The role of supply chain management on Indonesian small and medium enterprise competitiveness and performance

Hwihanus[a], Oscarius Yudhi Ari Wijaya[b*] and Diah Rani Nartasari[b]

[a]*University of 17 Agustus 1945 , Indonesia*
[b]*Akademi Sekretari dan Manajemen Indonesia (ASMI) Surabaya, Indonesia*

A B S T R A C T

The purpose of this study is to analyze the effect of supply chain management on competitive advantage in SMEs, the effect of competitive advantage on company performance in SMEs, and the influence of supply chain management on company performance mediated by competitive advantage in SMEs. This study uses quantitative methods and data analysis techniques based on Structural Equation Modeling using SmartPLS 3.0 software. The sample selection method uses non-probability sampling methods. Online questionnaires were sent to 340 SMEs respondents, the next step is to evaluate the returned 320 questionnaires. The results indicate that supply chain management had a significant influence on company performance and competitive advantage. Competitive Advantage also had a significant influence on company performance and played a mediate influence between supply chain management and company performance. The company's ability had a positive effect on competitive advantage and finally, adequate company capabilities had an impact on competitive advantage.

1. Introduction

In the digital era and the Industrial revolution 4.0, the increasingly rapid economic development in Indonesia makes competition between companies increasingly tight. The current competitive conditions show very fast changes, starting from technological advances, globalization of trade, and the stability of the world's political economy. According to Afonso et al. (2015) and Rudyanto et al. (2020) the competition that occurs today is not only domestic but also occurs between companies from various countries. The increasingly fierce business competition between companies encourages companies to produce the best performance. Companies must be able to create a competitive advantage to generate economic value for the company that is better than competitors. According to Hamisi et al. (2011) companies need to implement supply chain management optimally. The application of supply chain management can reduce the effects of competition in the market because supply chain management can generate a company's competitive advantage. Companies can achieve competitive advantage by performing optimal and good supply chain management. The company produces better performance than competitors because supply chain management can minimize the overall cost of meeting and serving consumer needs. Supply chain management is all parties involved, either directly or indirectly, in fulfilling customer orders and requests. All parties involved not only consist of producers or suppliers, but also involve distributors, storage places, sellers, and consumers. According to Dossou et al. (2018) and Hamisi et al. (2011), the application of supply chain management is very necessary for companies to improve industrial competitiveness which has an impact on company performance. Companies need to consider supply chain issues to ensure that supply chain management supports the company's strategy. The company's strategy is used in the development of the company's operations to compete and dominate the existing position in the market. The company's competitive

advantage strategy is expected to be able to maintain its competitive position in the face of competitors and can improve the company's performance in accordance with the target. According to Dossou et al. (2018) and Hamisi et al. (2011), industrial companies in this era of globalization are able to make a positive business contribution to trade in Indonesia through unique and innovative products, positive in trade in Indonesia through unique and innovative products. The growth of SMEs has resulted in increasingly fierce competition so that SMEs must develop to face globalization and an increasingly competitive business environment. According to Colin et al. (2015) and Hamisi et al. (2011), SMEs need to carry out optimal supply chain management to improve their performance. The importance of raising this theme is so that SME owners and managers can survive in the face of increasingly fierce business competition, it is hoped that with improved supply chain management and competitive advantages applied in developing process performance to improve the survival of SMEs.

