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The Influence of Intra Collaboration and Supply Chain Management on Market Performance of MSMEs through Using Information Technology Training

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Keywords

Collaboration, Supply Chain, Technology, Market

Abstract

Intra collaboration, supply chain systems, and the use of information technology are milestones that need to be considered to increase micro, small and medium scale businesses in controlling the market. The use of technology is an important part that supports the marketing work process to achieve market performance for MSME products. This study aims to measure the market performance of MSMEs in terms of intra collaboration and supply chain management mediated through using IT training. The research method uses quantitative methods with an explanatory research approach. The research data source is primary data, with a population of 132 MSMEs collected under the auspices of the Rahmatan Lil Alamin Nganjuk Islamic Boarding School. The sampling technique uses the slovin formula and a sample of 100 SMEs is obtained. Data collection techniques using a questionnaire. Data analysis uses instrument testing, model development through Structural Equation Modeling (SEM) and hypothesis testing. The results of the study show that using IT training is able to mediate the effect of intra collaboration and supply chain management on the market performance of MSMEs. MSMEs will experience an increase in market performance if the intra collaboration of each MSME group has high commitment, supply chain management is well managed, especially payment patterns that are communicated to provide convenience to fellow MSMEs, as well as using IT training that supports collaboration and the MSME supply chain.

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Introduction

The role of technology is an important aspect in various areas of life today. Information technology has become an important part of every business plan, because it is one of the activities needed to provide improved business services at all levels of business (Majeed, et.al., 2021). Global market competition gives rise to technological changes and market trends which make consumers demand the best quality and lowest prices for products and services (Lubis & Junaidi, 2016). This is one measure of market performance so that emphasis is needed on organizational competence and competitive advantages that provide the ability to win the competition (Arifin, 2021). The development of world-class superior products from MSMEs in Indonesia really requires the role of technology (Taufik, 2020) to improve market performance (Rahmawati & Darsono, 2019). Information technology is everything that is closely related to the use of tools to process and transfer data from one device to another (Hana, 2019).

The results of previous research studies show that MSMEs must immediately make changes to a more effective marketing system to achieve market performance (Majeed, et.al., 2021). MSME players need a business entity that is able to accommodate all MSME products and manage the marketing distribution chain to increase sales volume (Rodriguesm, et.al., 2021); (Saragih & Tarigan, 2020); (Setiawan & Soelaiman, 2020). This shows that efforts to improve the market performance of MSMEs are closely related to the ability to use information technology (using IT), governance of cooperation between MSMEs (intra collaboration), and distribution chain management (supply chain management).

Intra collaboration is a process that underlies a form of cooperation that creates trust, integrity and breakthroughs through achieving consensus, ownership and integration in all aspects of the organization (Gray & Stites, 2013). Collaboration is the action of individuals and groups working together to make decisions (Alawi, 2015). Intra collaboration has the goal of solving problems, bringing employees or organizations closer together, helping people learn from each other, increasing morale throughout the organization, and leading to higher retention rates. MSME intracollaboration greatly influences the results of work or projects carried out, so leadership, awareness, motivation, self-synchronization, participation, mediation, reciprocity, reflection and involvement are needed. The intracollaboration (Diana & Hakim, 2021) is based on trust as a form of confidence of certain parties towards other parties in carrying out interactions, commitment as a form of cooperative agreement to achieve common goals, and shared value which will form an economic value and social value together. The same.

Supply Chain Management (SCM) is a management process from the company, suppliers, to customers (Arif, 2018). A coordination of supply that is strategic in nature and aims to combine supply and demand arrangements (Stevenson, 2012). Supply chain management in companies enables increased

effectiveness and efficiency (Natalia, et.al., 2019). The application of SCM must be applied to current business conditions because this system has the advantage of being able to manage the flow of products in one supply chain. SCM measurements are carried out through the smooth flow of physical or material flows, the flow of information flows, and the flow of financial flows (Suwanda & Surjana, 2018).

Using IT training is a form of learning to use IT in MSME marketing activities using internet media (Hana, 2019). Using IT training is provided in the form of digital marketing learning including the use of technology to assist marketing activities aimed at increasing consumer knowledge and adapting to their needs (Anjaningrum, 2020). This training is related to the use of digital technology as a marketing medium, namely a tool for exploiting digital technology used to create marketing channels so that company goals will be achieved through meeting consumer needs more effectively (Fadilah & Pratiwi, 2021). The types of IT uses provided in marketing media training for MSMEs include marketing using social media, social chat, and market places. Indicators used to measure training using IT (Apriliana & Utomo, 2019) include IT capability, duration and IT quality.

