

An Empirical Study on the Influence of Service Quality of Association on Customer Satisfaction: the Moderating Effect of Willingness to Participate

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Abstract. The purpose of this study is to examine the effects of service quality of consumer life cooperatives on customer satisfaction and to suggest ways to secure the competitiveness of consumer life cooperatives by extracting service quality factors for customer satisfaction in contributing to the maintenance and operation of consumer life cooperatives, operating stores, and preparing new stores through the study on how the willingness to participate in the members affects customer satisfaction. The empirical study was conducted through the online survey method for the members who use the Jayeondrim store of the Icoop Store among domestic consumer life cooperatives after confirming the suitability of the questionnaire through the preceding research. Based on the collected questionnaire, the suitability of the measurement tool was reviewed and hypothesis testing was conducted. The hypothesis test results are summarized as follows. First, among the five factors of service quality, tangibility, responsiveness, and assurance had a significant positive effect on customer satisfaction. Second, willingness to participate had a moderating effect on the relationship between the five factors of service quality and the relationship between responsiveness and customer satisfaction, and the relationship between assurance and customer satisfaction. Based on the results of the empirical analysis of this study, the implications of the research are presented as follows. First, since the life cooperative store is not just a place to sell organic food and processed products to its members, but a place to be a venue for its members, the life cooperative should encourage its members' satisfaction through continuous efforts and education to improve service quality. Second, the life cooperative can be expected to be more efficient through on-the-job training for employees with more focus on tangibility, responsiveness, and assurance among service quality components.

Keywords consumer life cooperative, service quality, customer satisfaction, willingness to participate

1. Introduction

Meanwhile, modern society is called a service society. Even manufacturing cannot succeed without the understanding of service, and most companies are rapidly changing to management that emphasizes relations with consumers by pursuing service-oriented management (Y. S Chen, 2008). The basic way for service companies to raise relations with customers through customer satisfaction is to improve service performance through the improvement of service quality provided by employees to customers. This service quality is formed in the ongoing execution process rather than tangible entity, and it is a dynamic concept that changes over time (Chung Dong-Ju, 2007). To secure an advantage in the increasingly intense competition among companies, effective service quality is needed, which is the same for the cooperatives that provide in-store services mainly to union members.

Therefore, this study examines the effects of service quality of cooperatives on customer satisfaction and also investigates the effects of willingness to participate in the members on customer satisfaction. To this end, it is necessary to understand and approach the members of the cooperative through quality measurement of the services provided by the cooperative, so the following research purposes are presented. First, this study is to confirm whether the service quality factor of the cooperative has a significant effect on customer satisfaction. In addition, it recognizes customer satisfaction as the satisfaction of the members, and hopes to contribute to the maintenance and operation of the future cooperative. Second, the purpose of this study is to suggest a plan to secure the competitiveness of the cooperative by deriving service quality factors for customer satisfaction in operating a cooperative store and preparing for the new opening.

2. Literature Review

2.1. Consumer life cooperative and Icoop life cooperative

According to the International Cooperative Alliance, cooperatives mean ‘an autonomous organization voluntarily formed by people who want to meet common economic, social, and cultural needs through a jointly owned and democratically operated business.’ In the history of cooperatives, the period when the social economy including cooperatives developed was the time when the economy was unstable. When the global economy faced difficulties beginning with the Great Depression in 1929, cooperatives were responsible for the core axis of the economy in Italy. Also in Japan which were almost ruined after the defeat, it was a difficult time for cooperatives to be formed locally between workers and citizens in Japan. United Nations (UN) has designated the International Year of Cooperatives (2012) and many European countries have begun to include social enterprises as an axis of macro-policy in the process of overcoming the global financial crisis in 2008 (Lee Ye-Na & Lee Sang-Hoon, 2021).

Cooperatives first developed in England, which experienced the earliest Industrial Revolution in the late 18th century. The Rochdale Society of Equitable Pioneers, founded in Rochdale in Lancashire Industrial Zone, the center of British industry in 1844, is the progenitor of the life cooperative. Since cooperatives have been developed in the special historical conditions of capitalist development with the emergence of capitalism, they have various forms and characteristics for each country (Kim Hyung-Mi, 2020).

