

## ***Assessing the customer's satisfaction with the Service quality of Microfinance Institutions in Iran (Case Study: Shahed Microfinance Institution)***

*Eslam Karimi<sup>1</sup>  
Mojtaba Abbasi Ghadi<sup>2</sup>*

*Recive 2023,04,20*

*Accept 2023,06,08*

### **Abstract**

One of the primary measures considered in the customer relationship management (CRM) of banks and financial institutions is assessing the service environment in various forms of needs assessment and satisfaction assessment. Customer satisfaction refers to the evaluation and judgment of customers regarding the perceived quality of the service provided according to their expectations. Countries have designed and implemented various indicators to measure customer satisfaction, known as the national index. Each of these customer satisfaction indicators has strengths and weaknesses. In this research, we used Iran's national customer satisfaction index as a composite index of existing indices. We evaluated it in Shahed Shahed Financial Institution. On the one hand seek to confirm and apply the combined customer satisfaction index in organizations and financial institutions. On the other hand, For the first time, this combined index is used to measure the satisfaction of customers of Shahed Microfinance institution. This research study is helpful for managers of microfinance institutions by providing practical recommendations.

**Keywords:** Satisfaction, Service quality, Microfinance Institution, Shahed, Customers.

---

<sup>1</sup> Ph.D. Graduated in human resource management, Managing director at the Shahed microfinance institution, and Human resource management lecturer at Islamic Azad university central Tehran branch.  
Tehran City, Iran.

Email: [eslamkarimi130@gmail.com](mailto:eslamkarimi130@gmail.com)

Tel: +989122803110.

<sup>2</sup> Ph.D. Graduated in sociology, Manager of Plan and Development at the Shahed Microfinance Institution, and Sociology lecturer at soore University. Tehran City, Iran.

Email: [mojtabaabbasighadi@gmail.com](mailto:mojtabaabbasighadi@gmail.com).

Tel: +989126390918.

### **Conflict of Interest:**

The corresponding author states that there is no conflict of interest.



## **Introduction**

Microfinance institutions (MFIs) use all their financial capacities to help needy people. Microfinance, including financial innovations in providing facilities to underprivileged villagers, originated in Asia and then spread worldwide. Today, in addition to providing facilities to customers, microfinance institutions have turned to services such as payment, insurance, and long-term housing facilities (Hartarska et al., ۲۰۱۰). Microfinancing is one of the effective ways of financial services to support people in different countries (Bassem, ۲۰۰۸, p. ۳۴۳). Thus, MFIs provide micro-credits, and small loans, to low-income individuals (Cordeiro, ۲۰۱۹, p. ۲۰).

In Iran, the micro-financial system has yet to be dealt with independently, and mainly banks and some financial and credit institutions have provided services to micro and large depositors. The vacuum of the creation and expansion of various credit institutions in the country led to the formation of institutions with various monetary and credit activities using the name of Microfinance institutions since ۱۹۶۹ as non-commercial institutions to help the needy.

In Iran, Microfinance institutions have various forms: family and friends, Microfinance institutions, mosques, Microfinance institutions, and Microfinance institutions of credit unions and cooperatives. Some of these institutions have no legal registration and no legal personality; For example, family and friendly Microfinance institutions, some of which have legal personality and are under the supervision of the laws of the Islamic

Economic Organization, such as Microfinance institutions of Ghadir, Sadra, Ansar al-Hussein, Farhangian, Sakhvat, Sahib al-Zaman, Ansar al-Mahdi. Finally, some Microfinance institutions have legal personality and are under the supervision of the Central Bank, such as the Microfinance institutions of Javid, Shahed, and Resalat.

Microfinance institutions (single-branch and multi-branch) under the supervision of the Central Bank have a statute and executive instructions for the establishment, operation, and supervision of Microfinance institutions. These institutions are controlled and supervised by the independent auditor and the central bank. They have a license or activity license with a two-year validity. After the expiration of its validity period, it will be renewed by the Central Bank for another two years if all the standards set by the Central Bank are observed". In addition, these types of institutions, according to the executive instructions for the establishment, operation, and supervision of loan institutions issued by the Central Bank, are allowed to receive ۴% of the operating fee for current and development costs from the place of granting facilities to their loan applicants. Therefore, Microfinance institutions are such famous institutions. Due to the benevolent intentions of the founders and the nature of the Microfinance contract, this institution has been considered a charity organization.

With this brief explanation of Microfinance institutions and their various forms and a brief statement of the quality of work of Microfinance

institutions under the supervision of the Central Bank, it should be noted that the institutions can achieve their goals successfully when they are continuously aware of the service process and the attitude and level of satisfaction of their members to plan and make the right decision. Because today, all organizations have realized that customer satisfaction is the guarantee of their survival. Many researchers of customer satisfaction believe that customer satisfaction is one of the essential factors in repeat purchases by retrieving services. In this way, the customer's satisfaction with a product or service affects the change in the customer's attitude and intention toward that product or service. Therefore, a customer's satisfactory experience of a product or service leads to repeating the behaviour of buying or receiving a service (Lin et al., ۲۰۱۱, p. ۲۷۷). Recent marketing studies have emphasized improving perceived quality, perceived value, and customer satisfaction results to improve business performance and competitive advantage (Wang et al., ۲۰۰۴; De Leon et al., ۲۰۲۰). Therefore, with feedback obtained by measuring customer satisfaction, Microfinance institutions can be aware of the weaknesses and strengths in the service process and improve their customers to improve and repair their faults. The practical purpose of the present study.

In addition, to measure customer satisfaction (CSM), various indicators have been designed and implemented by countries known in scientific forums like the National Customer Satisfaction Index. Each of these indicators in measuring customer satisfaction has its strengths and weaknesses; This means that one aspect of the phenomenon of

customer satisfaction has been considered, and other elements have been ignored. Therefore, this research aims to measure and evaluate customers' satisfaction with the quality of service at Shahed Microfinance Institution in Iran.

## *Literature Review*

### *The Customer Satisfaction*

By reviewing the literature on customer satisfaction, we find that researchers have provided many different opinions on the definition of customer satisfaction. In this way, Lingenfield considers customer satisfaction as a psychological feeling, which is the result of comparing the specifications of the received product with the needs or wants of customers and social expectations about the product (Kang & James, ۲۰۰۴, p. ۲۶۹). Based on the definition above, satisfaction is formed through a cognitive comparison of the perceived performance of a product or service and the customer's expectations before purchase (Fuller & Matzler, ۲۰۰۸). Rapp defines customer satisfaction as an individual perspective of the customer that results from making constant comparisons between the organization's actual performance and the customer's expected performance (Kang & James, ۲۰۰۴, p. ۲۶۹). Thus, Rapp formulates customer satisfaction as follows:

The actual performance of the organization - customer expected performance = customer satisfaction.

Richard Oliver (۱۹۸۰, ۱۹۹۹) believes that his Dissatisfaction causes customer satisfaction with the difference between customer expectations and the quality he has received:

Customer's perception of quality-  
Customer expectations = customer  
satisfaction

Usually, customers of services and products use previous knowledge to evaluate the quality of the service or product. Therefore, the more customers understand the quality of products or services, the higher their expectations will be from that product or service.

Gordon and McDougall (۲۰۰۰) believed that

Customer satisfaction is based on the customer's judgment based on the customer's previous perceptions of the quality of the selected product or service (Amrit et al., ۲۰۱۹). Therefore, according to the above definitions, three conditions are necessary to realize satisfaction: The first condition is the existence of expectations that must be formed. The second condition is the formation of evaluations, and the third is that expectations and evaluations allow direct comparison.

