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Marbun, April Sabdi; Sinulingga, Sukaria; Iskandarini

Article

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Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
<https://www.zbw.eu/econis-archiv/>

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Analysis of Influence of Quality of Service and Quality of Products on Loyalty of Members with Member Satisfaction as Intervening Variable in Loan and Save Cooperative Nasari Branch Office of Medan

April Sabdi Marbun¹, Sukaria Sinulingga², Iskandarini³

^{1,2,3}Magister of Management, Universitas Sumatera Utara, Jl. Prof. T Maas SU Campus, Medan, Indonesia,

¹E-mail: aliaminunsyiah@yahoo.com

Abstract The purpose of this study is to provide proposed actions or steps to solve problems related to service quality and product quality to increase the loyalty of KSP members Nasari Medan branch with member satisfaction as intervening variable. The type of research used in this study is correlational research (correlational research). This research was conducted in Nasari Savings and Loan Cooperation Branch Office Medan, North Sumatera, Indonesia. This study consisted of two independent variables (exogenous), one intervening variable (endogenous) and one dependent variable (endogenous). Exogenous variables consist of Quality of Service and Product Quality, Intervening Variable is Member Satisfaction and endogenous variable is Member Loyalty. The research finds to service quality and product quality to increase the loyalty of KSP members Nasari Medan branch with member satisfaction as intervening variable.

Key words Quality of Service; Product Quality; Member Loyalty, Member Satisfaction

JEL Codes: G21, J54, 14, M31

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1. Introduction

One of the economic structures of Indonesia in economic activity in the field of business entity is Cooperative. The business world faces rapidly growing national economic growth, dynamic and also strategic environment change, this condition is also faced by cooperatives and small and medium enterprises (SMEs). According to data from the Ministry of Cooperatives and SME of the Republic of Indonesia shows that up to 31 December 2015 the number of cooperatives in Indonesia reached 212,135 units, including 150.223 active cooperatives, and 61,912 inactive cooperatives, 37,783,160 members, and 537,234 employees (www.depkop.go.id). In general, cooperatives are understood as associations of people who voluntarily unite themselves on the basis of common interests to fight for the improvement of their economic and social welfare, through the establishment of a democratically managed enterprise through an organization (Hanel, 2005). When viewed from the source, funds in the form of debt comes from member's savings and then time deposits or loans received by savings and loan cooperatives. Savings and Loan Cooperatives (KSP) Nasari is one of the National Primary Cooperatives in Indonesia, established on August 31, 1998 in Semarang City, Central Java. To date, KSP Nasari has 45 Branch Offices and 350 Service Counters spread across 32 Provinces of Indonesia. Savings and Loan Cooperative Nasari in running its business to serve the productive credit and consumptive to the Civil Servants and TNI as members and prospective members, in addition to serving credit KSP Nasari collects principal savings, mandatory savings and voluntary savings of its members. The operational pattern is almost exactly like Banking but Cooperative is more flexible because in running its business Cooperative is based on kinship. Medan Branch Office one of the largest branch offices in Indonesia was established in 2006 is located at Jl. Gatot Subroto No.231-233 Medan, currently Medan Branch Office consists of 3 Sub-Branch Offices, 1 funding office (Amaryllis Nasari), and 2 Cash Office. In the Account Book Report 2016 Medan Branch Office recorded receivables/loans disbursed amounting to Rp 92,321,260,208, and Total Deposit Fund of Rp 65.147.988.809.

Table 1. Total Distributed Credit Compared to Total Deposit Funds

No	Year	Total Loans disbursed	Total Deposit Fund	LDR Nett Ratio
1	2013	62.545.998.920	25.792.468.037	242,50%
2	2014	69.711.705.429	30.644.813.846	227,48%
3	2015	75.374.996.658	41.662.903.805	180,91%
4	2016	92.321.260.208	65.147.988.809	141,71%

Source: Data of KSP Nasari KC Medan, (2016).

From this phenomenon, the performance of deposit collection is still weak, or in other words the interest of members to save their funds in KSP NASARI is still low, which should be the ratio of Loan to Deposit Ratio (LDR) in Healthy Cooperative Financial Ratio is 95% meaning that if collected funds amounting to Rp 65.147.988.809, then the credit should be distributed a maximum of 95% or amounting to Rp 61,890,589,369, but in reality the credit already disbursed has reached Rp 92.321.260.208 or deviation of Rp 30,430,670,839. The collection of funds by KSP Nasari has not been able to balance the amount of credit disbursed to its members. This condition makes the researcher interested to examine some of the possibilities that cause the lack of interest of KSP NASARI members to save the funds. In this research, the researcher tries to find solution of problem with the approach of Quality Service and Quality of KSP Nasari Savings Product to KSP Nasari Members Loyalty with Member Satisfaction as intervening variable.

2. Literature review

2.1. Service Quality

Quality of service is defined as the customer's assessment of the superiority or privilege of a product or service as a whole (Zeithaml, 1998). Quality of service especially the service sector is always identified with the quality of the business itself, the better and satisfying level of service it will be the quality of the business and vice versa, so the effort to improve the service is always done in order to maximize the quality of services. ServQual method was first developed in 1985 by A. Parasuraman, Valarie A. Zeithaml, and Leonard L. Berry through their article in Journal of Marketing. The method in the journal was then revised by the article "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality." Through a series of focus group discussions they held earlier, Parasuraman, Zeithaml, and Berry proposed 10 categories of Service Quality. These 10 categories are called "Service Quality Determinants." The 10 categories are overlapping because they are developed through exploratory studies that use qualitative approach (Gusnardi *et al.*, 2016; Muda *et al.*, 2018). They summarized the 10 determinants into a table, which we complete as follows: (1) Reliability includes consistency of performance and reliability. Meaning, the organization shows the service immediately. It also means the organization honors its promise; (2) Responsiveness is the desire or readiness of workers in providing services; (3) Competence means mastering the skills and knowledge needed to perform the service; (4) Access is easy and close contact; (5) Courtesy includes hospitality, respect, consideration, and friendship in personnel contacts (including receptionists, telephone operators, etc.); (6) Communication means ensuring customers to obtain information in a language they can understand and listen to; (7) Credibility includes trust, confidence, and honesty; (8) Security is independence from danger, risk, or doubt; (9) Understanding/Knowing the Customer includes making efforts to understand customer needs; (10) Tangibles include the physical appearance of the service.

Parasuraman, Zeithaml and Berry present 10 determinants to determine the Perceived Service (PS). In their second article they revised the 10 determinants. For that purpose this research will use the model compiled into a conceptual framework image as follows:

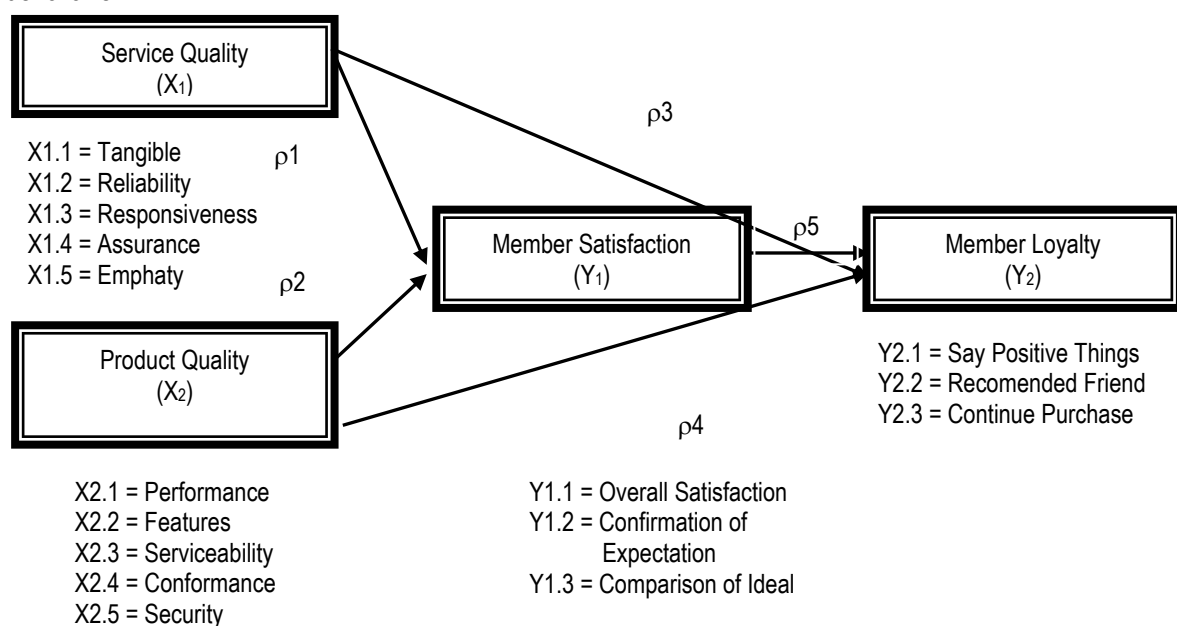


Figure 1. Conceptual Framework

3. Methodology of research

3.1. Type of Research

The type of research used in this study is correlational research (a correlational research) is a study conducted to detect the extent to which variations in a factor related (correlated) with one or more other factors based on correlation coefficient. Correlational research is somewhat similar to cause-and-effect research, but not identical (Maksum *et al.*, 2014; Muda and Rafiki, 2014; Suriadi *et al.*, 2015; Nurzaimah *et al.*, 2016; Lubis *et al.*, 2016; Lutfi *et al.*, 2016; Syahyunan *et al.*, 2017; Sirojuzilam *et al.*, 2017; Sihombing *et al.*, 2017; Tarmizi *et al.*, 2016, 2017; Yahya *et al.*, 2017; Erlina and Muda, 2018; Muda *et al.*, 2018). Correlation research is only interested in getting answers about whether or not there is one factor relationship with other factors. Approach in this research is cross sectional that is studying independent variable and dependent variable simultaneously at a certain time (Sinulingga, 2014).

3.2. Definition of Research Operational

Table 2. Operational Variable

Variable	Indicator Variable	Scale
Exogenous 1 Service quality (X_1)	1. Equipment and latest technology	Likert Scale
	2. Very interesting facilities	
	3. The appearance of employees is very neat	
	4. Physical facilities that are very appropriate with the type of service	
	5. Abide by appointments	Likert Scale
	6. Help members quickly if there is a problem	
	7. Service correctly implemented from the start	
	8. Provision of services in accordance with the promise and advertising	
	9. Document recording is complete and correct	Likert Scale
	1. Information on the service certainty	
	2. Provide fast service	
	3. Excited in helping members	
	4. Employees take the time to respond to member requests	Likert Scale
	5. Employee behavior is very convincing and trustworthy	
	6. Security of transactions	
	7. Employees are polite to members	
	8. Employees have good knowledge	Likert Scale
	1. Employees pay personal attention to members	
	2. Hours of convenient service for members	
	3. Employees who are very caring and considerate	
	4. Placing members as a priority	Likert Scale
	5. Understand the specific needs of members	
Exogenous 2 Product quality (X_2)	6. Higher savings interest	Likert Scale
	7. Excellent cash/rewards	
	8. Ease of service process	
	9. Product specifications in accordance with member expectations	
	10. Security savings in KSP Nasari	
Endogenous 1 Member Satisfaction (Y_1)	11. Overall satisfaction of KSP Nasari service	Likert Scale
	12. Service satisfaction exceeds expectations	
	13. Satisfaction of interest on savings in KSP Nasari	
Endogenous 2 Member Loyalty (Y_2)	1. Members get many service and financial benefits	Likert Scale
	2. Members recommend KSP Nasarik to others	
	3. Saving back at KSP Nasari	

The measurement of each variable in the theoretical framework is an integral part of the research activity and is one of the most important aspects of the research design. One important aspect in the measurement of operational research variables is how to rate each of the measured variables. The value of each variable is measured by a certain scale according to the nature of the variable. The measurement scale used in this variable is Likert scale; this scale is a declarative statement that indicates the degree of agreement of the respondent to a statement. The level of agreement is generally divided into five levels: Very Disagree is given a score of value (1), Disagree is given a score of value (2), Less Agree given score value (3), Agree given score (4), and Strongly Agreed score (5). Measurement of variables is done not through questions but through statements and respondents are asked to make choices about their level of agreement in accordance with their perceptions

by choosing one number (Sinulingga, 2014; Dalimunthe *et al.*, 2016 & 2017; Azlina *et al.*, 2017; Agustina *et al.*, 2018; Muda *et al.*, 2017, 2018 and Sihombing *et al.*, 2018).

3.3. Population and Sample

The population is the entire member or group that forms the object subject to investigation by the researcher (Sekaran, U, 2003; Badaruddin *et al.*, 2017; Achmad *et al.* 2017; Pohan *et al.*, 2018; Lubis *et al.*, 2018; Marhayanie *et al.*, 2018; Muda and Hasibuan, 2018; Muda and Windari, 2018; Muda, 2018). The population in this study are all members of KSP Nasari Branch Medan which amounted to 3,050 people. Elements drawn from the population will be called samples if the characteristics possessed by the combined elements drawn represent the characteristics of the population (Sinulingga, 2014). In this research the sampling technique used was probability sampling which a sampling technique where all members/elements of the population have the same probability to be selected as the sample member which amounts to 50% in Gatot Subroto street office no.231-233 Medan, Indonesia. Determination of sampling amount taken in this study was taken to refer to Table For Determining Sample Size From A Given Population by Krejcie and Morgan (2000) in Juliandi and Irfan (2013). Based on Table 3. then the number of samples from the population of 3050 people to be taken were as many as 341 people. In starting the research an observation will be taken a sample of 30 respondents as the initial step in determining the level of validation and reliability indicators of the questionnaire to be given.

Table 3. Table For Determining Sample Size From a Given Population

Population (N)	Sample (n)	Population (N)	Sample (n)	Population (N)	Sample (n)
10	10	220	140	1.200	291
15	14	230	144	1.300	297
20	19	240	148	1.400	302
25	24	250	152	1.500	306
30	28	260	155	1.600	310
35	32	270	159	1.700	313
40	36	280	162	1.800	317
45	40	290	165	1.900	320
50	44	300	169	2.000	322
55	48	320	175	2.200	327
60	52	340	181	2.400	331
65	56	360	186	2.600	335
70	59	380	191	2.800	338
75	63	400	196	3.000	341
80	66	420	201	3.500	346
85	70	440	205	4.000	351
90	73	460	210	4.500	354
95	76	480	214	5.000	357
100	80	500	217	6.000	361
110	86	550	226	7.000	364
120	92	600	234	8.000	367
130	97	650	242	9.000	368
140	103	700	248	10.000	370
150	108	750	254	15.000	375
160	113	800	260	20.000	377
170	118	850	265	30.000	379
180	123	900	269	40.000	380
190	127	950	274	50.000	381
200	132	1.000	278	75.000	382
210	136	1.100	285	100.000	384

Source: Krejcie and Morgan (2000) in Juliandi and Irfan (2013).

The data normality test is useful for determining which data has been collected to be normally distributed or taken from the normal population. Classical methods in testing the normality of a data are not so complicated. Based on the empirical experience of some statisticians, data of more than 30 data ($n > 30$) can already be assumed to be normally distributed (Rasdianto *et al.*, 2014; Ferine *et al.*, 2017; Handoko *et al.*, 2017; Hasan *et al.*, 2017; Hutagalung *et al.*, 2017; Sadalia *et al.*, 2017; Erlina *et al.*, 2017; Nurlina and Muda, 2017; Marhayanie *et al.*, 2017 & 2018; Muda, 2018; Nasution *et al.*, 2018).

Commonly said to be a large sample. However, to provide certainty, the data held normally distributed or not, should be used statistical tests of normality because not necessarily more than 30 data can be ascertained normal distribution, vice versa data less than 30 not necessarily not normally distributed, for that need a proof. Santoso (2005) suggests that to know whether the data is normally distributed or close to normal and or bias is considered normal, if the bias then will be tested Normality Plot, a test using the P-P plot. Test the normality of data by using the Normality Plot test with the basis of decision-making view P-P plot is that if the distribution of data appear clustered around the test line leading to the top right and no data located far from the distribution of data. Thus the data can be said to be normal. Heteroscedasticity test agrees to determine whether there are differences in residual variation of a observation period to another. Observation period, or a picture of the relationship between the predicted value and the standardized delete residual value. Heteroskedastisitas can be tested by using the graph method that is by looking at the presence or absence of certain patterns depicted on the graph. If the pattern of dots formed form a regular pattern (wavy, widened, then narrowed), then there has been heteroscedasticity in the regression model (Suriadi *et al.*, 2015; Tarmizi *et al.*, 2016; Syahyunan *et al.*, 2017; Situmorang *et al.*, 2017; Sirojuzilam *et al.*, 2017, 2018). Conversely, if it does not form a clear pattern in which the points spread above and below zero on the Y axis, then there is no heteroscedasticity in the regression model (Ghozali, 2015). Multicollinearity test aims to test whether in the regression model found a correlation between independent variables. Regression model that should not occur correlation between independent variables. Ghozali (2015) says that if independent variables are mutually correlated, then these variables are not orthogonal. The orthogonal variable is the independent variable whose correlation value among the independent variables equals zero. To detect the presence or absence of multicollinearity in the regression model can be seen from the tolerance and the opposite of Variance Inflation Factor (VIF), if the VIF value <10 means no multicollinearity occurs. The t test is used to test the partial regression coefficients to determine whether individual independent variables significantly influence the independent variables. F test is used to find out whether the independent variables together have a significant effect on the dependent variable.