According to Afonso et al. (2015) and Arend et al. (2005), supply chain management is the coordination of the entire supply chain activity, starting from 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 end consumers. Supply chain management is a set of approaches to streamline the integration of suppliers, manufacturers, warehouses and shops, so that goods are produced and distributed in the right amount of time, at the right time and in the right location to minimize costs and provide service satisfaction to consumers. According to Behrouzi et al. (2011) and Çalipinar et al. (2007), supply chain management is the relationship management from upstream to downstream or from suppliers to consumers to provide more value to customers and reduce supply chain costs. Competitive advantage is the company's ability to meet customer needs effectively and efficiently with products or services that have more value or at a lower cost. The ability of a company to achieve economic benefits above the profits that can be achieved by competitors in the market in the same industry. Companies that have competitive advantages always can understand changes in market structure and are able to choose effective marketing strategies. Competitive strategy is intended to maintain the level of advantage and position when facing competition. According to Hamisi et al. (2011) company performance is a display of the complete state of the company during a certain period, is a result or achievement that is influenced by the company's operational activities in utilizing its resources. Performance is a general term used for part or all the actions or activities of an organization in a period with reference to standard amounts such as past or projected costs, on the basis of efficiency, accountability or management accountability and the like. Performance is the ability to work as indicated by the results of work. Dossou et al. (2018), Hamisi et al. (2011) put forward the definition of performance as follows: "Performance is: the process or manner of performing, a notable action or achievement, the performing of a player other entertainment". Company performance is something that is produced by a company in a certain period with reference to the standards set. Company performance should be a measurable result and describe the empirical condition of a company of various agreed sizes. According to Dossou et al. (2018), Hamisi et al. (2011) company performance refers to how well a company is market-oriented and its financial goals. Based on the background and considering the importance of the influence of supply chain management on the competitive advantage and performance of SME companies, the formulation of the research problem includes the influence of supply chain management on company performance in SMEs, the effect of supply chain management on competitive advantage in SMEs, the effect of competitive advantage on performance companies in SMEs, the influence of supply chain management on company performance mediated by competitive advantage in SMEs

2. Hypothesis Development

Previous research identified that various dimensions in supply chain management such as strategic supplier partnerships, information quality, and customer relations have an influence on several aspects of company performance. Effective and optimal supply chain management can increase productivity, market share and customer growth. Hafeez et al. (2010), Khan et al. (2014) and Prahiawan et al. (2021) stated that effective supply chain management has the potential to improve company performance by using five supply chain dimensions, namely supplier relationship, customer relationship, level of information sharing, level of information and postponement. According to Hafeez et al. (2010), Khan et al. (2014) implementation of good supply chain management will be able to improve company performance. Research on companies in Surabaya shows that many companies pay less attention to aspects of supply chain management in terms of strategic partnerships for continuous improvement involving suppliers. According to Malesios et al. (2020), Mofokeng et al. (2019) and Purba et al. (2021) the company should make continuous improvements on a regular basis with suppliers so that the quality and quality produced by the supplier. The quality and quality produced by the supplier affects the company in its performance both in production and sales. From the description above, the researchers formulated the following hypothesis:

H₁: *Supply chain management has a significant influence on company performance.*

Malesios et al. (2020) and Mofokeng et al. (2019) in his research concluded that effective supply chain management has a positive and significant effect on competitive advantage. Effective supply chain management is influenced by product development, supplier relationship strategy, planning and control, production and distribution, information quality, and purchasing. The studies of Khalil et al. (2019), Kumar et al. (2019) state that effective supply chain management has the potential to increase competitive advantage. It is proven by integrated supply chain management starting from relationships with suppliers and customers, delays and quality can maintain and strengthen its competitiveness in winning the competition in the market.

The research of Kot et al. (2020), Mabrouk et al. (2020) stated that the implementation of good supply chain management in manufacturing companies in Surabaya will be able to increase competitive advantage. Supply chain management by establishing relationships with suppliers and consumers will be able to increase competitive advantage. From this description, the researcher formulated the following hypothesis:

H₂: *Supply chain management has a significant influence on competitive advantage.*

Malesios et al. (2020), Mofokeng et al. (2019) concluded that competitive advantage has a positive and significant effect on company performance. Lower prices, high quality, speed of delivery and continuous product innovation are proven to increase product sales and dominate market share. Product sales and market share control is a measure in the company achieve its market-oriented company performance and financial goals. According to Hafeez et al. (2010), Khan et al. (2014) competitive advantage develops from the value that companies can create for customers or buyers using competitive advantage dimensions consisting of price, quality, delivery dependability, time to market, and product innovation. From the description above, the researchers formulated the following hypothesis:

