 620 USD to 1,720 USD per year. Seven-six percent of them have a high school graduation, seventeen percent of them have graduated from secondary school and the rest earns an intermediate degree.

The correlation coefficient is a measure of the strength of the straight-line or linear relationship between two variables, and this coefficient takes on values ranging between 1 and -1. The points are the accepted guidelines for interpreting the correlation coefficient: 0 indicates no linear relationship. A correlation coefficient of 1 indicates a perfect positive linear relationship, and a correlation coefficient of - 1 indicates a perfect negative linear relationship. The values of correlation coefficient between 0 and 0.3 (0 and -0.3) show a weak positive (negative) linear relationship via a shaky linear rule. The values of correlation coefficient between 0.3 and 0.7 (-0.3 and -0.7) describe a moderate positive (negative) linear relationship via a fuzzy-firm linear rule. Values between 0.7 and 1.0 (-0.7 and -1.0) indicate a strong positive (negative) linear relationship via a firm linear rule (Ratner, 2009). The total correlation coefficient is the correlation coefficient of a variable with the average of other variables in the same scale. After reliability test the factors by Cronbach's Alpha reliability coefficient test, the results show that the variable Tang2 has a total correlation coefficient that is smaller than 0.3 so, it must be excluded from the model.

Cronbach's coefficient alpha is used to test the internal consistency and reliability of the multiple item scales, and this coefficient was used to measure an underlying construct for every item. A general accepted rule is that alpha coefficient of 0.6 - 0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level (Hulin et al., 2001). So that, it is statistically reliable and valid if the alpha coefficient is more than 0.60.

After removing Tang2, Tang7, Tang8 and Empa6 from the model, the study re-tested the scales. The scale test results through the reliability accreditation of Cronbach's alpha coefficient. This result show that the variables have an alpha coefficient greater than 0.6 and the total correlation coefficient is greater than 0.3 as can be seen in Table 3. This shows that all scales are qualified as good, highly reliable scales. So, the scale in the study is qualified to perform the exploratory factor analysis. From the original 39 variables, the rest 35 variables are eligible variables that will use in the exploratory factor analysis steps.

Table - 3. Item reliability test

Item	Obs	Sign	Item-test correlation	Item-rest correlation	Average interitem covariance	Alpha
Tangibility - The first time						
Tang1	392	+	0.5639	0.4150	.0920048	0.5858
Tang2	392	+	0.5100	0.2249	.0958598	0.6453
Tang3	392	+	0.6409	0.4824	.0823376	0.5625
Tang4	392	+	0.6426	0.4856	.082286	0.5619
Tang5	392	+	0.6769	0.5459	.0812657	0.5524
Tang6	392	+	0.6266	0.4775	.0851176	0.5675
Tang7	392	+	0.4359	0.1444	.105573	0.6695
Tang8	392	-	0.2938	0.0838	.1157317	0.6598
Test scale					.092522	0.6340
Tangibility - The second time (After removing Tang2, Tang7 and Tang8)						
Tang1	392	+	0.6618	0.4806	.1801471	0.7595
Tang3	392	+	0.7534	0.5739	.1526893	0.7297
Tang4	392	+	0.7257	0.5341	.1599053	0.7438
Tang5	392	+	0.7776	0.6321	.1518923	0.7107
Tang6	392	+	0.7214	0.5441	.1635665	0.7396