4. Results and discussions

4.1. Results

4.1.1. Respondent Identity

Characteristics of study respondents can be seen in Table 4.

Table 4. Respondents Identity

No	Characteristic	Frequency (Person)	Percentage %
1	Sex		
	a. Male	157	46,04%
	b. Female	184	53,96%
	Total	341	100%
2	Age		
	a. < 30 yrs old	25	7,33%
	b. 30-40 yrs old	73	21,41%
	c. 41-50 yrs old	115	33,72%
	d. 51-60 yrs old	80	23,46%
	e. > 60 yrs old	48	14,08%
	Total	341	100%
3	Education		
	a. Junior High	14	4,11%
	b. Senior High	131	38,42%
	c. Diploma – S1 (Undergraduate)	180	52,79%
	d. S2 (Postgraduate)	16	4,69%
	Total	341	100%
4	Occupation		
	a. Civil Servant / Military/ Police	60	17,60%
	b. Private Employee	44	12,90%
	c. Entrepreneur	110	32,26%
	d. Housewife	35	10,26%
	e. Other	92	26,98%
	Total	341	100%
5	Tenure as member		

No	Characteristic	Frequency (Person)	Percentage %
a.	<3 yrs	93	27,28%
b.	3 – 5 yrs	164	48,09%
c.	6 – 10 yrs	58	17,01%
d.	> 10 yrs	26	7,62%
Total		341	100%

Source: Results of questionnaire data processing, 2017 (data processed)

4.1.2. Validity and Reliability Test

Validity Test

Validity is a measure that refers to the degree of conformity between the data collected and the actual data in the data source. Valid data will be obtained if the instrument of data collection is valid as well. Therefore, to test the validity of the data then the test is performed on the instrument of data collection (questionnaire) (Sinulingga, 2014; Yahya *et al.*, 2017; Eriadi *et al.*, 2018; Tripriyono *et al.*, 2018; Muda *et al.*, 2018; Sadalia *et al.*, 2018; Sari *et al.*, 2018). Conducted a questionnaire by asking 30 respondents to answer the questions. With a minimum number of these 30 people, the scores distribution (value) will be closer to the nominal curve (Umar, 2010). Criteria testing with the formula 4.1 Product Moment Correlation, Validity Test by Sugiyono (2014) is:

- If $r_{\text{count}} \geq r_{\text{critical}}$, then question variable is Valid
- If $r_{\text{count}} < r_{\text{critical}}$ then question variable is Valid.

The test used a two-tailed test with a significance level of 0.005.

a. Validity Test Results

In the following table the results of the validity test can be seen:

Table 5. Results of Validity Test Variable of X1, X2, Y1 and Y2

Variable	Questionnaire	r_{count}	$r_{\text{criticals}}$	Note
Tangible	X1-1	0,659	0,361	Valid
	X1-2	0,558	0,361	Valid
	X1-3	0,737	0,361	Valid
	X1-4	0,581	0,361	Valid
Reliability	X1-5	0,455	0,361	Valid
	X1-6	0,588	0,361	Valid
	X1-7	0,557	0,361	Valid
	X1-8	0,617	0,361	Valid
	X1-9	0,618	0,361	Valid
Responsiveness	X1-10	0,460	0,361	Valid
	X1-11	0,476	0,361	Valid
	X1-12	0,560	0,361	Valid
	X1-13	0,689	0,361	Valid
Assurance	X1-14	0,553	0,361	Valid
	X1-15	0,504	0,361	Valid
	X1-16	0,628	0,361	Valid
	X1-17	0,381	0,361	Valid
Emphaty	X1-18	0,694	0,361	Valid
	X1-19	0,468	0,361	Valid
	X1-20	0,478	0,361	Valid
	X1-21	0,566	0,361	Valid
	X1-22	0,653	0,361	Valid
Product Quality	X2-23	0,441	0,361	Valid
	X2-24	0,732	0,361	Valid
	X2-25	0,757	0,361	Valid
	X2-26	0,547	0,361	Valid
	X2-27	0,449	0,361	Valid
Member Satisfaction	Y1-28	0,415	0,361	Valid

Variable	Questionnaire	r _{count}	r _{criticals}	Note
Member Loyalty	Y1-29	0,525	0,361	Valid
	Y1-30	0,738	0,361	Valid
	Y2-31	0,366	0,361	Valid
	Y2-32	0,574	0,361	Valid
	Y2-33	0,643	0,361	Valid

Source: Results of SPSS Processing Version 17, 2017 (Data processed).

All questions on each variable with each indicator in the table has a validity value greater than 0.361 thus it is categorized as valid and can be used in the research.

Reliability Test

The calculation of the reliability of the study was conducted with the help of SPSS program version 19, with a sample of 30 respondents. In Table 6. the following reliability test results can be seen:

Table 6. Results of Reliability Test of X1,X2, Y1, and Y2

Variable	Questionnaire	Alpha Cronbach	Limitations	Note
Tangible	X1-1	0,909	0,60	Reliable
	X1-2	0,912	0,60	Reliable
	X1-3	0,906	0,60	Reliable
	X1-4	0,911	0,60	Reliable
Reliability	X1-5	0,914	0,60	Reliable
	X1-6	0,910	0,60	Reliable
	X1-7	0,911	0,60	Reliable
	X1-8	0,910	0,60	Reliable
	X1-9	0,910	0,60	Reliable
Responsiveness	X1-10	0,913	0,60	Reliable
	X1-11	0,913	0,60	Reliable
	X1-12	0,911	0,60	Reliable
	X1-13	0,909	0,60	Reliable
Assurance	X1-14	0,911	0,60	Reliable
	X1-15	0,912	0,60	Reliable
	X1-16	0,911	0,60	Reliable
	X1-17	0,914	0,60	Reliable
Emphaty	X1-18	0,908	0,60	Reliable
	X1-19	0,913	0,60	Reliable
	X1-20	0,913	0,60	Reliable
	X1-21	0,911	0,60	Reliable
	X1-22	0,910	0,60	Reliable
Product Quality	X2-23	0,812	0,60	Reliable
	X2-24	0,700	0,60	Reliable
	X2-25	0,686	0,60	Reliable
	X2-26	0,754	0,60	Reliable
	X2-27	0,782	0,60	Reliable
Member Satisfaction	Y1-28	0,767	0,60	Reliable
	Y1-29	0,651	0,60	Reliable
	Y1-30	0,349	0,60	Reliable
Member Loyalty	Y2-31	0,809	0,60	Reliable
	Y2-32	0,552	0,60	Reliable
	Y2-33	0,427	0,60	Reliable

Source: Results of SPSS Processing Version 17, 2017 (Data processed).

From the Table it shows that alpha cronbach value of all variables is greater than 0.60, it shows that Reliable and reliable variables to be used in research.

