Structural Equation Modeling to Analysis of Customer's Decision in the Utilization of Baitul Maal Wat Tamwil for Agribusiness Development

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Abstract

The banking is one of the drivers of the development of the entire Indonesian nation. Based on Law No. 72 of 1992, permitting business activities with the principle of profit sharing for the Bank. The bank itself can operationally not touch the small community in the countryside. Therefore BMT (Baitul Maal Wat Tamwil) is needed to become one of the Islamic microfinance institutions that can meet the needs of the community. This study aims to analyze how customer perceptions of BMT, How customer decisions in the use of BMT and what are the dominant factors that influence customer decisions in the use of BMT. The research method used is descriptive quantitative with 88 respondents, of which 35 are agricultural customers and 53 are non-agricultural customers. The analytical method used is descriptive analysis and PLS (Partial Least Square) analysis. Based on the results of the study showed that with the high risk of financing in the agricultural sector, many BMTs are reluctant to provide financing in the sector. Factors that influence customer decisions consist of internal factors and external factors. These two factors significantly influence customer decisions in the use of BMT for the development of rural agribusiness in Cisitu District, Sumedang Regency.

Keywords: decision, perception, customer, BMT, Agribusiness, Structural Equation Modeling.

1. Introduction

Banking is a financial institution that is present in every country. Therefore, banking has a role as one of the drivers of development for the entire nation. National development includes realizing a just and prosperous society based on Pancasila and the 1945 Constitution. Financial institutions function as financial intermediaries which are institutions that have a role to bring together owners and users of funds [1], [2]. Banks can be regarded as one of the main drivers of a country's economy [3]. Banks can be distinguished based on payment of interest or profit sharing, namely the Bank in conventional business operations and the Bank in Sharia business operations [4].

The fundamental thing that distinguishes Islamic and conventional financial institutions lies in the return and distribution of benefits provided by customers to financial institutions or those provided by financial institutions to customers [5], [6]. Islamic bank operational activities use the principle of profit sharing [7]. Islamic banks do not use interest as a tool to earn income or charge interest on the use of funds and loans because interest is a prohibited usury [8], [9].

With the passing of Law No. 72 of 1992 which provides strict limits in terms that banks are allowed to carry out business activities on the principle of profit sharing. However, the Bank itself can operationally not touch small communities or those in rural areas. Therefore, Islamic Savings and Credit. Cooperatives (Baitul Maal wat Tamwil) are needed to become one of the Islamic microfinance institutions that can

meet the needs of small rural communities [10]. The presence of Baitul Maal Wat Tamwil (BMT) in various regions, encourages activities in the field of agricultural business development services, and community empowerment. Through loans or financing, BMT also manages deposits and provides business development consulting services.

The role of agriculture in Sumedang Regency determines the regional economic structure. This is because the majority of people in Sumedang Regency work in the agricultural sector. Good agricultural production results can encourage the economic structure that is formed and the added value created by each agricultural business field. Therefore, every field of agricultural business requires development in the field of business. With these problems illustrate the need for economic development programs based on agricultural resources. Need for easy access to the community in accessing Islamic financial institutions, namely BMT.

Research on Islamic Savings and Credit Cooperatives (Baitul Maal wat Tamwil) has been carried out by previous researchers. For example Sakai (2010) [10], analyzes the views of women in Yogyakarta on Islamic economic business practices, especially in Baitul Maal wat Tamwil (BMT). In addition, in the study of Farook et al (2014) [11], analyzing comparisons of the behavior of Islamic financial institutions with conventional loan provision. Comparison analyzed is the level of management of the distribution of profits generated by the level of loan losses. In a study conducted by Manan and Shafiai (2015) [12], analyzing risk management offered by several Islamic microfinance institutions in Malaysia. Risk management is carried out as an effort to improve the lives of the poor and reduce poverty. Whereas the study of Fianto et al (2018) [13], analyzed the influence of the existence of Islamic microfinance institutions in the welfare of rural Households in Indonesia. The sample used in the form of equity financing and debt based financing. The results obtained have a significant and positive impact on rural Household income. In addition, based on the results obtained by equity financing has better performance than debt-based financing.

