

THE ROLE OF OPERATIONAL PERFORMANCE AS A MEDIATOR IN THE INFLUENCE OF SUPPLY CHAIN MANAGEMENT PRACTICES ON THE FINANCIAL PERFORMANCE OF MSME'S

Peran Kinerja Operasional sebagai Mediasi Pengaruh Praktek Supply Chain Management terhadap Kinerja Keuangan UMKM

Theodorus Sutadi^{1)*}, dan Rubiyatno²⁾

^{1,2,3)} Management Study Program/ Faculty of Economy / Universitas Sanata Dharma

^{1,2,3)} Jl. Afandi Gejayan, Mrican, Tromol Pos 29, Yogyakarta 55002

Received on March 13, 2024 / Approved on April 18, 2024

Abstract

Financial performance is a tool for measuring the success of a business. Managers can make appropriate decisions by reviewing the results of the company's financial performance. One of the aspects believed to influence the financial performance of a company is operational performance. Of course, this must be done through supply chain management practices in order to achieve good financial performance of the company. This research aims to determine the mediating role of company operational performance in the influence of supply chain management (SCM) practices on company financial performance. A quantitative approach was carried out by distributing questionnaires to 100 business leaders. Primary data consists of the results of filling out a questionnaire by the business owner. The data collection technique uses a survey method by distributing questionnaires to respondents, namely business owners. The MSMEs in question are 100 MSMEs located in Yogyakarta. Validity and reliability tests are carried out before implementing research analysis techniques. In this research, we examine the effect of SCM practices on financial performance through the operational performance of micro, small and medium enterprises in Bantul Regency, Yogyakarta Special Region (UMKM). The analysis technique uses structural equation modeling-partial least squares (SEM-PLS) with the WrapPLS application. The researchers estimated the results of direct effects and indirect effects. The research results prove that operational performance as a mediator in SCM practices influences the financial performance of the company. Apart from this, it is also proven that supply chain management has influence on operational performance, operational performance has influence on financial performance and supply chain management also has a direct influence on financial performance.

Keywords: Supply Chain Management; Operational Performance; Financial Performance; MSMEs

Abstrak

Kinerja keuangan merupakan salah satu alat untuk melakukan tolak ukur keberhasilan perusahaan. Manajer dapat dengan tepat mengambil keputusan ketika melihat hasil kinerja keuangan perusahaan. Salah satu aspek yang dipercaya dapat mempengaruhi ketercapaian kinerja keuangan perusahaan adalah kinerja operasional. Tentu saja hal ini perlu melalui praktek supply chain management demi mencapai kinerja keuangan perusahaan yang baik. Penelitian ini bertujuan mengetahui peran mediasi kinerja operasional perusahaan dalam pengaruh praktik supply chain management (SCM) terhadap kinerja keuangan perusahaan. Pendekatan kuantitatif dilakukan dengan menyebarkan kuesioner kepada pemilik usaha sejumlah 100 responden. Data primer berupa hasil pengisian kuesioner oleh pemilik usaha. Teknik pengumpulan data menggunakan metode survei dengan menyebarkan kuesioner kepada responden yaitu pemilik usaha. UMKM yang dimaksud adalah 100 UMKM berlokasi di Yogyakarta. Uji validitas dan reliabilitas dilakukan sebelum melakukan teknik analisis penelitian. Dalam penelitian ini menguji pengaruh praktek SCM terhadap kinerja keuangan melalui kinerja operasional usaha mikro kecil dan menengah di Kabupaten Bantul Daerah Istimewa Yogyakarta (UMKM). Teknik analisis menggunakan Structural Equation Modeling-Partial Least Square (SEM-PLS) dengan aplikasi WrapPLS. Peneliti melakukan estimasi hasil direct effect dan indirect effect. Hasil penelitian membuktikan bahwa kinerja operasional sebagai mediator dalam praktek SCM mempengaruhi kinerja keuangan perusahaan. Selain itu juga terbukti bahwa supply chain management memiliki pengaruh terhadap kinerja operasional, kinerja operasional memiliki pengaruh

terhadap kinerja keuangan dan supply chain management juga berpengaruh secara langsung terhadap kinerja keuangan

Kata Kunci: *Manajemen Rantai Pasokan; Kinerja Operasional; Kinerja Keuangan; UMKM*

*Author Correspondence:

E-mail: thsutadi@usd.ac.id

Introduction

Supply chains can be important for companies in competitive advantage in today's competition. Research related to supply chain management emphasizes how to maximize the overall value of a company. Supply chain is a series of values to add to a company that connects activities with its suppliers and customers (Sukati et al., 2012). The importance of achieving effective supply chain management requires strategic policies to achieve effective supply chain management goals, but in reality the level of concern of both companies and academics regarding strategic policies, especially regarding supply chain management issues, is still very low (Anatan, 2012). Implementing supply chain management is very necessary for companies to increase industrial competitiveness which has an impact on company performance (Prayhoego & Devie, 2013). Empirical evidence proves the importance of SCM practices in improving operational performance. Thus, SCM practices can explain 52.6 percent of the variance in operational performance. This is a remarkable level because not only the SCM practices suggested in this study, operational performance is also influenced by others, such as the operating environment, capital, technology, equipment, human resources, information, etc (Huy Quang Truong Vilhenac, 2018). The supply chain consists of all parties involved, directly or indirectly, in meeting customer demand. The supply chain includes not only manufacturers and suppliers, but also carriers, warehouses, retailers, and even customers themselves. In any organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling customer demand. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service (Chopra, 2006). Previous research has not fully explored the role of operational performance as a mediator in the relationship between Supply Chain Management (SCM) practices and the financial performance of Micro, Small and Medium Enterprises (MSMEs). While there are few studies that highlight the direct relationship between Green Supply Chain Management and financial performance, there is little research that specifically analyzes how the operational performance of MSMEs plays an intermediary in this relationship (Feng et al., 2018).