### ***Conceptual Framework***

Management experts have considered customer satisfaction as one of the most important tasks and priorities of management of production and service organizations. They have felt the need for constant and stable commitment of senior managers to attract customer satisfaction as the central precondition. To this end, manufacturing and service organizations should organize their activities to do whatever is most important to customers in the best possible ways. Therefore, for an organization to be able to measure customer satisfaction, it must have a

model which has a solid and organized theoretical foundation so that it can use it to evaluate and measure the satisfaction of its customers. Based on this, various satisfaction indicators (CSI) such as the American Customer Satisfaction Index (ASCI), European Customer Satisfaction Index (ESCI), Swedish Customer Satisfaction Index (SWSCI), and Malaysian Customer Satisfaction Index (MSCI). were developed (Fornel et al., ۱۹۹۶; Johnson et al., ۲۰۰۱, Terblanche., ۲۰۰۶ & Krishnamurthy et al., ۲۰۱۰). National customer satisfaction indices are used in different countries, both in the production sector and service organizations, to evaluate and measure the quality of the product or service.

The first national customer satisfaction the index was developed and used by Professor Claes Fornell in ۱۹۸۹ in Sweden. After that, in ۱۹۹۸, the European Union began to create a customer satisfaction index, the initial studies of which were conducted in ۱۹۹۹ in industrial sectors. Finally, the results of this index were published in ۲۰۰۰. After that, other European countries such as Austria, Denmark, the Netherlands, France, and Switzerland started creating a national customer satisfaction index (Grigoroudis & Siskos, ۲۰۰۴). In addition, other countries worldwide, such as the United States, Malaysia, and Iran, have developed a national customer satisfaction index.

In this research, the Iran Customer Satisfaction Index in the banking industry, a combination of existing indicators, has been used to assess members' satisfaction with the quality

of services of Shahed Microfinance Institution. This index has been designed and validated by Rehman Seresht and Hossein Khademi (۲۰۰۷) in the Monetary and Banking Research Institute of the Central Bank. This indicator of customer satisfaction examines customer satisfaction with its consequences. This model's drivers of customer satisfaction are customer expectations, perceived quality, value,

and mental image. In addition, the customer satisfaction index in Iran has consequences such as customer loyalty and customer dissatisfaction (Rahman Seresht & Khademi, ۲۰۰۷). Table ۱ compares Iran's national customer satisfaction index with the national indicators of other countries.

**Table ۱**

*Table 1, Comparison of Iran's national customer satisfaction index with national indicators of other countries*

index name	Customer's expectations	Customer's loyalty	Customers' complaint	Customers' expectations for service quality	Customers' expectations for product quality	Perceived value	Supplier organization image	Relation with customer
National customer satisfaction								
ACSI	*	*	*	*	*	*		
ESSI	*	*		*	*	*	*	
MAUI	*	*		*	*	*		
SCSI	*	*		*	*			*
ICSI	*	*	*	*	*	*	*	

In the following sections, the components of ICSI are explained:

### ***Perceived quality:***

Perceived product quality is customers' judgment of a product's or service's overall benefits (Lin et al., 2011, p. 277). Service quality has been designed and identified by service companies to influence competitive advantage in the market. On the other hand, from the point of view of customers, the service or product quality component is an integral part of the promised service or product (Hu et al., 2009, p. 112). Quality assessments are performed at different levels to understand a product's or service's overall quality. These product or service quality evaluations start at the visible level and expand to a more abstract level (Edward & Sahadev, 2011, p. 330). Generally, Evidence indicates that perceived quality is the most important factor affecting customer satisfaction and loyalty (Brady et al., 2002; Chu et al., 2012; Oliver, 1999 & Angelova & Zekiri, 2011).

In this study, the perceived quality of Shahed Microfinance institution service refers to the service the institution provides in both hardware and software (interactive elements). Also, this study directly presents the relationship between perceived quality and perceived value. (Figure 1).

### ***Perceived expectations:***

Perceived expectations refer to customer expectations regarding product and service quality. Fulfilment of customers' perceived expectations regarding the quality of a product or service creates

more satisfaction in them towards that product and service (Frank & Enkawa, 2009: 23). According to Oliver (1980): "... the customers' perceived expectations of the probability of occurrence of events consists of positive and negative ones. Cadotte, Woodruff & Jenkins (1982) proposed that satisfaction refers to comparisons between expectations (the level of trust) and what has been experienced concerning performance (the level of compatibility) (quoted by Truong & Foster, 2006). If customers perceive the product or service quality remains constant, and their perceived expectations increase, they will likely be disappointed in purchasing or receiving the service. As a result, less satisfaction will be created in the customer. Therefore, predicting and considering the increase in the quality of goods and services compared to customer expectations can cause less disappointment and, as a result, more customer satisfaction (Frank & Enkawa, 2009, p. 23).

In this study, the perceived expectations are referred to as the ratio of Shahed Microfinance institution (benevolent lending) facilities and services to customers' fulfilled expectations (Safety level) concerning facilities in practice (compatibility level). Also, this study directly presents the relationship between perceived expectations and perceived value. (Figure 1).

### ***Perceived value:***

Perceived value and customer satisfaction towards a product or service can be understood in a framework where the perceived quality of that product or service is a determining factor for

both (Scridon et al., 2019). Chen and Chen (2010) believe that perceived value is a customer's overall evaluation of tangible and intangible costs and benefits. Increasing the perceived value of customers towards a product or service leads to an increase in their satisfaction. On the contrary, the decrease in customers' perceived value towards a product or service leads to a decline in satisfaction (Scridon et al., 2019). Studies (For example, Baker & Crompton, 2000; Yoon & Uysal, 2000) show that perceived value is one of the most significant factors in customers' satisfaction and loyalty.

In this study, the perceived value of Shahed Microfinance institution (benevolent lending) facilities and services is based on Wang et al. (2004) assessment by customers concerning the desirability of assisting in Shahed Microfinance Institution (benevolent lending) based on what is perceived in terms of opportunity cost and emotional, practical and societal benefits.

Moven and Minor (2002) believe that using products or services creates cognitive and emotional experiences towards consumption in customers. Therefore, using a product or service is a necessary and effective stimulus for the emotional behaviour of customers towards personal events (Kusumawati & Sri Rahayu, 2020, p. 220).

In this research, the Relation between perceived value and Mental image is direct. Therefore, increasing customers' perceived value will increase their Mental image of the Shahed Microfinance institution (Figure 1).

### ***Mental image:***

A mental image is a general idea about the company providing a product or service created in the consumer's mind (Askariadzad & Babakhani, 2010). In other words, the mental image is a customer's perception of an organization that is recorded in her memory (Keller, 1993). The mental images of customers towards the organization that provides the product or service, for reasons such as persuasion, attitude change, the direction of customer behaviour and interpretations, have been seriously considered in marketing research (Gavilan & Avello, 2020).

In this research, the mental image refers to the set of knowledge (beliefs and imaginations) and actions (feelings) that members have in mind regarding the financial services of the Shahed Microfinance institution. Also, this study directly presents the relationship between mental image and overall satisfaction. (Figure 1).

