Measuring Customer Satisfaction Towards Microfinance Services Provided in Vietnam

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Abstract
Customer satisfaction towards microfinance services is a measure of how microfinance services supplied by a microfinance institution meet or surpass customer expectation. The use of microfinance services plays a very important role in the socioeconomic development and contributes significantly to the development of microfinance sector in one nation. This study aims at measuring the customer satisfaction towards microfinance services they are using. This study uses the five broad dimension theory of service quality, data will be collected from the way of survey from microfinance institutions (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; Measuring customer satisfaction; Microfinance institution; Microfinance services.
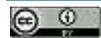
1. Introduction

According to ADB (2000), microfinance was the provision of financial services such as loans, deposits, payment services, money transfers, and insurance to poor and low-income households and, the microenterprises. Microfinance services were provided by three types of sources: Formal institutions, such as rural banks and cooperatives; semiformal institutions, such as nongovernment organizations; and informal sources. Institutional microfinance was defined to include microfinance services provided by both formal and semiformal institutions. The MFIs were defined as institutions that major business is the provision of microfinance services. The interest in microfinance 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 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 services 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 services were 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 been deployed, insurance services had only been deployed to a limited extent. Therefore, increasing customer satisfaction towards microfinance services is the very first factor that counts. When customers are completely satisfied with microfinance services provided by MFIs, they will tend to use microfinance services more due to its convenience in the access to MFIs, 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, MFIs can contribute to the development of the overall financial system through integration of financial markets.

2. Literature Review
2.1. Customer Satisfaction

There are many definitions that have been taken place for customer satisfaction by different researchers. According to Solomon et al. (2006), consumers engaged in a constant process of evaluating the things they bought as they integrate these products into their daily consumption activities and consumer satisfaction was determined by the overall feelings, or attitude, a person had about a product after it had been purchased. Another concept, customer satisfaction provided an indication of how successful organization was at providing products, services to the marketplace (Sokefun, 2011).

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 tt was highly influenced by expectations regarding all aspects of quality. In banking sector, Levesque and McDougall (1996) pointed out banks that were able to increase customer loyalty might reduce service cost, better understand customer needs, built up their knowledge about financial affairs and improved sales of both existing and new banking services.

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 is very important and necessary.

2.2. Measurring Customer Satisfaction

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 these five dimensions.

The other researchers pointed out the customers perceived the service quality low if the performance did not meet customer expectations and high if performance exceeded their expectations (Oliver, 1980); service quality as customer perception of how well a service met or exceeded customer expectations (Czepiel, 1990); service quality as the most important goal of service operations going by the studies that linked customer satisfaction with good service quality. The improvement of the quality of services provided to uphold customer satisfaction as the alternative to retaining and increasing the customer base, sustaining customer satisfaction they further argue, was crucial to banks continuous existence since no bank can long survive without loyal customers (Saha *et al.*, 2014).

The researchers had observed that all the five dimensions of Parasuraman *et al.* (1988) were relevant to all service firms but more particularly to the banking sector, reliability pertained to good reputation of the bank; safety and assurance were relevant for customers' trust and used service banking; communication ensured that customers complained and banks efforted to address them was exchanged between management and customer; and empathy was crucial in facilitating customers access and dealing with the bank (Saravanan, 2015). Another study about dimensions of e-banking service quality found out (Parasuraman *et al.*, 1988) categorized service quality into five dimensions namely: Reliability, tangibles, responsiveness, assurance, empathy whose descriptions (Ejigu, 2016). Accordingly, in the case of the microfinance service, the dimensions of service quality can be relayed as Table 1 follows.

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)

3. Research Methodology

This study utilizes Five Broad Dimensions to ascertain customer satisfaction with microfinance services in MFIs in Vietnam. They are five independent variables including Tangibility, Reliability, Responsiveness, Assurance and Empathy. The dependent variable is the customer satisfaction towards microfinance services provided by MFIs (Table 2).