Test scale					.1616401	0.7781
Reliability						
Reli1	392	+	0.6896	0.5338	.1109133	0.7269
Reli2	392	+	0.6393	0.4623	.1164805	0.7445
Reli3	392	+	0.6874	0.5019	.1078912	0.7355
Reli4	392	+	0.7129	0.5593	.107197	0.7199
Reli5	392	+	0.6684	0.4966	.1124478	0.7359
Reli6	392	+	0.6826	0.5087	.1098648	0.7329
Test scale					.1107991	0.7668
Responsiveness						
Resp1	392	+	0.7671	0.6749	.5351454	0.8791
Resp2	392	+	0.7480	0.6442	.5355456	0.8829
Resp3	392	+	0.7556	0.6804	.5654659	0.8788
Resp4	392	+	0.6796	0.5867	.5860279	0.8867
Resp5	392	+	0.7581	0.6785	.5577026	0.8786
Resp6	392	+	0.7893	0.7075	.5323791	0.8755
Resp7	392	+	0.8119	0.7372	.5247304	0.8725
Resp8	392	+	0.7507	0.6745	.5672517	0.8793
Test scale					.5505311	0.8927
Assurance						
Assu1	392	+	0.7757	0.6429	.2646126	0.7575
Assu2	392	+	0.5963	0.4459	.3312719	0.8002
Assu3	392	+	0.8067	0.6864	.2537248	0.7464
Assu4	392	+	0.6703	0.5023	.2996144	0.7905
Assu5	392	+	0.7374	0.5898	.277399	0.7704
Assu6	392	+	0.6741	0.5202	.3025204	0.7859
Test scale					.2881905	0.8064
Empathy - The first time						
Empa1	392	+	0.6999	0.5306	.1074123	0.7270
Empa2	392	+	0.7063	0.5530	.1083897	0.7217
Empa3	392	+	0.8027	0.6864	.0959947	0.6859
Empa4	392	+	0.6999	0.5319	.1075428	0.7266
Empa5	392	+	0.8492	0.7524	.0889928	0.6656
Empa6	392	-	0.3216	0.0806	.1564284	0.8331
Test scale					.1107934	0.7668
Empathy - The second time (After removing Empa6)						
Empa1	392	+	0.7447	0.5828	.1610916	0.8140
Empa2	392	+	0.7278	0.5724	.1674485	0.8158
Empa3	392	+	0.8173	0.7000	.1491868	0.7808
Empa4	392	+	0.7218	0.5512	.1660697	0.8227
Empa5	392	+	0.8629	0.7669	.1383456	0.7604
Test scale					.1564284	0.8331
Customer Satisfaction						
Sati1	392	+	0.7978	0.6466	.1865431	0.7419
Sati2	392	+	0.7737	0.6314	.2010793	0.7484

Sati3	392	+	0.7806	0.6267	.193896	0.7487
Sati4	392	+	0.8240	0.7075	.1875261	0.7248
Sati5	392	+	0.5515	0.3302	.2624909	0.8350
Test scale					.2063071	0.8009

Source: Authors' calculation from Stata 15.0

4.2 Exploratory factor analysis

Exploratory Factor Analysis for independent variables: Factor analysis/correlation and the results of exploratory factor analysis for independent variables following:

Number of observations = 392; Rotation: (unrotated); Method: principal-component factors; Retained factors = 6; Number of params = 165.

The results of exploratory factor analysis for independent variables show there were six factors (Retained factors = 6). Beside the factor that its eigenvalue was smallest and greater than 1 is factor6 (Eigenvalue = 1.02465). Thus, there were six factors that were define in the mode as can be seen in Table 4.

Exploratory Factor Analysis for dependent variables: Factor analysis/correlation and the results of exploratory factor analysis for dependent variable. Number of observations = 392; Method: principal-component factors; Rotation: (unrotated); Retained factors = 1; Number of params = 5. The results of exploratory factor analysis for dependent variables show there is one factor (Retained factors = 1). Beside the factor that its eigenvalue was smallest and greater than 1 was factor1 (Eigenvalue = 2.84391). Thus, there was one factor that is define in the model as can see in Table 4.