H₃: *Competitive Advantage has a significant effect on company performance.*

Research Malesios et al. (2020), Mofokeng et al. (2019) concludes that the influence of supply chain management through indirect and direct methods gives the result that the influence of supply chain management is greater if it is through competitive advantage or indirectly. These results support that the competitive advantage hypothesis is proven to be able to mediate the influence of supply chain management on company performance. Malesios et al. (2020) and Mofokeng et al. (2019) provided empirical evidence that supply chain management has an indirect influence on company performance that is greater than the direct effect. Supply chain management has an indirect influence on company performance mediated by competitive advantages in cost, quality, flexibility, and responsiveness. From the description above, the researchers formulated the following hypothesis:

H₄: *Competitive Advantage is able to mediate the influence of supply chain management on company performance.*

3. Method

In this study using quantitative methods and data analysis techniques Structural Equation Modeling Equation Modeling using SmartPLS 3.0 software. The sample selection method uses non-probability sampling methods. Online questionnaires were sent to respondents as many as 340 SMEs, the next step is to evaluate the returned questionnaires, namely 320 SMEs returned questionnaires and 20 SMEs did not return. Based on theoretical studies and previous studies, the research model is structured as follows:
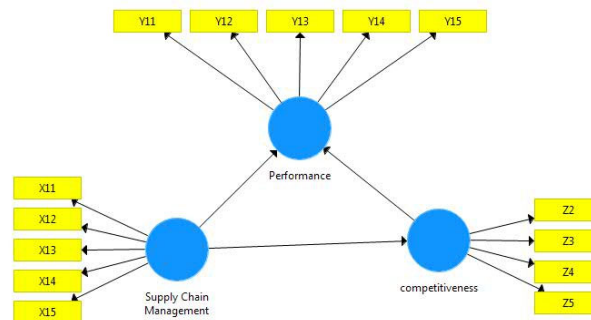
Fig. 1. Research Model

4. Result and Discussion

4.1 Reliability Test

According to Purwanto et al. (2021) reliability is a measure of the internal consistency of indicators of a construct that shows the degree to which each indicator shows a general latent construct. According to Purwanto et al. (2020) the reliability requirement is a measure of the stability and consistency of the results (data) at different times. To test the reliability of the construct in this study used the value of composite reliability. A variable is said to meet construct reliability if it has a composite reliability value > 0.7 and Cronbach's Alpha value > 0.6 has a good level of reliability for a variable (Purwanto et al., 2019). The composite reliability value of each indicator can be seen in table 1 below.

Table 1

Reliability

Variables	Cronbach's Alpha	Composite Reliability
Supply Chain Management	0.933	0.947
competitiveness	0.981	0.986
Performance	0.926	0.936

In Table 1, it can be seen the results of the reliability test analysis using the SmartPLS tool which states that all composite reliability values are greater than 0.7, which means that all variables are reliable and have met the test criteria. Furthermore, the value of Cronbach's omission also shows that all Cronbach's alpha values are more than 0.6 and this indicates the level of reliability of the variable has also met the criteria.

4.2 Validity test

According to Purwanto et al. (2020) and Pramono et al. (2021) the validity test is intended to measure the extent to which the accuracy and accuracy of a measuring instrument performs the function of its measuring instrument or provides appropriate measurement results by calculating the correlation between each statement with a total score. In this study, the measurement validity test consisted of convergent validity and discriminant validity.

1. Convergent Validity

Measurement can be categorized as having convergent validity if the loading factor value is > 0.7 (Purwanto et al., 2021). Figure 2 shows that all loading factors have a value of > 0.7, so it can be concluded that all indicators have met the criteria for convergent validity, because indicators for all variables have not been eliminated from the model.
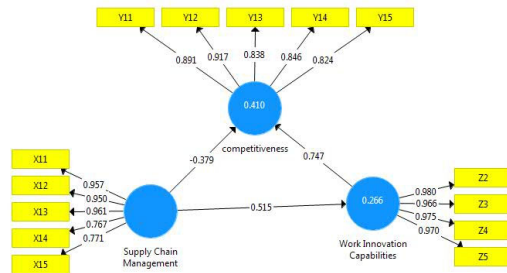

Fig 2. Convergent Validity

2. Discriminant validity

Based on Table 2, the AVE value for all variables is > 0.50. So, it can be said that the measurement model has been valid with discriminant validity. In addition, discriminant validity was also carried out based on the Fornell Larcker criteria measurement with the construct. If the construct correlation in each indicator is greater than the other constructs, it means that latent constructs can predict indicators better than other constructs (Purwanto et al, 2019).