Tabel-2. Independent and Dependent variables in the research

No.	Code	Item
Tangibility		
1	Tang1	The MFIs have a wide range of the branches systems
2	Tang2	There are many points to reach customers
3	Tang3	The transaction offices provide variety of services
4	Tang4	The technology and equipment used by the MFIs are modern
5	Tang5	The transaction offices are conveniently located
6	Tang6	The MFIs have enough staff to serve customers
Reliability		
7	Reli1	The microfinance services provided by the MFIs are reliable
8	Reli2	The process of microfinance service transaction is done clearly
9	Reli3	The MFIs ensure the security of customers' transaction informations
10	Reli4	The online transaction system provides full information for customers
11	Reli5	The MFIs perform microfinace services accurately for customers
12	Reli6	The MFIs are always ready to solve customer problems
Responsiveness		
13	Resp1	The procedure for microfinance services transaction is convenient
14	Resp2	The MFIs perform microfinance services quickly and promptly for customers
15	Resp3	The MFIs grant a credit line to meet the needs of the customer fully
16	Resp4	The employees are always willing to serve customers
17	Resp5	The MFIs feedback to customers' transactions immediately
18	Resp6	The employees have the ability to perform professional microfinance services
19	Resp7	The online transaction system meets all customers' needs
20	Res8	The MFIs always solve to emergency cases for customers
Assurance		
21	Assu1	The microfinance services provided by the bank are satisfactory for customer
22	Assu2	The MFIs secure the online transactions for customer
23	Assu3	The MFIs secure the offline transactions fof customer
24	Assu4	The employees are always polite in dealing with customers
25	Assu5	The MFIs ensure the appropriate transaction costs for customers
26	Assu6	The MFIs ensure to apply the competitive interest rates for customers
Empathy		
27	Empa1	The online transaction system has an easily accessible for customers
28	Empa2	The customers receive prompt attention from the employees of the MFIs
29	Empa3	The employees are very friendly in transaction with customers
30	Empa4	The employees are always listening to customer needs
31	Empa5	The MFIs are trying to give customer the best they can
Customer Satisfaction		
32	Sati1	Customer satisfaction towards microfinance services provided by MFIs
33	Sati2	The MFIs' customers will continue to use the microfinance services
34	Sati3	The MFIs' customers will recommend microfinance services to friends and relatives
35	Sati4	The MFIs' customers will use a variety and diversity of microfinance services

Explanatory research design will be used to analyze the data which collected from the customers. The study will be carried out in MFIs in the southern of Vietnam. This is a key economic region of the country which is the region with the most credit institutions and the largest number of banking transactions in the country. A sample of 350 customers (120 customers from low-income households, 200 customers from poor and 30 customers from microenterprises) were taken on judgmental basis and 312 useable questionnaires were analyzed. Those 312 responses that collected 108 from low-income households, 178 from poor and 26 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 equals Zero with a Power of 0.80 (Alpha = 0.05). This research studies 35 indicators (Table 2) including customer satisfaction, a sample of 312 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 six items in the tangibles dimension, six items

in the reliability dimension, eight items in responsiveness dimension, six items in assurance dimension and five 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 services provided by MFIs. 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 services provided by MFIs. 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 the stated independent variables are set equal to zero. 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 MFIs' Customers and Item Reliability Test

There are 312 respondents are MFIs' customers who completed the whole survey. The respondents age ranges from 258 to 58 and 59.8% of them are female. Respondents income range is from 650 USD to 1,600 USD per year. Sixty-eight 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. The correlation 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. +1 indicates a perfect positive linear relationship: as one variable increases in its values, the other variable also increases in its values via an exact linear rule. -1 indicates a perfect negative linear relationship: as one variable increases in its values, the other variable decreases in its values via an exact linear rule. Values between 0 and 0.3 (0 and -0.3) indicate a weak positive (negative) linear relationship via a shaky linear rule. Values between 0.3 and 0.7 (-0.3 and -0.7) indicate 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. Cronbach's alpha was used in this study because every item was measuring an underlying construct. 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 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 (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 35 variables, the rest 34 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 (x1) - The first time						
Tang1	312	+	0.6122	0.4396	.1291739	0.6253
Tang2	312	+	0.5146	0.1436	.1549035	0.7741
Tang3	312	+	0.7021	0.5292	.1108892	0.5907
Tang4	312	+	0.6794	0.5099	.1163987	0.6002
Tang5	312	+	0.7100	0.5615	.1133317	0.5871
Tang6	312	+	0.6374	0.4637	.124326	0.6167
Test scale					.1248372	0.6744
Tangibility (x1) - The second time (After removing Tang2)						
Tang1	312	+	0.6647	0.4764	.1704386	0.7550
Tang3	312	+	0.7607	0.5807	.1432208	0.7207
Tang4	312	+	0.7258	0.5419	.1538049	0.7342
Tang5	312	+	0.7587	0.6018	.1485283	0.7141