Table - 4. Exploratory Factor Analysis

Factor	**Eigenvalue**	**Difference**	**Proportion**	**Cumulative**
Exploratory Factor Analysis for independent variables				
Factor1	6.17061	3.03542	0.2057	0.2057
Factor2	3.13518	0.19421	0.1045	0.3102
Factor3	2.94097	0.75253	0.0980	0.4082
Factor4	2.18844	0.11801	0.0729	0.4812
Factor5	2.07043	1.04578	0.0690	0.5502
Factor6	1.02465	0.07052	0.0342	0.5843
Factor7	0.95414	0.06489	0.0318	0.6161
Factor8	0.88924	0.03524	0.0296	0.6458
Factor9	0.85400	0.07696	0.0285	0.6743
Factor10	0.77704	0.04885	0.0259	0.7002
Factor11	0.72820	0.03830	0.0243	0.7244
Factor12	0.68989	0.01479	0.0230	0.7474
Factor13	0.67510	0.02272	0.0225	0.7699
Factor14	0.65239	0.02389	0.0217	0.7917
Factor15	0.62850	0.05291	0.0209	0.8126

Factor16	0.57559	0.00463	0.0192	0.8318
Factor17	0.57096	0.06624	0.0190	0.8508
Factor18	0.50472	0.02969	0.0168	0.8677
Factor19	0.47502	0.02292	0.0158	0.8835
Factor20	0.45210	0.03711	0.0151	0.8986
Factor21	0.41498	0.02257	0.0138	0.9124
Factor22	0.39242	0.01013	0.0131	0.9255
Factor23	0.38228	0.01211	0.0127	0.9382
Factor24	0.37017	0.01311	0.0123	0.9506
Factor25	0.35706	0.02806	0.0119	0.9625
Factor26	0.32900	0.04644	0.0110	0.9734
Factor27	0.28256	0.06798	0.0094	0.9829
Factor28	0.21459	0.04088	0.0072	0.9900
Factor29	0.17371	0.04767	0.0058	0.9958
Factor30	0.12604	.	0.0042	1.0000
LR test: independent vs. saturated: chi2(435) = 4894.87 Prob>chi2 = 0.0000				
Exploratory Factor Analysis for dependent variables				
Factor1	2.84391	1.99616	0.5688	0.5688
Factor2	0.84775	0.35819	0.1695	0.7383
Factor3	0.48956	0.04607	0.0979	0.8362
Factor4	0.44349	0.06818	0.0887	0.9249
Factor5	0.37530	.	0.0751	1.0000
LR test: independent vs. saturated: chi2(10) = 633.86 Prob>chi2 = 0.0000				

Source: Authors' calculation from Stata 15.0

The next step was to rotate the matrix to determine the factors in the model. After rotate, varimax blanks for independent variables showed that six factors and cumulative coefficient reach 0.5843 as can see in Table 1.5 that was greater than 0.05. Thus, there was new factor to be explored in addition to five factors Tangibility, Reliability, Responsiveness, Assurance and Empathy. At the same time, rotate, varimax blanks for dependent variable show that one factor and cumulative coefficient reach 0.5688 as can see in Table 5 that was greater than 0.05 and there were no new factors to be explored in addition to one factor customer satisfaction.

Table - 5. Rotate, varimax blanks

Factor	**Variance**	**Difference**	**Proportion**	**Cumulative**
Rotate, varimax blanks for independent variables				
Factor1	4.70828	1.55504	0.1569	0.1569
Factor2	3.15325	0.02810	0.1051	0.2621
Factor3	3.12514	0.35940	0.1042	0.3662

Factor4	2.76575	0.02368	0.0922	0.4584
Factor5	2.74206	1.70627	0.0914	0.5498
Factor6	1.03579	.	0.0345	0.5843
LR test: independent vs. saturated: chi2(435) = 4894.87 Prob>chi2 = 0.0000				
Rotate, varimax blanks for dependent variables				
Factor1	2.84391	.	0.5688	0.5688
LR test: independent vs. saturated: chi2(10) = 633.86 Prob>chi2 = 0.0000				

Source: Authors' calculation from Stata 15.0

Rotated factor loadings (pattern matrix) and unique variances for independent variables find out Factor1 is Responsiveness (x1), Factor2 is Assurance (x2), Factor3 is Empathy (x3), Factor4 is Tangibility (x4), Factor5 is Reliability (x5) and new Factor (x6) is called Online Microfinance Outreach (That is microfinance outreach via the Internet, and the information technology application platforms). Rotated factor loadings (pattern matrix) and unique variances for dependent variables point out Factor1 is customer satisfaction (y) as can see in Table 6.