Table 2

The results of AVE

Variables	AVE
Supply Chain Management	0.785
competitiveness	0.946
Performance	0.746

Table 3

R-square adjusted

Variables	R-square adjusted
Performance	0.410
Competitiveness	0.260

Structural model (inner model)

The structural model (inner model) is a pattern of research variable relationships. Evaluation of the structural model is by looking at the coefficients between variables and the value of the coefficient of determination (R^2). The coefficient of determination (R^2) essentially measures how far the model's ability to explain variations in the dependent variable is. In this study, the adjusted R-square value is used, because it has more than two independent variables. In Table 3 it can be explained that the adjusted R^2 value of the independent variable supply chain management, competitiveness against the dependent variable performance is 0.410. This value is categorized as strong, so it can be concluded that the two independent variables

have a strong influence and level on the dependent variable. The independent variable supply chain management, competitiveness contributes to the dependent variable performance by 41% while the remaining 59% is influenced by other variables not discussed in this study. The adjusted R^2 value of the independent variable supply chain management to the dependent variable competitiveness is 0.260. This value is categorized as strong, so it can be concluded that the two independent variables have a moderate influence and level on the dependent variable. The independent variable supply chain management contributes to the dependent variable competitiveness by 26% while the remaining 74% is influenced by other variables not discussed in this study.
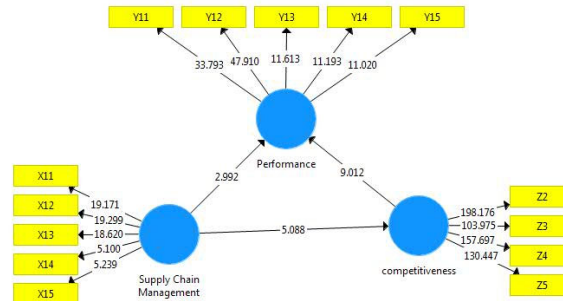

Fig. 3. Hypotheses Testing

Hypothesis test

According to Purwanto et al. (2021) After a research model is believed to be fit, a hypothesis test can be performed. The next step is to test the hypothesis that has been built in this study. The following are the results of the data test using bootstrapping. Hypothesis testing in this study can be known through regression weight by comparing the p-value with a significance level of 5% (α=5%). The hypothesis is said to be significant if it has a probability value (p-value) < 5%.

Table 4
Hypotheses Testing for Direct Effect

Hypotheses	P - Value	Result
Supply Chain Management → Performance	0.003	Significant
Supply Chain Management → Competitiveness	0.000	Significant
Competitiveness → Performance	0.000	Significant
Supply Chain Management → Competitiveness → Performance	0.000	Significant

The relationship between supply chain management and SMEs performance

Based on the results of data analysis using SmartPLS obtained p value of 0.003 < 0.050 so that it is concluded that supply chain management on SMEs performance, an increase in supply chain management variables will have a significant effect on increasing SMEs PERFORMANCE variables and a decrease in supply chain management variables will have a significant effect on decreasing SMEs Performance variable. These results are in line with research conducted by Rezaei et al. (2015), Tukamuhabwa et al. (2011), Tatoglu et al. (2016) that supply chain management has a positive and significant effect on SMEs Performance. The strategic importance of a company's capabilities lies in its contribution to creating a competitive advantage and superior profitability. The company's competitive advantage must be consistent with the relative value generated by the company's relative resources in producing that value. According to Yeh et al. (2020), Zaridis et al. (2020) The higher the company's ability, the more the company's competitive advantage will be. There are three sources that will form a competitive advantage, namely financial capabilities, strategic capabilities and technological capabilities. With the high ability of the company, it will have a positive effect in creating company excellence.