The name "Life Cooperative" first appeared in Japan in 1945. In the western part of Tokyo, where the home purchase association was active on December 16, 1945, the name "Tokyo West Life Cooperative" was born in the discussion that "the name of the consumer union before the war is too weak in its meaning to show the resistance against large capital. So, a new name is needed to include a concept of expanded cooperation covering the entire life" (<http://www.happycoop.or.kr/intro/intro01.do>, May 26, 2022). The official use of the word 'cooperative' in Korea can be found in 1993 when the Central Office of Consumer Cooperative Association (currently, Korea Consumer Cooperative Alliance) attempted to change its name along with the change of its article of association. In other words, it can be seen that the name of the existing consumer cooperative has changed to the consumer cooperative recently. The Consumer Cooperative Act, enacted in 1998, defines the Consumer Life Cooperative as a non-profit organization established with the aim of contributing to the improvement of life and welfare of its members by promoting consumers' self-independence, self-reliance, and self-government based on the spirit of mutual aid.

As of 1997, the 21st century cooperative alliance, the predecessor of the Icoop Life Cooperative, started its business in solidarity with six regional associations centered on Gyeonggi-do Province and Daejeon. As of December 2020, the Icoop Life Cooperative has more than 100 regional associations throughout the country, the number of its members is 302,561, and 243 Jayeondrim stores nationwide are available (Lee Ryow-Hoa, 2021). As the members of the Icoop Life Cooperative in each region, they use stores and online malls at the same time, and members participate in various activities of local associations. The village gathering, which is a group of members living in adjacent areas, and the small group gathering with similar hobbies and interests are held once a month. In addition, the group is engaged in various activities through the 'Meeting Day' for newly joined members.

For an example of activities they make, members of the cooperative gather and taste the products newly launched or planned in the Jayeondrim store, and in the case of household goods, they use them and give opinions about the products. In addition, the board of directors of each regional association will decide whether to handle new products. This series of activities is called 'discussion of goods' and it is also a chapter where members participate. Although it is similar to the monitoring system of most private companies in that the members directly give their opinions on the products and the opinions are reflected in the product development, the 'discussion of goods'

of local associations is an example of voluntary activities that do not pursue economic reward.

2.2. Service quality

For the qualitative growth of the service industry as well as quantitative growth, management techniques for service quality are being studied steadily in academia, and companies are applying it to the establishment of service strategies and making it the basis of corporate innovation. Generally, what service companies manage service quality means that they first measure the degree of service quality provided to customers and then analyze and utilize the results (Lee Chi-Min, 2007).

The measurement of quality and the effort to regulate the concept began in the area of manufacturing, and service quality has been defined in various ways as it is directly related to the survival and profitability of the company. International Standard Organization (ISO) defined quality as ‘the sum of the traits and characteristics of products or services related to the ability to satisfy the desire which is expressed or inherent’ (Won Yoong-Hee, 1992).

Service quality is not a tangible entity but a process, so it is difficult to measure according to objective scale such as durability or defect rate unlike product quality, so the concept of service quality is used slightly differently depending on the time, situation, researchers, etc. based on customer's recognition. As a modern meaning, quality means that the delivered service is a measure of how consistent it is with the customer's expectation and consistently provides the service to match the customer's expectation.

Parasuraman et al.(1988) and Gibbert et al., (2021) referred to the degree of discrepancy between consumers' perceptions and expectations as service quality. As a result of the process of evaluation, customers start to compare the service they expected with the perceived service they were offered. The result of the process step on the part of customers is referred to as ‘perceived quality of service.’ Grönroos(1984) divided service quality into functional quality and technical quality, saying that service quality is the result obtained after the service process is completed. It stated that perceived service quality was explained as the result of subjective views felt by the consumer on the technical quality and functional quality. Meanwhile, Cronin & Taylor (1992) argued that service quality should be evaluated from a long-term and holistic point of view, unlike the theorists asserted by Parasuraman, Zeithaml & Berry (PZB).