Based on the description of the problem above, the research is interested in conducting an analysis of customer decisions in the use of Baitul Maal Wat Tamwil (BMT) for the development of rural agribusiness in Sumedang Regency. Analysis of customer decisions in the use of BMT, conducted by (1) Analyzing How customers' perceptions of BMT, (2) Analyzing How customer decisions in the use of BMT (3) Analyzing the dominant factors that influence customer decisions in the use of BMT

2. Research Methodology

This research uses a mixed method quantitative and qualitative descriptive design, while in determining the sample the author uses a purposive method. BMT in Sumedang Regency in the agricultural sector which will be the research sample is BMT Al-Amin. As many as 88 people were selected by non-proportional stratified random sampling. With consideration, taking the total number of agricultural customers, while the number of non-agricultural customers taken 53 people. Primary data were obtained from questionnaires and interviews, while secondary data were obtained from the Central Statistics Agency. Random sampling in data collection using research instruments to measure certain symptoms and processed statistically aims to test the hypothesis that has been applied. While the factors that influence customer decisions in the use of BMT are analyzed using PLS (Partial Least Square). Data processing using smart PLS 2.0 software with the following steps: (1) Designing a structural model (Inner model), (2) Designing a measurement model (Outer Model), (3) Constructing a path diagram, (4) Converting a path diagram to in structural models and measurement models in Eqs, (5) Estimation of path coefficients, (6) Evaluation of Goodness of fit, (7) Hypothesis testing.

3. Results and Discussion

The results showed the customer's decision to use BMT for the development of rural agribusiness in Cisitu District, Sumedang Regency, is described as follows.

3.1 Analysis of Factors that Influence Customer Decisions in the Use of BMT

Factors that influence the customer's decision to use BMT as a rural agribusiness development in Sumedang Regency are carried out using Partial Least Square (PLS) analysis. This analysis is used because it looks at the different scale measuring indicators while in multiple scales classified as few (88 respondents), the analysis used is Partial Least Square (PLS).

3.2 Evaluation of Measurement Model

The evaluation of the indicator measurement model includes checking individual item reliability, internal consistency or composite reliability, average variance extracted, and discriminant validity. The first three measurements are grouped in convergent validity.

a) Convergent validity

Convergent validity consists of three tests, namely item reliability (validity of each indicator), composite reliability, and average variance extracted (AVE). Convergent validity is used to measure how much the existing indicators can explain the dimensions. This means that the greater the convergent validity, the greater the ability of the dimension in applying latent variables.