Tang6	312	+	0.7125	0.5331	.158525	0.7370
Test scale					.1549035	0.7741
Reliability (x2)						
Reli1	312	+	0.6875	0.5334	.1113622	0.7375
Reli2	312	+	0.6583	0.4858	.1138212	0.7489
Reli3	312	+	0.6908	0.5100	.1076645	0.7437
Reli4	312	+	0.7042	0.5481	.1082767	0.7334
Reli5	312	+	0.6806	0.5128	.1107666	0.7422
Reli6	312	+	0.6934	0.5287	.1089919	0.7382
Test scale					.1101472	0.7741
Responsiveness (x3)						
Resp1	312	+	0.7621	0.6671	.5148994	0.8689
Resp2	312	+	0.7430	0.6353	.5144881	0.8731
Resp3	312	+	0.7374	0.6569	.547994	0.8703
Resp4	312	+	0.6616	0.5651	.5692849	0.8784
Resp5	312	+	0.7478	0.6636	.537161	0.8692
Resp6	312	+	0.7645	0.6740	.5186635	0.8680
Resp7	312	+	0.8047	0.7236	.5007489	0.8626
Resp8	312	+	0.7399	0.6602	.5476171	0.8700
Test scale					.5313571	0.8845
Assurance (x4)						
Assu1	312	+	0.7914	0.6641	.2565968	0.7585
Assu2	312	+	0.6192	0.4712	.3212198	0.8010
Assu3	312	+	0.7991	0.6778	.2555167	0.7553
Assu4	312	+	0.6695	0.5041	.2977626	0.7956
Assu5	312	+	0.7347	0.5865	.2759224	0.7773
Assu6	312	+	0.6716	0.5210	.3016716	0.7914
Test scale					.2847817	0.8105
Empathy (x5)						
Empa1	312	+	0.7447	0.5779	.1506771	0.8020
Empa2	312	+	0.7130	0.5505	.1601894	0.8084
Empa3	312	+	0.8072	0.6846	.1419995	0.7709
Empa4	312	+	0.7113	0.5348	.1582107	0.8139
Empa5	312	+	0.8582	0.7577	.1299726	0.7476
Test scale					.1482099	0.8243
Customer Satisfaction (y)						
Sati1	312	+	0.8119	0.6385	.2367363	0.7754
Sati2	312	+	0.7754	0.6061	.2639713	0.7891
Sati3	312	+	0.8164	0.6485	.2352798	0.7702
Sati4	312	+	0.8212	0.6789	.242755	0.7572
Test scale					.2446856	0.8196

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 obs = 312; Rotation: (unrotated); Method: principal-component factors; Retained factors = 6; Number of params = 171.

The results of exploratory factor analysis for independent variables show there are six factors (Retained factors = 6). Beside, the factor that its eigenvalue is smallest and greater than 1 is factor6 (Eigenvalue = 1.02591). Thus, there are six factors that is define in the mode (Table 4).

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

Number of obs = 312; Method: principal-component factors; Rotation: (unrotated); Retained factors = 1; Number of params = 4.

