

Member Satisfaction in Cooperative Financial Services: The Roles of Internal System Quality, Service Quality, and Trust

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Abstract

This study aims to analyze the influence of the quality of the member data management application system, service quality, and member trust on the level of member satisfaction at the Amanah Tongas Credit Union Savings and Loan Cooperative. The study uses a quantitative approach with a causal associative research type. The study population was 2,251 active members, while the sample was 340 respondents determined using the Slovin formula with a *simple random sampling technique*. Data collection was carried out through distributing questionnaires, observation, and documentation. Data analysis used IBM SPSS Statistics version 26 which included validity tests, reliability tests, classical assumption tests, multiple linear regression analysis, partial tests (t-tests), simultaneous tests (F-tests), and coefficients of determination (R^2). The results showed that the quality of the member data management application system had a positive but not significant effect on the level of member satisfaction. Conversely, the quality of service quality and member trust had a positive and significant effect on the level of member satisfaction. Simultaneously, the quality of the member data management application system, service quality, and member trust had a significant effect on the level of member satisfaction. Research findings show that improving service quality and strengthening member trust are the main factors in increasing member satisfaction, while developing application systems is still needed to support the effectiveness of cooperative administration and services.

Keywords: application system quality, service quality, member trust, member satisfaction, cooperatives

Introduction

Cooperative is a business entity that plays a role important in increase welfare public through principle family, democracy economy, and mutual cooperation. As institution service - oriented economy members, cooperatives sued For capable give quality service as well as manage administration in a way effective in order to be able to maintain trust and satisfaction its members. Development technology information push cooperative For do digital transformation through implementation system information that is capable support administrative processes, member data management, and service in a way more fast, accurate, and efficient.

Digitalization in management cooperative become one of the strategies for increase effectiveness operational organization. Utilization application member data management allows officer cooperative do recording savings, loans, transactions and administration membership in a way integrated so that reduce error recording as well as speed up the service process. According to the success model system information developed by DeLone and McLean (2003), quality system is one of the influencing factors success implementation

technology information through improvement quality service and satisfaction users. Therefore that, the implementation system quality information expected capable give benefit for organization and users service.

Besides quality system, quality service is factors that are direct influence satisfaction member cooperative. As institution service finance, cooperatives must capable give fast, accurate, friendly, responsive service, and capable fulfil need members. Concept quality The service developed by Parasuraman, Zeithaml, and Berry (1988) explains that dimensions *tangible, reliability, responsiveness, assurance, and empathy* become indicator main in form perception member to quality services received. The more Good quality the services provided, the more high level satisfaction member to cooperative.

Other factors that are not lost important is trust members. Trust is belief member that cooperative capable manage funds, maintain security information, as well as give service in a way honest and professional. Morgan and Hunt (1994) explain that trust become base in build connection term long between organizations and users services. In the context of cooperative save borrow, high level trust member will strengthen loyalty as well as increase satisfaction to services provided.

Cooperative Save Borrow from Amanah Tongas Credit Union has utilise application member data management For supports internal administrative processes. Application the used by officers cooperative in manage membership data, transactions savings and loans, as well as compilation report administration. Although Thus, the increase amount members and activities transaction cause demands to quality service the more high. Condition the require cooperative No only depend on technology information, but also improve quality service as well as maintain trust members for satisfaction member still awake.

A number of study previously show that quality service and trust own influence positive to satisfaction member cooperatives. Harwida, Novilia, and Oktaviani (2021) found that that quality service and trust influential significant to satisfaction member cooperatives. Research by Haryadi, Narimawati, and Syafe'i (2023) shows that that use digital applications are capable increase satisfaction member through convenience services provided. While that, Hayuni and Elsandra (2025) proved that quality service and trust is factor dominant in increase satisfaction member cooperatives. However, some big study the focus on the applications used directly by members, whereas study about quality system application internal administration operated by officers cooperative Still relatively limited.