### ***Overall satisfaction:***

Considering that the overall satisfaction is based on all the customers' past experiences with the organizations that provide the product or service, the overall satisfaction can be considered a function of all the previously obtained satisfactions, which are updated after each transaction, just like the perceived expectations of customers regarding the perceived quality of the service or product, which is updated after each transaction (Jones & Suh, 2000). Hansemark & Albinsson (2004) believe that satisfaction comes from the general attitude of customers about the service provider or their emotional reaction to



the difference between what they expect and what they receive (quoted by Angelova & Zekiri, 2011: 238). Therefore, the scope should exceed customers' expectations regarding products and services.

In this study, the overall satisfaction regarding loan Shahed Microfinance institution service refers to positive assessment and delight those members have regarding facilities and fulfilling their expectations. Overall, customer satisfaction has a positive and direct relationship with customer loyalty. In addition, customer satisfaction has an inverse and antagonistic relationship with customer dissatisfaction (Figure 1).

#### **Loyalty:**

Oliver (1999) believes loyalty is a powerful dedication to buying a creation or receiving a particular type of service again in the future so that the same brand, product, or service is purchased. Quach et al. (2016) and Meleddu et al. (2015) claimed that with an increase in customer satisfaction, their loyalty increases too. Siddiqi (2011),

In their study, they looked at the relationship between service or product quality attributes, customer satisfaction and customer loyalty in the banking industry of Bangladesh. They emphasized that loyal customers to the organization providing the service or product reduce the potential costs of attracting new customers. Because the cost of advertising to attract new customers can be up to five times higher than the costs that the organization pays to retain existing customers (Segoro, 2013, p. 307).

In this study, loyalty toward loan Shahed Microfinance institution service refers to the maintenance of deep commitment to Shahed Microfinance institution service in behavioural (others' recommendation to receive service) and attitudinal (the tendency to return and receive service again). Therefore, this study presents the relationship between satisfaction and loyalty directly. Therefore, increasing the level of satisfaction perceived by Customers will increase their loyalty to the Shahed Microfinance institution (Figure 1).

#### **Dissatisfaction: complaining or not complaining:**

Customer satisfaction refers to the judgment and evaluation of customers regarding the quality of services or products provided to see if those products or services meet our expectations. For this reason, Dissatisfaction is also raised when the quality of services or products is far from our expectations (Amri, 2019, p. 87). Generally, Dissatisfaction can be viewed as a negative assessment and unpleasant feeling formed in customers due to a lack of expectation fulfilment or lack of desirable expectation fulfilment. From Oliver's (1980) perspective, Disapproval of a product or service provided harms customer satisfaction. For example, customers of a product or service can complain to the supplier about their poor performance. When it is time to repurchase the product or service, they can refer to another supplier organization (Ferguson & Johnston, 2011).

In this study, members' Dissatisfaction and complaining or not complaining assessment and unpleasant feelings toward receiving service and not fulfilling their expectations (with or without oral feedback). Therefore, in this study, the relationship between satisfaction and Dissatisfaction is presented inversely and negatively. Therefore, the decrease in the level of satisfaction perceived by customers leads to their Dissatisfaction with the

about Shahed Microfinance institution service refer to members' negative

Shahed Microfinance institution (Figure 1).

According to the complex index introduced for Iranian customer satisfaction, a conceptual model of members' satisfaction with the service quality of the Shahed Microfinance institution is illustrated in figure 1.

Figure 1

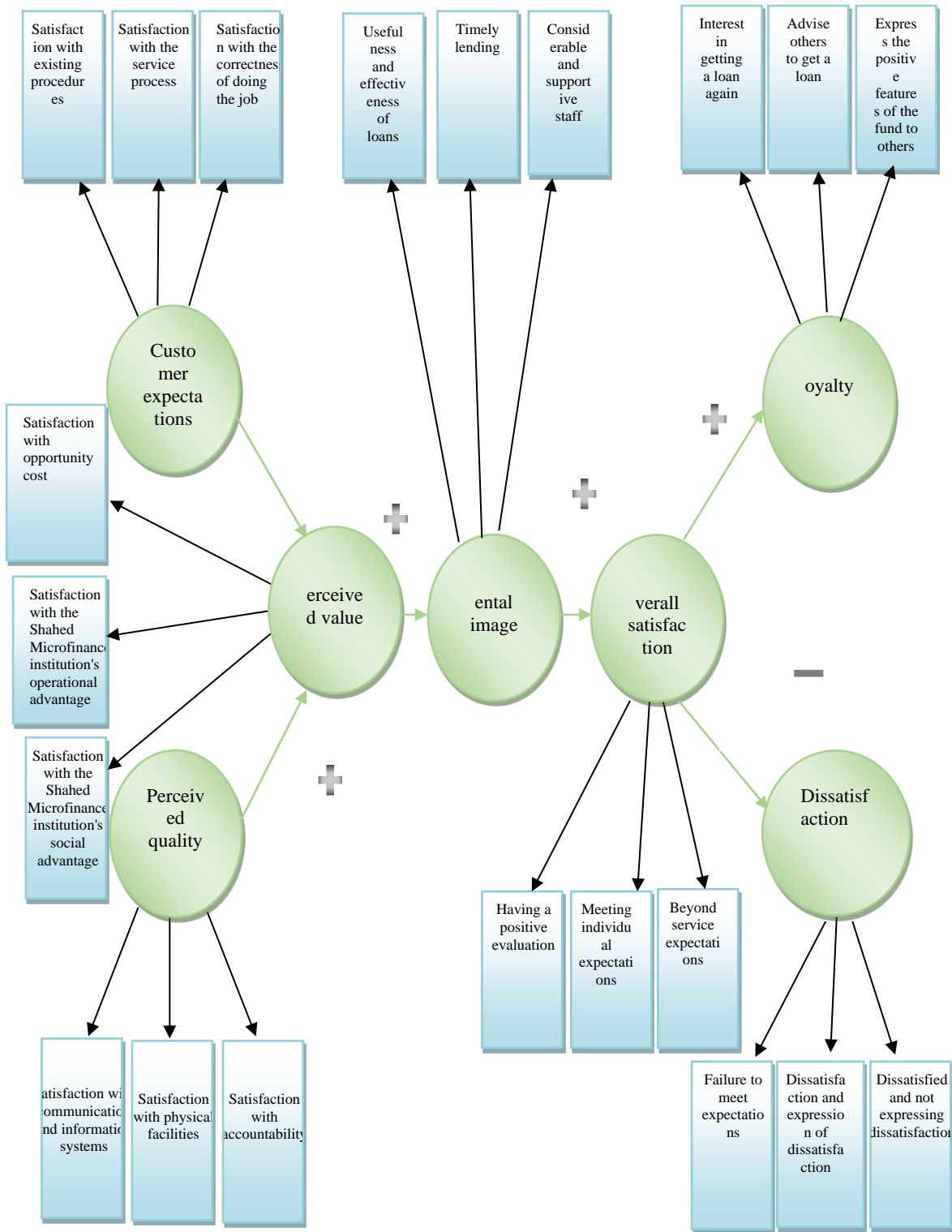


Figure 1: Conceptual model of members' satisfaction with the services quality of the Shahed Microfinance institution

### **Research hypotheses:**

General research hypothesis ۱: The Customers' satisfaction with the quality of Shahed Microfinance institution quality is at a desirable level.

General research hypothesis ۲: The complex index of customer satisfaction in the Shahed Microfinance institution has the goodness of fit.

Minor research hypothesis ۱: There is a significant direct difference between the perceived quality and value by the members of the Shahed Microfinance institution.

Minor research hypothesis ۲: There is a significant direct difference between the perceived expectations and value among the members of the Shahed Microfinance institution.