The relationship between supply chain management and competitive advantage

Based on the results of data analysis using SmartPLS obtained p value 0.000 < 0.050 so it can be concluded that supply chain management towards competitive advantage, increasing supply chain management variables will have a significant effect on increasing competitive advantage variables and decreasing supply chain management variables will have a significant effect on decreasing variables. competitive advantage. This result is not in line with the research conducted by Suhana et al. (2019), Wang et al. (2020), Wu et al. (2020) that supply chain management has a positive and significant effect on competitive advantage Supply chain management practices have a relationship in creating a company's competitive advantage (Sukati et al., 2011). Supply chain management practices empirically have a positive influence on competitive advantage (Li et al., 2006; Mzoughi et al., 2008). Strategic relationships with suppliers, close relationships between companies and suppliers can affect the company's competitive advantage (Ashsish et al., 2013). In the research of Metilda et al. (2011) entitled Impact of

Supply Chain Management practices on the competitive advantage of Indian retail supermarkets, identified that Supply Chain Management Practice has a significant positive effect on Competitive Advantage.

The relationship between Competitive Advantage and SMEs performance

Based on the results of data analysis using SmartPLS, a p-value of 0.000 < 0.050 was obtained, so it was concluded that Competitive Advantage on SMEs performance, an increase in the Competitive Advantage variable will have a significant effect on increasing the SMEs PERFORMANCE variable and a decrease in the Competitive Advantage variable will have a significant effect on the decrease in the SMEs Performance variable. This result is not in line with the research conducted by Malesios et al. (2020), Mofokeng et al. (2019) that Competitive Advantage has a positive and significant effect on SMEs Performance. The competitive advantage of a company describes that a company has one or more advantages compared to other competitors. Competitive advantage can lead companies to achieve higher levels of economic performance, customer satisfaction and loyalty and effective customer relationships. According to Hafeez et al. (2010), Khan et al. (2014), Khalil et al. (2019) company brands with high customer loyalty will tend to be able to avoid competition in switching brands according to the targeted market segments which can directly increase sales and profitability. A company that offers high quality products can be offered at high prices and at the same time increase the company's profit margin and return on investment. According to Kumar et al. (2019) competitive advantage has a significant positive effect on company performance. Based on this research, there is a positive relationship between competitive advantage and company performance. The relationship of supply chain management to the performance of SMEs through the mediation of competitive advantage.

Based on the results of data analysis using SmartPLS obtained p value 0.000 < 0.050 so it can be concluded that supply chain management on SMEs performance through competitive advantage mediation, increasing supply chain management variables will have a significant effect on increasing SMEs performance variables through competitive advantage mediation and decreasing chain management variables. supply will have a significant effect on the decrease in SMEs performance variables through the mediation of competitive advantage. This result is not in line with the research conducted by Kumar et al. (2019), Kusrini et al. (2019) that supply chain management has a positive and significant effect on SMEs Performance through the mediation of competitive advantage. The responsiveness of the company to its supply chain practices, the responsiveness of the supply chain has a positive influence on the formation of the company's competitive advantage. In his study, Kumar et al. (2019), Kusrini et al. (2019) found a positive influence between indicators of operational system responsiveness, logistic process responsiveness and supplier network responsiveness having a positive relationship to competitive advantage. By running responsive operations, companies will be able to compete with advantages in cost, time to market, and dependence on supply from consumers. Responsive logistics processes can also be a company advantage. According to Mabrouk et al. (2020), Malesios et al. (2020), Mofokeng et al. (2019) The company's ability to respond to changes in the volume of customer demand can increase the company's competitive advantage in terms of product supply. The higher the level of responsiveness of a company's supply chain, the significantly positive effect on the company's competitive advantage. According to Chin et al. (2012), Dossou et al. (2018),Hamisi et al. (2011) and Wijaya el at.(2021) supply chain management practices have a significant positive effect on improving company performance. According to Haudi et al. (2021) strengthening strategic supplier partnerships in supply chain management practices can improve organizational performance. Organizations should pay great attention to continuous improvement of strategic supplier partnerships in their supply chain management processes in order to have a positive influence on organizational performance. According to Dossou et al. (2018) and Hamisi et al. (2011), supply chain management practices provide a company advantage in terms of its manufacturing capabilities by influencing expertise. The Company's performance reflects how well the company to achieves its market goals and financial goals. According Wanasida et al. (2021), the short-term goal of supply chain management is to increase productivity, reduce inventory and production cycles, while the long-term goal is to increase market share and profit for all partners involved in the organization's supply chain. According to Afonso et al. (2015), Arend et al. (2005), Budiarto et al. (2017), the assets, capabilities, organizational processes, company attributes owned and controlled by the company play a role in increasing the effectiveness and efficiency of the company in achieving superior company performance. According to Chin et al. (2012), Dossou et al. (2018) and Hamisi et al. (2011) company performance can be described into two dimensions, namely financial and non-financial dimensions, where the main elements are described based on sales and organizational performance. The company is an important benchmark for a company and can reflect whether a company has achieved competitive advantage or not. Approaches in measuring company performance used indicators of operational performance and economic performance. Behrouzi et al. (2011), Çalipinar et al. (2007), Colin et al. (2015), Chin et al. (2012), Dossou et al. (2018) and Hamisi et al. (2011) developed company performance measurement referring to several previous studies. The indicators that will be used to describe the company's performance variables are: financial performance, marketing performance, operational performance, supply performance, customer relations and operational costs. Competitive advantage can be defined as an organization's ability to create a defensive position above all its competitors. According to Çalipinar et al. (2007) approach in competitive advantage centers on the company's ability to become a low cost producer in its industry or to be unique in its industry which will provide its own value for customers. The process of introducing products with lower prices or higher quality attracts the attention of customers. For that we need a unique product or service to be provided. This is the reason why there are some customers who have high brand loyalty for a product or service. The increasingly fierce competition climate, every company will try to find a position to survive by using competitive advantage. According to Çalipinar et al. (2007), Colin et al. (2015), Chin et al. (2012), Dossou et al. (2018)