Market performance is the point of overspent and underdelivered, because it is difficult to measure the effectiveness and efficiency of each marketing activity, decision or program (Tjiptono, 2019). Market performance is a concept for measuring the market performance of a product. Successful market performance is reflected in the success of the business in the world of business competition. Market performance measurement is based on turnover, customer growth and market expansion.

MSMEs under the supervision of the Rahmatan Lil Alamin Nganjuk Islamic Boarding School, generally still manage business and marketing conventionally, and only made changes after being faced with the conditions of the Covid 19 pandemic. The MSME sector also experienced a decline in market performance during the pandemic which was followed by the international financial crisis. In these conditions, MSMEs must strive to create new opportunities to overcome the problem of limited capital through sharing and collaboration with fellow MSMEs, effective distribution chain management, and improving the ability to use IT as a tool for assisting, manipulating and managing information.

Based on the description of the problem and the aim of increasing the market performance of MSMEs at the Rahmatan Lil Alamin Nganjuk Islamic Boarding School, an appropriate effort to resolve this problem is through training using IT so that it can mediate the influence of intra-collaboration and supply chain management on the market performance of MSMEs. The development of this research hypothesis is explained as follows.

H1: There is an influence of intra collaboration on market performance

H2: There is an influence of supply chain management on market performance

- H3: Intra collaboration supported by training using IT is able to have a positive impact on market performance
- H4: Supply chain management supported by training using IT is able to have a positive impact on market performance
- H5: Using IT influences market performance

Based on the development of the hypothesis, the research conceptual framework is described as follows.

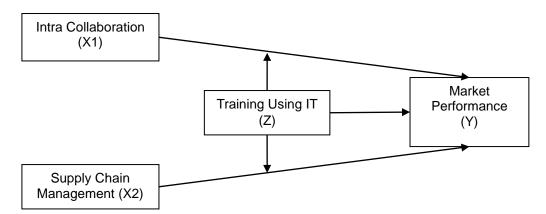


Figure 1. Research Conceptual Framework

Method

The research method uses a quantitative approach with the type of explanatory research, where researchers can obtain an overview to find solutions that can be discussed as future actions (Sugiyono, 2020). The research object is MSMEs that are members of the Rahmatan Lil Alamin Nganjuk Islamic Boarding School organization. The population in this study was 132 MSMEs who took part in regular IT training and were part of the marketing system managed by the management of the Rahmatan Lil Alamin Nganjuk Islamic Boarding School. Determining the number of samples used the Slovin formula, and obtained a sample size of 100 MSMEs. The research data source is primary data with collection techniques using a Likert scale questionnaire.

Data analysis methods include: (1) validity test and reliability test (2) classic assumption test; (3) structural model analysis (SEM) with stages of model development, path diagram formation, structural equations, model estimation, and criteria evaluation (goodness of fit); (4) hypothesis testing. The principles in evaluating goodness of fit consist of parameter testing, overall model testing, structural model testing and measurement, and mediating variable testing.

Results and Discussion Overview and Descriptive Analysis The types of businesses run by MSMEs include: (1) Santri consumers consisting of laundries, kopontren, bookstores, internet cafes, canteens and cooperatives; (2) General consumers/society consist of craft arts and creative industry products, graphic and multimedia design products, agribusiness and horticulture products, as well as galvalume and furniture welding techniques. The results of the descriptive analysis show that the market performance of MSMEs has increased as seen from an increase in turnover of 160%. Intra collaboration is very well established, supply chain management is implemented very well, and training using IT is carried out regularly so as to improve the IT skills of MSME players in the digital marketing field.

Instrument Test Results

The results of the validity and reliability tests collected through the differential semantic scale in this study are presented in the following table.