Based on condition there is a research gap in the form of Still limited integrated research variables quality system application member data management, quality service and trust member in one research model on cooperatives save borrow. Besides that, not yet Lots research that examines quality system applications used internally by officers as supporters service to members. Therefore that, research This offer **novelty** with test in a way simultaneous influence quality system application member data management, quality service and trust member to level satisfaction members of the Cooperative Save Borrow from Amanah Tongas Credit Union.

This study aims to analyze the influence of member data management application system quality, service quality, and member trust on member satisfaction, both partially and simultaneously. The findings are expected to contribute to the development of cooperative management literature, particularly regarding the role of information technology, service quality, and trust in strengthening member satisfaction. From a practical perspective, the findings may also provide an evaluation framework for cooperative managers in improving

administrative systems and delivering more effective services to members.

Application System Quality and Member Satisfaction

System quality reflects the extent to which an information system is reliable, accurate, secure, accessible, and capable of supporting organizational activities effectively. According to the DeLone and McLean (2003) Information Systems Success Model, system quality is an important determinant of user evaluations and the benefits generated by an information system. In the cooperative context, a high-quality member data management application can facilitate faster data processing, minimize administrative errors, and enable officers to provide more accurate and efficient services. Although members may not interact directly with the application, improvements in administrative performance can be reflected in the quality of services they receive. Previous evidence also indicates that the quality of digital systems can contribute to greater satisfaction when technology supports reliable and efficient service delivery (Almaiah et al., 2022). Therefore, the following hypothesis is proposed:

H1: Member data management application system quality has a positive and significant effect on member satisfaction.

Service Quality and Member Satisfaction

Service quality represents the cooperative's ability to provide services that meet or exceed members' expectations. The SERVQUAL framework emphasizes five dimensions of service quality, namely tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). In savings and loan cooperatives, direct interaction between officers and members makes service quality particularly important because members evaluate not only the outcomes of transactions but also the speed, accuracy, responsiveness, and manner in which services are delivered. When members perceive that officers are responsive, reliable, and attentive to their needs, they are more likely to develop favorable evaluations of the cooperative. Empirical studies have also demonstrated that better service quality is associated with higher customer satisfaction in financial service settings (Almaiah et al., 2022; Nigatu et al., 2023). Accordingly, the following hypothesis is formulated:

H2: Service quality has a positive and significant effect on member satisfaction.

Member Trust and Member Satisfaction

Trust reflects members' confidence that the cooperative is reliable, transparent, secure, and capable of fulfilling its commitments. Morgan and Hunt's (1994) Commitment-Trust Theory emphasizes trust as a fundamental element in maintaining successful long-term relationships between organizations and their stakeholders. This aspect is particularly relevant to savings and loan cooperatives because members entrust their financial resources and personal information to the institution. Greater confidence in transaction security, information transparency, and service consistency can reduce uncertainty and create more positive service experiences. Previous studies have similarly shown that trust plays an important role in increasing satisfaction within financial service relationships (Aditiansyah et al., 2022; Margareta et al., 2023). Thus, the following hypothesis is proposed:

H3: Member trust has a positive and significant effect on member satisfaction.

Application System Quality, Service Quality, Member Trust, and Member Satisfaction

Member satisfaction in a cooperative is not determined by a single factor but may

result from the interaction of technological, service-related, and relational elements. Application system quality supports the efficiency and accuracy of administrative processes, service quality determines members' direct experiences with cooperative officers, while trust strengthens members' confidence in the reliability and integrity of the institution. These three dimensions therefore represent complementary aspects of cooperative service delivery. An effective administrative system accompanied by high-quality interpersonal services and strong member trust is expected to create a more comprehensive positive experience and ultimately enhance member satisfaction. Based on this reasoning, the following hypothesis is formulated:

H4: Member data management application system quality, service quality, and member trust simultaneously have a significant effect on member satisfaction.