The component of service quality is the configuration or component of the standard used by the customer to evaluate the service quality. The study on the service quality components began in the 1980s when researchers began to pay attention to what factors affect service quality. Parasuraman et al. (1988) and Park et al., (2021) found that it is more difficult for consumers to evaluate service quality than product quality, and the result of comparing consumer expectations with actual service

performance is the perception of service quality and that the evaluation of service quality does not appear alone in any service performance. In addition, consumers use similar criteria to evaluate service quality, which are called service quality determinants. Parasuraman et al. (1988) embodied the existing theory and provided the logical basis for SERVQUAL. In other words, they conducted empirical analysis by questionnaires of five service companies such as banks, long-distance telephones, securities brokerage, and credit card companies. In this empirical analysis, they reduced the 10 components presented in the existing exploratory research to five dimensions (tangibility, reliability, responsiveness, assurance, and empathy).

As for the components of service quality, this study selected five dimensions proposed by Parasuraman et al. (1988) and conducted research on them because Parasuraman's approach is highly realistic in its service quality assessment and it meets the purpose of this study.

2.3. Customer satisfaction

The reasons why consumers purchase specific products, services, and brands are various, and consumption patterns have been constantly changing over time. In the past, when demand exceeded supply, consumers' product choice was not wide. This is because it is urgent to find products that are cheap or have decent quality. In this time, high quality and low price played an important role in making consumers buy products. However, as the number of competitors increases in the market, only the quality and price that consumers can choose are not enough for them to compete in the market. The concept of 'customer satisfaction' appeared as a factor that can explain customers in themselves beyond quality or price.

Satisfaction means the state that customers feel satisfied or enough without shortage or the degree of decision maker's own favorable when judging about something. In this conceptual definition of satisfaction, consumers purchase goods for the ultimate purpose of maximizing the satisfaction of their desire and needs through the goods, and consumer satisfaction is the consumer's perception of the appropriateness of compensation for the loss sacrificed for purchase (Kim Yong-Gyu, 2009).

Customer satisfaction (CS) has emerged as an independent research area in marketing academia since the US Department of Agriculture announced the Index of Consumer Satisfaction (CSI) for agricultural products in 1972 (Ning Hu et al., 2021). Oliver (1993) defined customer satisfaction as an emotional response that occurs when customer's response to achievement was more than expected. In other words, customer satisfaction is explained as an aspect that can lead to repurchase when a customer's desires and expectations are satisfied. Gehert & Yan(2004) explained that customer satisfaction and the maintenance of customers have the advantages of improving profitability, positive word of mouth, and low marketing expenditure.

2.4. Willingness to participate

The dictionary meaning of willingness is the mindset to actively achieve something. Ritter & Georg Gemünden(2004) defined willingness as a mental function of motivation or choice to do something with a motive and as a planned effort to achieve the goal by the actor. In other words, willingness means the conscious effort of human beings to achieve a specific purpose, and this conscious effort leads to the act.

Kuhl(1984) described motive and willingness as a continuous psychological state. Willingness will make an actor make a decision and prevent him or her from considering other alternatives or information, which also makes him or her perform the current decision. In other words, the willingness was summarized as the state after the decision. The higher the willingness to participate in the previous studies an actor has, the more focused and persistent he or she is to achieve the goal. Therefore, willingness is found to be significant in achieving the expected goal.

As mentioned above, the willingness to participate means a planned effort to achieve the specific goal intended by the individual, and it is judged that willingness to participate on the part of the members in life cooperative will affect the members' customer satisfaction. So, it is necessary to verify this.

3. Research Methodology

3.1. Research model and research hypothesis

The purpose of this study is to empirically analyze the effect of service quality on customer satisfaction and the moderating effect of members' willingness to participate in association for consumer's cooperation. To this end, the research model shown in Figure 1 is presented based on the theoretical background and the results of previous studies.