b) Reliability Item

Testing of item reliability (indicator validity) can be seen from the loading factor (standardized loading) value. The loading value of this factor is the magnitude of the correlation between each indicator and its construct. The loading factor value above 0.7 can be said to be ideal, meaning that the indicator can be said to be valid as an indicator to measure constructs. However, a standardized loading factor above 0.5 is acceptable. While the standardized loading factor value below 0.5 can be removed from the Chin model (1998) [14]. The following is the reliability value of items that can be seen in the standardized loading column:
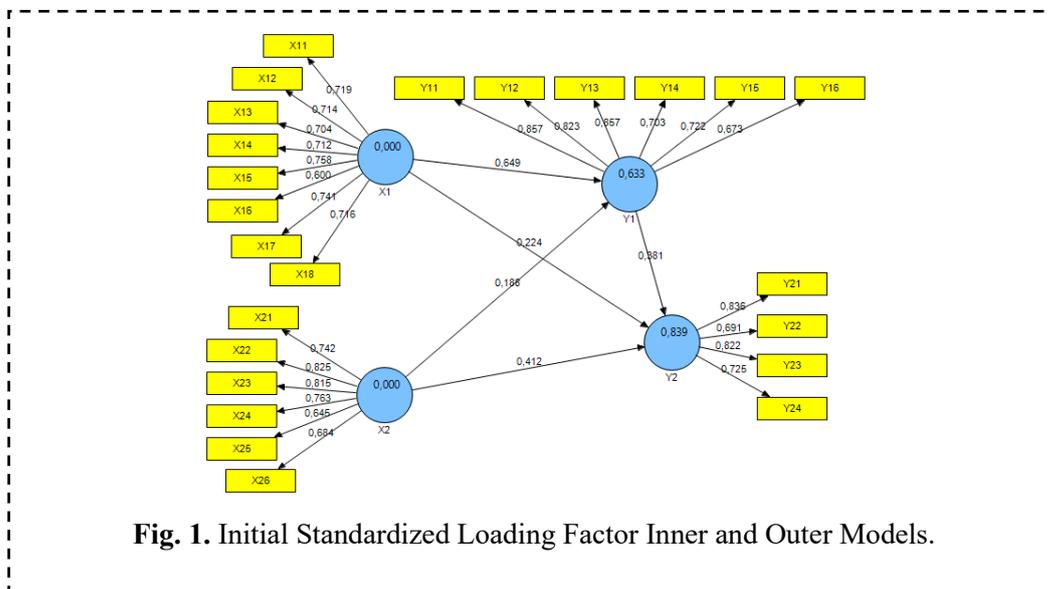

Fig. 1. Initial Standardized Loading Factor Inner and Outer Models.

Based on the loading factor explaining each variable, namely the characteristics of customer (X1), external environmental support (X2), values of more than 0.5. This is not much different from the loading factor variable (Y1) perception and (Y2) decision so that it does not need to be excluded from the model. That way each indicator is valid and explains the latent variables, in addition to showing the validity of each indicator item, loading factor also explains the contribution of each indicator to the factor. For internal factors (X1) the indicators that have the highest loading are income (X15) and external

factors are family, neighbor and friend support (X22) for perception factors (Y1) compliance (Y1.1) and decision (Y2) for transactional decisions (Y2.1).

c) Composite Reliability

The statistics used in the composite reliability or reliability of the extract are Cornbrash's alpha and D.GHO (PCA). Cornbrash's alpha and D.G rho (PCA) values above 0.7 indicate that the construct has high reliability or reliability as a measurement tool. A limit value of 0.7 and above means acceptable and above 0.8 and 0.9 means very satisfying [15].

Table 1. Composite Reliability Results

	Composite reliability
X1	0.890
X2	0.884
Y1	0.900
Y2	0.853

Source: 2020 Data Processing Results.

Based on Table 1, it shows that the composite reliability value for internal factors (X1) is 0.890; external factors (X2) of 0.884; while for perception (Y1) and decision (Y2) of 0.900 and 0.853. The latent four obtained composite reliability values above 0.7 can be said to be good reliability or reliability. So it can be said that all factors influence the customer's decision to use BMT.

d) Average Variance Extracted (AVE)

Average Variance Extracted describes the amount of variance that can be explained by items compared to the variance caused by measurement error. The default is if the AVE value is above 0.5, it can be said that the construct has good convergent validity. This means that latent variables can explain an average of more than half the variance of the indicators.

Table 2. Results of Average Variance Extracted (AVE)

	AVE
X1	0.503
X2	0.560
Y1	0.603
Y2	0.594

Source: 2020 Data Processing Results.

Based on Table 2, it shows that the AVE value for customer characteristics (X1) is 0.503; external environment support (X2) of 0.560; while for perception (Y1) and decision (Y2) of 0.603 and 0.594. All four variables have AVE which is above 0.5 so that the construct has a good convergent validity where latent variables can explain an average of more than half the variance of the indicators.

e) Discriminant Validity

Discriminant validity checks of the reflective measurement model are assessed based on cross loading and compare the AVE values with the quadratic correlation between extracts. The size of cross loading is to compare the correlation of indicators with their constructs and those of other blocks. Good discriminant validity will be able to explain higher indicator variables compared to explaining variants of other construct indicators.