The results of exploratory factor analysis for dependent variables show there is one factor (Retained factors = 1). Beside, the factor that its eigenvalue is smallest and greater than 1 is factor1 (Eigenvalue = 2.60250). Thus, there is 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	5.80714	2.69703	0.1873	0.1873
Factor2	3.11011	0.09396	0.1003	0.2877
Factor3	3.01615	0.70243	0.0973	0.3849
Factor4	2.31371	0.18339	0.0746	0.4596
Factor5	2.13032	1.10442	0.0687	0.5283
Factor6	1.02591	0.02675	0.0331	0.5614
Factor7	0.99916	0.09695	0.0322	0.5936
Factor8	0.90220	0.01118	0.0291	0.6227
Factor9	0.89102	0.00990	0.0287	0.6515
Factor10	0.88112	0.09964	0.0284	0.6799
Factor11	0.78149	0.04521	0.0252	0.7051
Factor12	0.73628	0.04003	0.0238	0.7289
Factor13	0.69624	0.01583	0.0225	0.7513
Factor14	0.68042	0.01626	0.0219	0.7733
Factor15	0.66415	0.04148	0.0214	0.7947
Factor16	0.62267	0.01766	0.0201	0.8148
Factor17	0.60501	0.04275	0.0195	0.8343
Factor18	0.56226	0.04805	0.0181	0.8524
Factor19	0.51421	0.02448	0.0166	0.8690
Factor20	0.48973	0.02838	0.0158	0.8848
Factor21	0.46135	0.03371	0.0149	0.8997
Factor22	0.42764	0.00538	0.0138	0.9135
Factor23	0.42226	0.01192	0.0136	0.9271
Factor24	0.41034	0.03710	0.0132	0.9404
Factor25	0.37324	0.03503	0.0120	0.9524
Factor26	0.33821	0.01430	0.0109	0.9633
Factor27	0.32391	0.04565	0.0104	0.9737
Factor28	0.27826	0.05723	0.0090	0.9827
Factor29	0.22103	0.03663	0.0071	0.9899
Factor30	0.18440	0.05435	0.0059	0.9958
Factor31	0.13005	.	0.0042	1.0000
LR test: independent vs. saturated: chi2(465) = 3748.19 Prob>chi2 = 0.0000				
Exploratory Factor Analysis for dependent variables				
Factor1	2.60250	2.08468	0.6506	0.6506
Factor2	0.51782	0.05371	0.1295	0.7801
Factor3	0.46410	0.04852	0.1160	0.8961
Factor4	0.41558	.	0.1039	1.0000
LR test: independent vs. saturated: chi2(6) = 417.46 Prob>chi2 = 0.0000				

Source: Authors' calculation from Stata 15.0

The next step is to rotate the matrix to determine the factors in the model. After rotate, varimax blanks for independent variables show that six factors and cumulative coefficient reach 0.5767 as can see in Table 5 that is greater than 0.05. Thus, there is 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 0.6506 as can see in Table 5 that is greater than 0.05 and there are 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	4.53309	1.37477	0.1511	0.1511
Factor2	3.15832	0.08324	0.1053	0.2564
Factor3	3.07508	0.35984	0.1025	0.3589
Factor4	2.71524	0.23933	0.0905	0.4494
Factor5	2.47591	1.13347	0.0825	0.5319
Factor6	1.34244	.	0.0447	0.5767
LR test: independent vs. saturated: chi2(435) = 3710.62 Prob>chi2 = 0.0000				
Rotate, varimax blanks for dependent variables				
Factor1	2.60250	.	0.6506	0.6506
LR test: independent vs. saturated: chi2(6) = 417.46 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 (x_1), Factor2 is Assurance (x_2), Factor3 is Empathy (x_3), Factor4 is Tangibility (x_4), Factor5 is Reliability (x_5) and new Factor is called Online Transaction (That is transaction in microfinance services via the Internet, and the MFIs are always ready to solve customer problems). 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 (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Uniqueness
Rotated factor loadings (pattern matrix) and unique variances for independent variables							
Tang1				0.6392			0.4623
Tang3				0.7548			0.4090
Tang4				0.7146			0.4324
Tang5				0.7661			0.4029
Tang6				0.7138			0.4639
Reli1					0.7448		0.4211
Reli2					0.6897		0.4678
Reli3					0.6783		0.4734
Reli4						0.6592	0.3235
Reli5					0.6290		0.5224
Reli6						0.5634	0.3744
Resp1	0.7301						0.4172
Resp2	0.7005						0.4406
Resp3	0.7427						0.3613
Resp4	0.6111						0.4950
Resp5	0.7650						0.3703
Resp6	0.7547						0.4141
Resp7	0.7856						0.3293
Resp8	0.7668						0.3555
Assu1		0.7752					0.3490
Assu2		0.5901					0.5516
Assu3		0.7946					0.3390
Assu4		0.6497					0.5500
Assu5		0.7201					0.4463
Assu6		0.6519					0.5304
Empa1				0.7167			0.4715
Empa2				0.7082			0.4873
Empa3				0.8324			0.2867
Empa4				0.6769			0.5234
Empa5				0.8691			0.2282
Rotated factor loadings (pattern matrix) and unique variances for dependent variables							
Sati1	0.8034						0.3546
Sati2	0.7788						0.3935
Sati3	0.8111						0.3420
Sati4	0.8323						0.3073
(blanks represent abs(loading)<.55)							