All parties involved do not only consist of producers or suppliers, but also involve distributors, storage places, sellers and consumers (Prayhoego & Devie, 2013). Supply chain management practices consist of: strategic supplier partnerships, information sharing, information quality, and integration intensity. Information sharing and information quality were both found to be strongly related to performance in this context, while integration intensity was found to be less related (Hamister, 2012) (Diva & Pranatasari, 2023). Relationships between suppliers, customers, and the company itself must be managed well. How can suppliers take responsibility for product quality, good and long-term relationships with suppliers and customers, as well as ensuring that product distribution from upstream to downstream reaches the end user on time (Rahmasari, 2011). Copra and Meindl state that the aim of supply chain management is to maximize the overall value generated to meet customer needs and demands. On the other hand, the aim is to minimize overall costs (ordering costs, storage costs, raw material costs, transportation costs, etc.) (Rahmasari, 2011). Companies in implementing Supply Chain Management (SCM) aim to increase competitiveness, realized in improving operational performance, which ultimately has an impact on company finances. SCM assessment is influenced by various areas such as purchasing and logistics.

The SME sector is a business center that can provide competitive advantages, including having a production chain that is not too long. Craft products in Bantul Regency have a long production chain involving many other parties. For example, wooden batik crafts starting from procurement of wood, dyes, marketing. The application of SCM in the SME sector is a cross-functional approach including managing the movement of raw materials into an organization, certain aspects of the internal process of materials into finished goods, and the movement of finished goods out of the organization and towards final consumers. The application of SCM in the SME sector aims to determine minimum costs and optimum service satisfaction by optimizing all existing infrastructure that affects the product.

The problem of this research is the lack of understanding of how the operational performance of Micro, Small and Medium Enterprises (MSMEs) acts as a mediator in the relationship between Supply Chain Management (SCM) practices and MSME financial performance. Previous research has tended to focus on the direct relationship between SCM and financial performance, without regard to the role of mediators played by operational performance in the context of MSMEs (Shi & Yu, 2013). This research is important because it will provide a better understanding of the mechanisms that link SCM practices to MSME financial performance through operational performance. With a better understanding of the factors affecting MSME financial performance, MSME owners and SCM practitioners can identify areas where they can improve their operations to achieve better financial performance. The issue of lack of understanding of the role of operational performance as a mediator between SCM and MSME financial performance is important because MSMEs are the backbone of the economy in many countries. By understanding this mechanism, MSMEs can improve their operational efficiency and increase their competitiveness in an increasingly tight global market. The mediating variables of Operational Performance have a significant role in linking Supply Chain Management (SCM) practices with an organization's Financial Performance. Through improved operational efficiency and better resource management, Operational Competitive Performance can strengthen the relationship between SCM factors and responsible financial results. Flynn, Huo, and Zhao highlight that good supply chain integration can improve operational performance, which in turn can have a positive impact on financial performance (Flynn et al., 2010). Pagell and Wu broaden their understanding of sustainable SCM practices, while Soosay and Hyland emphasize the role of environmental and social factors in influencing financial performance through Operational Performance. Furthermore, a deeper understanding of this role can help organizations develop holistic and sustainable SCM strategies to improve their financial performance (Pagell & Wu, 2009) (Suryana et al., 2023).

This research aims to determine the influence of supply chain management on company operational performance, to determine the influence of company operational performance on company financial performance and to determine the influence of supply chain management on company financial performance through operational performance.

Theoretical Foundations and Hypothesis Development

Theoretical approaches that may be used in this study are Resource-Based View (RBV) theory and Agency theory. RBV theory states that a firm's internal resources, such as effective operational performance, can be a source of sustainable competitive advantage, which in turn affects financial performance (Barney, 1991). Agency theory describes the relationship between owners and agents in organizations, and how good operational management can reduce agency conflict and improve financial performance (Jensen and Meckling, 1976). Using this approach, research can examine how the operational performance of MSMEs, which are internal company resources, acts as a mediator in the relationship between Supply Chain Management (SCM) practices and financial performance. Better operational performance, driven by effective SCM

practices, is expected to improve the financial performance of MSMEs. In conclusion, this theoretical approach provides a strong framework to explain how SCM practices affect MSME financial performance through operational performance.

Supply chain management is an approach used to achieve more efficient integration of various organizations from suppliers, manufacturers, distributors, retailers, and customers. This means that goods are produced in the right quantity, at the right time and in the right place with the aim of achieving minimum overall system costs and also achieving the desired service level (Simchi-Levy, D., Kaminsky, P. and Simchi-Levy, 2008). Supply chain management is the coordination of the entire supply chain activities, starting with raw materials and ending with satisfied customers. Supply chain management includes suppliers, manufacturing companies or service providers, distributor companies, wholesalers or retailers who deliver products or services to final consumers (Heizer, 2015). Supply chain management is a set of approaches to streamline the integration of suppliers, producers, warehouses and stores, so that goods are produced and distributed in the right quantity, at the right time and at the right location to minimize costs and provide service satisfaction to consumers (Simchi-Levy, D., Kaminsky, P. and Simchi-Levy, 2008). Supply chain management is relationship management from upstream to downstream or from supplier to consumer to provide more value to customers and reduce overall supply chain costs (Ilmiyati & Munawaroh, 2016). Many factors can influence the performance of supply chain management in companies, including information sharing, long term relationships, cooperation, and process integration (Ariani & Dwiyanto, 2013). Performance is a description of the achievement of implementing an activity. in realizing company goals. Where one of the important goals of establishing a company is to maximize shareholder wealth by increasing company value, as stated by Brigham and Houston (Monisa Wati, 2012). Company performance itself is the actual result or output produced by a company which is then measured and compared with the results or expected output (Asghar Afshar Jahanshahi, 2012). In general, researchers define the concept of company performance based on the idea that a company is a collection of productive assets that are deliberately formed, including human, physical and capital resources, which are aimed at jointly achieving a goal (Prayhoego & Devie, 2013) (Pranatasari & Wadyatenti, 2022) There are various ways to determine and measure the performance of a company. But researchers have reviewed that the company performance measures currently most frequently used in research are financial performance, operational performance, and market-based performance (Asghar Afshar Jahanshahi, 2012) (Pranatasari & Wadyatenti, 2022) (Diva & Pranatasari, 2023) (Herdinata et al., 2024).