*Data Analysis**Path Analysis*

Path analysis is the development of the regression model used to test the fit of the correlation matrix of two or more models compared by the researcher (Schumaker and Lomax, 1996 in Sinulingga, 2014). Models are usually depicted with circles and arrows showing a causality relationship. Regression is done for each variable in the model. Path analysis is an expansion of the regression model used to test the fit of the correlation matrix of two or more models compared by the researcher (Sihombing *et al.*, 2015; Syahyunan *et al.*, 2017; Erwin *et al.*, 2018 and Muda, 2018). Models are usually depicted with circles and arrows showing a causality relationship. Regression is done for each variable in the model. The regression values predicted by the model were compared with the observed variable correlation matrix and the goodness-of-fit values were calculated. The best model is chosen based on goodness-of-fit (Ghozali, 2012; Erlina and Muda, 2018). The regression values predicted by the model were compared with the observed variable correlation matrix and the goodness-of-fit values were calculated. The best model is chosen based on goodness-of-fit (Ghozali, 2012; Sihombing *et al.*, 2018). The path mathematical model is often called the structural model, it can be formulated as below:

$$Y_1 = \rho_1 X_1 + \rho_2 X_2 + \dots + e_1 \quad (1)$$

$$Y_2 = \rho_3 X_1 + \rho_4 X_2 + \rho_5 Y_1 + \dots + e_2 \quad (2)$$

Direct Effect or DE)

- Direct influence of service quality variable to Member Satisfaction $\rho_1 = 0,316$
- Direct influence of Product Quality variable to Member Satisfaction $\rho_2 = 0,460$
- Direct Influence of Service Quality variable to Member Loyalty $\rho_3 = 0,288$
- Direct influence of Product Quality variable to Member Loyalty $\rho_4 = 0,171$
- Direct influence of Member Satisfaction variable on Member Loyalty $\rho_5 = 0,322$

Indirect Effect or IE

- Indirect influence of Service Quality variable to Member Loyalty through Member Satisfaction

$$(\rho_1) (\rho_5) = (0,316 \times 0,322) = 0,102$$

- Indirect influence of Product Quality variable on Member Loyalty through Member Satisfaction

$$(\rho_2) (\rho_5) = (0,460 \times 0,322) = 0,148$$

Total Effect

- Influence of Service Quality variable to Member Loyalty through Members Satisfaction

$$\rho_3 + (\rho_1) (\rho_5) = (0,316 + 0,102) = 0,418$$

- Influence of product quality variable to member loyalty through member satisfaction

$$\rho_4 + (\rho_2) (\rho_5) = (0,460 + 0,148) = 0,608$$

Table 7. Results of Direct, Indirect and Total Influence Testing

Direct Effect	Value	Indirect Effect	Value	Total Effect	Value
ρ_1	0,316	$(\rho_1) (\rho_5)$	0,102	$\rho_3 + (\rho_1) (\rho_5)$	0,418
ρ_2	0,460	$(\rho_2) (\rho_5)$	0,148	$\rho_4 + (\rho_2) (\rho_5)$	0,608
ρ_3	0,288				
ρ_4	0,171				
ρ_5	0,322				

Source: Results of SPSS Processing Version 17, 2017 (Data processed)

Figure of Path Analysis Model

The calculation for all paths of influence then the path diagram for the path analysis model can be illustrated as below:

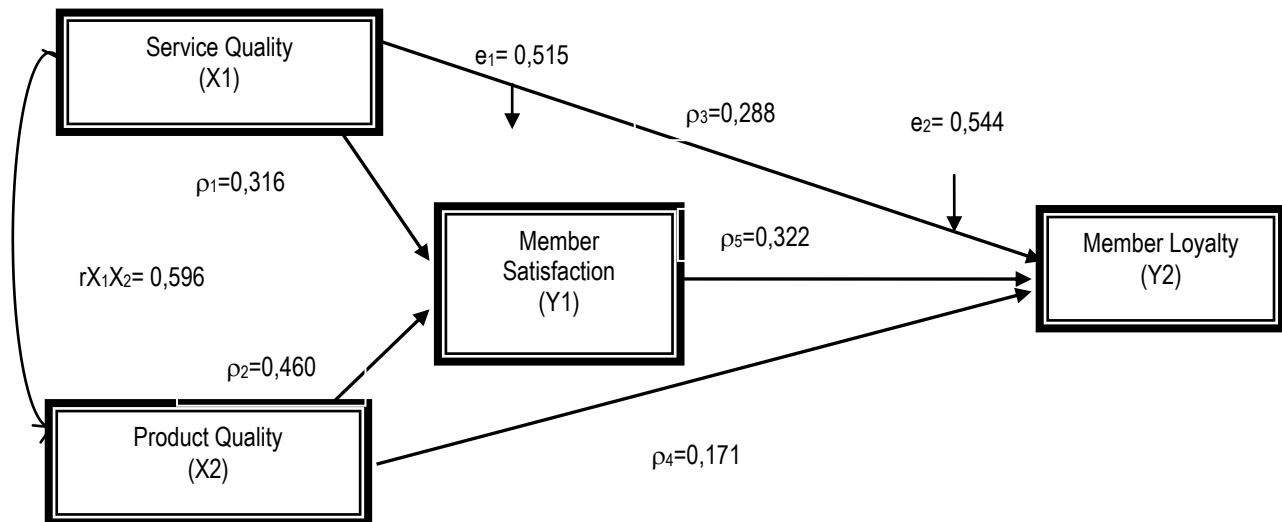


Figure 2. Model of Path Structure Analysis

The path diagram has the following structural equations:

$$\text{sub structure 1 : } Y_1 = 0,316X_1 + 0,460X_2 + e_1$$

$$\text{sub structure 2 : } Y_2 = 0,288X_1 + 0,171X_2 + 0,322Y_1 + e_2$$

$$\text{Coefficient of Total Determination } R^2_m = 1 - P^2_{e1} \cdot P^2_{e2} = 1 - (0,515 \times 0,544) = \mathbf{0,719}$$

This figure shows that the information contained in 71.9% data can be explained by the model, while the rest is explained by other variables and error.

4.2. Discussions

This research was conducted at KSP Nasari Medan branch office, researching about the influence of service quality and product quality to member loyalty with member satisfaction as intervening variable. From the result of t test conducted by variable of service quality, product quality and member satisfaction have positive and significant influence to member loyalty. Service quality variable has direct effect significantly to member satisfaction in accordance with the result of t test of influence of service quality with member satisfaction which show value of standardized coefficients or beta value equal to 0,316, with significance $0,000 < 0,05$. Test results show that respondents' assessment of service quality will influence the level of member satisfaction. KSP Nasari KC Medan has provided good service quality to its members which are divided into 5 dimensions: tangible, reliability, responsiveness, assurance and empathy. In reliability KSP Nasari members feel that KSP Nasari's employees are able to provide services as promised. KSP Nasari's employees are able to handle the problems facing their members, and KSP Nasari employees always provide the information correctly. In responsiveness, members feel that KSP Nasari employees are quick to provide their services, KSP Nasari employees are always willing to help its members, and KSP Nasari employees are always ready to respond to requests from its members. In assurance, members feel that KSP Nasari's employees are able to generate trust from members to KSP Nasari, KSP Nasari's employees are able to make customers feel secure while receiving services, KSP Nasari employees consistently behave to their members, and KSP Nasari's employees are able to answer questions from members. In the empathy, members feel that KSP Nasari employees give personal attention to their members, KSP Nasari employees seek good relationships with their members, and KSP Nasari employees are able to understand the needs of its members. In tangible, customers feel that the availability of existing facilities in KSP Nasari's office is up-to-date, KSP Nasari's employees have a neat appearance for their members, the promotional media available at KSP Nasari are informative and interesting, and KSP Nasari provides a source of information that can provide a sense of security to its members. This is in accordance with statements made by Zeithaml *et al.* (2009) where customer satisfaction is influenced by customer perceptions of service quality. If customer perceptions of service quality are high, then customer satisfaction will also be high, and vice versa. Then, this is in accordance with Kotler and Keller's (2009) opinion that "Satisfaction will also depend on product and service quality". Therefore it can be said that satisfaction will also depend on the product and quality of services provided.

Variable of service quality has direct influence significantly to member loyalty, it is in accordance with result of t test of influence of service quality with member loyalty which show value of standardized coefficients or beta value equal to 0,288,

with significance $0,000 < 0,05$, That is, if service quality of KSP Nasari KC Medan increased by 1 unit, then member loyalty will increase by 0,288, or better service quality in KSP Nasari then will increasingly increase member loyalty. In responsiveness, members feel that KSP Nasari employees are quick to provide their services, KSP Nasari employees are always willing to help its members, and KSP Nasari employees are always ready to respond to requests from their members. In assurance, members feel that KSP Nasari employees are able to generate trust from members to KSP Nasari, KSP Nasari employees are able to make customers feel secure while receiving services, KSP Nasari employees consistently behave to their members, and are able to answer questions from their members. In empathy, members feel that employees give personal attention to their members, KSP Nasari employees seek to establish good relations with their members and KSP Nasari employees are able to understand the needs of its members. Variable of service quality indirectly influence significantly to member loyalty through intervening member satisfaction variable, indirect relationship can be seen from influence of service quality to member satisfaction and influence of member satisfaction to member loyalty, value of standardized coefficients is 0,102 ($0,316 \times 0,322$), with significance $0,000 < 0,05$, meaning if service quality of KSP Nasari increases by 1 unit, then member loyalty will also increase equal to 0,102. This means that the better the quality of service then the loyalty of members will also increase due to member satisfaction is also increasing. This is in accordance with statements made by Zeithaml, Bitner and Dwayne (2009) where customer satisfaction is influenced by customer perceptions of service quality. If customer perceptions of service quality are high, then customer satisfaction will also be high, and vice versa. Then, this is in accordance with Kotler and Keller's (2009) opinion, that "Satisfaction will also depend on product and service quality". Therefore it can be said that satisfaction will also depend on the product and quality of services provided. Based on the above opinion, it can be said that the quality of service has a positive influence on customer satisfaction.