Variable	Indicator	rxy value (> 0.250)	Cronbach's α value
Intra	X1.1 Trust	0.282	
Collaboration	X1.2 Commitment	0.449	0.755
(X1)	X1.3 Share value	0.329	
Supply Chain	X2.1 Product flow	0.354	
Management	X2.2 Information flow	0.445	0.743
(X2)	X2.3 Financial fows	0.477	
Training Using IT (Z)	Z.1 IT ability	0.430	
	Z.2 Duration	0.537	0.707
	Z.3 IT Quality	0.663	
Market	Y.1 Expansion	0.411	
Performance	Y.2 Customer growth	0.361	0.724
(Y)	Y.3 Omzet	0.414	

Table 1.	Validity &	Reliability	Test Results
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The validity test results show that the total item correlation coefficient value is greater than 0.250, meaning that all items used in this research are declared valid. The instrument used in this research is classified as reliable because it has a Cronbanch's alpha value greater than 0.7 (Sugiyono, 2020).

Normality and Multicollinearity Test Results

The normality test was carried out by comparing the c.r (critical ratio) value in the assessment of normality with a critical value of ± 2.58 at the 0.01 level. The majority of the univariate normality test results are normally distributed because the critical ratio values for kurtosis and skewness are in the range of ± 2.58 . Meanwhile, in multivariate terms, the data meets normal assumptions because the value of 0.459 is in the range of ± 2.58 . The multicollinearity test results aim to test and find out whether in a regression model a high or perfect correlation is found between the independent variables. Testing can be done by looking at tolerance values > 0.01 and variance inflation factor (VIF) > 10 in the regression model. Based on these criteria, the results of the multicollinearity test analysis in this study did not occur.

Structural Model Analysis (SEM)

Testing of the model hypothesis shows that the research model is in accordance with the data. The estimation results show that there is a significant difference between the sample covariance matrix and the population covariance matrix. This shows that constructs have been formed from each indicator. The modification of the research model is based on the theory explained by Arbukle about how to modify the model by looking at the modification indices produced by AMOS 24. The research results show that the model is fit, so there is no need to modify the model. The goodness of fit assessment is the goal in SEM analysis to find out to what extent the hypothesized model is "fit" or matches the data sample. The estimation results of the measurement model using the measuring fit model as well as the goodness of fit results produced in this research are presented as follows.

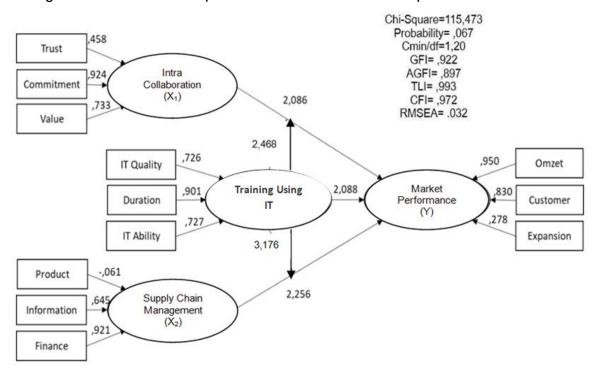


Figure 2. Feasibility of Structural Models

Based on the structural model feasibility drawing, the detailed model feasibility test results are explained in the following table.

Table 2. Model Feasibility Test Results				
Indicator	Model	Cut Off	Information	
Chi Square	115.473	Kecil	Sufficient	
Probability	0.067	≥ 0.05	Sufficient	
CMIN/Df	1.12	≤ 2.00	Sufficient	
GFI	0.922	≥ 0.90	Sufficient	
AGFI	0.897	≥ 0.90	Sufficient	
TLI	0.993	≥ 0.90	Sufficient	
CFI	0.372	≥ 0.80	Sufficient	
RMSEA	0.032	≤ 0.08	Sufficient	

Table 2. Model Feasibility Test Results

Table 2 shows that the research model is close to being a good fit model. It is explained in detail below.

- a. The Chi-Square value of 115.473 is considered good so the research model is good.
- b. CMIN/DF is a parsiomonious suitability index which measures the goodness of fit model by the number of estimated coefficients expected to achieve suitability. The CMIN/DF results in the study were 1.12, indicating that the research model was fit.
- c. The Goodness of Fit Index (GFI) shows the overall level of model suitability which is calculated from the squared residuals of the predicted model compared to the actual data. The GFI value in this model is 0.922. Values close to the recommended level ≥ 0.90 indicate a fit research model.
- d. AGFI is the GFI adjusted by the ratio between the proposed degree of freedom and the degree of freedom of the null model. The AGFI value in this model is 0.897. The value is close to the recommended level \geq 0.90. This shows that the research model is marginally fit. According to Ghazali (2017), the GFI value ranges from 0 – 1. The closer to 1, the better the model. Most researchers use a minimum benchmark of 0.90 as a model parameter which can be said to be a good model.
- e. TLI is a suitability index that is less influenced by sample size. The TLI value in this study was 0.993 with the recommended value being ≥ 0.90. This shows that the research model is fit.
- f. CFI is an index that is relatively insensitive to sample size and model complexity. The CFI value in this study is 0.972 with the recommended value being \geq 0.90, this shows that the research model is marginally fit.
- g. RMSEA is an index used to compensate for chi-square values in large samples. The RMSEA value of this research is 0.032 with the recommended value being ≤ 0.08. This shows that the research model is fit.