Supply chain management practices are associated with improved performance at both the retail and supplier levels. The performance improvements reported in this study are consistent in magnitude with findings from previous work with larger companies in the manufacturing sector (Li et al., 2006), which suggests that equivalent SCM practices apply even in small companies with minimal managerial infrastructure (Hamister, 2012). SCM is a concept or mechanism for increasing a company's total productivity in the supply chain through optimizing time, location, and quantity flow of materials. Manufacturing, in implementing supply chain management (SCM), companies are required to be able to meet customer satisfaction, develop products on time, incur low costs in the areas of inventory and product delivery, manage the industry carefully and flexibly. Nowadays consumers are increasingly critical, they demand the provision of products in the right place, on time. This causes manufacturing companies that are anticipating this to gain customers, while those that are not anticipatory will lose customers. Supply chain management is the best solution to improve productivity levels between different companies (Anwar, 2014)

Performance is work ability demonstrated by work results. A company's operational performance is something the company produces within a certain period by referring to predetermined standards. Business performance refers to how much the company is market-oriented

and has profit goals (Fitrianto et al., 2016). Operational performance is a performance regarding the quality of activities related to the flow and movement of goods, which can be seen from cost, delivery, quality, and flexibility. Operational performance is a performance regarding the quality of activities related to the flow and movement of goods, from raw materials to final consumers, including those related to information and funds (Ariani & Dwiyanto, 2013)

Munawir states that the aim of measuring a company's financial performance is knowing the level of liquidity. Liquidity shows a company's ability to fulfill financial obligations that must be settled immediately when they are billed (Munawir, 2002). Another objective is to determine the level of solvency which shows the company's ability to fulfill its financial obligations if the company is liquidated, both short term and long term. The third objective is to determine the level of profitability. Profitability or what is often called profitability shows the company's ability to generate profits during a certain period. The final objective of measuring financial performance is to determine the level of stability which shows the company's ability to carry out its business stably, which is measured by considering the company's ability to pay its debts and pay interest charges on its debts on time. Thus, it can be concluded that financial performance measurement provides an assessment of the management of company assets by management and company management is required to carry out evaluations and corrective actions for unhealthy company financial performance (Herdinata et al., 2024).

Supply Chain Management (SCM) has a crucial role in improving the company's operational performance. (Christopher, 2011) explains the basic concepts of SCM and how its implementation can improve efficiency and effectiveness in the supply chain. He stated that effective implementation of SCM can reduce operational costs and improve the company's operational efficiency. In addition, (Krajewski et al., 2010) suggest that efficient supply chain management can increase productivity, reduce lead time, and increase customer satisfaction. Supplier integration and collaboration in the supply chain are also important factors in the influence of SCM on the company's operational performance. (Flynn et al., 2010) showed that strong integration in SCM can improve market responsiveness and operational performance of companies. Furthermore, (Frohlich & Westbrook, 2001) emphasize the importance of integration strategies in improving supply chain performance and operational performance of companies. Based on the basis of the theory and research that has been presented, the hypothesis can be formulated as follows:

H1: There is an influence of Supply Chain Management practices on the company's operational performance.

Supply Chain Management (SCM) has a crucial role in improving the company's financial performance. (Christopher, 2011) explains the basic concepts of SCM and how its implementation can improve efficiency and effectiveness in the supply chain. He stated that effective implementation of SCM can reduce operational costs, increase efficiency, and ultimately can have a positive impact on the company's financial performance. In addition, (Krajewski et al., 2010) suggest that efficient supply chain management can increase productivity, reduce lead time, and increase customer satisfaction, which in turn can contribute positively to the company's financial performance. Supplier integration and collaboration in the supply chain are also important factors in SCM's influence on a company's financial performance. (Flynn et al., 2010) show that strong integration in SCM can improve market responsiveness and financial performance of firms. Furthermore, (Frohlich & Westbrook, 2001) emphasize the importance of integration strategies in improving supply chain performance and corporate financial performance. Based on the basis of theory and research that has been presented, hypotheses for research can be formulated as follows:

H2: There is a significant influence between Supply Chain Management practices on the company's financial performance.

In the context of the influence of SCM on the company's financial performance through operational performance, collaboration in the supply chain is also an important factor (Chen & Paulraj, 2004). (Cao & Zhang, 2011) examined the impact of collaboration in supply chains on collaborative excellence and firm performance. The results of this study show that effective collaboration in SCM can improve the operational performance and financial performance of the company. Furthermore, (Yu et al., 2013) (Annan et al., 2016) shows in SCM, which focuses on customer needs and wants, can increase customer responsiveness and satisfaction, which in turn can have a positive impact on a company's operational performance and financial performance. Based based on theory and research that has been presented, hypotheses for research can be formulated as follows:

H3 (Alternative Hypothesis): There is a significant influence between Supply Chain Management practices on a company's financial performance through operational performance.

Research Method

This research method includes determining the population and sample, research instruments, and data collection techniques, as well as data analysis techniques which are the methods or methods used to carry out research. The population is small and medium businesses in Bantul Regency engaged in crafts such as clay crafts, wooden batik and cloth batik in the culinary sector. The number of samples used as respondents was 100 craftsmen. Respondents who answer questions are company owners. In this research, the instrument used to collect data is questions in the form of a questionnaire which will be distributed to respondents, namely business owners. The questions used a Likert scale, and the answer range was (1) strongly disagree (2) disagree (3) not sure (4) agree and (5) strongly agree. The indicators for each variable were modified from (Li et al., 2006), for supply chain management, (Asghar Afshar Jahanshahi, 2012) for Operasional Performance and (Munawir, 2002) for financial performance, so that it can be explained in the following table:

Table 1. Variable Indicators

Variabel Supplay Chain Management	
Information sharing	
SCM1	Share information with suppliers (financial, production, design)
SCM2	Continuously exchange information with suppliers (formal or informal)
SCM3	Every time there is an important activity, we always provide information to all related parties
SCM4	The information held can help all parties
Long-term relationship	
SCM5	Long term alliance relationship with Supplier
SCM6	Long-term project relationships are based on relationships with suppliers
SCM7	Long-term cooperation is the basis of the company's relationship with suppliers.
SCM8	We hope that the relationship can last for a long time

Cooperation	
SCM9	The key to success is always new processes and product development
SCM10	Meetings and discussions with suppliers regarding sales planning and forecasting.
SCM11	Cooperation is determined based on objective conditions.
SCM13	Always improve sustainable relationships with suppliers
Process integration	
SCM14	Logistics Organization Activities are coordinating activities
SCM15	Logistics activities have good integrity, with the activities of suppliers
SCM16	Transportation Process: Distribution, warehouse, and transportation processes are integrated with suppliers
Operational Competitive (Performance) Variables	
Cost	
KOP1	Low production costs
KOP2	High inventory turnover
KOP3	Maximum capacity use
Flexibility	
KOP4	High volume flexibility
KOP5	High process flexibility
KOP6	High Customization Flexibility
Quality	
KOP7	Attractive product appearance
KOP8	Small amount of damage
KOP9	Compliance with high specification design
Delivery	
KOP10	Waktu pengiriman yang cepat
KOP11	Pengiriman yang tepat waktu
KOP12	Siklus produksi yang cepat
Financial Performance Variables	
Liquidity	
KEU1	Ability to pay debts for purchasing raw materials
KEU2	Ability to pay employee salaries
Solvability	
KEU3	Ability to repay debt for more than one year at the bank
KEU4	The ability to pay its debts if the company closes
Rentability	
KEU5	Ability to generate profits
Stability	
KEU6	Ability to pay debts on time