The direct influence of service quality on member loyalty is 0,288 bigger than indirect influence of service quality to member loyalty with member satisfaction as intervening variable equal to 0,102, thus in order to increase loyalty member it is better to choose direct path. This shows that to increase members loyalty is not necessarily through members satisfaction because most loyal members can be improved by directly assessing KSP Nasari service quality, therefore KSP Nasari needs to carefully pay attention and improve service quality so that members loyalty increase. The results of this study are in accordance with the research conducted by Parasuraman, Zeithaml, and Berry, 1988, that the quality of inherent service with customer satisfaction, which increases the quality of service is used as a reflection of increasing customer satisfaction. Product quality variable has direct effect significantly to member satisfaction, it is in accordance with the result of t test of product quality influence with member satisfaction which shows value of standardized coefficients or beta value equal to 0,460, with significance $0,000 < 0,05$. The results of this study are in accordance with the research of Parasuraman *et al.*, (1988) that the quality of inherent service with customer satisfaction, which increases the quality of service (the more positive) is used as a reflection of increased customer satisfaction.

Product quality variable has direct effect significantly to member loyalty, it is in accordance with result of t test of influence of product quality with member loyalty which show value of standardized coefficients or beta value equal to 0,171, with significance $0,003 < 0,05$ meaning that if product quality increase by 1 unit, then the loyalty of members will increase by 0.171 or the better the quality of products in KSP Nasari it will increase the loyalty of members. Variable of product quality indirectly influence significantly to member loyalty through intervening member satisfaction variable, indirect relation can be seen from influence of product quality to member satisfaction and influence of member satisfaction to member loyalty, each value of standardized coefficients is 0,148 ($0,460 \times 0,322$) with a significance of $0,000 < 0,05$. The direct effect of product quality on member loyalty of 0.171 is greater than the indirect effect of product quality on the loyalty of members with member satisfaction as intervening variable of 0.148. So as to increase the loyalty of members it should select direct path. It can be said that member satisfaction cannot function effectively as intervening variable between service quality and members loyalty. This research is in accordance with the research conducted by John Sviokla in Lupiyoadi and Hamdani (2009), the external significance can be implied in the production process of a good (service), ie where the quality of the product (service) provided by the company can create a positive perception of the customer to the company and generate customer satisfaction and loyalty. Intervention member satisfaction variable significantly influence member loyalty, it is in accordance with result of t test of influence of member satisfaction with member loyalty that show value of standardized coefficients or beta value is equal to 0,322, with significance $0,003 < 0,05$, it means if member satisfaction increase by 1 unit, then the loyalty of members will increase by 0.322 or the better satisfaction of members in KSP Nasari then it will increasingly increase member loyalty. This shows the respondent's assessment of the satisfaction of members will influence the level of loyalty of members. Satisfaction received by members is able to shape them become more loyal to KSP Nasari KC Medan. Based on the results of research known that member satisfaction has a significant relationship to customer loyalty in KSP Nasar KC Medan. This indicates that respondents' assessment of member satisfaction will affect the loyalty level of the members. This shows that the satisfaction received by the members is able to shape them become

more loyal to KSP Nasari KC Medan. When a company delivers a product or service that exceeds the member's expectations members will feel satisfied. And from this satisfaction, it will have a positive effect on member loyalty. This result is in line with Oliver's (1997) assertion that in the long term, customer satisfaction will have an impact on customer loyalty. When a customer is satisfied with the product or service provided by a company, the customer will tend to re-purchase the product or return to the service, which is one indicator of customer loyalty.

5. Conclusions and suggestions

5.1. Conclusions

1. Quality of service has a positive and significant influence on member satisfaction, and service quality has a direct effect of 0.316 on member satisfaction.
2. Quality of service has a positive and significant influence on member loyalty, and service quality has a direct effect of 0.288 on member loyalty
3. Quality of service has positive and significant influence to member loyalty through satisfaction as intervening variable, and service quality indirectly influence 0,102 to member loyalty through member satisfaction as intervening variable
4. The quality of the product has a positive and significant influence on the satisfaction of members, and the quality of the product has a direct effect of 0.460 to the satisfaction of members.
5. The quality of product has a positive and significant influence on the loyalty of members, and the quality of product has a direct effect of 0.171 on the loyalty of members.
6. Product quality has positive and significant influence to member's loyalty through members satisfaction as intervening variable, and product quality has an indirect influence of 0,148 to members loyalty through members satisfaction as intervening variable.
7. Member satisfaction has a positive and significant influence on member loyalty to KSP Nasari KC Medan
8. The direct effect of service quality on member loyalty is greater than the indirect effect of service quality on member loyalty through member satisfaction.
9. The direct effect of product quality on member loyalty is greater than the indirect effect of product quality on member loyalty through member satisfaction.
10. Based on the results of total effect, then to increase member loyalty it is more effective if it is through member satisfaction variable.

5.2. Suggestions

1. To improve the quality of KSP Nasari services, it can provide training to employees to improve aspects of reliability, officer responsiveness, security guarantee transactions, and empathy.
2. KSP Nasari needs to establish a reliable marketing team, because a successful company can be seen from the marketing force.
3. Seeing the existing competitive conditions, which competitors of KSP Nasari not only cooperatives, but including Banking, for that KSP Nasari needs to implement a strategy to pick up the ball (door to door).
4. KSP Nasari also needs to periodically evaluate its products, to be adjusted to the needs and wants of members so that KSP Nasari product has a competitive advantage in the market, attractive product features, easy to access or use.
5. KSP Nasari can make a personal touch to its members by routinely doing maintenance to its members, which can be done with regular visits to members houses.
6. For larger scale KSP Nasari can also conduct Customer Gathering regularly and continuously to establish good relationships with members.