Based on the results of previous studies, the following study was conducted to investigate the interaction relationship between service quality as an independent variable and customer satisfaction as a dependent variable, and to examine the moderating effect of members' willingness to participate in the relationship between service quality and customer satisfaction.

Crosby et al. (1990) stated that the evaluation of service quality in the study consists of customer trust and satisfaction. Cronin & Taylor (1992) proved that customer trust and satisfaction are antecedents of service quality. Brady & Cronin (2001) subdivided service quality into three categories: interaction quality, physical environment quality, and outcome quality and verified that they have a positive effect on customer satisfaction. Jamal & Naser (2002) proved that core service and relational service of service quality have a positive (+) effect on customer satisfaction.

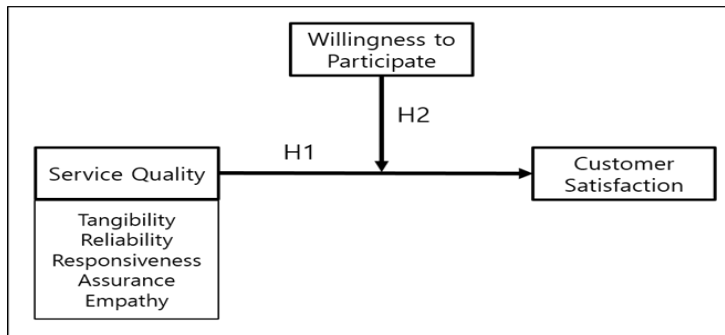


Fig. 1: Research model

Therefore, in this study, based on the research results of previous studies, it is assumed that service quality will have a significant positive (+) effect on customer satisfaction, and the following hypothesis 1 and sub-hypothesis according to the sub-displacement of the independent variable are presented.

Hypothesis 1. Service quality will have a positive effect on customer satisfaction.

1-1 Tangibility will have a positive effect on customer satisfaction.

1-2 Reliability will have a positive effect on customer satisfaction.

1-3 Responsiveness will have a positive impact on customer satisfaction.

1-4 Assurance will have a positive impact on customer satisfaction.

1-5 Empathy will have a positive impact on customer satisfaction.

The important factor in the willingness to participate is spontaneity. In a study that aims to establish the concept of spontaneity in line with situations in Korea, Yang In-Deok (2011) stated that the civic behavior proposed while advocating the concept of spontaneity improves productivity based on the improvement of the manager's work efficiency and relationship with colleagues, strengthens the overall linkage of organizational functions, and makes possible an organization's long-term growth and survival through the promotion of exchanges with the external environment.

Therefore, in this study, based on the research results of previous studies, it is assumed that members' will to participate in the relationship between service quality and customer satisfaction will have a significant moderating effect, and the following hypothesis 2 and the sub-hypothesis according to the sub-displacement of the independent variable were established. present.

Hypothesis 2. The willingness of members to participate in the relationship between service quality and customer satisfaction plays a moderating role.

2-1 The willingness to participate in the relationship between tangibility and customer satisfaction will play a moderating role.

2-2 The willingness to participate in the relationship between reliability and customer satisfaction will play a role of regulation.

2-3 The willingness to participate in the relationship between responsiveness and customer satisfaction will play a role of regulation.

2-4 The willingness to participate in the relationship between assurance and customer satisfaction will play a role of regulation.

2-5 The willingness to participate in the relationship between empathy and customer satisfaction will play a role of regulation.

3.2. Manipulating definition of variables

For the service quality as an independent variable, this study used five variables of tangibility, reliability, responsiveness, assurance, and empathy that were judged to meet the purpose of this study among the variables used in the previous studies on the service quality of consumer life cooperative.