Source: Data Processed by Researchers, 2023

The method used in collecting data in this research is to use primary data sources, namely research data sources obtained directly from the original source. In this case, primary data is in the form of the results of filling out a questionnaire by the business owner. The data collection technique uses a survey method by distributing questionnaires to respondents, namely business owners. Researchers distributed questionnaires by visiting potential respondents one by one. The reason for using the survey method by distributing questionnaires directly to respondents is so that researchers can save time, energy, and costs. Using this method can reveal the true perceptions of respondents.

The analysis technique used in this research is Partial Least Square-Structural Equation Modeling (SEM-PLS) because this research aims at exploration. Exploratory multivariate analysis is used to look for data patterns in cases where there are still limited theories that state how the relationships between variables are. PLS SEM can work efficiently with small sample sizes and complex models. SEM PLS is a causal approach that aims to maximize the variance of the latent criterion variable that can be explained. SEM PLS can work efficiently with relatively looser assumptions. Conceptually, SEM PLS is like ordinary least squares (OLS) regression analysis because it aims to maximize the variance of the dependent variable that can be explained by the model. In other words, the goal is to maximize the R-Squared value and minimize the residual or prediction error.

Results and Discussion

The population is small and medium businesses in Bantul Regency engaged in souvenir crafts such as clay crafts, wooden batik, and cloth batik. The number of samples that will be used as respondents is 100 craftsmen. Respondents who answer questions are company owners. Data was collected by visiting respondents to provide answers to the questionnaire given which was targeted at 100 small and medium businesses. It turns out that up to the time this report was prepared, only 67 small and medium businesses had been collected. With details of 36 clay crafts, 20 wooden batik businesses and 11 cloth batik businesses, small and medium businesses.

Data analysis was carried out with SEM PLS, using the WrapPLS 3.0 program, for mediation testing. The analysis seeks to answer the research hypothesis. The hypothesis in this research is: SCM (Supply Chain Management) influences (KEU) financial performance through (KOP) operational performance. After going through 5 steps in SEM PLS as in the picture above, the following output is obtained:

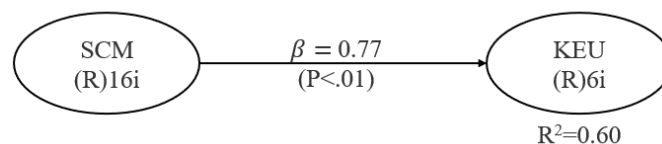


Figure 1. Direct Effect Estimation Results
Source: Data Processed by Researchers, 2023

From figure 1, the results show that the estimated direct effect of SCM on KEU is 0.77 and significance is 0.01.

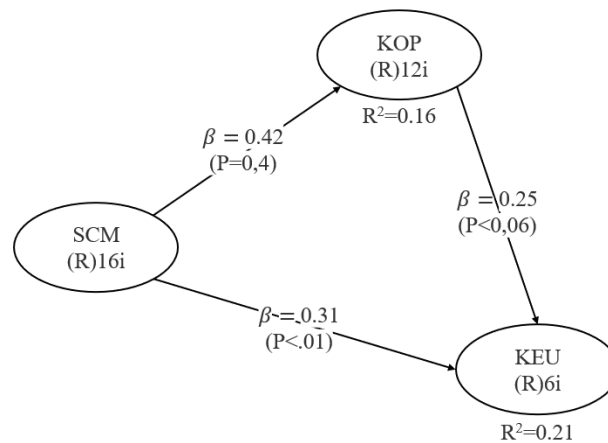


Figure 2. Indirect Effect Estimation Results
 Source: Data Processed by Researchers, 2023

From figure 2, the estimated indirect effect of supply chain management on financial performance is 0.31 and is significant at the 5% level, decreasing from 0.77 to 0.31 but still significant. This shows a partial form of mediation or in other words operational performance partially mediates the influence of supply chain management on financial performance. This form of partial mediation shows that operational performance is not the only mediator in the relationship between supply chain management and financial performance, but there are other mediating factors (Baron, R. M., & Kenny, 1986). The test results show support for the hypothesis that SCM has an indirect effect on financial performance. Operational performance acts as a partial mediator in the relationship between supply chain management and company financial performance.

Table 2. Output General Model Elements Result

General Model Elements	Result
APC	0.326
ARS	0.196
AVIF	1.177

Source: Data Processed by Researchers, 2023

The general result output in the model fit indices and p value section displays three fit indicators, namely average path coefficient (APC), average R square (ARS), and average variance inflation factor (AFIF). The p value for APC and ARS must be less than 0.05 or significant. In addition, AFIF as an indicator of multicollinearity must be smaller than 5. The output results show that the goodness of fit model criteria have been met, namely with an APC value of 0.326 and ARS of 0.196 and significant, namely with p for APC being smaller than 0.0001 and p for ARC is 0.003, where both p values are smaller than 0.05. Meanwhile, the AVIF value of 1.177 also meets the criteria, namely smaller than 5. Next, we look at the output path coefficients and p value which can be seen in table 3 below.

Table 3. Output path coefficients dan p value.

	SCM	KOP	KEU
SCM			
KOP	0.424		
KEU	0.325	0.248	

Source: Data Processed by Researchers, 2023

The output path coefficients and p values are presented with the results of path coefficient estimates and p values. Columns show predictor latent variables and rows show criterion latent variables. The path coefficient of the influence of Supply Chain Management on operational performance is 0.424 and is significant at 0.045 (level 5%), while the coefficient of the path influence of Supply Chain Management on financial performance is 0.305 and is significant with a value of 0.001 (level 5%), and The path coefficient for the influence of operational performance on financial performance is 0.248 and is significant because the p value is 0.065 (10% level). The following image is the standard output errors and effect size for path coefficient.