The overall results of goodness of fit measurements, all indices show that this research model is good. So the model proposed in the research can be accepted because all values meet the fit criteria.

Hypothesis Test Results

Hypothesis testing based on data processing shows that there is a positive relationship between variables as shown by the c.r value above 1.86 and the p-value below 0.05 (Ghozali, 2017). The test results are presented in the following table.

Hypothesis	β value	c.r. value	Significance	Information
The influence of intracollaboration on market performance	0.013	2.086	0.032	Accepted
The influence of supply chain management on market performance	0.363	2.256	0.024	Accepted

Table 3. Hypothesis Test Results

Intra collaboration moderated by training using IT has an effect on market performance	0.324	2.468	0.027	Accepted
Supply chain management moderated by training using IT has an effect on market performance	0.338	3.176	0.008	Accepted
The influence of using IT on market performance	0.216	2.088	0.038	Accepted

Based on the hypothesis test table, it can be explained as follows.

- 1. Hypothesis 1 shows that there is an influence of intra collaboration on the market performance of MSMEs.
- 2. Hypothesis 2 shows that there is an influence of supply chain management on the market performance of MSMEs.
- 3. Hypothesis 3 shows that there is an intra-collaborator influence which is moderated by training using IT which influences the market performance of MSMEs.
- 4. Hypothesis 4 shows that there is an influence of supply chain management which is moderated by training using IT on the market performance of MSMEs.
- 5. Hypothesis 5 shows that there is an influence of training using IT on the market performance of MSMEs.

Intra collaboration carried out by MSME business actors under the auspices of the Rahmatan Lil Alamin Nganjuk Islamic Boarding School is able to support increased market performance through the products produced. The marketing performance of MSMEs is influenced by the collaboration model implemented by MSMEs which collaborates, communicates and builds a good network system (Setiawan & Soelaiman, 2020). Intra collaboration, which has the aim of collaborating and maintaining business exchange relationships, will have a very relevant impact on business performance (Suong, 2017). Efforts to increase market performance through intra-collaboration can be built by building cooperation between companies based on mutual trust, strengthening cooperation commitment, and incorporating business values into the vision of cooperation.

Supply chain management implemented in MSMEs has achieved optimal performance. This is demonstrated by the ability to face competition and survive to achieve excellence in the market. The ability to expand the market area and number of customers is carried out by implementing a supply chain system. Optimal supply chain management will increase cost efficiency and the ability to provide good service to consumers so that it will have an impact on increasing market performance (Murtadlo & Hanan, 2018); (Fitrianto & Sudaryanto, 2016). Implications in supply chain management include activities to determine vendor transportation, warehousing, inventory, payment systems, suppliers, banks, distributors, accounts payable, order fulfillment, customer-related information, predictions and predictions which have an impact on market performance (Supriyanto & Rahmasari, 2020).

MSME managers must think about the importance of building intracollaboration by improving capabilities using IT through regular training to achieve the expected performance (Sulistiyawati & Widayani, 2020). The research results show that MSME managers who form partnerships, increase collective knowledge and maximize combined resources (intra collaboration) and are supported by the ability to use IT will have more competitive ability to determine market performance. Training using IT will produce digital humanities that have IT quality, duration, and IT ability in managing digital media in a proportional and attractive manner so that it will increase market performance (Mannheimer & Cote, 2017); (Shalihah & Suhendi, 2021).