References

- Achmad, N; & Muda, I. (2017). Economic Activities of Karo Older Adults in Lingga Village, Tanah Karo Regency, North Sumatera, Indonesia. *International Journal of Economic Research*. 14(16). 365-379.
- Agustina. T. A. S., Lubis & Muda., I., (2018). Various Aspects of The Implementation of SIMDA Which Influence The Quality of Financial Statement with The Role of PPK-SKPD as Moderating Variable (A Case Study at The SKPD of Deli Serdang Regency). *Advances in Economics, Business and Management Research (AEBMR)*. 46. 176-183.
- Aryani, Ferlina. (2008). *Building Customer Loyalty through Improving Service Quality and Product Excellence (Empirical Study at PT Bank Bukopin Tbk Semarang city)*. University of Diponegoro Semarang. Semarang
- Azlina, N. A.Hasan, Desmiyawati & Muda, I. (2017). The Effectiveness of Village Fund Management (Case Study at Villages in Coastal Areas in Riau). *International Journal of Economic Research*. 14(12). 325-336.
- Badaruddin; Revida, E; Ermansyah & Muda, I. (2017). Village Governance With Implementation of Law Number 6 of 2014 On The Village and Village Administration. *International Journal of Economic Research*. 14(16). 350-363.
- Dalimunthe, D.M.J., and Muda, I. (2017). The Empirical Effect of Education and Training to the Performance of Employees. *International Journal of Applied Business and Economic Research*. 15(24). 5423-5437.
- Dalimunthe, D.M.J., Fadli, and Muda, I. (2016). The application of performance measurement system model using Malcolm Baldrige Model (MBM) to support Civil State Apparatus Law (ASN) number 5 of 2014 in Indonesia. *International Journal of Applied Business and Economic Research*. 14(11). 7397-7407.
- Dharmesta, Basu Swastha and Irawan, (2001). *Modern Marketing Management*, Yogyakarta. Liberty.
- Durianto, Darmadi., Sugiarto & Sitinjak, T. (2001). *Strategy of Conquering the Market through Research Equity and Brand Behavior*., Jakarta. Gramedia Pustaka Utama.
- Eriadi, Muda, I, and Abdullah, S. (2018). Determinant Analysis of the Quality of Local Government Financial Statements in North Sumatra with the Effectiveness of Management of Regional Property as a Mediator, *International Journal of Civil Engineering and Technology*, 9(5). 1334–1346.
- Erlina and Muda, I, (2018). Determinants Of The Implementation Of Risk-Based Internal Auditing In Regencies/Cities In North Sumatera Province, *International Journal of Civil Engineering and Technology*, 9(5), 1360 - 1372.
- Erlina and Muda, I, (2018). The Effect of Self Efficacy and Professional Development on the Work Quality of Internal Auditor, *International Journal of Civil Engineering and Technology*, 9(5), 2018, 1292–1304.
- Erlina, A. Saputra & Muda, I. (2017). Antecedents of Budget Quality Empirical Evidence from Provincial Government In Indonesia. *International Journal of Economic Research*. 14(12). 301-312.
- Erlina. A. Saputra & Muda, I. (2017). The Analysis of the Influencing Factors of Budget Absorption. *International Journal of Economic Research*. 14(12). 287-300.
- Erwin, K., Abubakar, E., Muda, I. (2018). The relationship of lending, funding, capital, human resource, asset liability management to non-financial sustainability of rural banks (BPRs) in Indonesia. *Journal of Applied Economic Sciences*, Volume XIII, Spring 2(56). 520 – 542.
- Ferine, K.F; Ermiaty, C. & Muda, I. (2017). The Impact of Entrepreneurship and Competence on Small Medium Enterprises Tangan Di Atas (TDA) Medan Entrepreneurs' Work Performance. *International Journal of Economic Research*. 14(16). 380-393.
- Fornell, C., (1996). The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*. 60, 7-18.
- Garvin, D. A, (1987). *Managing Quality*. New York: The Free Press.
- Gasperz, Vincent, (2002). *Total Quality Management*, Jakarta. PT. Gramedia Pustaka Umum Publishers.
- Griffin, Jill, (2005). *Customer Loyalty*, Revised Edition, Jakarta. Erlangga Publishers.
- Gusnardi, Riadi, R.M., and Muda, I. (2016). Competency mapping and analysis of students competency based on economics subject national examination and its alternative solutions in state high schools at Pekanbaru. *International Journal of Economic Research*. 3(5). 2133-2148.
- Handoko, ,Bagus. Sunaryo & Muda, I. (2017). Difference Analysis of Consumer Perception of Motorcycle Product Quality. *International Journal of Economic Research*. 14(12). 363-379.
- Hanel, Alfred. (2005). *Organization of Cooperatives*, Yogyakarta. Graha Science Publishers.
- Harianto, D. and Hartono, S. (2013). *Analysis of Service Quality, Brand Image, and Atmospheric Influence on Consumer Loyalty with Consumer Satisfaction as Variable Intervening Consumer Kedai Deja-VU Surabaya*. Petra Christian University. Surabaya.
- Hasan, A, Gusnardi & Muda, I. (2017). Analysis of Taxpayers and Understanding Awareness Increase in Compliance with Taxpayers Individual Taxpayers. *International Journal of Economic Research*. 14(12). 75-90.
- Hutagalung, B.; Dalimunthe, D.M.J, R., Pambudi, A.Q. Hutagalung & Muda, I. (2017). The Effect of Enterpreneurship Education and Family Environment Towards Students' Entrepreneurial Motivation. *International Journal of Economic Research*. 14(20). 331-348.
- Iskandar, Dibyo. (2012). Effect of Service Quality on Customer Loyalty with Customer Satisfaction and Confidence as Intervening Variable (Empirical Study of Customer PD Perkreditasn Rakyat BKK Boyolali Kota). STIE AUB Surakarta. Surakarta
- Juliandi and Irfan, (2013). *Quantitative Research Methodology For Business Sciences*, Ciptapustaka Media Perintis, Bandung
- Khaldun, K.I. & Muda, I. (2014). The Influence of Profitability And Liquidity Ratios on The Growth of Profit of Manufacturing Companiesa Study of Food And Beverages Sector Companies Listed on Indonesia Stock Exchange (Period 2010-2012). *International Journal of Economics, Commerce and Management*. 2(12). 1-17.
- Kotler, P. & Armstrong, G. (2006). *Marketing Principles*. The Twelfth Edition. Jakarta. Erlangga Publishers.
- Kotler, P. and Keller, K. L. (2009). *Marketing Management*. (13th ed). New Jersey: Upper Saddle River.

- Kotler, P., and Kevin Keller, K.L. (2009). *Marketing Management*. Volume 1, Third edition, Translation and Bob Sabran, MM. Jakarta: Erlangga Publisher.
- Kotler, P., and Kevin Keller, K.L. (2009). *Marketing Management*. Volume 2, Third Edition, Bob Sabran Translation, MM. Jakarta: Erlangga Publisher.
- Kotler, P.; Armstrong, G. (2008). *Principles of Marketing*, Volume 1, Jakarta. Erlangga Publishers.
- Kristianto, L.P, (2011). *Marketing Psychology*, Yogyakarta: CAPS
- Kriyantono, Rachmat. (2012). *Practical Techniques of Communication Research*. Jakarta: Erlangga Publisher
- Lestari, Anik A. (2013). The Influence of Service Quality and Price to Word of mouth with Customer Satisfaction as Intervening Variable (Study on Timezone Plaza Surabaya visitors). Surabaya State University. Surabaya.
- Lestari, Anik A. (2013). The Influence of Service Quality and Price to Word of mouth with Customer Satisfaction as Intervening Variable (Study on Timezone Plaza Surabaya visitors). Surabaya State University. Surabaya.
- Lewis, R.C. and B.H. Booms (1983). *The Marketing Aspects of Service Quality*, in Berry, L.L., G. Shostack, and G. Wages (eds.), *Emerging Perspectives in Services Marketing*. Chicago: American Marketing Association.
- Lubis, A., Rustam and Muda, I. (2016). Factors Affecting The Cost of Agency of Village Owned Enterprise (BUMDES) in Indonesia. *International Journal of Economic Research*. 14(16). 334-348.
- Lubis, A., Rustam and Muda, I. (2018). Analysis of Ownership and Stock Composition of Vocational Business Enterprises (BUMDES) and Its Impact on "Omset" of Business Owned Enterprises. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 274-277.
- Lubis, A., Torong, Z.B., and Muda, I. (2016). The urgency of implementing balanced scorecard system on local government in North Sumatra – Indonesia. *International Journal of Applied Business and Economic Research*. 14(11). 7575-7590.
- Lubis, A.F., Lubis, T.A., and Muda, I. (2016). The role of Enterprise Resource Plan (ERP) configuration to the timeliness of the financial statement presentation. *International Journal of Applied Business and Economic Research*. 14(11). 7591-7608.
- Lubis, Winni Nadya, (2015), *Analysis of Leadership Influence, Work Ability and Motivation on Employee Performance UPT V on Revenue Office Area Medan*, USU, Medan.
- Lupiyoadi, R. and Hamdani, A. (2009). *Marketing Management Services*. Jakarta: Erlangga Publishers..
- Lutfi, M., Nazwar, C., and Muda, I (2016). Effects of investment opportunity set, company size and real activity manipulation of issuers in Indonesia Stock Exchange on stock price in Indonesia. *International Journal of Economic Research*. 13(5). 2149-2161.
- Mahdaleta, Ela; Muda, I and Gusnardi Muhammad. (2016). Effects of Capital Structure and Profitability on Corporate Value with Company Size as the Moderating Variable of Manufacturing Companies Listed on Indonesia Stock Exchange. *Academic Journal of Economic Studies*. 2(3). 30–43.
- Maksum, A., Hamid, R., & Muda, I. (2014). The Impact of Treasurer's Experience And Knowledge on The Effectiveness of The Administration and Preparation of The Accountability Reporting System in North Sumatera. *Asian Journal of Finance & Accounting*, 6(2), 301-318. <http://dx.doi.org/10.5296/ajfa.v6i2.6341>.
- Marhayanie, M. Ismail and Muda, I, (2017). Impact of the Online Car Rental Service Order System on Sales Turnover with Financial Literacy Customer as Intervening Variables. *International Journal of Economic Perspectives*. 14(16). 317-332.
- Marhayanie, M. Ismail and Muda, I, (2018). Impact of Smartphone Features on "Omset" Services Online Car Rental. *Advances in Economics, Business and Management Research (AEBMR)*. 46. 278-281.
- Muda, I and A. A. F. Hutapea. (2018). Influence of capital expenditure and income original region to the income per capita in Indonesia. *IOP Conference Series: Earth and Environmental Science*. 2018. 126 doi:10.1088/1755-1315/126/1/012065.
- Muda, I and Dharsuky, A. (2016). Impact of Capital Investments and Cash Dividend Policy on Regional Development Bank (BPD) PT. Bank Sumut to the District Own Source Revenue and Economic Growth. *International Journal of Applied Business and Economic Research*, 14(11). 7863-7880.
- Muda, I and Dharsuky, A. (2015). Impact of Region Financial Information System (SIKD) Quality, Role Ambiguity and Training on Precision of Financial Statement of Local Government Presentation in North Sumatra. *International Journal of Applied Business and Economic Research*, 13(6). 4283-4304.
- Muda, I, and Erlina, (2018). Performance Appraisal of Government Internal Supervisory Apparatus (APIP) in Implementation of Compliance Audit at Inspectorate of Medan City, Indonesia, *International Journal of Civil Engineering and Technology*, 9(5), 2018, 1347–1359.
- Muda, I, D.Y. Wardani, Erlina, A. Maksum, A. F. Lubis & R. Bukit. (2017). The Influence of Human Resources Competency & The Use of Information Technology on The Quality of Local Government Financial Report with Regional Accounting System as an Intervening. *Journal of Theoretical & Applied Information Technology*. 95(19), 1432-1451.
- Muda, I, Dharsuky, A., Siregar, H.S., & Sadalia, I. (2017). combined loading and Cross-dimensional loadings timeliness of presentation of financial statements of local government. *IOP Conference Series: Materials Science and Engineering*. 180. DOI: 10.1088/1757-899X/180/1/012099.
- Muda, I, Erlina, I. Yahya and A.A. Nasution, (2018). Performance Audit and Balanced Scorecard Perspective, *International Journal of Civil Engineering and Technology*, 9(5). 1321–1333.
- Muda, I, F. Roosmawati, H S Siregar, Ramli, H Manurung & T Banuas. (2018). Performance Measurement Analysis of Palm Cooperative Cooperation with Using Balanced Scorecard. *IOP Conference Series: Materials Science and Engineering 2017*. 288. 012081 DOI: 012081 doi:10.1088/1757-899X/288/1/012081.