Minor research hypothesis ۳: There is a significant direct relationship between the value and mental image of the members of the Shahed Microfinance institution.

Minor research hypothesis ۴: There is a significant direct relationship between the mental image and the Overall satisfaction of the members of the Shahed Microfinance institution.

Minor research hypothesis ۵: There is a significant direct relationship between Overall satisfaction and loyalty among the members of the Shahed Microfinance institution.

Minor research hypothesis ۶: There is a significant inverse relationship between Overall satisfaction and Dissatisfaction among the members of the Shahed Microfinance institution.

### **Research Method:**

The current study is descriptive and correlational and, in terms of type and purpose, is an applied project. Also, in terms of research strategy, It has been quantitative and of the survey type. In this vein, research data in ۲۰۲۱ were created by a ۲۱-item questionnaire taken from the complex index of Iranian customers' satisfaction which is in the form of a ۵ Likert scale range, from strongly disagree to strongly agree, via telephone with ۶۵۹ members of the Shahed Microfinance institution from ۳۲ districts using Cochran's and Sharp's sampling formula (with significant level ۰,۰۵, the level of acceptance ۹۵%, and p and q equal to ۰,۵). The participants were chosen using the stratified random sampling method during a two-month course. Furthermore, seven questions were adjusted and inserted into the questionnaire to assess participants' demographic features.

The following have been the variables and characteristics of this customer satisfaction survey:

۱. The perceived quality variable (with features: satisfaction with communication and information systems, satisfaction with physical facilities, and satisfaction with responses)

۲. The perceived expectations variable (with features: satisfaction with the current procedures, satisfaction with service procedure, and satisfaction with accuracy and appropriateness)

۳. The perceived value variable (with features: satisfaction with opportunity cost, satisfaction with the loan Shahed Microfinance institution procedural advantage, and satisfaction

with the loan Shahed Microfinance institution social advantage)

ξ. The mental image variable (with features: the efficiency of the received loan, the punctuality of the accepted loan, the consideration and supportiveness of the staff)

ο. The overall satisfaction variable (with features: having a positive assessment, meeting personal expectations, and surpassing service expectations)

ϙ. Loyalty variable (with components: interest in requesting the loan again, recommending the loan to others, and informing others about the positive points of the Shahed Microfinance institution)

Ϙ. Dissatisfaction variable (with features: not meeting the expectations, dissatisfied and expressing it, dissatisfied and not describing it)

Having collected, coded, and extracted, the researchers analyzed and tested the data using SPSS<sup>ϙ</sup> and Smart-PLS<sup>ϙ</sup> for descriptive and inferential analysis.

### Research Findings

Findings, including descriptive and inferential analyses, are presented as follows:

#### 1. Descriptive findings

Table No. 2 shows members' satisfaction level with the quality of services provided by the Shahed Financial Institution.

Table 2

Table 2, Distribution of central statistics and variable dispersion of members' satisfaction with the service quality of the Shahed Microfinance Institution and its components

variable and its components	number of items	mean	cutoff	SD	Min	max
Satisfaction variable	21	76,006	63	10,839	27,00	104,00
Perceived quality component	3	9,140	9	1,092	27,00	10,00
The component of perceived expectations	3	11,704	9	1,720	27,00	10,00
Perceived value component	3	11,104	9	1,809	27,00	10,00
The mental image component	3	11,409	9	2,032	27,00	10,00
Overall satisfaction component	3	10,600	9	2,363	27,00	10,00
Loyalty component	3	8,189	9	2,197	27,00	10,00
Dissatisfaction component	3	4,303	9	1,947	27,00	13,00
Total sample (number of valid observations)	609					

As the findings in Table 3 also show, the variable of the level of satisfaction of the members towards the service quality of Shahed Microfinance institution with an average of 36,006 (with a cutoff score of 33) is above the cutoff score (test average), and it is at a reasonable level.

**3. The inferential findings of the research**

In this part, research hypotheses are tested. Therefore, first, the normality or non-normality of the variables needs to be reported. The results of the KS test showed that the data were not normally

distributed, and the researcher used non-parametric tests. ( $P < 0,001$ ). In the following sections, results for the two general hypotheses are presented.

**General research hypothesis 1: The Customers' satisfaction with the quality of Shahed Microfinance institution quality is at a desirable level.**

The results of Chi<sup>2</sup> are presented in Table 3.

**Table 3**

*Table 3, Chi<sup>2</sup> test for testing general research hypothesis 1*

Members' satisfaction with the service quality of the Shahed Microfinance institution	Observed Frequencies (O)	Expected Frequencies (E)	O-E
Low	0	164,8	-164,8
Somehow	07	164,8	-157,8
High	494	164,8	329,2
Very High	103	164,8	-61,8
N	609		

*Chi-Square: 906.517    df : 3    Sig: 0,000    Valid observations : 609*

The findings of Table 3 show a significant difference between the members' level of satisfaction regarding the quality of service provided by Shahed Microfinance institution in terms of the current situation and the desired situation ( $P < 0,05$ ). In addition, the comparison of the difference (residual) values of the observed frequency and the expected frequency for each class indicates that the observed frequency of satisfaction of the members in the high class is higher than the expected frequency, and also the observed frequency in other classes. Therefore, the members' satisfaction level is at a desirable level. Thus, the research hypothesis is confirmed.

***General research hypothesis 2: The complex index of customer satisfaction in the Shahed Microfinance institution has the goodness of fit.***

In this part, to test the second hypothesis and the first to sixth minor hypotheses of the research, multivariate analysis and structural equation modelling using Smart-PLS software have been used due to the non-normality of the data distribution. The results of running the model in terms of non-standard coefficients and standard coefficients are shown in graphs 2 and 3, respectively:

Figure 2

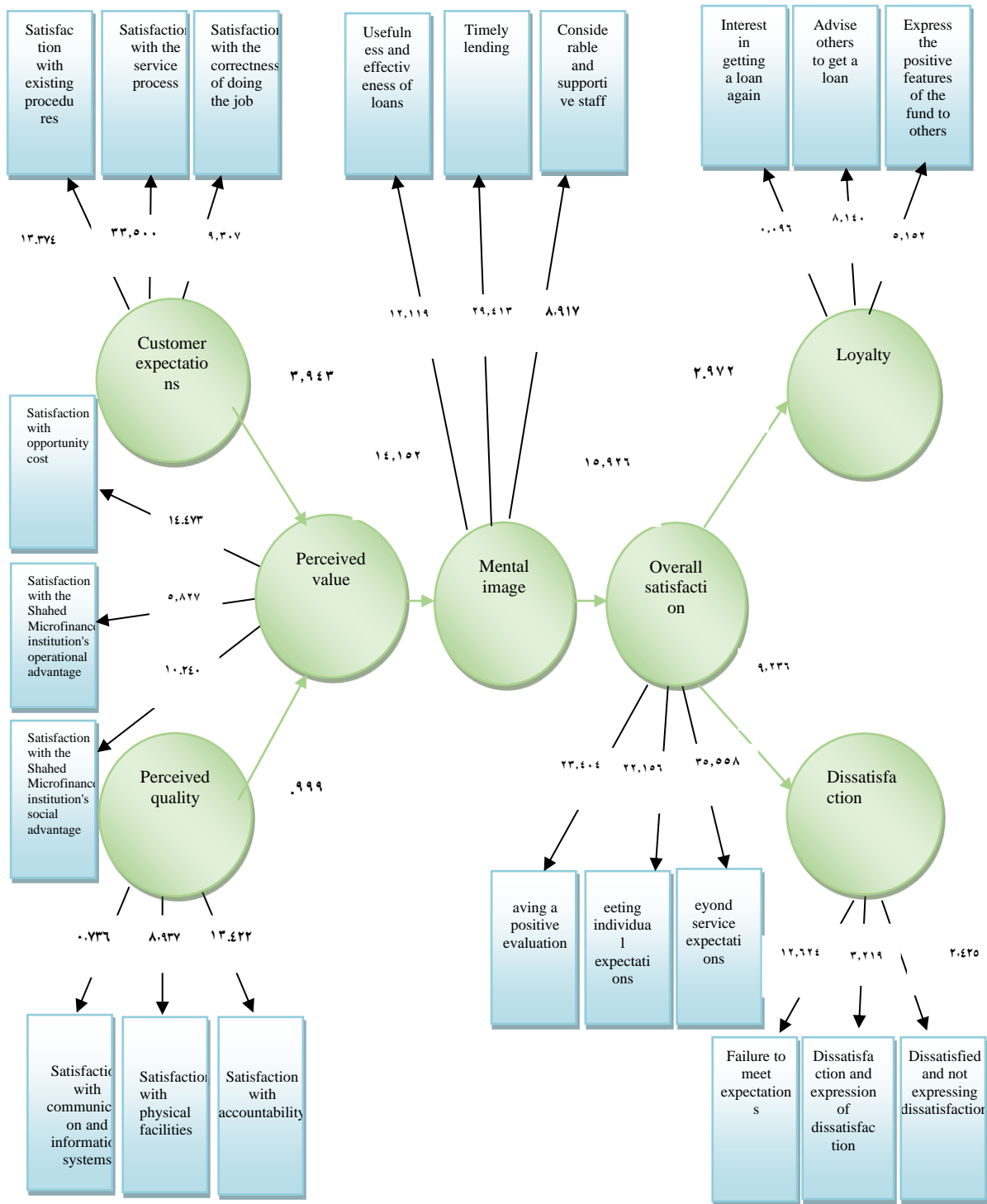


Figure 2. The structural empirical model (path) and the modified measurement of the composite index of Iran's customer satisfaction in the Shahed Microfinance institution based on non-standard coefficients



Figure 3

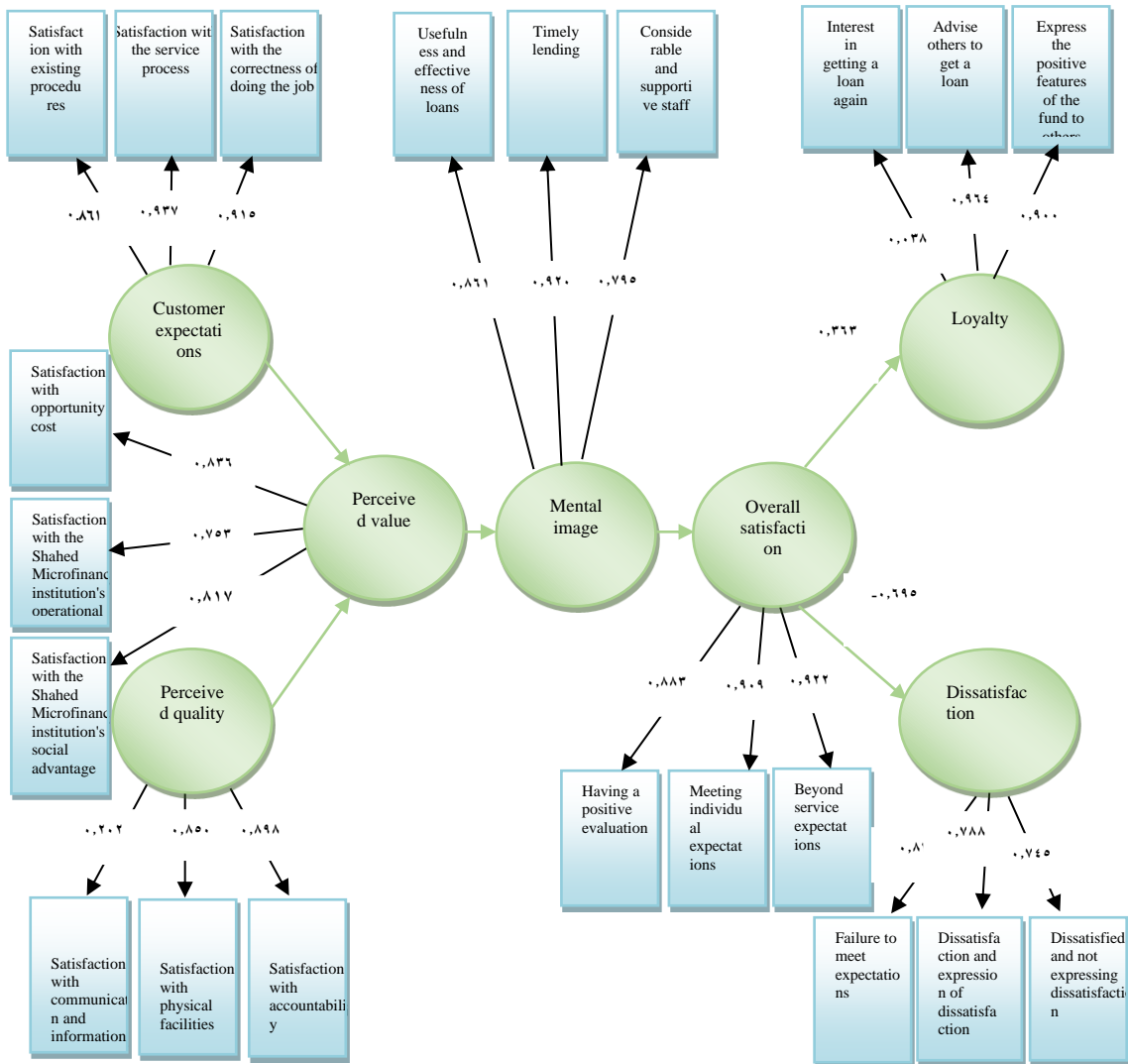


Figure 3. The structural empirical model (path) and the modified measurement of the composite index of Iran's customer satisfaction in the Shahed Microfinance institution based on standard coefficients

Three models are tested in evaluating models using Smart-PLS<sup>v</sup> software: external, internal, and general experimental. The external model is equivalent to the measurement model in structural equations and shows the relationships between the hidden and apparent variables (in this research, indicators). The internal model is equivalent to the structural model (path analysis) in structural equations and examines the relationships between latent or hidden variables. In addition, the overall model involves the general assessment of the model. In the following, the evaluation and testing of the model (path) and the measurement of the composite index of Iranian customers' satisfaction in the Shahed Microfinance institution are discussed:

composite index of customer satisfaction in Iran's Shahed Microfinance institution are shown in tables ۴ and ۵, respectively:

### ***۱. Evaluation of the external model (measurement model):***

In the structural equation modelling, through Smart-PLS<sup>v</sup> software, to examine the appropriacy of the measurement models, the criteria of validity check (convergent validity and divergent validity) and reliability check (internal consistency) are used.