Method

This study uses quantitative approach with type study associative causal, which aims analyze influence quality system application member data management, quality service and trust member to level satisfaction members of the Cooperative Save Borrow from Amanah Tongas Credit Union. Approach quantitative chosen Because capable measure connection intervariable in a way objective through analysis statistics.

Study implemented in the Cooperative Save Loan from Amanah Tongas Credit Union, Regency Probolinggo. Population study is all over member active cooperative with 2,251 members. Determination amount sample use Slovin's formula with level margin of *error* of 5 %, so that 340 respondents were obtained. Retrieval technique sample using probability sampling with simple random sampling method, so that every member own equal opportunities For become respondents study.

Research data collected through questionnaire, observation, and documentation. Questionnaire arranged based on indicator every variables study with using a five- point Likert Scale, namely Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). Variables independent in study This consists of on Quality System Application Member Data Management (X_1), Quality Service (X_2), and Trust Member (X_3), whereas variables dependent is the Level of Satisfaction Member (Y). Quality system application measured through indicator speed data access, accuracy information, data security, and capabilities application support administration. Quality service measured using five dimensions of SERVQUAL, namely *tangible*, *reliability*, *responsiveness*, *assurance*, and *empathy*. Trust member measured through indicator credibility, reliability service, security transactions, and capabilities cooperative fulfil need members. Meanwhile that, satisfaction member measured based on satisfaction to service, suitability service with hope, desire use return service cooperatives, and willingness recommend cooperative to other parties.

Before done analysis, instruments study tested using validity tests and reliability tests For ensure each statement item capable measure variables in a way accurate and consistent. Data analysis was carried out using IBM SPSS Statistics version 26 via assumption testing stages classical tests which include normality, multicollinearity, and heteroscedasticity tests. Furthermore done analysis multiple linear regression, partial test (t test), simultaneous test (F test), and coefficient determination (R^2) for know size influence variables independent to variables dependent.

The regression model used in study This formulated as following :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Information :

- **Y** = Satisfaction Level Member
- **α** = Constant
- **β_1 – β_3** = Coefficient regression
- **X_1** = Quality System Application Member Data Management
- **X_2** = Quality Service
- **X_3** = Trust Member
- **ε** = Error (error)

Hypothesis study tested at the level significance 5% ($\alpha = 0.05$). Hypothesis stated accepted if mark significance more small of 0.05, which indicates that variables independent influential significant to level satisfaction member.

Results and Discussion

Overview of Research Objects and Respondents

This research was conducted at the Amanah Tongas Credit Union (CU), a financial services cooperative that collects savings and distributes loans to members based on the principles of family and mutual cooperation. To support its operations, the cooperative has implemented a member data management application operated by officers to record savings transactions, loans, and membership administration.

The research respondents consisted of 340 active members determined using the Slovin formula (5% error rate) from a population of 2,251 members, selected based on the criteria of having previously received cooperative services so that they could assess the quality of the application system, service quality, trust, and perceived satisfaction. Respondent characteristics in terms of gender and age group are presented in Table 1.

Table 1. Respondent Characteristics

Category	Classification	Amount	Percentage (%)
Gender	Man	155	45.6
	Woman	185	54.4
	Total	340	100
Age Group	19 – 25 years old	21	6.2
	26 – 32 years old	101	29.6
	33 – 39 years old	193	56.8
	40 – 46 years old	25	7.4
	Total	340	100

The majority of respondents were female (54.4%), and they were predominantly in the productive age group 33–39 (56.8%), with 38-year-olds the largest single group (11.8%). This composition indicates that respondents are generally of sufficient economic maturity to

provide an objective assessment of cooperative services.

Descriptive Statistics of Research Variables

Descriptions of respondents' answers to the four research variables — Member Data Management Application System Quality (X1), Service Quality (X2), Member Trust (X3), and Member Satisfaction (Y) — are measured using a Likert scale of 1–5. A summary of the average (mean) values for each variable is presented in Table 2.