Supply chain management aims to maximize the value of the products produced, products arriving on time, fulfilling consumer needs and desires (Pujawan & Er, 2017). Training using IT really supports supply chain management, especially in marketing distribution, so that it has a positive impact on market performance (Ibrahim, 2020). This research applies a distribution system in supply chain collaboration built with various external elements, namely delivery service companies, banks, and training alumni. Supply chain management is implemented with an efficient approach to integrating suppliers, goods and warehouses, then increasing IT capabilities through training for MSMEs. This is seen as being able to support operational processes starting from the production process, proper distribution, operational cost efficiency, and the ability to provide satisfactory service quality (Nasrullah, 2019). Training using IT is able to improve the IT skills of MSME managers and make a major contribution to the supply chain management process which will improve company performance and as a means of controlling the market.

The IT training carried out aims to improve the IT skills of MSME managers to obtain information, distribute products and facilitate transactions in an effective and efficient manner. Using IT is an operational management system that supports distribution operations, product marketing, information and transactions as well as various customer services that really support market performance. MSMEs that utilize IT optimally as a supporting media for marketing and distribution will experience an increase in market performance every year (Saragih & Tarigan, 2020). The emergence of MSMEs as an economic force for developed and developing countries (Majeed, et.al, 2021) makes institutions which oversees it, such as the Rahmatan Lil Alamin Nganjuk Islamic Boarding School, has the responsibility to introduce, teach and develop skills using IT so that it is accepted and used as a supporting tool that is considered effective in achieving market performance.

Conclusion

Based on the results of the analysis and discussion, the research conclusions can be described as follows.

1. Intra collaboration influences market performance. Increased market performance is indicated by intra-collaboration with high commitment applied to the MSME group.

- 2. The influence of supply chain management on market performance is dominated by a payment pattern management system that is communicated and provides convenience for fellow MSMEs.
- 3. Training using IT is able to moderate intra-collaboration and supply chain management on market performance.
- 4. Using IT training will improve the ability to utilize IT in the business management process by MSMEs.

References

- Alawi, A.A. (2015). The Role of Engagement on Stakeholder's Satisfaction with the Destination Marketing Organization's Performance. Thesis. School of Advertising, Marketing, and Public Relations Faculty of Business Queensland University of Technology.
- Anjaningrum, W.A (2020). Effectiveness of Digital Marketing and Networks in Boosting MSME Marketing Performance during the Covid-19 Pandemic. Senabisma, 5 (07), 50-61.
- Apriliana, N.S., & Utomo, E.P. (2019). The Influence of Intensity of Viewing Ads on Instagram on the Knowledge and Consumptive Behavior of Young Women. Journal of Communication, 13(2), 179-190.
- Arif, M. (2018). Supply Chain Management: Concept and Implementation of SCM, SCM Functions for Companies, Development of SCM, Distribution in SCM, Inventory Analysis, Purchasing in SCM, Procurement in SCM. Yogyakarta: Deepublish (CV Budi Utama Publishing Group).
- Arifin, S. (2021). Factors that Influence Marketing Performance in the Cake and Bread Industry Center in Bugo Village. Scientific Journal of Islamic Economics, 7 (02), 848-859.
- Diana & Hakim, L. (2021). Collaboration Strategy Between Universities, Industry and Government: Conceptual Review in Efforts to Increase Educational Innovation and Learning Creativity in Higher Education. Proceedings of the National Conference on Management Economics and Accounting (KNEMA).
- Fadhilah, D.A., & Pratiwi, T. (2021). MSME Product Marketing Strategy Through the Implementation of Digital Marketing Competition. Management Scientific Journal, XII (1), 17-22.
- Fitrianto, A.Y. & Sudaryanto, B. (2016). The Influence of Supply Chain Management on Outlet Operational Performance (Study of Mobile Phone Counters registered at PT. Multikom Indonesia, Semarang Branch). Diponegoro Journal of Management, 5 (2), 206-216.