Table - 6. Rotated factor loadings and unique variances

Variable	**Factor1**	**Factor2**	**Factor3**	**Factor4**	**Factor5**	**Factor6**	**Uniqueness**
Rotated factor loadings (pattern matrix) and unique variances for independent variables							
Tang1				0.6304			0.5184
Tang3				0.7453			0.4207
Tang4				0.7056			0.3809
Tang5				0.7891			0.3702
Tang6				0.7301			0.4402
Reli1					0.7059		0.4876
Reli2					0.6746		0.4472
Reli3					0.6528		0.5197
Reli4						0.6650	0.3695
Reli5					0.6535		0.4967
Reli6					0.5863		0.4617
Resp1	0.7193						0.4276
Resp2	0.6892						0.4649
Resp3	0.7652						0.3903
Resp4						0.6138	0.4190
Resp5	0.7859						0.3543
Resp6	0.7646						0.3893
Resp7	0.7957						0.3382
Resp8	0.7859						0.3482
Assu1		0.7364					0.3750
Assu2		0.5761					0.5684
Assu3		0.7950					0.3338
Assu4		0.6310					0.4360
Assu5		0.7297					0.3745
Assu6		0.6358					0.3823
Empa1			0.7229				0.4692

Empa2			0.7266				0.4620
Empa3			0.8360				0.2883
Empa4			0.6910				0.5102
Empa5			0.8719				0.2255
Rotated factor loadings (pattern matrix) and unique variances for dependent variables							
Sati1	0.8055						0.3511
Sati2	0.7892						0.3772
Sati3	0.7932						0.3708
Sati4	0.8458						0.2847
Sati5	0.4773						0.7722
(blanks represent abs(loading)<.3)							

Source: Authors' calculation from Stata 15.0

4.3 Testing the appropriateness of the model and regresssion analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy with KMO = 0.812. The result of testing the appropriateness of the model by Kaiser-Meyer-Olkin Measure of Sampling Adequacy find out coefficient KMO reach 0.812 that is greater 0,05. Therefore, the model was suitable for this study. The analysis results of the correlation between variables in the model indicate a very low degree of correlation among the variables, the presence of any multicollinearity was neglected. According to the results of regression analysis, P-values was less than the significance level of 5% (P-value = 0.000), so the regression model was statistically significant at the significance level of 5 %. Variables x1, x2, x3, x5 and x6 have positive impacts on the variable y at the significance level of 1%, variable x4 had a positive impact on the variable y, but this variable was not statistically significant as can see in Table 7.

Table - 7. Regression analysis

y	**Coef.**	**Std. Err.**	**t**	**P>|t|**	**[95% Conf. Interval]**	
x1	.5383435	.0344827	15.61	0.000	.4705456	.6061415
x2	.379927	.0344827	11.02	0.000	.3121291	.447725
x3	.210438	.0344827	6.10	0.000	.1426401	.278236
x4	.0197298	.0344827	0.57	0.568	-.0480681	.0875278
x5	.2397587	.0344827	6.95	0.000	.1719607	.3075566
x6	-.0767957	.0344827	-2.23	0.027	-.1445936	-.0089977
_cons	7.6709	.0344387	0.00	1.000	-.0677114	.0677114

Source: Authors' calculation from Stata 15.0

The multicollinearity test of the model with Mean VIF 1.00, this result shows no serious multicollinearity in this model. Test for variance change of the model, P-value = 0. 0.0116 was smaller than 0.05, therefore, this model had variance change phenomenon. So that, the study must be overcome the variance change phenomenon.

