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COMPETITIVE ADVANTAGE OF MSMEs IN TERMS OF TECHNOLOGY ORIENTATION AND ENTREPRENEURSHIP COMPETENCE

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Abstract - *This study chose a location in Mojokerto Regency, especially regarding the competitive advantage of MSMEs in the footwear industry. The sampling method used in this study is non-probability, namely purposive sampling. The results of the data obtained are then processed and processed using multiple linear regression analysis. In addition, there are the results of the validity test, reliability test, classical assumption test, t test, F test, coefficient of determination test. The results of the research are as follows: there is a positive and significant influence given by the orientation of technology to the competitive advantage of MSMEs; (2) there is a positive and significant influence given by entrepreneurial competence on the competitive advantage of MSMEs; (3) there is an effect that is given by technology orientation and entrepreneurial competence simultaneously on the competitive advantage of MSMEs which is positive and significant.*

Keywords: competitive advantage, technology orientation, entrepreneurial competence, MSMEs.

INTRODUCTION

In the current era of globalization, competition between MSMEs is getting tougher. The owners of MSMEs are faced with various opportunities and threats, both from outside and from within, which will have a considerable influence on the survival of MSMEs. For this reason, every MSME is required to always understand and understand what is happening in the market and what consumers want, as well as various changes that exist in the MSME environment so that they are able to compete with other MSMEs and strive to minimize weaknesses and maximize strengths.

UMKM itself is a business activity that is able to expand employment and provide broad economic services to the community, and can play a role in the process of equity and increase people's income, encourage economic growth and play a role in realizing national stability (Darmawan, 2016; Issalillah, 2020). In addition, MSMEs are one of the main pillars of the national economy that must obtain the main opportunity, support, protection and development as widely as possible as a form of firm alignment with the MSME group (Auger, 2005).

MSME owners should be more active in utilizing all their resources to create a strong competitive advantage. Competitive advantage is a profit strategy for MSMEs that collaborate to compete more effectively in the market (Sinambela et al., 2021). MSMEs experience competitive advantage when actions in an industry or market create economic value and when several competing firms engage in similar actions (Barney, 2010). One of the things that can be optimized to increase the competitiveness of MSMEs is by utilizing existing technology and maximizing their entrepreneurial competencies (Darmawan & Hariani, 2020).

Technology orientation is the ability and willingness of SMEs to develop a technological mindset and utilize it in improving and developing products and services. Technology-oriented SMEs can develop technological opportunism in the new product generation phase by taking specificactions such as focusing on the future, by asking top management to advocate for new technologies, and by becoming more than just anadhocracy culture and broadly introducing advanced technology (Srinivasan etal., 2002). Technology oriented MSMEs can mean that MSMEs have used their technical knowledge to produce optimal solutions in responding to and meeting the needs of their users (Gatignon & Xuereb, 1997). Technology orientation is also seen as a strategic orientation based on culture, specific to the company and consisting of complex capabilities that are compatible with the company's resource viewbase (Day, 1994; Zhou et al., 2005). Nakola et al. (2015) stated that the more positive a companyis in implementing a technology orientation, the creation of superior competitiveness will tend to increase.

In addition, good entrepreneurial competence will increase competitive advantage. Entrepreneurial competence is some one who creates a new business by considering risks and uncertainties to achieve profit and growth by identifying opportunities and combining there sources needed to take advantage of these opportunities (Scarborough & Zimmerer, 1993). The existence of entrepreneurial competencies owned by MSMEs has a very large and significant effect in improving the performance of MSME actors (Mitchelmore & Rowley, 2013). Entrepreneurial competence is also a major source of competitive advantage and capability (Prahalad & Hamel, 1990; Anderson et al., 2015).

Thus, the existence of technology orientation variables and entrepreneurial competencies, can realize the competitive advantage of MSMEs. Several previous studies also provide the same results where technology orientation can affect the competitive advantage of MSMEs (Urban &Barreira, 2009; Binneman & Steyn, 2014; Liu & Su, 2014; Halac, 2015; Ibrahim & Shariff, 2016). Competitive advantage is also influenced by entrepreneurial competence (Mole et al., 1993; Man et al., 2002; Kurniawan & Yun, 2018).

RESEARCH METHODS

The industry that isused as the object of this research is the small and medium scale foot wear industry in Mojokerto Regency, East Java. The reason for choosing the object of this research is because the foot wear industry is a business sector that is a development priority for the East Java Disperindag. The data used in this study include primary data and secondary data. Primary data were obtained through interviews, observations, and distributing questionnairesto 48 foot wear MSMEs in Mojekerto, namely in Sooko District (Wringin RejoVillage, Japan, Karang Kedawang, Jampirogo and Sambiroto), Trowulan District (Pakis Village), Pungging District (Tunggal pager Village) and Puri District. While secondary data is obtained through data available in related agencies and the internet. The sampling method used in this study is non-probability, namely purposive sampling with the population use disfootwear SMEs in Mojokerto Regency. The analytical technique used in this study is regression with the SPSS program.