#### ***A. Convergent validity check:***

The external factor loadings (cross-sectional) of measures or indices and average variance extracted (AVE) are used to examine the convergent validity. Therefore, if the factor loadings are higher than ۰,۴ and the AVE value for each construct is higher than ۰,۵, the convergent validity of that construct is confirmed. The results of convergent validity (transverse factor loadings and AVE) of the measurement model of the

**Table 4**

**Table 4, The results of cross-sectional factor loadings of customer satisfaction indicators of the components of the Shahed Microfinance Institution**

Hidden variable (components) Observable variables (indicators)	Perceived quality	Perceived expectations	Perceived value	Mental image	Overall satisfaction	Loyalty	Dissatisfaction
Satisfaction with communication and information systems	0,202						
Satisfaction with physical facilities	0,800						
Satisfaction with accountability	0,898						
Satisfaction with existing procedures		0,861					
Satisfaction with the service process		0,937					
Satisfaction with the correctness of doing the job		0,910					
Satisfaction with opportunity cost			0,836				
Satisfaction with the Shahed Microfinance institution's operational advantage			0,703				
Satisfaction with the Shahed Microfinance institution's social advantage			0,817				
Usefulness and effectiveness of loans				0,861			
Timely lending				0,920			
Considerable and supportive staff				0,790			
Having a positive evaluation					0,883		
Meeting individual expectations					0,909		
Beyond service expectations					0,922		
Interest in getting a loan again						0,038	
Advise others to get a loan						0,964	
Express the positive features of the fund to others						0,900	
Failure to meet expectations							0,830
Dissatisfaction and expression of dissatisfaction							0,788
Dissatisfied and not expressing dissatisfaction							0,740

As it is shown in the results of Table 4 and also Figure 3, The values of transverse factor loadings of the indicators of the components of the composite index of customer satisfaction in Iran's Shahed Microfinance institution correlation between the observable variables

(indexes) and the latent variables ( The components) (however, to measure the perceived quality and fidelity, the indexes 1 and 16, respectively, have not indicated an acceptable correlation with the measured structures).

**Table 5**

*Table 5, AVE index for the components of customer satisfaction in Iran based*

<b>Research Constructs (Components of Customer Satisfaction)</b>	<b>The average variance extracted(AVE)</b>
Mental image	0,579
Overall satisfaction	0,818
Dissatisfaction	0,744
Loyalty	0,523
Perceived expectations	0,818
Perceived quality	0,740
Perceived value	0,724

As it is shown in Table 5, the coefficient of average variance extracted (AVE ) all research constructs is higher than the acceptable value (0,5). Therefore the

convergent validity of the constructs is confirmed.

***B- Examining divergent (diagnostic) validity:***

For the divergent validity, Fornell and Larcker's index is used. Divergent validity is acceptable when the AVE for each construct is greater than the shared variance between that construct and other constructs in the model. A structure in the model interacts more with its indicators than with different

structures. In the partial least squared method and structural equation modelling, this is done by a matrix whose elements contain the values of the correlation coefficients between the constructs and the primary diameter of the root matrix of the AVE values of each construct.

**Table ٦**

***Table 6, Divergent (diagnostic) validity of the components of the combined index of customer satisfaction in Iran based on the Fornell and Larcker index***

<b>Research Constructs (Components of Customer Satisfaction)</b>	<b>Mental image</b>	<b>Overall satisfaction</b>	<b>Dissatisfaction</b>	<b>Loyalty</b>	<b>Perceived expectations</b>	<b>Perceived quality</b>	<b>Perceived value</b>
Mental image	٠,٧٦٠						
Overall satisfaction	٠,٧٤٦	٠,٩٠٤					
Dissatisfaction	٠,٥٧٤	٠,٦٩٤	٠,٨٠٢				
Loyalty	٠,٣٣٩	٠,٣٦٢	٠,٢٠٩	٠,٧٢٣			
Perceived expectations	٠,٧٤٠	٠,٧٩٧	٠,٥٠٩	٠,٢٩٢	٠,٩٠٤		
Perceived quality	٠,٦٦٤	٠,٦٩٨	٠,٤٦٦	٠,٢٥٨	٠,٧٧٦	٠,٨٦٠	
Perceived value	٠,٧٢٣	٠,٨١٥	٠,٥٢٧	٠,٣٣٦	٠,٧٩٣	٠,٦٨٧	٠,٧٨٩

As Table ٦ represents, the root value of AVE of the desired structure, which is located in the houses in the principal diameter of the matrix, is higher than the correlation value of the structure with other structures located in the lower and left elements of the principal diameter.

Therefore, the latent variables (the seven components of Iran's composite customer satisfaction index) interact more with their indicators than other constructs. Thus, the divergent validity of the model is at an acceptable level.

### *C - Reliability check (internal consistency):*

Cronbach's alpha is a classic index for reliability analysis and represents a strong tradition in structural equations that provides an estimate for reliability based on the internal correlation of items. The suitable and acceptable value for it is more significant than 0,7. However, compound reliability is also used due to the sensitivity and underestimation of Cronbach's alpha

coefficient for the number of items. The superiority of composite reliability over Cronbach's alpha is because the reliability of structures is not calculated in absolute terms but is calculated according to the correlation of their structures with each other. The acceptable value of composite reliability is more significant than 0,7.

**Table 7**

*Table 7. Cronbach's alpha coefficient and composite reliability coefficient of customer satisfaction components*

<b>Research Constructs (Components of Customer Satisfaction)</b>	<b>Cronbach's alpha</b>	<b>Composite reliability</b>
Mental image	0,822	0,894
Overall satisfaction	0,889	0,931
Dissatisfaction	0,730	0,832
Loyalty	0,402	0,720
Perceived expectations	0,888	0,931
Perceived quality	0,438	0,726
Perceived value	0,724	0,844

Table 7 indicates that Cronbach's alpha coefficients for the research constructs, except for loyalty and perceived quality, are higher than the acceptable value of 0,7. On the other hand, the composite

reliability coefficients of all the research structures are higher than the excellent value of 0,7; therefore, the reliability of the structures is confirmed.

**γ- Evaluation of the internal model (structural model or path)**

**A- Structural model path coefficients (significant coefficients):**

In this section, all the paths shown in the internal model (relationships between structures based on research hypotheses) are evaluated in terms of the significance of the T-test. Thus, if the confidence level of the test is above 1,96 and 2,08, it will be approved at the confidence level of 90 and 99, respectively. Therefore, as shown in Figure 2, all hypotheses of the model (except the effect of perceived quality on perceived value) are accepted, and their T value was significant at the 99% confidence level.

**B- Checking the coefficient of determination:**

The value of the determination coefficient that shows the sum of the explained variance of the dependent variable (in this research, the overall satisfaction component) from the independent variables (in this research, the components of perceived quality, perceived expectations, perceived value, and mental image) in the structural model. It was equal to 0,716, which is a significant and proper level.

**C- Examining the research hypotheses:**

Table 8 shows the results of the research hypotheses:

**Table 8**

*Table 8, The results of testing the minor research hypotheses*

Research hypotheses				Results
	Non-Standard Coefficients		Standard Coefficients	
	T value	Significance Level		
Minor research hypothesis 1: There is a significant direct difference between the perceived quality and value among the members of the Shahed Microfinance Institution.	0,999	$P > 0,05$	0,180	rejected
Minor research hypothesis 2: There is a significant direct difference between the perceived expectations and value among the members of the Shahed Microfinance Institution.	2,942	$P < 0,01$	0,603	confirmed
Minor research hypothesis 3: There is a significant direct relationship between the value and mental image of the members of the Shahed Microfinance Institution.	14,102	$P < 0,01$	0,824	confirmed
Minor research hypothesis 4: There is a significant direct relationship between the mental image and the Overall satisfaction of the members of the Shahed Microfinance Institution.	10,926	$P < 0,01$	0,846	confirmed
Minor research hypothesis 5: There is a significant direct relationship between Overall satisfaction and loyalty among the members of the Shahed Microfinance Institution.	2,972	$P < 0,01$	0,363	confirmed
Minor research hypothesis 6: There is a significant inverse relationship between Overall satisfaction and dissatisfaction among the members of the Shahed Microfinance Institution.	9,236	$P < 0,01$	-0,690	confirmed

Table 1 also shows that all minor hypotheses except for the first minor hypothesis have been confirmed at the error level of 0.05.