After overcoming the variance change phenomenon, the results show that Variables x1, x2, x3 and x5 had positive impacts on the variable y at the significance level of 1%, 1%, 1% and 1%,

respectively; variable x6 had a negative impact on the variable y at the significance level of 10%; variable x4 had a positive impact on the variable y, but this variable was not statistically significant as can see in Table 8.

Table - 8. The Estimation Results for Factors Affecting customer satisfaction

Independent variables	Dependent variable (y)
x1	0.538*** (16.06)
x2	0.380*** (11.32)
x3	0.210*** (6.48)
x4	0.0197 (0.44)
x5	0.240*** (5.74)
x6	-0.0768* (-2.09)
_cons	7.6709
P-value	0.0000
N	392

Source: Authors' calculation from Stata 15.0

The research found out the regression equation of this study was as follows.

$$y = 7.6709 + 0.538\ x_1 + 0.380\ x_2 + 0.210\ x_3 + 0.240\ x_5 - 0.0768\ x_6$$

5. Discussions

The results of the study model in Table 8 reflected that variables Responsiveness (x1), Assurance (x2), Empathy (x3), Tangibility (x4) and Reliability (x5) had positive effects on customer satisfaction (y). This result agreed with the analysis results of the Five Broad Dimension of Service Quality of Parasuraman et al. (1990). At the same time, this research result was consistent with the study of Jain (2017), Mary and Musa (2018) in microfinance sector. However, Tangibility variable was not statistically significant in the model. Because, the MFIs in Vietnam had a wide range of the branches systems, there were many points to reach customers, the transaction offices provide variety of services, the transaction offices were conveniently located, and they had enough staff to serve customers. Therefore, most of the customers focus on paying attention to other factors when using microfinance services. On the other hand, a new factor was Online Microfinance Outreach (x6) had a negative effect on customer satisfaction (y) this model.

The variable Responsiveness had a positive impact on customer satisfaction with coefficient 0.538 and with the significance level of 1%, indicating that Responsiveness had a strong impact on customer satisfaction. This was the factor that strongly affected customer satisfaction towards microfinance outreach and showed that the greatest care of customers for this factor. Because, the customers use easier microfinance outreach when the MFIs established the procedure for transaction was convenient, perform microfinance services quickly and promptly for customers,

grants a credit line to meet the needs of the customers fully, feedback to customers' transactions immediately and solved to emergency cases for customers. Therefore, reliable and valid measures of microfinance outreach quality were essential to achieve, and as a result microfinance outreach quality programs should become high priority of the MFIs in Vietnam.

The variable Assurance had a positive impact on customer satisfaction with coefficient 0.380 and with the significance level of 1%, indicating that Assurance had a strong impact on customer satisfaction. This was a second factor that strongly affected customer satisfaction towards microfinance outreach and points out the great interest of customers in this factor. Because, Customers were assured in the microfinance outreach when the microfinance services provided by the MFIs were satisfactory for customer. Beside the MFIs have ensured the appropriate transaction costs and applied the competitive interest rates for customers. Thus, this was the important issue MFIs in Vietnam have to pay attention in order to improve customer satisfaction towards microfinance outreach. Thereby, customers feel safe and confident in the microfinance outreach.

The variable Empathy had a positive impact on customer satisfaction with coefficient 0.210 and with the significance level of 1%, indicating that Empathy had a strong impact on customer satisfaction. This was a third factor that strongly affected customer satisfaction towards microfinance outreach and expresses the great interest of customers in this factor. Because, the customers received prompt attention from the employees of MFIs. Thus, the MFIs should continue to give customer the best they can and customers feel satisfied with the benefits MFIs offer together with the microfinance services.

The variable Reliability had a positive impact on customer satisfaction with coefficient 0.240 and with the significance level of 1%, indicating that Reliability had a strong impact on customer satisfaction. This was a fourth factor that strongly affected customer satisfaction towards microfinance outreach and found out the great interest of customers in this factor. Because, the customers trusted in the microfinance outreach when the process of microfinance service transaction was done clearly, the transaction information ensured the security for customers, the online transaction system provided full billing statements for customers. At the same time, the MFIs perform microfinance services accurately for customers, and they were ready to solve customer problems. Therefore, the MFIs should continue to improve their responsiveness and make it easier for customers to use microfinance services.