- Muda, I, M. Ismail & Marhayanie. (2017). Impact Allocation Capital Expenditure on the Improvement of the Local Government Assets in North Sumatra and Effect on Local Revenue Sustainability. *International Journal of Economic Perspectives*. 11(2). 151-164.
- Muda, I, M. Sihombing, E. Jumilawati and A. Dharsuky. (2016). Critical Success Factors Downstream Palm Oil Based Small And Medium Enterprises (SME) In Indonesia. *International Journal of Economic Research*. 13(8). 3531-3538.
- Muda, I, M. Sihombing, E. Jumilawati and A. Dharsuky. (2017). Factors Affecting The Success of Local Innovation Systems With Government Programs As Moderators. *International Journal of Economic Research*. 14(16). 272-289.
- Muda, I, Rahmanta, Marhayanie and A S Putra. (2018). Institutional Fishermen Economic Development Models and Banking Support in the Development of the Innovation System of Fisheries and Marine Area in North Sumatera. *IOP Conference Series: Materials Science and Engineering*. 2017.288. doi:10.1088/1757-899X/288/1/012082.
- Muda, I, Rahmanta, S. Adi and Marhayanie. (2017). The Role of Working Capital, Productivity, Applied Technology and Selling Market Prices on Fisherman's Revenues. *International Journal of Economic Research*. 14(16). 291-302.
- Muda, I., Erlina, Rina Bukit & Rahmanta. (2015). The Effect of Fiscal Potential, Fiscal Needs and Internal Control on The Provincial Intergovernmental Transfer Allocation In The Districts/Cities in North Sumatera – Indonesia. *International Journal of Management Sciences and Business Research*. 3(10). 22-35.
- Muda, I., H S Siregar, S A Sembiring, Ramli, H Manurung and Z Zein. (2018). Economic Value of Palm Plantation in North Sumatera and Contribution to Product Domestic Regional Bruto. *IOP Conference Series: Materials Science and Engineering* 2017. 288. 012080 doi: 10.1088/1757-899X/288/1/012080.
- Muda, I. (2014). Analysis on the Timeliness of the Accountability Report by the Treasurer Spending in Task Force Units in Indonesia. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(4). 176-190.
- Muda, I. (2010). Contribution of Teluk Nibung Port Tanjung Balai Asahan to The Local Revenue of Tanjung Balai City. *Journal of Economics and Business*. 9(1). 17-28.
- Muda, I. and A. Rafiki. (2014). Human Resources Development and Performance of Government Provincial Employees: A Study in North Sumatera, Indonesia. *Journal of Economics and Behavioral Studies*. 6(2).152-162.
- Muda, I., & R.Naibaho (2018). Variables influencing allocation of capital expenditure in Indonesia. *IOP Conference Series: Earth and Environmental Science*. 2018. 126. doi:10.1088/1755-1315/126/1/012066.
- Muda, I., & A. N. Hasibuan. (2018). Public Discovery of the Concept of Time Value of Money with Economic Value of Time. *Emerald Reach Proceedings Series*. Vol. 1 pp. 255–261. DOI 10.1108/978-1-78756-793-1-00050.
- Muda, I., & Nurlina. (2018). Influence of Manufacture of Textiles, Clothing and Leather and Manufacture of Paper, Printing and Publishing to the Economic Growth. *Emerald Reach Proceedings Series*. Vol. 1 pp. 105–111. DOI 10.1108/978-1-78756-793-1-00048.
- Muda, I., & Rasdianto, M. S. L. (2014). Implementation of the Cash Revenue System: A Case Study in the Local Government Task Forces' Units of North Sumatera Province, Indonesia. *Information Management & Business Review*, 6(2). 96-108.
- Muda, I., (2017). Perception of capital, profit and dividends affect the stock purchase intention in Indonesia public company. *Junior Scientific Researcher*, 3(1). 9-18.
- Muda, I., (2017). The Effect of Allocation of Dividend of the Regional Government-Owned Enterprises and the Empowerment Efforts on the Revenue of Regional Government: The Case of Indonesia. *European Research Studies Journal*. XX(3A). 223-246.
- Muda, I., (2017). The Effect of Supervisory Board Cross-Membership and Supervisory Board Members' Expertise to The Disclosure of Supervisory Board's Report: Empirical Evidence from Indonesia. *European Research Studies Journal*. XX(3A). 702-716.
- Muda, I., and A. H. Harahap, Erlina, S.Ginting, A. Maksu & E. Abubakar (2018). Factors of quality of financial report of local government in Indonesia. *IOP Conference Series: Earth and Environmental Science*. 2018. 126 doi:10.1088/1755-1315/126/1/012067.
- Muda, I., and Nurlina. (2018). Influence of Manufacture of Non-metals, Except Petroleum and Coal, and Manufacture of Basic Metals on Economic Growth. *Emerald Reach Proceedings Series*. Vol. 1 pp. 185–192. DOI 10.1108/978-1-78756-793-1-00049.
- Muda, I., and Windari. (2018) Dimension of an Islamic Model Value on the Existence of Syariah Walmart. *Emerald Reach Proceedings Series*. Vol. 1 pp. 321–326. Emerald Publishing Limited. ISSN. 2516-2853. DOI 10.1108/978-1-78756-793-1-00051.
- Muda, I., Panjaitan, S.R, Erlina, S. Ginting, A. Maksu and E. Abubakar. (2018). Model application of Murabahah financing acknowledgement statement of Sharia accounting standard No 59 Year 2002. *IOP Conference Series: Earth and Environmental Science*. 2018. 126 doi:10.1088/1755-1315/126/1/012071.
- Muda, I., Rafiki, A., & Harahap, M. R. (2014). Factors Influencing Employees' Performance: A Study on the Islamic Banks in Indonesia. *International Journal of Business and Social Science*, 5(2). 73-80.
- Muda, I. (2017). Role of Dividend of Power to Buy Shares in Companies in Indonesia Stock Exchange. *Academic Journal of Economic Studies*. 3(2), 41–47.
- Muda, I. (2017). User Impact of Literacy on Treatment Outcomes Quality Regional Financial Information System. *Management Dynamics in the Knowledge Economy*. 5(2). 307-326; DOI 10.25019/MDKE/5.2.08.
- Muda, I; M. Weldi; Siregar, H.S, & Indra, N. (2018). The Analysis of Effects of Good Corporate Governance on Earnings Management in Indonesia with Panel Data Approach. *Iranian Economic Review*. 21(4). 657-669.
- Muda, I., R. B., Nasution., Erlina., H. S. Siregar., & S. Katircioglu (2018). The Effect of the Existence of Large and Medium Industries on the Absorption of Labor in Sumatera Utara. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46.253-257.
- Muda., I., Rahmanta., Marhayanie., & A.S. Putra., (2018). Institutional Fishermen Economic Development Models and Banking and Financing Institution Support in the Development of the Innovation System. *Advances in Economics, Business and Management Research (AEBMR)*, 46. 263-268.