Standard errors are needed, among other things, if we want to test the mediation effect using the approach of (Baron, R. M., & Kenny, 1986) and (Hayes & Preacher, 2010) for linear relationships. Apart from that, it is also useful for the mediating effects of nonlinear relationships as in (Hayes & Preacher, 2010). However, WarpPLS software can test the media directly which can be seen in the indirect output and total effects. The effect size output presents the results of the f square effect size. Effect Size can be grouped into three categories, namely weak (0.02), medium (0.15) and large 0.35) (Hair & Brunsveld, 2019). Effect Size values below 0.02 indicate that the effect The predictor latent variable is very weak from a practical point of view even though it has a significant p value. The estimation results show that the effect size of supply chain management on operational performance is 0.179 and supply chain management on financial performance is 0.213. This result is classified as a large effect size group, so it shows that supply chain management has an important role from a practical perspective in improving operational performance and financial performance. Meanwhile, the influence of operational performance on financial performance is 0.091, which is included in the medium group.

Table 4. Output combined loadings and cross loadings.

	SCM	KOP	KEU	SE	P value
SCM1	-0.717	-0.079	-0.081	0.063	<0.001
SCM2	-0.436	-0.051	0.472	0.085	<0.001
SCM3	-0.34	-0.002	0.475	0.095	<0.001
SCM4	-0.473	-0.049	0.536	0.084	<0.001
SCM5	-0.772	0.045	-0.164	0.058	<0.001
SCM6	-0.566	-0.035	-0.053	0.076	<0.001
SCM7	-0.626	0.102	-0.226	0.069	<0.001
SCM8	-0.65	-0.002	-0.177	0.065	<0.001
SCM9	-0.446	0.129	0.397	0.085	<0.001
SCM10	-0.254	0.204	-0.304	0.105	0.008
SCM11	-0.372	0.024	0.041	0.121	0.001
SCM12	-0.459	-0.033	0.039	0.119	<0.001
SCM13	-0.659	-0.115	-0.142	0.067	<0.001
SCM14	-0.732	0.067	-0.219	0.062	<0.001
SCM15	-0.508	-0.061	-0.038	0.102	<0.001
SCM16	-0.551	-0.038	-0.019	0.105	<0.001
KOP1	0.685	-0.181	-0.171	0.096	0.03
KOP2	0.575	-0.249	0.052	0.302	0.205
KOP3	0.547	-0.185	-0.028	0.249	0.229
KOP4	-0.046	-0.741	-0.09	0.362	0.021
KOP5	-0.262	-0.611	-0.022	0.308	0.024

KOP6	0.219	-0.507	-0.02	0.325	0.06
KOP7	-0.105	-0.698	-0.095	0.354	0.025
KOP8	-0.174	-0.686	-0.069	0.347	0.025
KOP9	0.145	-0.536	-0.159	0.323	0.049
KOP10	0.229	-0.364	0.047	0.314	0.124
KOP11	-0.328	-0.692	0.003	0.339	0.021
KOP12	-0.078	-0.357	0.82	0.223	0.056
KEU1	-0.018	-0.086	-0.844	0.038	<0.001
KEU2	0.006	-0.047	-0.841	0.049	<0.001
KEU3	0.017	0.243	-0.281	0.123	0.012
KEU4	-0.112	0.246	-0.263	0.109	0.009
KEU5	-0.048	0.078	-0.891	0.046	<0.001
KEU6	0.096	-0.113	-0.802	0.047	<0.001

Source: Data Processed by Researchers, 2023

From the table above it can be seen that the SCM1 indicator has a greater loading on the SCM construct, compared to the operational performance construct and the financial performance construct, as do the other indicators, this shows an indication of the fulfillment of discriminant validity. Meanwhile, for convergent validity, not all of them have a loading greater than 0.7 and a p value smaller than 0.05. If an indicator has a loading below 0.40, it is best to remove it from the model, but it is still retained because it contributes to validity. construct content. The following image is the output of latent variable coefficients, which displays determination efficiency, instrument reliability, discriminant validity, full collinearity test and predictive validity.

Table 5. Output laten variable coefficients.

	SCM	KOP	KEU
R squared		0.179	0.213
Composite reliab.	0.869	0.795	0.837
Cronbach's alpha	0.839	0.737	0.761
Avg.var.extrac	0.307	0.274	0.501
Full collin VIF	1.285	1.238	1.242
Q-squared		0.181	0.216

Source: Data Processed by Researchers, 2023

The coefficient of determination uses R square which shows what percentage of variation in the endogenous construct/criterion can be explained by the construct that is hypothesized to influence it (exogenous/predictor). The higher R square indicates a good model. R square only exists for endogenous constructs. Based on the output results above, the R-square value for the KOP variable is 0.179, indicating that the variation in KEU can be explained by 17.9% by the variance of SCM and KOP or in other words the influence of the SCM and KOP variables in explaining the variation in the KEU variable is 17.9%. The remaining % is influenced by other variables outside the research model.

Meanwhile, Q square is used to assess the predictive validity or relevance of a set of latent predictor variables on the criterion variable. Q square is analogous to R Squared but can only be obtained through resampling. Q squared can be negative while Rsquares is always positive. A model with validity must have Q squared greater than 0 (zero). The estimation results of the model created show good predictive validity (namely 0.181 and 0.216) because the value is above 0 (zero). This output also presents two measures of research instrument reliability, namely composite

reliability, and Cronbach's alpha. Both must have a value above 0.70 as a requirement for reliability according to Fornell Lacker, 1981; Nunnally, 1978 in (Sholihin & Ratmono, 2013) The output above shows that the instrument's reliability is met because it is above 0.7. Variable variance extraced (AVE) is also used for convergent evaluation, in this case only KEU meets with a value above 0.5, while for SCM and KOP it has not been fulfilled, however, the variables are still maintained because these variables contribute to construct validity.

Full Collinearity VIF is the result of full collinearity testing which includes vertical and lateral mulcollinearity. Full Collinearity test results are presented for each latent variable. The collinearity that we know so far is called vertical or classical, namely collinearity between predictor variables in the same block. There is a new concept, namely lateral collinearity, namely collinearity between the predictor latent variable and the criterion. Lateral collinearity is often ignored even though it causes research results to be biased. Lateral collinearity is also used to test common method bias. The criteria for the full collinearity test is that the value must be lower than 3.3 (Kock, 2013). The output above shows a Full Collinearity VIF value of less than 3.3 so that the model is free from vertical, lateral collinearity and common method bias problems.