The variable Online Microfinance Outreach had a negative impact on customer satisfaction with coefficient -0.0768 and with the significance level of 10%. This was a fifth factor that affected customer satisfaction towards microfinance outreach and expressed the interest of customers in this factor. Because, Online Microfinance Outreach was a modern Microfinance Outreach method in which the transfer of fund or money happened online over electronic fund transfer. Online transaction process was secure and password protected, and the MFIs were always ready to solve customer problems. However, many poor and low-income customers had difficulty and lack of conditions in the online microfinance outreach due to investment in equipment and knowledge in online transactions. Thus, the MFIs should continue to give customer the best they can and customers feel satisfied with the benefits MFIs offer together with the microfinance services through online transactions. The customers feel caring and interested in the online microfinance outreach when the online transaction system had an easily accessible for customers.

6. Conclusions and Recommendations

The present study has critically examined the quality of outreach, i.e., customer satisfaction

towards microfinance outreach in Vietnam. The customer satisfaction towards microfinance outreach has been compared with respect to each of the Five Broad Dimension of Service Quality. The finding of the study indicated that customers were satisfied by only four service quality dimensions (Responsiveness, Assurance, Reliability, and Empathy) in addition to new factor of online microfinance outreach. From the customer perceptions of microfinance outreach, the factors including Responsiveness, Assurance, Reliability, Empathy and online microfinance outreach appeared to contribute more in customer satisfaction, factor Tangibility appeared not to contribute to customer satisfaction.

This study has some important managerial implications. In particular, the MFIs are having a significant investment prospect in many regions of the country. This study helps researchers, managers to develop their expertise, and the approach taken in this study may prove diagnostically useful to the MFIs regarding investigating the importance of process and outcome quality attributes that influence choice. At the same time, on the basis of the research results, the article recommends key content to increase quality of outreach, improve customer satisfaction towards microfinance outreach of MFIs in Vietnam as follows.

Firstly, responsiveness dimension was considered as one of the important factors influences quality of outreach, i.e., customer satisfaction towards microfinance outreach. This is an important factor that affects customer satisfaction towards microfinance outreach, so providing a high service quality is a one of the best ways for MFIs to respond to competition. At the same time, the MFIs' management should focus on factor Assurance, Reliability and Empathy to maximize customer satisfaction and the MFIs' management should adopt the service quality strategies regarding Assurance, Reliability, Empathy and Online Microfinance Outreach.

Secondly, the MFIs' management should pay attention to potential failure points of the customer retention programs, and that they should be responsive to problems quickly and promptly for customers. Beside this management should put sincere efforts to match the expected service quality to the offered service quality, so that commitment and loyalty of the customers can be achieved in microfinance outreach.

Thirdly, the MFIs' management should make investment in research to understand customer needs and expectations at all stages in the microfinance outreach process to determine the key components of microfinance outreach quality. At the same time, this management should pay attention to determine which process and outcome quality attributes of microfinance outreach quality has the greatest impact on choice. Thereby, the MFIs could develop a marketing program that emphasizes the most important attributes, and they could use the findings of present study to predict choice of market segment to improve microfinance outreach quality.

Fourthly, the MFIs should be designing strategies of staff training and development to build the knowledge and courtesy of the MFIs' employees and their ability to inspire trust and confidence for customers in microfinance outreach. The MFIs should conduct frequent training programs in areas like prompt payments and receipts, billing statements, credit application decision, prompt collections and remittance services, customer problems solving. All these activities also have direct impact on customers' perception towards microfinance outreach quality. In addition, the MFIs should make the best use of condition in microfinance outreach, improve the appropriate online microfinance outreach system to the conditions of microfinance customers and the practical environment to improve quality of outreach, increase customer satisfaction towards microfinance outreach.