Table 2. Descriptive Statistics of Research Variables

Variables	N	Item	Minimum	Maximum	Mean	Category
Application system quality (X1)	340	4	4	20	3.81	Tall
Service Quality (X2)	340	5	5	25	3.79	Tall
Member Trust (X3)	340	4	4	20	3.72	Tall
Member Satisfaction (Y)	340	4	4	20	3.65	Tall

All four variables are in the high category, with the Application System Quality (X1) recording the highest mean (3.81), followed by Service Quality (3.79), Member Trust (3.72), and Member Satisfaction (3.65). This indicates that members generally positively assess the application's performance, officer service, and their level of trust and satisfaction with the cooperative.

Instrument Validity and Reliability Test

Validity testing was conducted using Pearson Product Moment correlation on 340 respondents, resulting in an r-table value of 0.106 at a 5% significance level. Reliability testing used Cronbach's Alpha with a threshold of 0.60. A summary of the instrument testing results is presented in Table 3.

Table 3. Summary of Validity and Reliability Tests

Variables	Range of r-count	r-table	Cronbach's Alpha	Information
Application system quality (X1)	0.621 – 0.710	0.106	0.612	Valid & Reliable
Service Quality (X2)	0.615 – 0.653	0.106	0.618	Valid & Reliable
Member Trust (X3)	0.662 – 0.741	0.106	0.647	Valid & Reliable
Member Satisfaction (Y)	0.666 – 0.721	0.106	0.640	Valid & Reliable

All items in the four variables were declared valid because the calculated r-value was greater than the table r-value with a significance level below 0.05, and all constructs were declared reliable because the Cronbach's Alpha value exceeded 0.60. Thus, the research instrument was suitable for use in the next stage of regression analysis.

Classical Assumption Test

Before conducting multiple linear regression analysis, the model was tested using three classical assumptions: normality, multicollinearity, and heteroscedasticity. The normality test using the Normal PP Plot graph shows that the points are distributed along a diagonal line, indicating that the model residuals are normally distributed. The heteroscedasticity test using the Scatterplot graph shows that the points are randomly distributed around zero without forming a specific pattern, indicating that the model is free from heteroscedasticity symptoms. The results of the multicollinearity test are presented in Table 4.

Table 4. Multicollinearity Test Results

Variables	Tolerance	VIF	Information
Application system quality (X1)	0.781	1,280	There is no multicollinearity
Service Quality (X2)	0.683	1,465	There is no multicollinearity
Member Trust (X3)	0.762	1,313	There is no multicollinearity

All independent variables had a Tolerance value above 0.10 and a VIF below 10, indicating no signs of multicollinearity between the independent variables. With these three classical assumptions met, the regression model was declared suitable (BLUE) for use in hypothesis testing.

Multiple Linear Regression Analysis and Hypothesis Testing

Multiple linear regression analysis was used to test the effect of Member Data Management Application system quality (X1), Service Quality (X2), and Member Trust (X3) on Member Satisfaction (Y). The results of data processing with SPSS are shown in Table 5.

Table 5. Results of Multiple Linear Regression Analysis and t-Test

Model	B	Sig.	Information
(Constant)	4,661	-	-
Application system quality (X1)	0.050	0.403	Positive, not significant
Service Quality (X2)	0.242	< 0.001	Positive, significant
Member Trust (X3)	0.321	< 0.001	Positive, significant

Based on Table 5, the regression equation is obtained: $Y = 4.661 + 0.050X_1 + 0.242X_2 + 0.321X_3 + e$. The constant value of 4.661 indicates the magnitude of Member Satisfaction when the three independent variables are zero.

The results of the t-test (partial) show that the Member Data Management Application system quality variable (X_1) has a significance value of 0.403 (> 0.05), so H_1 is rejected X_1 has a positive but insignificant effect on Member Satisfaction. The Service Quality variable (X_2) has a significance of < 0.001 (< 0.05) with a coefficient of 0.242, so H_2 is accepted X_2 has a positive and significant effect. The Member Trust variable (X_3) has a significance of < 0.001 (< 0.05) with a coefficient of 0.321, so H_3 is accepted X_3 has a positive and significant effect, as well as being the variable with the greatest influence on Member Satisfaction. Simultaneous testing (F test) and coefficient of determination (R^2) are presented in Table 6.