In the image below is the output plot of the relationship between SCM and KOP, it appears that the results are close to an S curve. The interpretation of the non-linear relationship between the implementation of supply chain management and operational performance can be explained as follows. Initially, implementing supply chain management caused performance to tend to decline. This may require organizational members to adjust. However, at the point -1.5, implementing supply chain management can improve operational performance to the optimal operational performance point of 0.5. After that it decreased again, this may be because there are less challenges in implementing supply chain management.

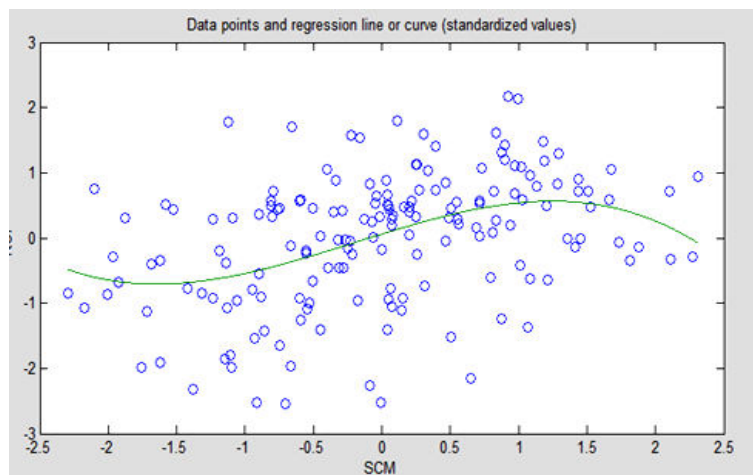


Figure 3. Output plot of the relationship between SCM and KOP
Source: Data Processed by Researchers, 2023

In the image below is the output plot of the relationship between SCM and KEU, it appears that the results are close to a straight line. The interpretation of the non-linear relationship between the implementation of supply chain management and financial performance can be explained as follows. This finding can be interpreted to mean that the relationship tends to be linear, that the higher the supply chain management, the higher the company's financial performance. This is the possibility of the company's success in obtaining benefits from implementing supply chain management.

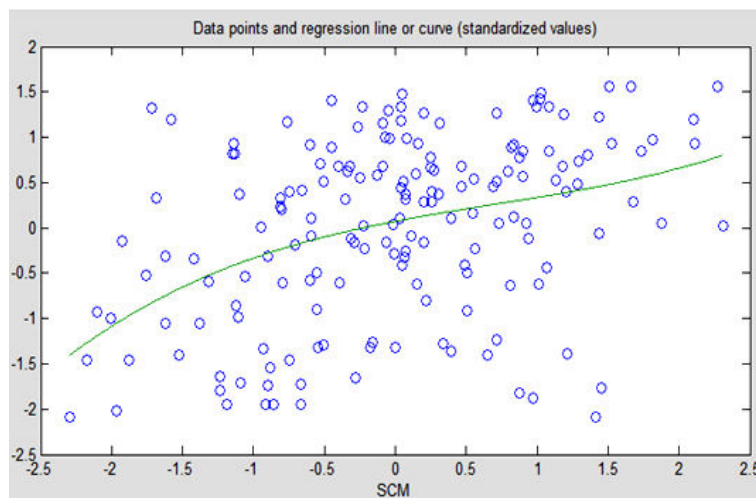


Figure 4. Output Plot of the Relationship SCM dan KEU.
Source: Data Processed by Researchers, 2023

In the image below is the output plot of the relationship between KOP and KEU, it appears that the results are also close to the S curve. The interpretation of the non-linear relationship between the application of KOP and KEU can be explained as follows. Initially, operational performance caused performance to tend to decline. This may require organizational members to adjust. However, at point -1 operational performance can increase operational performance to the optimal point of operational performance of 1.5. After that it decreased again, this may be because the benefits of operational performance were no longer able to increase financial performance and even tended to decline. This means that operational performance will not last as long as it is able to improve the company's financial performance.

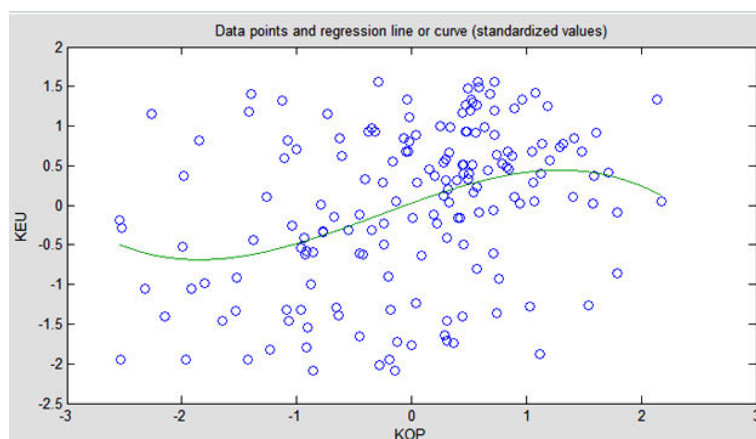


Figure 5. Output Plot of the Relationship between KOP and KEU
Source: Data Processed by Researchers, 2023

Next, it will be from the indirect and total effect output, which displays the indirect effect coefficient and its significance of 0.105 and 0.025, so it can be said that the influence of supply chain management on KEU indirectly and through KOP is 0.105. Next, we can calculate VAF (variance accounted for) with the formula for indirect influence divided by total influence. Total influence is the sum of direct influence and indirect influence. The calculation can be seen as follows: indirect effect: 0.105, direct effect: 0.77, total effect: 0.875 while VAF: 0.12. The VAF value ranges from 0 to 1, the higher the VAF value indicates that the mediation effect is perfect. From the calculation results of the VAF value of only 0.12 or 12%, it can be concluded that the mediating effect on operational performance is very small.

Based on the output results above, the R-square value for operational performance variables is 0.179, indicating that variations in financial performance can be explained by 17.9% by variances in supply chain management and operational performance or in other words the influence of supply chain management variables and operational performance in explaining The variation in financial performance variables is 17.9% and the remainder is influenced by other variables outside the research model. supply chain management on financial performance indirectly and through financial performance is 0.105. From the calculation results of the VAF value of only 0.12 or 12%, it can be concluded that the mediating effect on operational performance is very small. In the plot of the relationship between supply chain management and operational performance, it appears that the results are close to an S curve. The interpretation of the non-linear relationship between the implementation of S supply chain management and operational performance can be explained as follows. Initially, the implementation of supply chain management which included information sharing, long term relationships, cooperation and process integration caused operational performance including cost, flexibility, quality and delivery to tend to decline. This may require organizational members to adjust. However, at the -1.5 point, implementing supply chain management can improve operational performance to the optimal operational performance point of 0.5. After that it decreased again, this may be because there are less challenges in implementing SCM.