### 4. Evaluation of the General Model

In PLS, unlike the covariance-based method, there is no index to measure the entire model. However, experts have introduced a general index called goodness of fit (GOF) to check the model's fitness. This index is the square root of two values; The average determination coefficients ( $R^2$ ) are in the form of the following formula:

$$GOF = \sqrt{R^2 * Communality}$$

$$GOF = \sqrt{0.529 * 0.840} = 0.666$$

Wetzler et al. (2009) have introduced values of 0.10, 0.50, and 0.76 as weak, medium, and substantial values for GOF, respectively. This value for the tested model of the current research was 0.666. Therefore, according to the findings obtained from the overall evaluation of the model, the second general hypothesis of the research is that the complex index of customer satisfaction in the Shahed Microfinance institution has the goodness of fit confirmed.

### Discussion

In general, the results of this research in the descriptive analysis section have shown that 90.6 per cent of the members (899) have a high and very high level of

satisfaction with the service quality of Shahed Microfinance institution. In addition, this is also true concerning the components of satisfaction, except for the element of loyalty and Dissatisfaction. Therefore, the level of members' Dissatisfaction with the service quality of Shahed Microfinance institution has been reported at a low level, which of course, is desirable. The level of satisfaction with the perceived quality of the service of Shahed Microfinance institution has also been at an average level. Therefore, the enormous contribution to the low level of this rate is related to the members' level of satisfaction with the quality of the communication and information system, which showed a value of 0.48. Hence, to improve the quality of the Shahed Microfinance institution's communication and information systems, it is suggested to use electronic indicators such as the preparation of an electronic brochure from the set of rules and regulations of the Shahed Microfinance institution, preparation of a podcast of frequently asked questions of Shahed Microfinance institution members, and preparation of a virtual tour of the Shahed Microfinance institution service process. In addition, it is recommended to evaluate the Shahed Microfinance institution's communication and information systems based on specific indicators to identify its strengths and weaknesses.

Furthermore, the results of inferential analysis and comparative analysis have shown that the members' level of satisfaction regarding the service quality of the Shahed Microfinance institution is reasonable for the benefit of many and very high classes. Also, under the multivariate analysis, it was determined



that the motives of customer satisfaction affect the members' overall satisfaction with the service quality of the Shahed Microfinance institution. Therefore, to maintain and improve this amount, the following points are recommended:

❖ Considering the necessary measures to provide resources and pay the loan as soon as possible and remove the obstacles and challenges facing the Shahed Microfinance institution, including Engagement with the founding board and Central Bank, as well as defining the organizational position to provide financial resources other than the membership fee of the members can be helpful to in this context.

❖ Taking several exceptions into account for early settlement and repayment of facilities to the member despite having one or two loan instalments, this issue can be used as an incentive mechanism for deposit holders of a certain amount and above.

❖ Diversification in the provision of facilities to the members by removing the limit for facility payments in a synergistic interaction with the Central Bank.

❖ Expediting the provision of services by electrolyzing the process of providing the members with services.

❖ Wide-ranging establishment and serious activity of customer relationship management (CRM) to identify and satisfy the needs and problems of the members.

## **Conclusion**

The present research results have shown that the level of satisfaction of the members with the services provided by

Shahed Microfinance institution has been at a desirable level. Therefore, the first general hypothesis of the research has been confirmed. In addition, the inferential results of the research in the multivariate analysis section showed that the second general hypothesis of the research is that the composite index of customer satisfaction in Iran among the members of Shahed Microfinance institution has the required adequacy and has been approved. Because on the one hand, the results of structural equation modelling showed the confirmation of all the research hypotheses except the first partial hypothesis of the research (that is, the effect of the perceived quality structure on the perceived value) at the error level of  $0.05$ . On the other hand, the GOF index with a value of  $0.966$  indicates the optimal fit of the reproduced experimental model of the composite index of customer satisfaction in Iran among the members of the Shahed Microfinance institution. Therefore, the results of the present research, while strengthening the theoretical literature used, with the results of the investigation of Oliver (1980), Fornell (1996), and Siddiqi (2011) regarding the role of service quality with customer satisfaction, Baker and Crompton (2000), Yoon and Uysal (2005) and regarding the role of perceived value with customer satisfaction, Fornell (1996), Oliver (1999), Quach et al. (2016) and Meleddu et al. (2015) regarding the role of customer satisfaction on customer loyalty, correspond and empirically strengthen them.

## References

1. Amri, S., Ma'ruf, J. J., Tabrani, M., & Darsono, N. (2019). The influence of shopping experience and perceived value toward customer satisfaction and their impacts on customer loyalty at minimarkets in Aceh. *International Review of Management and Marketing*, 9(4), 87-94. doi:10.32479/irmm.7041
2. Angelova, B. & Zekiri, J. (2011). They are measuring customer satisfaction with service quality using.
3. American Customer Satisfaction Model (ACSI Model), *International Journal of Academic Research in Business and Social Sciences*, 1(3), 232-208.
4. Askariazad, M. H., & Babakhani, N. (2010). An application of the European Customer Satisfaction Index (ECSI) in business to business (B2B) context. *Journal of Business & Industrial Marketing*, 30(1), 17-31. doi:10.1108/jbim-07-2011-0093
5. Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction, and behavioural intentions. *Annals of Tourism Research*, 27(3), 780-804. doi:10.1016/S0160-7383(99)00108-0
6. Bassem, B. S. (2008). The efficiency of Microfinance Institutions in the Mediterranean: An Application of DEA. *Transition Studies Review*, 10(2), 343-304. doi:10.1007/s11300-008-0012-7
7. Brady, M. K., Cronin, J. J., & Brand, R. R. (2002). Performance-only measurement of service quality: A replication and extension. *Journal of Business Research*, 55(1), 17-31.
8. Chen, C. & Chen, F. (2010). Experience quality, perceived value, satisfaction for heritage Tourists, *Tourism Management*, 31, 29-30. doi.org/10.1016/j.tourman.2009.02.008
9. Chu, P. -, Lee, G. -. & Chao, Y. (2012). Service quality, customer satisfaction, customer trust, and loyalty in an e-banking context. *Social Behavior and Personality*, 40(8), 1271-1284.
10. Oikawa Cordeiro, B. (2019). Global mobility of microfinance policies. *Policy and Society*, 39(1), 19-30. doi:10.1080/14494030.2019.1609477
11. De Leon, M. V., Atienza, R. P., & Susilo, D. (2020). Influence of self-service technology (SST) service quality dimensions as a second-order factor on perceived value and customer satisfaction in a mobile banking application. *Cogent Business & Management*, 7(1), 1794241. doi:10.1080/23311970.2020.1794241
12. Edward, M., & Sahadev, S. (2011). Role of switching costs in the service quality, perceived value, customer satisfaction, and customer retention linkage. *Asia Pacific Journal of Marketing and Logistics*, 23(3), 327-340. doi:10.1108/APJML-08-2011-0111
13. Ferguson, J. L., & Johnston, W. J. (2011). Customer response to Dissatisfaction: A synthesis of literature and conceptual framework. *Industrial Marketing Management*, 40(1), 118-127. doi:10.1016/j.indmarman.2010.05.002
14. Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J. & Bryant, B.E. (1996). The American customer satisfaction index: Nature, purpose, and findings, *Journal of Marketing*, 60(4): 7-18. doi.org/10.1177/002224299606000403
15. Frank, B., & Enkawa, T. (2009). Economic influences on perceived value, quality expectations, and customer satisfaction. *International Journal of Consumer Studies*, 33(1), 72-82. doi:10.1111/j.1470-6431.2008.00731.x
16. Fuller, J., & Matzler, K. (2008). Customer delight and market segmentation: An application of the three-factor theory of customer satisfaction on lifestyle groups. *Tourism Management*,