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 = 0.789. The result of testing the appropriateness of the model by Kaiser-Meyer-Olkin Measure of Sampling Adequacy find out coefficient KMO reach 0.799 that is greater 0,05. Therefore, the model is 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 is neglected. According to the results of regression analysis, P-values is less than the significance level of 5% (P-value = 0.000), so the regression model is statistically significant at the significance level of 5 %. Variables x_1, x_2, x_3, x_5 and x_6 have positive impacts on the variable y at the significance level of 1%, variable x4 has a positive impact on the variable y, but this variable is not statistically significant as can see in Table 7.

Table-7. Regression analysis

y	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
x1	.5426993	.0385128	14.09	0.000	.4669149	.6184837
x2	.3748545	.0385128	9.73	0.000	.29907	.4506389
x3	.2035467	.0385128	5.29	0.000	.1277623	.2793311
x4	.0452773	.0385128	1.18	0.241	-.0305071	.1210617
x5	.2422369	.0385128	6.29	0.000	.1664525	.3180214
x6	.1020531	.0385128	2.65	0.008	.0262687	.1778375
s_cons	1.8409	.038451	0.00	1.000	-.0756629	.0756629

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 = 0.0023 is smaller than 0.05, therefore, this model has 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 x_1, x_2, x_3, x_5 and x_6 have positive impacts on the variable y at the significance level of 1%, 1%, 1%, 1% and 10%, respectively; variable x_4 has a positive impact on the variable y, but this variable is 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	0.543***
	(14.84)
x2	0.395***
	(9.62)
x3	0.204***
	(5.76)
x4	0.0453
	(0.81)
x5	0.242***
	(5.50)
x6	0.102*
	(2.48)
_cons	1.8409
P-value	0.0000
N	312

Source: Authors' calculation from Stata 15.0

The research find out the regression equation of this study is as follows.

$$y = 1.8049 + 0.534 x_1 + 0.395 x_2 + 0.204 x_3 + 0.242 x_5 + 0.102 x_6$$

5. Discussions

The results of the study model (Table 8) reflect that variables Responsiveness (x_1), Assurance (x_2), Empathy (x_3), Tangibility (x_4), Reliability (x_5) and Online Transaction (x_6) have positive effects on customer satisfaction (y). Beside Online Transaction new factor, this result agrees with the analysis results of the Five Broad Dimension of Service Quality of Parasuraman *et al.* (1990). However, Tangibility variable is not statistically significant in the model. Because, the MFIs in Vietnam have a wide range of the branches systems, there are many points to reach customers, the transaction offices provide variety of services, the transaction offices are conveniently located, and they have enough staff to serve customers. Therefore, the most of the customers focus on paying attention to other factors when using microfinance services.

The variable Responsiveness has a positive impact on customer satisfaction with coefficient 0.543 and variable Responsiveness has positive effects on customer satisfaction with the significance level of 1%, indicating that Responsiveness has a strong impact on customer satisfaction. This is the factor that most strongly affects customer satisfaction towards microfinance services and shows that the greatest care of customers for this factor. Because, the customers use easier microfinance services when the MFIs establish the procedure for transaction is convenient, perform microfinance services quickly and promptly for customers, grants a credit line to meet the needs of the customers fully, feedbacks to customers' transactions immediately and solve to emergency cases for customers and ensure the online transaction system meets all customers' needs. Therefore, reliable and valid measures of microfinance service quality are essential to achieve, and as a result microfinance service quality programs should become high priority of the MFIs in Vietnam.