Based on the results of the model analyst using smart PLS 2.0 software, it shows that the value of discriminant validity or loading factor for (X1.1) is 0.719. The correlation indicator (X1.1) is higher in customer characteristics (X1) than in the support of the external environment (X2), which is 0.492; the perception (Y1) is 0.556, the decision

(Y2) is 0.515. The correlation indicator (X2.1) is higher in external environment support (X2) than in customer characteristics (X1), which is 0.593; the perception (Y1) (0.502), the decision (Y2) of 0.640, and so on. All loading factor values for each variable have a higher correlation with the variable compared to other variables. Likewise with the indicators for each variable. This shows that the placement of indicators on each variable is correct.

3.3 Evaluation of Structural Models

There are several stages in evaluating structural models. The first is to see the significance of the influence between constructs. This can be seen from the path coefficient which describes the strength of the relationship between constructs.

a) Path Coefficient

Seeing the significance of the influence between constructs can be seen from the path coefficient (path coefficient). Signs in the path coefficient must be in accordance with the hypothesized theory, to assess the significance of the path coefficient can be seen from the t-test (critical ratio) obtained from the bootstrapping process (resampling method). Following are the results of testing for Innes and outer models
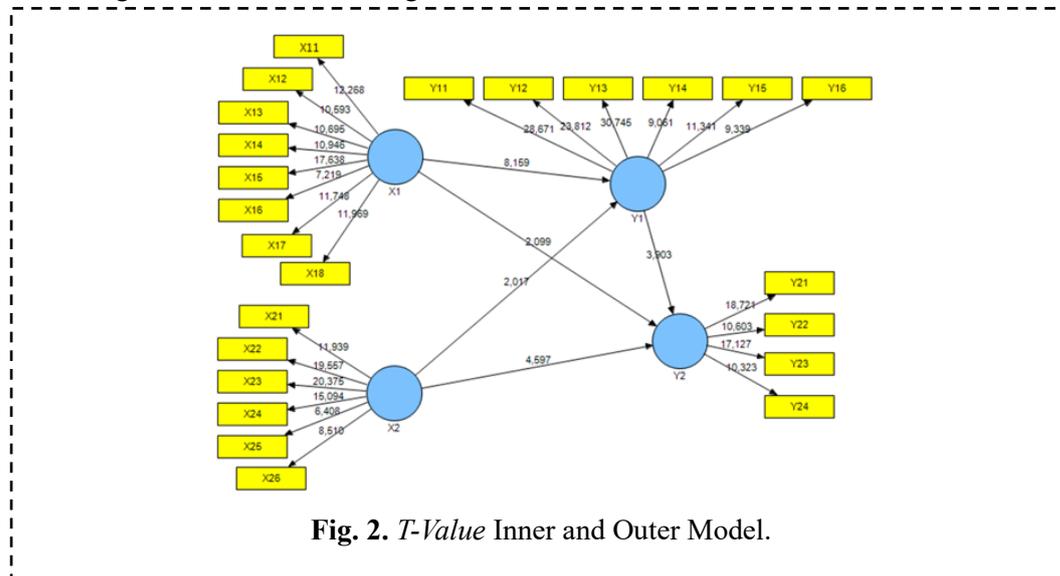

Fig. 2. *T-Value* Inner and Outer Model.