- Muda; I, S. H. Sidauruk, H. S. Siregar, Nurzaimah. (2018). The Effect of Corporate Social Responsibility on Company's Value with Common Effects Model (CEM), Fixed Effects Model (FEM) and Random Effects Model (REM) Approaches (Empirical Evidence in Indonesia Stock Exchange). *Quality Access to Success*. 19(165). 94-102.
- Nasir, A. Yesi Mutia Basri, Kamaliah & Muda, I. (2017). Effectiveness of Potential Tax Region as the Real Local Revenue Sources in Riau Coastal Area. *International Journal of Economic Research*. 14(12). 313-324.
- Nasution., R.B., Muda., I., Erlina., Hasan Sakti Siregar., & Setareh Katircioglu., (2018). Variation of Industrial Type Contributions on Working Performance. *Advances in Economics, Business and Management Research (AEBMR), 1st Economics and Business International Conference 2017 (EBIC 2017)*. 46. 258-262.
- Now, Uma (2003). *Research Methods For Business: A Skill Building Approach*, New York-USA: John Wiley and Sons, Inc.
- Nurlina & Muda, I. (2017). The Analysis of the Effects of Capital Expenditure and Human Development Index on Economic Growth and Poverty in East Aceh Regency. *International Journal of Economic Research*. 14(16). 395-409.
- Nurzaimah, Rasdianto & Muda, I. (2016). The skills and understanding of rural enterprise management of the preparation of financial statements using Financial Accounting Standards (IFRs) financial statement on the Entities without Public Accountability (ETAP) framework on the implementation of village administration law. *International Journal of Applied Business and Economic Research*. 14(11). 7417-7429.
- Oliver, R. L. (1997). *Satisfaction: A Behavioral Perspective On The Consumer*. New York: McGraw Hill Companies, Inc.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988). SERVQUAL: A Multiple Item Scale For Measuring Consumer Perceptions Of Service Quality. *Journal of Retailing*. 64(1). 14-40.
- Pohan., N., Badaruddin., R.F Dalimunthe., A. Purwoko., & Muda, I., (2018). The Effects of Human Resource Development and Institutional Arrangements on Performance, Service Quality and Area Development in Indonesia. *Quality Access to Success*. 19(163). 94-102.
- Purwani, Khusniyah and Dharmmesta, Basu S. (2002). Behavior of Consumer Brand Switch In Purchase of Automotive Products. *Journal of Economics and Business Indonesia*. 17(3). 288-303.
- Rasdianto, Nurzaimah & Muda, I. (2014). Analysis on the Timeliness of the Accountability Report by the Treasurer Spending in Task Force Units in Indonesia. *International Journal of Academic Research in Accounting, Finance and Management Sciences*. 4(4). 176–190. <http://dx.doi.org/10.6007/IJARAFMS/v4-i4/1304>.
- Rivai, Veithzal, (2005). *Human Resource Management for Companies, from Theory to Practice*, Jakarta.. PT. Raja Grafindo Persada.
- Sadalia, .Isfenti. Nur Ahmadi Bi Rahamani & Muda, I. (2017). The Significance of Internet Based Financial Information Disclosure on Corporates' Shares in Indonesia. *International Journal of Economic Research*. 14(12). 337-346.
- Sadalia, Isfenti, M. H. Kautsar, N. Irawati and I, Muda. (2018). Analysis of the efficiency performance of Sharia and conventional banks using stochastic frontier analysis. *Banks and Bank Systems*, 13(2), 27-38. DOI: 10.21511/bbs.13(2).2018.03
- Saladin, Djaslim, (2003). *Marketing Essence and Marketing Elements*, Matter Third, Bandung: Linda Karya.
- Sari, Maya; A. F. Lubis; A. Maksum; P. Lumbanraja & I. Muda. (2018). The Influence of Organization's Culture and Internal Control to Corporate Governance and Its Impact on BUMN (State-Owned Enterprises) Corporate Performance In Indonesia, *Journal of Applied Economic Sciences*, Volume XIII, Issue 4(58). Summer 2018. 562 – 575.
- Sihombing, Marlon, Muda, I, Erni Jumilawati, Abikusno Dharsuky. (2015). The Implementation of Oil Palm Based Regional Innovation System (SIDA) In Supporting The Masterplan For The Acceleration And Expansion Of Indonesia's Economic Development (MP3EI) of The Economic Corridor Of Sumatera-Indonesia. *European Journal of Business and Innovation Research*. 3(5), 13-24.
- Sihombing., M., Muda., I., E.Jumilawati & A. Dharsuky., (2018). Effectiveness of Market Results Diversified Palm Products and Constraints of Capital, Financing and Marketing. *Advances in Economics, Business and Management Research (AEBMR)*. 46. 269-273.
- Sinulingga, Sukaria, (2014). *Research Methods*, Medan. USU Press,
- Sirojuzilam, Hakim, S., and Muda, I. (2016). Identification of factors of failure of Barisan Mountains Agropolitan area development in North Sumatera – Indonesia. *International Journal of Economic Research*. 13(5). 2163-2175.
- Sirojuzilam, Hakim, S., and Muda, I. (2017). Effect of Private Collaborative as a Moderation of Success of Agropolitan Program. *International Journal of Economic Research*. 14(16). 304-315.
- Sirojuzilam., S.Hakim., and Muda, I, (2018). Role of Planning And Budget to The Development of Agropolitan Area. *Advances in Economics, Business and Management Research (AEBMR)*, 46. 138-142.
- Situmorang, S.H, E.S Rini & Muda, I. (2017). Customer Experience, Net Emotional Value and Net Promoter Score on Muslim Middle Class Women in Medan. *International Journal of Economic Research*. 14(20). 269-283.
- Situmorang, Syafrizal Helmi, (2011). *Business Concept and Case*: USU Press, Medan.
- Sugiyono. (2014). *Quantitative, Qualitative and Combinative Methods (Mixed Methods)*. Bandung: Alfabeta.
- Suriadi, A., Rudjiman, K. M., Nurman, A. and Muda, I. (2015). The Applicative Model of The Village_Owned Enterprises (BUMDES) Development In North Sumatera. *Global Journal of Arts, Humanities and Social Sciences* 3(12), 48-62.
- Suwarno, Wiji. (2012). *Libraries and Books: Writes of Writing and Publishing*, Yogyakarta: Ar-Ruzz Media.
- Syahyunan, Muda I, Siregar, H.S, Sadalia, I. & Chandra G. (2017). The Effect of Learner Index and Income Diversification on The General Bank Stability In Indonesia. *Banks and Bank Systems*. 12(4). 171-184.
- Tarmizi, H.B., Daulay, M and Muda, I. (2016). The influence of population growth, economic growth and construction cost index on the local revenue of tax on acquisition of land and building after the implementation of law no. 28 of 2009. *International Journal of Economic Research*. 13(5). 2285-2295.

- Tarmizi, HB., Daulay, M., and Muda, I. (2017). Impact of the Economic Growth and Acquisition of Land to the Construction Cost Index in North Sumatera. *IOP Conference Series: Materials Science and Engineering*. 180. doi: 10.1088/1757-899X/180/1/012004.
- Tjiptono, Fandy, (2004). *Management Services*. First Edition. Yogyakarta Andi Offset.
- Tjiptono, Fandy, (2005). *Marketing Services*, Bayumedia Publishing.
- Tjiptono, Fandy, (2008). *Marketing Strategy*, 3rd Edition, Yogyakarta. ANDI Publishers.
- Tripriyono., A. Purwoko., Erlina and Muda, I, (2018). The Effect of the Political Environment and the Economic Environment on the Welfare of Community. *Advances in Economics, Business and Management Research (AEBMR)*, 1st Economics and Business International Conference 2017 (EBIC 2017). 46. 49-53.
- Wijaya E.M., (2011). Service Quality Influence on Consumer Loyalty with Consumer Satisfaction as Intervening Variable. Economics and Business study program. Semarang: UNDIP.
- Yahya, I, Torong, Z.B., and Muda, I. (2017). Influence Behavior in Legislature Budget Development of Regions in the Province of Aceh and North Sumatra. *International Journal of Economic Research*. 14(8). 147-159.
- Zeithaml et al. (1996). Measuring the Quality Of Relationship In Customer Service: An Empirical Study. *European. Journal Of Marketing*. 29(4). 10-23.
- Zeithaml, Valarie A., Mary Jo Bitner & Dwayne D. Gremler. (2009). *Services Marketing - Integrating Customer Focus Across The Firm 5th Edition*. New York: McGraw Hill.