Table 6. Results of the F-Test (Simultaneous) and the Coefficient of Determination

Indicator	Mark	Information
F count	41,940	F table = 2.64
Sig. F	< 0.001	Significant (< 0.05)
R Square	0.272	Contribution 27.2%
Adjusted R Square	0.266	Contribution 26.6%

The calculated F value of 41.940 is greater than the F table (2.64) with a significance of < 0.001 , so H_4 is accepted: Application system quality, Service Quality, and Member Trust simultaneously have a significant effect on Member Satisfaction. The Adjusted R Square value of 0.266 indicates that the three independent variables together are able to explain 26.6% of the variation in Member Satisfaction, while the remaining 73.4% is explained by other factors outside the model, such as organizational image, ease of service access, and benefits perceived by members.

Discussion

The Influence of the Quality of the Member Data Management Application System on Member Satisfaction

The test results indicate that the quality of the Member Data Management Application system has a positive but insignificant effect on Member Satisfaction. This condition is thought to occur because the application is operated directly by officers as an internal administration system, while members do not access it directly. Members only feel the indirect impact of the application through the quality of service provided by officers, not from direct interaction with the system. This finding differs from research that found a significant positive effect on mobile-based applications that can be accessed directly by end users, and is in line with the idea in the DeLone and McLean information system success model that the benefits of a new system can be felt by its users if users interact directly with the system (DeLone & McLean, 2003).

This result contrasts with Almaiah et al. (2022), who found that system quality had a positive and significant relationship with customer satisfaction among internet banking users. Similarly, Kim and Yang (2025) demonstrated that digital system quality, particularly

accessibility, security, and ease of use, significantly contributes to customer satisfaction in banking services. Alnaser et al. (2023) also showed that digital banking satisfaction is strongly shaped by attributes directly experienced by users, such as perceived performance, visual attractiveness, problem-solving capability, and communication quality. The difference may therefore be explained by the locus of system interaction: previous studies examined technologies that customers used directly, whereas the application in the present study functions primarily as a back-office administrative tool operated by cooperative officers. Theoretically, this finding refines the DeLone and McLean model by suggesting that the relationship between system quality and satisfaction may become weaker when beneficiaries are not the direct users of the system and experience its benefits only through mediated service outcomes.

The Influence of Service Quality on Member Satisfaction

Service Quality has been shown to have a positive and significant effect on Member Satisfaction, with a regression coefficient of 0.242. This means that the faster, more responsive, and friendlier the service provided by cooperative officers, the higher the satisfaction felt by members. As a financial services institution that interacts directly with its members, the quality of officer service is a major determinant of member perceptions of the cooperative, in line with the SERVQUAL concept which emphasizes that customer satisfaction is formed from the ability of service providers to meet or even exceed their expectations (Parasuraman et al., 1988).

This finding is consistent with Almaiah et al. (2022), who found that service quality significantly predicted customer satisfaction in internet banking, and with Nigatu et al. (2023), who demonstrated that convenience, reliability, ease of use, fulfillment, and security/privacy in banking services were positively and significantly associated with customer satisfaction. However, Aditiansyah et al. (2022) reported that service quality did not significantly affect satisfaction among mobile banking users. This difference indicates that the effect of service quality may depend on the dominant service channel. In the present cooperative context, members interact directly with officers, making responsiveness, reliability, assurance, and empathy more visible and immediately evaluable than in predominantly technology-mediated services. Thus, the finding strengthens the relevance of SERVQUAL in cooperative financial services by showing that interpersonal service quality remains a central source of satisfaction even when administrative processes are supported by digital technology.