- Ghozali, I. (2017). Application of Multivariate Analysis Using the IBM SPSS 23 Program. Edition 8. Semarang: Diponegoro University Publishing Agency.
- Gray, B., & Stites, J. P. (2013). Sustainability Through Partnerships. Network for Business Sustainability.
- Hana, K.F. (2019). Millennial Generation's Online Buying Interest: The Influence of Trust and Service Quality. BUSINESS: Journal of Islamic Business and Management, 7 (2), 203-216.
- Ibrahim, M. (2020). Analysis of the Effect of Information Sharing, Trust, Long-Term Relationships, and Collaboration on Supply Chain Management Performance (Study at the UMKM Association of Dinoyo Ceramic Village, Malang). JIMFEB -Student Scientific Journal of the Faculty of Economics and Business, Brawijaya University, 2 (2), 98-118.
- Lubis, T.A., & Junaidi. (2016). Utilization of Information Technology in Micro, Small and Medium Enterprises in Jambi City. Journal of Regional Financing and Development Perspectives, 3 (3), 163-174.
- Majeed, M., Ansah, M. O., & Ashmond, A. A. (2021). The Influence of Social Media on Purchase Intention: The Mediating Role of Brand Equity. Cogent Business & Management Journal Published, 8 (1), 164-177.
- Mannheimer, S., & Cote, C. (2017). Cultivate, Assess, Advocate, Implement, and Sustain: a Five-Point Plan for Successful Digital Preservation Collaborations. Digital Library Perspectives, 33(2).
- Murtadlo, K., & Hanan. (2018). The Influence of Entrepreneurial Competence, Human Resource Competency, and Supply Chain Management on SME Performance and Competitive Advantage (Study of Fishery Product Processing SMEs in Rejoso and Lekok Districts, Pasuruan Regency). Journal of Business Sketching, 5(1), 15-27.
- Nasrullah, A. (2019). The Influence of Supply Chain Management on the Performance of MSME Companies Trading Building Materials in Sleman Regency. Thesis. Master of Management, Postgraduate Islamic University of Malang.
- Pujawan, I.N., & Er, M. (2017). Supply Chain Management, Edition 3. Yogyakarta: Andi Offset.
- Rahmawati, S., & Darsono, N.S. (2019). Factors that Influence Marketing Performance in Processed Food Micro, Small and Medium Enterprises in Surakarta City. Journal of Agricultural Economics and Agribusiness (JEPA), 3(2), 325-335.

- Rodrigues, R. I., Lopes, P., & Varela, M. (2021). Factors Affecting Impulse Buying Behavior of Consumers. Front. Psychological Journal, 2(1), 324-339.
- Saragih, L., & Tarigan, W.J. (2020). Online Purchasing Decisions Through Social Media Marketing for Micro and Small Businesses, a Literary Approach. Management: USI Economic Journal, 2(1), 85-92.
- Setiawan, L.R., & Soelaiman, L. (2020). The Influence of Collaboration, Cultural Intelligence, and Entrepreneurial Orientation on the Performance of MSMEs in Sibolga City. Journal of Managerial and Entrepreneurship, III (2), 388-397.
- Shalihah, Alfina, & Chrisna, S. (2021). The Influence of Ready to Change and Digital Humanities Collaboration on Dynamic Capabilities: Case Study of MSMEs in Central Java. Proceedings of the Unissula Student Scientific Constellation (KIMU) 5. Sultan Agung Islamic University
- Stevenson, W. J., & Chuong, S. C. (2014). Operations Management 2nd Edition: Asia Global Edition. New York: McGraw-Hill.
- Sugiyono. (2020). Qualitative Research Methods. Bandung: Alphabeta.
- Sulistiyawati, E.S., & Widayani, A. (2020). Shopee Marketplace as a Sales Promotion Media for MSMEs in Blitar City. Journal of Competitive Marketing, 4(1), 133-142.
- Suong, H.T.T. (2017). Factors Impacting on the Supply Chain Collaboration of the Furniture Industry in Vietnam. Journal of Asian Finance, Economics and Business, 4(4), 67-77.
- Supriyanto, & Rahmasari, L. (2020). Analysis of the Effect of Supply Chain Integration and Innovation on Company Performance (Case Study of a Freight Forwading Company in Semarang). Journal of Maritime Transportation Science Technology, 2 (1), 11-19.
- Suwanda, A., & Surjasa, D. (2018). The Effect of Supply Chain Collaboration on Financial Performance Through Logistics Performance, Operational Performance and Customer Satisfaction (Empirical Study of Retail Companies Operating in Indonesia). Journal of Research and Scientific Work, Trisakti University Research Institute, 3 (1), 1-7.
- Taufik, M.M. (2020). The Influence of Market Orientation on the Performance of MSME Companies Mediated by Competitive Advantage (Study of MSMEs at SMESCO Indonesia). Journal of Economics and Management, 9 (1), 25-38.
- Tjiptono. (2019). Marketing Strategy Principles & Application, Edition 1. Yogyakarta. Andy Offset.