In the plot of the relationship between supply chain management and financial performance, it appears that the results are close to a straight line. The interpretation of the non-linear relationship between the implementation of supply chain management and financial performance can be explained as follows. This finding can be interpreted to mean that the relationship tends to be linear, that the higher the supply chain management which includes information sharing, long term relationships, cooperation and process integration, the higher the company's financial performance which includes liquidity, solvability, profitability, and stability. This is the possibility of the company's success in obtaining benefits from implementing supply chain management. In the plot of the relationship between operational performance and financial performance, it appears that the results are also close to the S curve. The interpretation of the non-linear relationship between the implementation of operational performance and operational performance can be explained as follows. Initially, operational performance caused performance to tend to decline. This may require organizational members to adjust. However, at point -1 operational performance can increase operational performance to the optimal point of operational performance of 1.5. After that it decreased again, this may be because the benefits of operational performance were no longer able to increase financial performance and even tended to decline. This means that operational performance, which includes cost, flexibility, quality and delivery, will not always be able to improve the company's financial performance which includes liquidity, solvability, profitability and stability. Research results that are in line are the results of research from Regina Suharto and Devie (2013) which concluded that there is a significant and positive influence between Supply Chain Management on competitive advantage.

The results of this research are also in line with research by (Li et al., 2006) stated that effective supply chain management has the potential to be a strategy to maintain competitive advantage and improve organizational performance because current competition is in competition between supply chain management used by companies, even though the dimensions that are measured are not The same. Apart from that, the distinguishing result in this research is the use of operational performance variables as a mediator of the influence of supply chain management on financial performance.

The weakness of this study is that it does not differentiate between the types of businesses of the SMEs that are used as respondents, which allows for different variations. Apart from that, in

measuring all variables, respondents still use perceptual methods, which can cause bias in measurement. Another thing that is actually very interesting is that it is related to the performance of market-based companies, of course for companies that have gone public.

Conclusion

The results of hypothesis testing support the hypothesis proposed, namely that supply chain management has a significant influence on financial performance through operational performance as a mediator. In addition, it is also proven that supply chain management affects operational performance, operational performance affects financial performance and supply chain management also directly affects financial performance. The limitations of this study include several aspects. First, the generalization of results may be limited due to the focus on MSMEs, which have different operational and financial characteristics from large companies. Second, variability in SCM practices and operational performance among MSMEs can affect results and generalize to the entire MSME population. Third, the use of cross-sectional methods in this study may not be able to reveal cause-and-effect relationships between the variables studied. Fourth, external factors such as market conditions, government regulations, and other macroeconomic factors that were not included in this study can affect the financial performance of MSMEs.

The practical implication of this research for MSME business owners is the importance of implementing effective Supply Chain Management (SCM) practices as a key strategy to improve financial performance. These findings confirm that good SCM practices can directly improve the operational performance of MSMEs. Therefore, MSME business owners should focus on supplier integration, collaboration in the supply chain, and SCM process optimization. By adopting this approach, MSMEs can improve their operational efficiency, which will ultimately have a positive impact on financial performance, including increased revenue, profitability, and business growth.

In addition, MSME business owners need to understand and continuously monitor their operational performance as a mediator between SCM practices and financial performance. This means that regular monitoring and evaluation of SCM processes and operational performance is crucial. Thus, business owners can identify areas that require improvement or innovation in their supply chain management. Optimizing SCM strategies will not only help MSMEs achieve operational efficiency but also provide a competitive advantage in an increasingly competitive and dynamic market. By strengthening SCM practices, MSMEs can be better prepared to face business challenges and take advantage of existing growth opportunities.

References

- Anatan, L. (2012). Peran Implementasi Manajemen Rantai Pasokan dalam Perekonomian Era Global (Studi pada Perusahaan Manufaktur di Indonesia). 122–131.
- Annan, J., Boso, N., Mensah, J., & Eliza, N. S. (2016). Antecedents and consequences of supply chain integration: Empirical evidence from a developing economy. *International Journal of Supply Chain Management*, 5(1), 10–24.
- Anwar, S. N. (2014). Manajemen Rantai Pasokan (Supply Chain Management): Konsep Dan Hakikat. *Jurnal Dinamika Informatika*, 3(2), 1–7.
- Ariani, D., & Dwiyanto, B. M. (2013). ANALISIS PENGARUH SUPPLY CHAIN MANAGEMENT TERHADAP KINERJA PERUSAHAAN (Studi Pada Industri Kecil dan Menengah Makanan Olahan Khas Padang Sumatera Barat). 1–10.

- Asghar Afshar Jahanshahi. (2012). Analyzing the effects of electronic commerce on organizational performance: Evidence from small and medium enterprises. *African Journal of Business Management*, 6(22), 6486–6496. <https://doi.org/10.5897/ajbm11.1768>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. In *Journal of Management* (Vol. 17, Issue 1, pp. 99–120).
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations (Vol. 51, Issue 6). <https://doi.org/https://doi.org/10.1037/0022-3514.51.6.1173>
- Cao, M., & Zhang, Q. (2011). Supply chain collaboration: Impact on collaborative advantage and firm performance. *Journal of Operations Management*, 29(3), 163–180. <https://doi.org/10.1016/j.jom.2010.12.008>
- Chen, I. J., & Paulraj, A. (2004). Towards a theory of supply chain management: The constructs and measurements. *Journal of Operations Management*, 22(2), 119–150. <https://doi.org/10.1016/j.jom.2003.12.007>
- Chopra, V. S. (2006). *Supply Chain Management. Strategy, Planning & Operation*. Prentice Hall.
- Christopher, M. (2011). *Logistics & Supply Chain Management*. In *International Commerce Review* (3rd ed., Vol. 7, Issue 2). <https://doi.org/10.1007/s12146-007-0019-8>
- Diva, M. A., & Pranatasari, F. D. (2023). An examination of the impact of entrepreneurial orientation on organizational performance. *MSDJ: Management Sustainable Development Journal*, 5, 46–62.
- Feng, M., Yu, W., Wang, X., Wong, C. Y., Xu, M., & Xiao, Z. (2018). Green supply chain management and financial performance: The mediating roles of operational and environmental performance. *Business Strategy and the Environment*, 27(7), 811–824. <https://doi.org/10.1002/bse.2033>
- Fitrianto, A. Y., Sudaryanto, B., & Manajemen, J. (2016). PENGARUH SUPPLY CHAIN MANAGEMENT TERHADAP KINERJA OPERASIONAL OUTLET (Studi Pada Counter Handphone yang terdaftar di PT. Multikom Indonesia Cabang Semarang). *Diponegoro Journal of Management*, 5(2), 1–11. <http://ejournal-s1.undip.ac.id/index.php/dbr>
- Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management*, 28(1), 58–71. <https://doi.org/10.1016/j.jom.2009.06.001>
- Frohlich, M. T., & Westbrook, R. (2001). Arcs of integration: An international study of supply chain strategies. *Journal of Operations Management*, 19(2), 185–200. [https://doi.org/10.1016/S0272-6963\(00\)00055-3](https://doi.org/10.1016/S0272-6963(00)00055-3)
- Hair, J. F., & Brunsveld, N. (2019). *Essentials of business research methods*. In T. Edition (Ed.), *Routledge Taylor and Francis Group*. <https://doi.org/10.4324/9780429203374>
- Hamister, J. W. (2012). Supply chain management practices in small retailers. *International Journal of Retail and Distribution Management*, 40(6), 427–450. <https://doi.org/10.1108/09590551211230250>