The measurement items were 46 items; the items of tangibility consisted of 13 items such as parking facilities, amenities, accessibility, interior, lighting, fragrance, cleanliness, temperature, humidity, the convenience of cart and shopping cart, employee's neat appearance, promotional materials, and display. Those of reliability consisted of service provision, commodity information, business processing, the introduction of new products, reserved product processing, discriminations toward the members of cooperative, trust of a recommended product, and defective products. Responsiveness consisted of 8 items: response to requirements, complaint handling procedure, reservation time, product description, product information, service intimacy, active help, and prompt service. Assurance consisted of 9 items: question content understanding, task understanding, employees' politeness, ability to work effectively, the accuracy of product description, product reliability, explanation of business processing, degree of understanding, and trust in information. Empathy was composed of 8 questions: business processing in consideration of members, requirements considering members, understanding of members' positions, expression of interest, sincerity, attentiveness, empathy, empathy towards individual demands. The measurement was measured using a five-point scale.

The measurement items on customer satisfaction, which is a dependent variable, were modified and supplemented according to the purpose of this study. The measurement items consisted of 11 questions including quality, price, diversity, business processing, service, facilities, atmosphere, sales promotion activities, information, recommendation intention, and revisit intention. The measurement was made using a 5-point scale.

The measurement items of intention to participate, which is a moderating variable, were modified and supplemented according to the purpose of this study. The measurement items consisted of 9 questions: participation in preemption,

participation in the capital increase, participation in small groups, participation in education, participation in recharging program, participation in public cause activities, recommendation, and continuous participation. Therefore, the questionnaire of this study consisted of 72 questions including 66 questions about research variables and 6 questions about demographic characteristics.

3.3. Survey design and analysis method

In order to achieve the objective of this study, the study explained the research purpose and the questionnaire response method through the online survey method for 31 days from May 1, 2022, to May 31, 2022, targeting the members of the local Aikup consumer life cooperatives. The respondents answered the questionnaire with a personal self-administered type. A total of 300 questionnaires were distributed and 267 returned questionnaires. Of the recovered questionnaires, except for 17 copies with insincere responses, 250 copies were used as the final valid sample.

SPSS statistical program was used for the statistical processing of this study, and the significance level was verified based on 0.1%, 1%, and 5%.

The actual analysis procedure is as follows.

First, a frequency analysis is performed to identify the demographic and general characteristics of the subjects of this study, and a descriptive statistical analysis is performed to examine the normality. Second, exploratory factor analysis and reliability analysis) are performed to determine the reliability and validity of the scale used in this study. For exploratory factor analysis, the Verimax Rotation method was used. Reliability analysis measures Chonbach's α coefficient and uses a method of excluding items that impair internal consistency. Third, the problem of multicollinearity raised in multiple regression analysis is diagnosed by performing correlation analysis between variables. Fourth, multiple regression analysis for hypothesis testing and conditioning regression analysis are performed to verify the moderating effect of the will to participate.

4. Results and Discussion

4.1. Demographic characteristics

By gender, 6 persons were males (2.4%) and 244 females (97.6%), which was higher than males. 19 persons were in the 20s (7.6%), 85 persons were the 30s (34%), 108 persons were the 40s (43.2%), 35 persons were the 50s (14.0%), and 3 persons were the 60s and over (1.2%). The distribution of store location that respondents frequently use in their residences was 14 in Seoul (5.6%), 46 in Incheon and Gyeonggi (18.4%), 6 in Gangwon (2.4%), 9 in Daejeon, Chungcheong and Sejong (3.6%), 15 in Gwangju, Jeolla and Jeju (6.0%), 14 in Ulsan, Daegu and Gyeongbuk (5.6%), 14 in Busan and Gyeongnam (58.4%).

In the question of the respondents' monthly household income, 22 people (8.8%) under 3 million won, 102 people (40.8%) over 3 million won and less than 5 million won, 94 people (37.6%) over 5 million won and less than 7 million won, and 32 people (12.8%) over 7 million won. In the survey of the year of membership of the cooperative association, 8 people (3.2%) before 2003, 8 people (3.2%) between 2004 and 2006, 81 people (32.4%) between 2007 and 2011, 85 people (34.0%) between 2012 and 2016, 40 people (16.0%) between 2017 and 2018, and 28 people (11.2%) between 2019 and 2021. It can be seen that the membership of the cooperative association is concentrated from the time when the business of the cooperative store begins in earnest. In the question of the experience of the cooperative activities, 109 people(43.6%) had no experience of activities, 63 people(25.2%) had experience as members, 25 people (16.4%) as the team leader and chairman, 41 people (16.4%) as the directors and directors, and 12 people (4.8%) participated in other activities like the association activities.