The Influence of Member Trust on Member Satisfaction

Member Trust proved to be the variable with the largest and most significant influence (coefficient 0.321) on Member Satisfaction. This finding confirms that member confidence in transaction security, information transparency, and consistency of cooperative services are the primary foundations for satisfaction. These results align with Morgan and Hunt's Commitment-Trust Theory, which positions trust as a core element in building long-term relationships between an organization and its users (Morgan & Hunt, 1994).

This finding is consistent with Aditiansyah et al. (2022), who demonstrated that trust significantly influences customer satisfaction in mobile banking. Likewise, Margareta et al. (2023) found that trust had a positive and significant effect on banking customer satisfaction and served as a mediating mechanism linking mobile banking services with customer

satisfaction. Geebren and Jabbar (2021) further emphasize that trust represents a central mechanism through which system, information, and service quality can be translated into higher satisfaction in mobile banking. In the present study, trust also produces the largest regression coefficient among the three predictors, indicating the particular importance of confidence in security, transparency, reliability, and service consistency within a savings and loan cooperative.

The Simultaneous Influence of Three Variables on Member Satisfaction

Simultaneously, the three independent variables were proven to have a significant effect on Member Satisfaction with a clear power of 26.6%. Although the quality of the Application system is not yet partially significant, when combined with Service Quality and Member Trust, the three synergize to form a cooperative service ecosystem that influences member satisfaction. This finding indicates that KSP Credit Union Amanah Tongas member satisfaction is more determined by human elements service and trust than by the administrative technology system alone, so that improving service quality and maintaining member trust need to be a strategic priority for the cooperative, while developing applications that can be accessed directly by members can be an improvement agenda going forward.

This integrated pattern is consistent with Geebren and Jabbar (2021), who conceptualize customer satisfaction as the outcome of interconnected system quality, service quality, and trust mechanisms, and with Kim and Yang (2025), who demonstrate that system, information, and service quality collectively form digital quality that significantly contributes to customer satisfaction in the banking industry. Zhu and Wang (2022) likewise found a positive relationship between combined service, system, and information quality and satisfaction in mobile banking.

Conclusion

This study aims to analyze the influence of the quality of the member data management application system, service quality, and member trust on member satisfaction levels at the Amanah Tongas Credit Union Savings and Loan Cooperative. Based on the results of the data analysis, it can be concluded that the effectiveness of the member data management application implementation does not significantly influence member satisfaction levels. This indicates that the use of the administration application used internally by cooperative officers has not directly influenced members' perceptions of satisfaction with the services received.

Conversely, service quality and member trust were shown to have a positive and significant impact on member satisfaction. These results indicate that fast, responsive, and friendly service, as well as the cooperative's ability to build member trust, are the primary factors determining member satisfaction. Simultaneously, the quality of the member data management application system, service quality, and member trust significantly influenced member satisfaction, enabling the research model to explain the relationship between the three independent variables and the dependent variable.

Theoretically, these findings indicate that the contribution of system quality to satisfaction may depend on the extent to which members directly interact with the technology. In the context of cooperatives, an internally operated administrative system may not directly generate member satisfaction, whereas service quality and trust have a more immediate role in shaping members' perceptions. Thus, this study contributes to the literature

by emphasizing the importance of integrating information system quality, service quality, and trust in explaining member satisfaction in cooperative financial institutions. From a managerial perspective, cooperative management should prioritize responsive, reliable, and friendly services while continuously strengthening transparency, transaction security, and service consistency to maintain member trust. The member data management application should also be further developed to improve administrative efficiency and, where possible, provide features that can be accessed directly by members.

This study is limited to one savings and loan cooperative and examines only three determinants of member satisfaction, with the model explaining 26.6% of the variation in satisfaction. Therefore, the findings should be generalized with caution. Future research is encouraged to involve several cooperatives with broader respondent characteristics and incorporate additional variables, such as perceived usefulness, ease of use, digital service quality, organizational image, perceived value, and member loyalty, to provide a more comprehensive explanation of member satisfaction.

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