The variable Assurance has a positive impact on customer satisfaction with coefficient 0.395 and variable Assurance has positive effects on customer satisfaction with the significance level of 1%, indicating that Assurance has a strong impact on customer satisfaction. This is a second factor that strongly affects customer satisfaction towards microfinance services and points out the great interest of customers in this factor. Because, Customers are assured in using the microfinance service when the microfinance services provided by the MFIs are satisfactory for customer, the online and offline transactions have secured for customer. Beside, the MFIs have ensure the appropriate transaction costs and apply the competitive interest rates for customers. Thus, this is the important issue MFIs in Vietnam have to pay attention in order to improve customer satisfaction towards microfinance services. Thereby, customers feel safe and confident to use the microfinance services.

The variable Reliability has a positive impact on customer satisfaction with coefficient 0.204 and variable Reliability has positive effects on customer satisfaction with the significance level of 1%, indicating that Reliability has a strong impact on customer satisfaction. This is a third factor that strongly affects customer satisfaction towards microfinance services and finds out the great interest of customers in this factor. Because, the customers trust and use the microfinance services provided by MFIs when the process of microfinance service transaction is done clearly, the transaction information ensure the security for customers, the online transaction system provides full billing statements for customers. At the same time, the MFIs perform microfinance services

accurately for customers, and they are ready to solve customer problems. Therefore, the MFIs should countinue to improve their responsiveness and make it easier for customers to use microfinance services.

The variable Empathy has a positive impact on customer satisfaction with coefficient 0.242 and variable Empathy has positive effects on customer satisfaction with the significance level of 1%, indicating that Empathy has a strong impact on customer satisfaction. This is a fourth factor that strongly affects customer satisfaction towards microfinance services and expresses the great interest of customers in this factor. Because, the customers receive 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 Online Transaction has a positive impact on customer satisfaction with coefficient 0.102 and variable Online Transaction has positive effects on customer satisfaction with the significance level of 10%. This is a fifth factor that strongly affects customer satisfaction towards microfinance services and expresses the great interest of customers in this factor. Because, online transaction is a modern transactions method in which the transfer of fund or money happens online over electronic fund transfer. Online transaction process is secure and password protected, and the MFIs are always ready to solve customer problems. The customers feel caring and interested in using microfinance services when the online transaction system has an easily accessible for customers. 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.

6. Conclusions

The present study has critically examined the customer satisfaction towards microfinance services provided by MFIs in Vietnam. The customer satisfaction of MFIs has been compared with respect to each of the Five Broad Dimension of Service Quality. The finding of the study indicates that the MFIs customers were satisfied by only four service quality dimensions (Responsiveness, Assurance, Reliability and Empathy) in addition to the new factor of online transaction. From the customer perceptions of microfinance service quality, the factors including Responsiveness, Assurance, Reliability, Empathy and Online transaction appear to contribute more in customer satisfaction, factor Tangibility appears not to contribute to customer satisfaction. The finding of this study also indicates that the customers were most satisfied with the Responsiveness dimensions of service quality, the second is Assurance, the third is Reliability and the final is Empathy.

The findings of the present study have some important managerial implications. In particular, the MFIs are having a significant investment prospects 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 influences choice. At the same time, base on the research results, the article recommends key content to improve customer satisfaction towards microfinance services provided by MFIs in Vietnam as follows.

Firstly, Responsiveness dimension was considered as one of the most important factors influencing customer satisfaction. This is a most important factor that affects customer satisfaction, 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 transaction.

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 providing microfinance services.

Thirdly, the MFIs' management should make investment in research to understand customer needs and expectations at all stages in the microfinance services delivery process sot as to determine the key components of microfinance service quality. At the same time, this management should pay attention to determine which process and outcome quality attributes of microfinance service quality have 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 service 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 providing microfinance services. 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 service quality. In addition, the MFIs should make the best use of condition in products, services, online transaction systems and environment to ensure fast, accurate, timely, and effective.

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