Table. 1: Demographic characteristics

Division		Frequency (Persons)	Ratio (%)
Gender	Male	6	2.4
	Female	244	97.6
Age	Twenties	19	7.6
	Thirties	85	34.0
	Forties	108	43.2
	Fifties	35	14.0
	Over Sixties	3	1.2
	Store Location	Seoul	14
	Incheon, Gyeonggi	46	18.4
	Gangwon	6	2.4
	Sejong, Daejeon, Chungcheong	9	3.6
	Gwangju, Jeolla, Jeju	15	6.0
	Daegu, Ulsan , Gyeongbuk	14	5.6
	Busan, Gyeongnam	146	58.4
Year of Mmbership	Before 2003	8	3.2
	2004 ~ 2006	8	3.2
	2007 ~ 2011	81	32.4
	2012 ~ 2016	85	34.0
	2017 ~ 2018	40	16.0
	2019 ~ 2021	28	11.2
Monthly Average Household Income	Less than 3 Million Won	22	8.8
	3 Million Won to 5 Million Won	102	40.8
	5 Million Won to 7 Million Won	94	37.6
	Over Seven Million Won	32	12.8
Activities or	No	109	43.6

Positions Experienced	Group Activities (Village Group, Small Group)	63	25.2
	Team Leader, Chairman	25	10.0
	Director, Chairman	41	16.4
	Other activities (association activities, etc.)	12	4.8
Number of Respondents		250	100.0

4.2. Validity and Reliability Analysis

[Table 2] summarizes the results of exploratory factor analysis on the measurement tools used in this study.

Table. 2: Exploratory Factor Analysis

Variables	Factor	Measurement Item	Eigen Value	Variance (%)	Cronbach's α
Service Quality	Rangibility (10 Questions)	Interior, Lighting, Fragrance, Cleanliness, Temperature, Humidity, Convenience of Cart and Shopping Cart, Employee's Neat Appearance, Promotional Materials, Display	6.286	23.746	.916
	Reliability (7 Questions)	Service Provision, Commodity Information, Business Processing, Introduction of New Products, Reserved Product Processing, Discriminations Toward the Members of Cooperative, Trust of Recommended Product	3.802	58.610	.893
	Responsiveness (6 questions)	Response to Requirements, Complaint Handling Procedure, Reservation Time, Product Description, Product Information, Service Intimacy, Active Help, Prompt service	3.447	64.766	.883
	Assurance (9 questions)	Question Content Understanding, Task Understanding, Employees' Politeness, Ability to Work Effectively, Accuracy of Product Description, Product Reliability, Explanation of Business Processing, Degree of Understanding, Trust in Information	5.138	42.992	.900

	Empathy (8 questions)	Business Processing in Consideration of Members, Requirements Considering Members, Understanding of Members' Positions, Expression of Interest, Sincerity, Attentiveness, Empathy, Empathy Towards Individual Demands	7.012	12.521	.950
	Customer Satisfaction (8 Questions)	Quality, Business Processing, Service, Facilities, Atmosphere, Sales Promotion Activities, Information, Recommendation Intention	4.944	51.821	.901
	Willingness to Participate (8 questions)	Participation in Preemption, Participation in Capital Increase, Participation in Small Groups, Participation in Education, Participation in Recharging Program, Participation in Public Cause Activities, Continuous Participation	5.639	33.816	.916

The KMO measure is .934, which is close to 1, so this tool can be seen as a suitable data for factor analysis. Bartlett's unit matrix verification statistics also showed 10548.901, which proved that it was not statistically unit matrix at the significance level of .1%, indicating that it is suitable for factor analysis. The commonness of the measurement variables was .506 ~ .811, which was more than .5. Seven factors are extracted: tangibility (10 questions), reliability (7 questions), responsiveness (6 questions), assurance (9 questions), empathy (8 questions), customer satisfaction (8 questions), and willingness to participate (8 questions). The total explanatory variance by these factors is 64.766%.