- Hayes, A. F., & Preacher, K. J. (2010). Quantifying and testing indirect effects in simple mediation models when the constituent paths are nonlinear. *Multivariate Behavioral Research*, 45(4), 627–660. <https://doi.org/10.1080/00273171.2010.498290>
- Heizer, J. dan B. R. (2015). Heizer, Jay dan Barry Render. (2015), *Operations Management (Manajemen Operasi)*, ed.11, Penerjemah: Dwi Anoegrah wati S dan Indra Almahdy (11th ed.). Salemba Empat.
- Herdinata, C., Pranatasari, F. D., & Santoso, W. (2024). Factors affecting financial performance in companies based on big data analytics. *Uncertain Supply Chain Management*, 12(1), 159–166. <https://doi.org/10.5267/j.uscm.2023.10.008>
- Huy Quang Truong Vilhenac, M. S. A. C. F. P. S. B. A. T. D. H. H. D. E. (2018). Supply chain management practices and firms' operational performance. *International Journal of Quality & Reliability Management*, 35(7), 1445–1458. <https://doi.org/10.1108/IJQRM-05-2017-0102>
- Ilmiyati, A., & Munawaroh, M. (2016). Pengaruh Manajemen Rantai Pasokan Terhadap Keunggulan Kompetitif Dan Kinerja Perusahaan (Studi pada Usaha Kecil dan Menengah di Kabupaten Bantul). *Jurnal Manajemen Bisnis*, 7(2), 708–733. <http://journal.umy.ac.id/index.php/mb/article/view/3914>
- Jensen and Meckling, M. C. J. adn W. H. (1976). Theory of Firm : Managerial Behavior Agency Costs dan Ownership Stuktur. *Jurnal of Financial Economics*, 3, 305–360. <https://doi.org/10.1177/0018726718812602>
- Krajewski, L. J., Ritzman, L. P., & Malhotra, M. (2010). *Operations management: processes and supply chains* (11th ed.). Pearson.
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S., & Subba Rao, S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *Omega*, 34(2), 107–124. <https://doi.org/10.1016/j.omega.2004.08.002>
- Monisa Wati, L. (2012). Pengaruh Praktek Good Corporate Governance Terhadap Kinerja Keuangan Perusahaan Di BEI. *Jurnal Manajemen*, Volume 01, Nomor 01, September 2012, 01(01), 1–7.
- Munawir. (2002). *Analisis Laporan Keuangan* (1st ed.). Liberty.
- Pagell, M., & Wu, Z. (2009). Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. *Journal of Supply Chain Management*, 45(2), 37–56. <https://doi.org/10.1111/j.1745-493X.2009.03162.x>
- Pranatasari, F. D., & Wadyatenti, M. A. D. V. (2022). Entrepreneurial Marketing Dan Kinerja Organisasi Pada Umkm Di Tengah Ketidakpastian Faktor Lingkungan. *Modus*, 34(1), 100–114. <https://doi.org/10.24002/modus.v34i1.5175>
- Prayhoego, C., & Devie. (2013). *Analisa Pengaruh Total Quality Management Terhadap Keunggulan Bersaing dan Kinerja Perusahaan*. Akuntansi Bisnis, 1.
- Rahmasari, L. (2011). Pengaruh Supply Chain Management Terhadap Kinerja perusahaan dan Keunggulan Bersaing (Studi Kasus pada Industri Kreatif di Provinsi Jawa Tengah). *Majalah Ilmiah INFORMATiKA*, 2(3, September), 89–103.

- Shi, M., & Yu, W. (2013). Supply chain management and financial performance: Literature review and future directions. In *International Journal of Operations and Production Management* (Vol. 33, Issue 10). <https://doi.org/10.1108/IJOPM-03-2012-0112>
- Sholihin, M. and, & Ratmono, D. (2013). Analisis SEM-PLS Dengan WarpPLS 3.0. (1st ed.).
- Simchi-Levy, D., Kaminsky, P. and Simchi-Levy, E. (2008). Designing and managing the supply chain. 22(1), 259–261.
- Sukati, I., Hamid, A. B., Baharun, R., & Yusoff, R. M. (2012). The Study of Supply Chain Management Strategy and Practices on Supply Chain Performance. *Procedia - Social and Behavioral Sciences*, 40(December), 225–233. <https://doi.org/10.1016/j.sbspro.2012.03.185>
- Suryana, A., Mukhsin, M., & Satyanegara, D. (2023). Peran Mediasi Keunggulan Bersaing Dalam Pengaruh Hubungan Pengelolaan Rantai Pasokan Terhadap Kinerja Usaha Ukm Penjual Pakaian Di Kabupaten Pandeglang. *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen*, 8(1), 223–236.
- Yu, W., Jacobs, M. A., Salisbury, W. D., & Enns, H. (2013). The effects of supply chain integration on customer satisfaction and financial performance: An organizational learning perspective. *International Journal of Production Economics*, 146(1), 346–358. <https://doi.org/10.1016/j.ijpe.2013.07.023>