The t-test that was carried out was the result of the t-test from the bootstrap calculation. The results of the t-test in the picture above will then be compared with the value of t table

b) Path Effect Coefficient Direct Effect

The test criterion is reject Ho if t arithmetic> t table. From the t table we get the table values for $\alpha = 0.05$ and dk = n-2 = 88-2 = 86. So we get the t table of 1.988. From the analysis results, it can be seen that:

- The t-statistic value for customer characteristics (internal) (X1) to customer perception (Y1) is 8.159. When compared with the value of t table, then t arithmetic (8.159)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant effect of the characteristics of the verse (X1) on perception (Y1). The magnitude of the effect of customer characteristics (X1) on perception (Y1) was 0.649. A positive path coefficient indicates the better the customer characteristics, the better the customer perception.
- The value of t statistic for environmental support (external) to customer perceptions is 2.017. When compared with the value of t table, then t arithmetic (2.017)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant

influence of external environmental support (X2) on customer perceptions (Y2). The magnitude of the influence of external environmental support (X2) on customer perceptions (Y1) of 0.188. A positive path coefficient indicates the better the support of the external environment, the better the perception of customer.

- The value of t statistic for the characteristics of customer against customer decisions is 2.099 When compared with the value of t table, then t arithmetic (2.099)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of customer characteristics (X1) on customer decisions (Y2). The magnitude of the effect of customer characteristics (X1) on customer decisions (Y2) of 0.224. A positive path coefficient indicates the better the characteristics of customer, the better the decisions of customer.

- The value of t statistic for the support of the external environment for customer decisions is 4,597. When compared with the value of t table, then t arithmetic (4,597)> t table (1,988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of external environmental support (X2) on customer decisions (Y2). The magnitude of the influence of external environmental support (X2) on customer decisions (Y2) of 0.412. A positive path coefficient indicates the better the support of the external environment, the better the customer decisions.

- The t value of statistics for customer perceptions of customer decisions is 3.903. When compared with the value of t table, then t arithmetic (3.903)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of customer perception (Y1) on customer decisions (Y2). The magnitude of the effect of customer perception (Y1) on customer decisions (Y2) of 0.381. The path coefficient that is positive indicates the better the perception of customer, the better the decisions of customer.

c) Path Coefficient Results Indirect Effects

The test criterion is reject Ho if t arithmetic> t table. From the t table we get the table values for $\alpha = 0.05$ and *dk* = n-2 =88-2 = 86 so we get the t table of 1,988. From the analysis results, it can be seen that:

- The t-value for customer characteristics (X1) to customer decisions (Y2) is 4.756. When compared with the value of t table, then t arithmetic (4.756)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of customer characteristics on customer decisions, the magnitude of the influence of customer characteristics on customer decisions of 0.471. A positive path coefficient indicates the better the characteristics of customer far, the better the decisions of customer.

- The value of t statistic for the support of the external environment (X2) for customer decisions (Y2) through 5.155. When compared with the value of t table, then t arithmetic (5.155) > t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of external environment support on customer decisions. The magnitude of the influence of external environmental support on customer decisions amounted to 0.483. A positive path coefficient indicates the better the support of the external environment, the better the customer decisions.

d) Evaluate R^2

Based on R^2, it is known that the variables that influence customer perceptions (Y1) such as customer characteristics (X1), external environment support (X2), together have an effect of 0.633 (63.3%), while the remaining 36.7% of the constructs the other. While the influence of customer characteristics (X1), external environment support (X2) and customer perception (Y1) on customer decisions (Y2) amounted to 0.839 (83.9%). Contributions to the value of R^2 from constants / variables can be seen from the following table 3.

Table 3. R^2 results

R^2 Square	
Y1	0.633
Y2	0.839

Source: 2020 Data Processing Results.

e) Goodness of Fit

If validating the overall model, goodness of fit (GoF) can be used (Yamin and Kurniawan, 2011). This GoF index is a single measure used to validate the combined performance of measurement models and structural models. This GoF value is obtained from the average communalities index multiplied by the R2 value of the model. Here are the results of the calculation of the goodness of fit model:

Table 4. R^2 Results of the Average Communalities Index

	AVE	R Square
X1	0.503	
X2	0.560	0.633
Y1	0.603	0.633
Y2	0.594	0.839
Mean	0.565	0.736
GOF		0.645

Source: 2020 Data Processing Results.