defines two types of company competitive advantages that can be carried out over competitors, namely lower cost and differentiation. According Afandi et al. (2020) two types of competitive advantages can bring companies to excel in the market. This study develops a measurement of competitive advantage referring to several previous studies. The indicators that will be used to describe the competitive advantage variables are price, quality, supply dependence, time to market, supply chain strategy and product/service innovation.

Theoretical Implications

This presentation of theoretical implications is used to strengthen support for several previous studies that were used as references and their relationship to the theory used. According to Afonso et al. (2015), Arend et al. (2005), strategic relationships with suppliers can encourage better supply chain management practices. Strategic relationships with suppliers allow organizations to work more effectively with a few important suppliers who will share responsibility for the success of a product. The exchange of information is an inseparable factor in the supply chain process. Partners in supply chain processes who exchange information regularly will be able to work together as one entity. Together, they will be able to understand the needs of the end customer well and be able to respond to the market quickly. According to Afonso et al. (2015), Arend et al. (2005), Budiarto et al. (2017), the responsiveness of the supplier network is the ability of the company's main suppliers to respond to customer requests. The better the responsiveness of the company's supply chain will have a positive impact on company performance. According to Colin et al. (2015), Chin et al. (2012), Dossou et al. (2018), Hamisi et al. (2011), service capability is the company's ability which is reflected in the provision of superior service so that it is able to retain customers for several periods of time. Service capabilities are needed in terms of building relationships with customers. According to Chin et al. (2012), Dossou et al. (2018) and Hamisi et al. (2011), relationship management capability is the company's ability to manage relationships both with customers and suppliers, to create collaborative relationships so as to create competitive advantage and long-term trade relations.

5. Conclusion

The conclusion of this research analysis is that supply chain management has a significant influence on company performance. Supply chain management has a significant influence on competitive advantage. Competitive Advantage has a significant influence on company performance. Competitive Advantage can mediate the influence of supply chain management on company performance. The company's ability has a positive effect on competitive advantage. Adequate company capabilities will have an impact on the company's competitive advantage. Supply chain management practices have no effect on competitive advantage. Good supply chain management practices may not necessarily contribute to competitive advantage. Supply chain responsiveness has no effect on competitive advantage. Good supply chain responsiveness may not necessarily contribute to competitive advantage. Competitive advantage has a positive effect on company performance. The higher the competitive advantage of the company, the better the company's performance will be. Supply chain management practices have a positive effect on company performance. The more adequate the supply chain management process is carried out, the better the company's performance will be. The results of this study and the limitations found in the study can be used as a source of ideas for research development, so the expansion of research suggested in this study is to add independent variables that affect competitive advantage.