References

Abhijith, M. and Menon, R. V. (2018). Study on Customer Satisfaction in Indian Banking Sector. *International Journal of Pure and Applied Mathematics*, 118(20), 4297- 4302.

Al-Azzam, A. F. M (2015). The Impact of Service Quality Dimensions on Customer Satisfaction: A Field Study of Arab Bank in Irbid City, Jordan. *European Journal of Business and Management*, 7(15), 45 - 53.

Biesok, G. and Wyród-Wróbel, J. (2011). Customer satisfaction -Meaning and methods of measuring'. In: H. Howaniec, W. Waszkielewicz (ed.). *Marketing and logistic problems in the management of organization*, pp.23-41. Bielsko-Biała: Wydawnictwo Naukowe AkademiiTechniczno-Humanistycznej w Bielsku-Białej.

Brady, D. and Burton, L. M. (2016). *The Oxford Handbook of the Social Science of Poverty*. Oxford University Press.

Chocholáková, A., Gabčová, L., Belás, J., Sipko, J. (2015). Bank Customers' Satisfaction, Customers' Loyalty and Additional Purchases of Banking Products and Services. A Case Study from the Czech Republic. *Economics and Sociology*, 8(3), 82 – 94.

Copestake, J. (2007). Mainstreaming microfinance: Social performance management or mission drift? *World Development*, 35(10), 1721-1738.

Hulin, C., Netemeyer, R., and Cudeck, R. (2001). Can a Reliability Coefficient Be Too High? *Journal of Consumer Psychology*, 10(1), 55-58.

Jain, A. (2017). Customer's Perception Regarding Dimensions of Service Quality in Microfinance Institutions in Rajasthan. *Journal of Management and Development Studies*, 6(6), 1-7.

Kanyurhi, E. B. (2013). Evaluation of customer satisfaction with services of a micro-finance institution: Empirical evidence from Women Association for Social and Economic Gain customers' in Togo. *African Journal of Marketing Management*, 5(2), 26 – 37.

Kombo, F. (2015). Customer satisfaction in the Kenyan banking industry. *Journal of International Studies*, 8(2), 174-186.

Mary, U. I. and Musa, A. (2018). Influence of Microfinance Banks' Service Quality Dimensions on Customers' Satisfaction in South-south, Nigeria. *Journal of Marketing and Consumer Research*, 43 (2018), 94 -104.

Ozatac, N., Sanerb, T. and Sen, Z. S. (2015). Customer Satisfaction in the Banking Sector : The Case of North Cyprus. *Procedia Economics and Finance*, 39 (2016), 870 - 878.

Parasuraman, A. P., Zeithaml, V. A. and Berry, L. L. (1985). A Conceptual Model of Service Quality and its Implication for Future Research. *Journal of Marketing*, 49 (Fall 1985), 41-50.

Parasuraman, A. P., Zeithaml, V. A. and Berry, L. L. (1988). SERVQUAL: A multiple item scale for measuring customer perceptions of service quality. *Journal of Retailing*, 64(1), 12- 40.

Parasuraman, A. P., Zeithaml, V. A. and Berry, L. L. (1990). *Delivering Quality Service Balancing Customer Perceptions and Expectations*, pp.32-212. New York: The Free Press A Division of Macmillan Inc.

Ramya, N., Kowsalya, A. and Dharanipriya, K. (2019). Service Quality and Its Dimensions. *EPRA International Journal of Research and Development*, 4(2), 38 - 41.

Ratner, B. (2009). The correlation coefficient: Its values range between +1/−1, or do they? *Journal of Targeting, Measurement and Analysis for Marketing*, 17(2), 139 – 142.

Solomon, M., Bamossy, G., Askegaard, S., & Hogg, M. K. (2006). *Consumer Behaviour A European Perspective* 3rd Edition, pp.328. Pearson Education. England.

Wagenaar, K. (2012). *Institutional transformation and mission drift in microfinance*. Centre of Development Studies, University of Cambridge.