Therefore, it is considered that the use of the sum mean value of the variables included in each factor in the future analysis is not unreasonable to the semantic analysis.

4.3. Correlation analysis

As a result of correlation analysis between the variables used in this study, tangibility as a sub-variable of service quality was found to have positive correlation with reliability, responsiveness, assurance, empathy, willingness to participate, and customer satisfaction ($r=.181\sim.585$, $p<.01$), and reliability was found to have a positive correlation with responsiveness, assurance, empathy, willingness to participate, and customer satisfaction ($r=.353\sim.712$, $p<.01$). Responsiveness was found to have a positive correlation with assurance, empathy, willingness to participate, and customer satisfaction ($r=.298.652$, $p<.01$).

Therefore, it is judged that there is no problem with the multiple collinearity raised in the multiple regression analysis, and the suitability of the data is secured.

[Table 3] Summarizes the results of Correlation Analysis

Table. 3: Correlation analysis.

Variable	Significance	Reliability	Responsiveness	Assurance	Empathy	Willingness to Participate	Customer Satisfaction
Significance	1						
Reliability	.585***	1					
Responsiveness	.410***	.592***	1				
Assurance	.422***	.489***	.580***	1			
Empathy	.473***	.712***	.652***	.581***	1		
Willingness to Participate	.181**	.353***	.298***	.275***	.266***	1	
Customer Satisfaction	.417***	.423***	.528***	.546***	.491***	.303***	1

*p<.05, **p<.01 ***p<.001

4.4. The influence relationship between service quality and customer satisfaction

[Table 4] is the test result of hypothesis 1 that cooperative service quality will have a significant effect on customer satisfaction.

The F value of the estimated regression analysis of hypothesis 1 was 31.711, which was statistically significant at the significance level $p < .001$, and R^2 was .381, which means that the total explanatory power of the model is 38.1%. And the variance expansion index (VIF) is less than 10, indicating that there is no problem with multicollinearity. As a result of regression analysis to find out the effect of sub-variables of service quality on customer satisfaction, the variables that have statistical influence were tangibility ($=.165, p=.000$), responsiveness ($=.241, p=.001$), and assurance ($=.289, p=.000$).

Therefore, the service quality of tangibility, responsiveness, and assurance had a significant effect, so hypothesis 1-1, hypothesis 1-3, and hypothesis 1-4 were supported, and hypothesis 1-2 and hypothesis 1-5 were not statistically significant. Therefore, it can be seen that hypothesis 1 was partially adopted.

Table. 4: Test result of hypothesis 1.

Model	Non Standardization Coefficient	Standardization Coefficient		t	Significance Level	Collinearity Statistic	
	B	Standard Error	β			Tolerance	VIF
(constant)	1.750	.229		7.638	.000		
Tangibility	.110	.042	.165	2.634**	.009	.632	1.581
Reliability	-.027	.054	-.040	-.509	.611	.397	2.519
Responsiveness	.175	.052	.241	3.390** *	.001	.491	2.038
Assurance	.288	.065	.289	4.394** *	.000	.576	1.736
Empathy	.067	.046	.116	1.447	.169	.384	2.603
$R^2 = .394$, Modified $R^2 = .381$, D-W = 1.875, F Value Variation = 31.711***							

*p.<.05, **p<.01, ***p<.001

4.5. The moderating effect of willingness to participate

[Table 5] shows that Hypothesis 2 that willingness to participate will have a moderating effect in the relationship between service quality and customer satisfaction in cooperatives and sub-hypothesis 2-1, 2-2, 2-3, 2-4 differs on sub-variables of service quality. , is the result of verifying 2-5.