References

Afandi, A., Sarwani, A. S., Erlangga, H., Siagian, A. O., Purwanto, A., Effendy, A. A., ... & Juhaeri, G. (2020). Optimization of MSMEs Empowerment in Facing Competition in the Global Market during the COVID-19 Pandemic Time. *Systematic Reviews in Pharmacy, 11*(11), 1506-1515.

Afonso, H., & do Rosário Cabrita, M. (2015). Developing a lean supply chain performance framework in a SME: a perspective based on the balanced scorecard. *Procedia Engineering, 131*, 270-279.

Arend, R. J., & Wisner, J. D. (2005). Small business and supply chain management: is there a fit?. *Journal of Business Venturing, 20*(3), 403-436.

Budiarto, D. S., Prabowo, M. A., & Herawan, T. (2017). An integrated information system to support supply chain management & performance in SMEs. *Journal of Industrial Engineering and Management (JIEM), 10*(2), 373-387.

Behrouzi, F., & Wong, K. Y. (2011). An investigation and identification of lean supply chain performance measures in the automotive SMEs. *Scientific Research and Essays, 6*(24), 5239-5252.

Çalipinar, H. (2007). A theoretical model proposal in supply chain management for Turkish SMEs. *Problems and Perspectives in Management, 5*(2), 90-98.

Colin, M., Galindo, R., & Hernández, O. (2015). Information and communication technology as a key strategy for efficient supply chain management in manufacturing SMEs. *Procedia Computer Science, 55*, 833-842.

Chin, T. A., Hamid, A. B. A., Rasli, A., & Baharun, R. (2012). Adoption of supply chain management in SMEs. *Procedia-Social and Behavioral Sciences, 65*, 614-619.

Dossou, P. E. (2018). Impact of Sustainability on the supply chain 4.0 performance. *Procedia Manufacturing, 17*, 452-459.

Hamisi, S. (2011). Challenges and opportunities of Tanzanian SMEs in adapting supply chain management. *African Journal of Business Management, 5*(4), 1266-1276.

116

Hafeez, K., Keoy, K. H. A., Zairi, M., Hanneman, R., & Koh, S. L. (2010). E-supply chain operational and behavioural perspectives: an empirical study of Malaysian SMEs. *International Journal of Production Research, 48*(2), 525-546.

Haudi, H., Rahadjengb, E. R., Santamoko, R., Putrac, R. S., Purwoko, D., Nurjannahe, D., ... & Purwanto, A. (2021). The Role of E-Marketing and E-Crm on E-Loyalty of Indonesian Companies During Covid Pandemic and Digital Era. *Uncertain Supply Chain Management*, 10, 2022.

Khan, S. A., Liang, Y., & Shahzad, S. (2014). Adoption of electronic supply chain management and e-commerce by small and medium enterprises and their performance: A survey of SMEs in Pakistan. American Journal of Industrial and Business Management, 2014.

Khalil, M., Khalil, R., & Khan, S. (2019). A study on the effect of supply chain management practices on organizational performance with the mediating role of innovation in SMEs. *Uncertain Supply Chain Management, 7*(2), 179-190.

Kumar, N., Brint, A., Shi, E., Upadhyay, A., & Ruan, X. (2019). Integrating sustainable supply chain practices with operational performance: an exploratory study of Chinese SMEs. *Production Planning & Control, 30*(5-6), 464-478.

Kusrini, E., Caneca, V. I., Helia, V. N., & Miranda, S. (2019, December). Supply Chain Performance Measurement Usng Supply Chain Operation Reference (SCOR) 12.0 Model: A Case Study in AA Leather SME in Indonesia. In IOP Conference Series: Materials Science and Engineering (Vol. 697, No. 1, p. 012023). IOP Publishing.

Kot, S., Haque, A. U., & Baloch, A. (2020). Supply chain management in SMEs: Global perspective. *Montenegrin Journal of Economics, 16*(1), 87-104.