- 29(1), 116-126. doi:10.1016/j.tourman.2007.03.021
17. Gavilan, D., Avello, M., (2020), Brand-Evoked Mental Imagery: The Role of Brands in Eliciting Mental Imagery, SAGE Open Journals, 10(2), doi.org/10.1177/21582444.20.977484
18. Grigoroudis, E., & Siskos, Y. (2004). A survey of customer satisfaction barometers: Some results from the transportation-communications sector. *European Journal of Operational Research*, 152(2), 334-353. doi:10.1016/S0377-2217(03)0028-7
19. Hartarska, V., Parmeter, C. F., Nadolnyak, D., & Zhu, B. (2010). Economies of scope for microfinance: differences across output measures. *Pacific Economic Review*, 10(4), 464-481. doi:10.1111/j.1468-0106.2010.0016.x
20. Hu, H.-H. (Sunny), Kandampully, J., & Juwaheer, T. D. (2009). Relationships and impacts of service quality, perceived value, customer satisfaction, and image: an empirical study. *The Service Industries Journal*, 29(2), 111-120. doi:10.1080/02642060802292932
21. Johnson, M. D., Gustafsson, A., Andreassen, T. W., Lervik, L., & Cha, J. (2001). The evolution and future of national customer satisfaction index models. *Journal of Economic Psychology*, 22(2), 217-240. doi:10.1016/S0167-4870(01)0030-7
22. Jones, M. A., & Suh, J. (2000). Transaction-specific satisfaction and overall satisfaction: an empirical analysis. *Journal of Services Marketing*, 14(2), 147-159. doi:10.1108/08876040010371000
23. Kang, G., & James, J. (2004). Service quality dimensions: an examination of Grönroos's service quality model. *Managing Service Quality: An International Journal*, 14(2), 266-277. doi:10.1108/09694020410536806
24. Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1), 1-22. doi:10.2307/1220204
25. Krishnamurthy, R., B. D., Tamil Mani, Sivakumar, M. A. K., & Sellamuthu, D. P. (2010). Influence of Service Quality on Customer Satisfaction Application of Servqual Model. *International Journal of Business and Management*, 0(2), 117-124. doi:10.5039/ijbm.v0n2p117
26. Kusumawati, A., & Sri Rahayu, K. (2020). The effect of experience quality on customer perceived value and customer satisfaction and its impact on customer loyalty. *Human Systems Management*, 39(2), 219-232. doi:10.3233/HSM-190664
27. Lin, C.-C., Wu, H.-Y., & Chang, Y.-F. (2011). The critical factors impact on online customer satisfaction, *Procedia Computer Science*, 3, pp.276-281
28. Meleddu, M., Paci, R. & Pulina, M. (2010). Repeated behaviour and destination loyalty. *Tourism Management*, 0, 109-111. doi.org/10.1016/j.tourman.2010.01.032
29. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17, pp. 460-469.
30. Oliver, R.L. (1999). Whence Consumer Loyalty. *Journal of Marketing*, pp. 63, 33-34. doi.org/10.1177/002224299906345100
31. Quach, T. N., Thaichon, P., & Jebarajakirthy, C. (2016). Internet service providers' service quality and its effect on customer loyalty of different usage patterns. *Journal of Retailing and Consumer Services*, pp. 29, 104-113. doi:10.1016/j.jretconser.2015.11.012

۳۲. Rahman Sarasht, H., Khademi, M. (۲۰۰۷). National Customer Satisfaction Index in Iran, Central Bank of the Islamic Republic of Iran, Monetary and Banking Research Institute. [In Persian].
۳۳. Scridon, M. A., Achim, S. A., Pintea, M. O., & Gavriletea, M. D. (۲۰۱۹). Risk and perceived value: antecedents of customer satisfaction and loyalty in a sustainable business model. *Economic Research-Ekonomska Istraživanja*, ۳۲(۱), ۹۰۹–۹۲۴. doi:۱۰,۱۰۸۰/۱۳۳۱۶۷۷X.۲۰۱۹,۱۰۸۴۰۴۳
۳۴. Segoro, W. (۲۰۱۳). The Influence of Perceived Service Quality, Mooring Factor, and Relationship Quality on Customer Satisfaction and Loyalty. *Procedia - Social and Behavioral Sciences*, pp. ۸۱, ۳۰۶–۳۱۰. doi:۱۰,۱۰۱۶/j.sbspro.۲۰۱۳,۰۶,۴۳۳
۳۵. Siddiqi, K. O. (۲۰۱۱). Interrelations between Service Quality Attributes, Customer Satisfaction and Customer Loyalty in the Retail Banking Sector in Bangladesh. *International Journal of Business and Management*, ۶(۳), ۱۲–۳۶. doi:۱۰,۰۰۳۹/ijbm.v6n3p12
۳۶. Terblanche, N. S. (۲۰۰۶). An application of the American customer satisfaction index (ACSI) in the South African motor vehicle industry. *South African Journal of Business Management*, ۳۷(۴), ۲۹–۳۸. doi:۱۰,۴۱۰۲/Sajbm.v37i4,611
۳۷. Truong, T.H., & Foster, D. (۲۰۰۶). Using HOLSAT to evaluate tourist satisfaction at destinations: The case of Australian holidaymakers in Vietnam. *Tourism Management*, ۲۷(۰), ۸۴۲–۸۵۰. doi:۱۰,۱۰۱۶/j.tourman.۲۰۰۵,۰۵,۰۰۸
۳۸. Wang, Y., Po Lo, H., Chi, R. and Yang, Y. (۲۰۰۴). "An integrated framework for customer value and customer-relationship-management performance: a customer-based perspective from China", *Managing Service Quality: An International Journal*, ۱۴,۲/۳,۱۶۹–۱۸۲. <https://doi.org/۱۰,۱۱۰۸/۰۹۶.۴۵۲.۴۱۰۵۲۸۵۹>
۳۹. Wetzels, M., Odekerken-Schroder, G. & Van Oppen, C. (۲۰۰۹). Using PLS path modelling for assessing hierarchical construct models: Guidelines and empirical illustration, *MIS Quarterly*, ۳۳(۱), ۱۷۷. doi.org/۱۰,۲۳۰۷/۲۰۶۵۰۲۸۴
۴۰. Yoon, Y., & Uysal, M. (۲۰۰۵). An examination of the effects of motivation and satisfaction on destination loyalty: a structural model. *Tourism Management*, ۲۶(۱), ۴۵–۵۶. doi:۱۰,۱۰۱۶/j.tourman.۲۰۰۳,۰۸,۰۱۶