The explanatory power in model 1 was 38.1%, and in model 2, which was a moderating variable, 39.2%, which was 1.1% higher than model 1, and the explanatory power in model 3 was 41.6%, which was 2.4% higher than model 2. The F increment of model 3 was also significant at the p<.001) level, which was confirmed to have a moderating effect. The regression equation suitability of model 1, model 2, and model 3 was all suitable as F=31.711(p<.001), F=27.796(p<.001), and F=17.134(p<.001).

In model 1, the higher the tangibility, responsiveness, and assurance, the higher customer satisfaction. In model 2, the higher the tangibility, responsiveness, assurance, and willingness to participate, the higher the customer satisfaction. In model 3, the relational item of responsiveness and willingness to participate and that of assurance and willingness to participate were confirmed as significant variables. Therefore, it can be seen that the participation chair has a moderating effect in the relationship between the responsiveness and certainty of service quality with customer satisfaction. Therefore, hypothesis 2-3 and 2-4 were adopted, and hypothesis 2 was partially adopted.

Table. 5: Test result of hypothesis 2.

Division	Dependent Variables : Customer Satisfaction								
	Model 1			Model 2			Model 3		
	B	β	p-Value	B	β	p-Value	B	β	p-Value
(constant)	1.750		.000***	1.703		.000***	4.007		.000***
Tangibility	.110	.165	.009**	.116	.174	.006**	.042	.063	.820
Reliability	-.027	-.040	.611	-.054	-.080	.320	-.051	-.075	.834
Responsiveness	.175	.241	.001***	.165	.227	.002**	.624	.858	.004**
Assurance	.288	.289	.000***	.272	.273	.000***	-.414	-.415	.075
Empathy	.067	.116	.169	.072	.126	.116	-.180	-.315	.431
Willingness to Participate				.059	.124	.021*	-.558	-1.168	.032*
Tangibility × Willingness to Participate							.014	.156	.757
Reliability × Willingness to Participate							.005	.055	.940
Responsiveness × Willingness to Participate							-.126	-1.417	.029*
Assurance × Willingness to Participate							.196	2.098	.003**
Empathy × Willingness to Participate							.056	.665	.325
R ²	.381			.392			.416		
R ² Variation	.394			.407			.442		
F Increment	31.711			27.796			17.134		
Significance Level	.000***			.000***			.000***		

* p<.05, ** p<.01, *** p<.001

5. Conclusions

In order to understand the effect of service quality on customer satisfaction, this study empirically analyzed the effects of SERVQUAL five dimensions of tangibility, reliability, responsiveness, assurance, and empathy on service quality and the willingness to participate in the service as a moderating variable. The results of the empirical analysis are summarized as follows.

As a result of verification of hypothesis 1 that service quality will have a positive effect on customer satisfaction, the tangibility, responsiveness, and assurance of service quality have a statistically significant effect on customer satisfaction. Therefore, hypothesis 1 was partially adopted. As a result of verification of hypothesis 2 that willingness to participate will play a moderating role in the

relationship between service quality and customer satisfaction, it is shown that the responsiveness and assurance of service quality had a moderating effect on willingness to participate. However, the tangibility, reliability, and empathy of hypothesis 2 did not show statistically significant results, so hypothesis 2 was partially adopted.

Based on the results of the analysis, the implications of this study are as follows.

First, since the stores of life cooperative are not just places to sell organic food and processed products to its members, but places to be a venue for its members, the life cooperative should raise the satisfaction of its members with continuous efforts and education to improve service quality. Second, for the efficiency of members' customer satisfaction, the life cooperative will be able to achieve more effective results through on-the-job training for employees with more focus on tangibility, responsiveness, and assurance among service quality components. Third, the result of the moderating effect of the willingness to participate in the cooperative showed that its members' participation had a significant effect on customer satisfaction.

Despite the results and implications of this study, there are several limitations on this study. There can be more factors that can affect customer satisfaction other than the five dimensions of SERVQUAL, which are the sub-factors of service quality: tangibility, reliability, responsiveness, assurance, and empathy. In future studies, more factors that can affect customer satisfaction should be extracted and more detailed studies should be conducted in addition to the studies used in this study.

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