Mabrouk, N., Omri, A., & Jarraya, B. (2020). Factors influencing the performance of supply chain management in Saudi SMEs. *Uncertain Supply Chain Management, 8*(3), 569-578.

Malesios, C., Dey, P. K., & Abdelaziz, F. B. (2020). Supply chain sustainability performance measurement of small and medium sized enterprises using structural equation modeling. *Annals of Operations Research, 294*(1), 623-653.

Mofokeng, T. M., & Chinomona, R. (2019). Supply chain partnership, supply chain collaboration and supply chain integration as the antecedents of supply chain performance. *South African Journal of Business Management, 50*(1), 1-10.

Pramono, R., Sondakh, L. W., Bernarto, I., Juliana, J., & Purwanto, A. (2021). Determinants of the small and medium enterprises progress: A case study of SME entrepreneurs in Manado, Indonesia. *The Journal of Asian Finance, Economics, and Business, 8*(1), 881-889.

Prahiawan, W., Fahlevi, M., Juliana, J., Purba, J., & Tarigan, S. (2021). The role of e-satisfaction, e-word of mouth and e-trust on repurchase intention of online shop. *International Journal of Data and Network Science, 5*(4), 593-600.

Purba, J., Samuel, S., & Budiono, S. (2021). Collaboration of digital payment usage decision in COVID-19 pandemic situation: Evidence from Indonesia. *International Journal of Data and Network Science, 5*(4), 557-568.

Purwanto, A., Asbari, M., Santoso, T. I., & Haque, M. G. (2019). Marketing Research Quantitative Analysis for Large Sample: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS. *Jurnal Ilmiah Ilmu Administrasi Publik, 9*(2), 355-372.

Purwanto, A., Asbari, M., Santoso, T. I., Paramarta, V., & Sunarsi, D. (2020). Social and Management Research Quantitative Analysis for Medium Sample: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS. *Jurnal Ilmiah Ilmu Administrasi Publik, 10*(2), 518-532.

Purwanto, A., Asbari, M., & Santoso, T. I. (2021). Education Management Research Data Analysis: Comparison of Results between Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS For Small Samples. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam, 6*(2), 382-399.

Rudyanto, R., Soemarni, L., Pramono, R., & Purwanto, A. (2020). The influence of antecedents of supply chain integration on company performance. *Uncertain Supply Chain Management, 8*(4), 865-874.

Rezaei, J., Ortt, R., & Trott, P. (2015). How SMEs can benefit from supply chain partnerships. *International Journal of Production Research, 53*(5), 1527-1543.

Tukamuhabwa, B. R. (2011). A Conceptual Model for Explaining Supply Chain Performance in Uganda's SMEs. *Information Management and Business Review, 3*(6), 336-344.

Tatoglu, E., Bayraktar, E., Golgeci, I., Koh, S. L., Demirbag, M., & Zaim, S. (2016). How do supply chain management and information systems practices influence operational performance? Evidence from emerging country SMEs. *International Journal of Logistics Research and Applications, 19*(3), 181-199.

Wanasida, A. S., Bernarto, I., Sudibjo, N., & Purwanto, A. (2021). The Role of Business Capabilities in Supporting Organization Agility and Performance During the COVID-19 Pandemic: An Empirical Study in Indonesia. *The Journal of Asian Finance, Economics and Business, 8*(5), 897-911.

Wijaya, O., Sulistiyani, S., Pudjowatic, J., Kurniasih, N., & Purwanto, A. (2021). The role of social media marketing, entertainment, customization, trendiness, interaction and word-of-mouth on purchase intention: An empirical study from Indonesian smartphone consumers. *International Journal of Data and Network Science, 5*(3), 231-238.

Yeh, T. M., Pai, F. Y., & Wu, L. C. (2020). Relationship Stability and Supply Chain Performance for SMEs: From Internal, Supplier, and Customer Integration Perspectives. *Mathematics, 8*(11), 1902.

Zaridis, A., Vlachos, I., & Bourlakis, M. (2020). SMEs strategy and scale constraints impact on agri-food supply chain collaboration and firm performance. *Production Planning & Control*, 1-13.