Based on Table 4 above, the average yield of communalities is 0.565. This value is then multiplied by R^2 and rooted. The calculation results show that the GoF value of 0.645 is more than 0.36 so it is categorized as a large GoF, meaning that the model is very good (has a high ability) in explaining empirical data.

3.3 Influence of Internal and External Factors on Customer Perception (Y1) and Customer Decision (Y2)

Based on Figure 1 the loading factor value for internal factors is the characteristic of customers who have the biggest loading factor, namely revenue with a value of 0.758. This shows that income has a large influence on customer decisions in the use of BMT. Income is the real amount of income of all household members who are donated to meet shared and individual needs. Revenue is also a business support for customers to increase productivity.

While the external factors that have the most important loading factor are family support, neighbors and friends with a loading factor of 0.825. This shows the role of the family is a dominant factor in determining choices for the community because the people closest are a means of support. This shows that in general the subject gets social support that tends to be high from his family, support that tends to be high from the family can be caused by the individual getting warmth, attention, encouragement, direction, and guidance from the family. Environmental support can also be seen from the number of social contacts that occur or that individuals do in establishing relationships with resources in the surrounding environment.

Based on the value of the path coefficient internal factors based on the value of t statistic of 8.159. This shows that internal factors have the biggest and significant influence on perceptions. Furthermore, the value of the path coefficient of external factors based on the t value of statistics of 2.017 has a significant value and affects the perception. The value of the path coefficient of internal factors based on the t value of statistics of 2.099 has a significant value and influences the customer's decision. The value of the path coefficient of external factors based on the t-value of 4.579 has a significant value and influences the customer's decision. Furthermore, the path coefficient value of the perception factor based on the t-value of 3.903 has a significant value and influences the customer's decision. Based on this, it can be concluded that internal factors have more influence than external factors on customer perceptions. For external factors, the influence is greater than internal factors on customer decisions in Sumedang Regency.

3.4 Influence of Customer's Perception on Customer's Decisions

Based on the test results the value of t statistic for customer perception of customer decisions amounted to 3.903. When compared with the value of t table, then t arithmetic (3.903)> t table (1.988) so that Ho is rejected. Thus it can be concluded that there is a significant influence of customer perceptions of customer decisions. The magnitude of the effect of customer perception on customer decisions amounted to 0.381. A positive path coefficient indicates the better the customer's perception, the better the customer's decision.

This means that the better BMT services will lead to good perceptions from customers. This also gives a good influence on the customer's decision to choose BMT. Good service is a consideration that must be understood by BMT. This is because customer perceptions are formed from the services and sharia values provided by BMT. Quality of service consisting of reliability, responsiveness, assurance, empathy and tangibles to the customer's decision to save is a positive significance, meaning that the quality of the service will be further improved will affect the customer's decision to use the services of BMT Islamic financial institutions.

4. Conclusion

The condition of BMT in Sumedang Regency apparently still did not show a good condition. The dynamics of micro Islamic financial institutions that compete with large banks is one obstacle, especially in agriculture. BMT Al-Amin, located in Cisitu District, is a sharia-based agricultural finance. The issue of BMT in Sumedang Regency does not distribute funding to agriculture due to the high risks faced.

Based on customer perceptions of BMT shows good performance with a percentage of 74.33. The average BMT Al-Amin customer agrees with the services provided, with a system approach that consists of subsystems of Islamic principles (compliance), assurance (reliability), reliability (reliability), physical evidence (tangible), empathy (empathy), and power responsiveness (responsiveness). Perceptual factors significantly influence customer decisions based on statistical t values. This shows that the better the customer's perception, the better the customer's decision.

Factors that influence customer decisions in the use of BMT for rural agribusiness development in the District of Cisitu, Sumedang Regency, which consists of internal factors and external factors. Both of these factors significantly influence customer decisions. Based on the t-statistic value, internal factors that influence customer decisions are age, education, customer business scale, business experience, income, customer experience, customer knowledge of BMT, trust. While external factors that significantly influence customer decisions are social, cultural, religious support, family support, neighbors, community leaders, clerics, words, access (affordability, availability, suitability), Islamic financial institution services, allocation of loan fund utilization.

References

[1]   Sukono, A. Sholahuddin, M. Mamat, and K. Prafidya. 2014. Credit Scoring for Cooperative of Financial Services Using Logistic Regression Estimated by Genetic Algorithm. *Journal for Theory and Applications*, 8 (2014), pp. 1-4.

[2]   U. Rahmani, Sukono and Riaman. 2019. Credit Scoring for Financial Services Institution using Ant Colony Optimization Algorithm under Logistic Regression Model. *International Journal of Recent Technology and Engineering (IJRTE)*. Volume 8 Issue-4, ISSN: 2277-3878.

[3]   A.N. Berger, P. Molyneux and J.O.S.Wilson. 2020. Banks and the real economy: An assessment of the research. *Journal of Corporate Finance*. 62(2020), p. 101513

[4]   Z. Shafii, N. A. M. Ali and N. Kasim. 2014. Shariah audit in Islamic banks: an insight to the future shariah auditor labour market in Malaysia. *Procedia - Social*

and Behavioral Sciences. 145 (2014), pp. 158 – 172.

[5]   N. Tatiana, K. Igor, and S. Liliya. 2015. Principles and Instruments of Islamic Financial Institutions. *Procedia Economics and Finance*. 24 (2015), pp. 479-484.

[6]   M.H. Zainuldin and T.K. Lui. 2018. Earnings management in financial institutions: A comparative study of Islamic banks and conventional banks in emerging markets. Pacific-Basin Finance Journal. p. 101044

[7]   A. Salman and H. Nawaz. 2018. Islamic financial system and conventional banking: A comparison. *Arab Economic and Business Journal*. Volume 13, Issue 2, pp. 155-167.

[8]   C. Alexakis, M. Izzeldin, J. Johnes, and V. Pappas. 2019.   Performance and productivity in Islamic and conventional banks: Evidence from the global financial crisis. *Economic Modelling*. 79(2019), pp. 1-14.

[9]   A. Duqi, A. Jaafar and M.H.Warsame. 2020. Payout policy and ownership structure: The case of Islamic and conventional banks. *The British Accounting Review*. Volume 52, Issue 1, p. 100826.

[10]   M. Sakai. 2010. Growing together in partnership: Women's views of the business practices of an Islamic Savings and Credit Cooperative (Baitul Maal wat Tamwil) in Central Java, Indonesia. *Women's Studies International Forum*. Volume 33, Issue 4, pp. 412-421.

[11]   S.Farook, M. K. Hassan and G. Clinch. 2014.   Islamic bank incentives and discretionary loan loss provisions. *Pacific-Basin Finance Journal*. 28(20140, pp. 152-174.

[12]   S.K.A. Manan and M.H.B.M. Shafiai. 2015. Risk Management of Islamic Microfinance (IMF) Product by Financial Institutions in Malaysia. *Procedia Economics and Finance*. 31(2015), pp. 83-90

[13]   B.A. Fianto, C.Gan, B.Hu and J. Roudaki. 2018. Equity financing and debt-based financing: Evidence from Islamic microfinance institutions in Indonesia. *Pacific-Basin Finance Journal*. 52 (2018), pp. 163-172

[14]   W.W. Chin. (1998). The Partial Least Squares Aproach to Structural Equation Modeling. *Modern Methods for Business Research*. 295-336

[15]   Yamin, Sofyan and Heri Kurniawan. *Partial Least Square Path Modeling*. Salemba Infotek, 2011.