The location will be the main target to find out how competitive advantage is when viewed from the variables of technology orientation and entrepreneurial competence. This study uses a Likert scale with the assumption that this scale produces a measurement of a variable with an interval scale. The first is the technology orientation independent variable. Technology orientation is the ability and willingness of MSME actors to develop a technological mindset and use it to improve and develop their products and services. The technology orientation variable has four indicators, namely refinement, choice, efficiency, information system implementation & execution in information system development. This based on the opinion of Rajala & Westerlund (2012). The second is the independent variable of entrepreneurial competence. Entrepreneurial competence is someone who creates a new business by considering risks and uncertainties to achieve profit and growth by identifying opportunities and combining there sources needed to take advantage of these opportunities. The entrepreneurial competence variable has three indicators, namely management competence, technical competence and marketing competence (Morris et al., 2013; Eva & Baert, 2015; Bird, 2019). The third is for the dependent variable, namely competitive advantage. Competitive advantage is a profit strategy for SMEs that work together to compete more effectively in the market. The competitive advantage variable has three indicators, namely unique, not easily replaced, and not easily duplicated. This is based on the opinion of Bharadwaj et al. (1993).

After the indicators of each variable are known, the data is then processed and processed using multiple linear regression analysis. In addition, there are the results of the validity test, reliability test, classical assumption test, t test, F test, coefficient of determinationtest.

RESULTS AND DISCUSSIONS

In Table 1, it can be seen that the corrected correlation value for all questions shows a value greater than 0.30, which means that the indicators on the variables of technology orientation, entrepreneurial competence, and competitive advantage have met the validity requirements so that the data issuitable to be used as an instrument.

Table 1
Validity Test

Variables	Item	Corrected item total correlation
Technology orientation (X.1)	X1.1	0.528
	X1.2	0.664
	X1.3	0.722
	X1.4	0.547
Entrepreneurial competence (X.2)	X2.1	0.664
	X2.2	0.721
	X2.3	0.648
	X2.4	0.627
	X2.5	0.724
	X2.6	0.568
Competitive advantage (Y)	Y.1	0.723
	Y.2	0.674
	Y.3	0.675
	Y.4	0.662
	Y.5	0.728
	Y.6	0.652

Source: SPSS 26

From Table 2 below, it can be stated that all of these research instruments have Cronbach's alpha coefficients exceeding 0.60 (reliable).

Table 2
Reliability Test

Variables	Alpha Cronbach
Technology orientation	0.756
Entrepreneurial competence	0.673
Competitive advantage	0.741

Source: SPSS 26

The normality test was conducted to determine whether the data obtained were normally distributed or not. Figure 1 explains that the data on the variables used are declared normally distributed. This can be seen by the presence of data points that spread around the diagonal line.

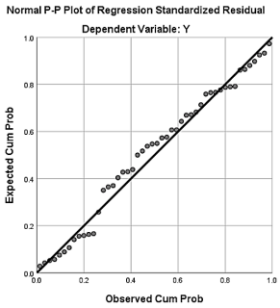

Figure 1. Normality Test
Source: SPSS 26

One way to test the presence of heteroscedasticity is through the scatterplot method, by observing the pattern of dots. If the points on the scatterplot are spread out and do not form a certain pattern, it can be said that there is no heteroscedasticity. The results of data processing to see whether there is heteroscedasticity are shown in Figure 2.

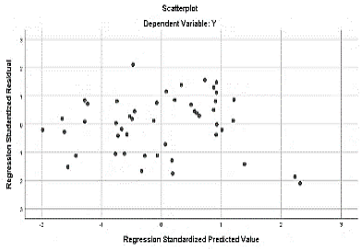

Figure 2. Heteroscedasticity Test
Source: SPSS 26

The results of the multicollinearity test in this study showed that the VIF value <10 for both variables was 1.265 and the tolerance value > 0.1 was 0.972. Therefore, it is concluded that there is no multicollinearity between independent variables in the regression model used.

After all the classical assumptions are met, then the next step is to present the results of multiple linear regression analysis. Based on the results in Table 3, the constant value is 21,510 with the coefficient of technology orientation being 3.366 and entrepreneurial competence having a value of 3,057 and each significant value is also smaller than 0.05, which produces a value of 0.000. This value means that partially the variables of technology orientation and entrepreneurial competence can affect the competitive advantage of SMEs. From the resulting value, the equation will be Y= 21,510 + 3,366 X.1 + 3,057 X.2.

Table 3.
Coefficients[a]

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	21.510	5.285	4.070	.000
	tech.orie	3.366	.864	3.897	.000
	entre.compe	3.057	.736	4.155	.000

Source: SPSS 26

Based on Table 4, it can be seen that the ANOVA test results obtained a value of 34,773 where the significant level of 0.000 means that the significance value is still below 0.05. This value indicates that simultaneously the variables of technology orientation and entrepreneurial competence can affect the competitive advantage of MSMEs.

Table 4.
ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	1236.039	2	618.019	34.773	.000[b]
Residual	799.774	45	17.773		
Total	2035.812	47			

Source: SPSS 26

From Table 5, it is known that the value for R is 0.779 (77.9%), for r squareof 0.607 (60.7%) which shows that the competitive advantage of MSMEs is influenced by technology orientation and entrepreneurial competenceby 60.7% and the remaining 38.3% is influenced by other variables that have not been studied in this research.

Table 5
Model Summary[b]

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.779[a]	.607	.590	1.080

Source: SPSS 26

This study resulted in two research findings, in which the first is that the orientation of technology has positive and significant effect on the competitive advantage of MSMEs. The results of this first study were also conducted by Urban & Barreira, 2009; Binneman & Steyn, 2014; Liu &Su, 2014; Halac, 2015; Ibrahim & Shariff, 2016). Some of the research results mentioned also support the results of the first study. This means that the more optimal the orientation of existing technology, the stronger the realization of superior competitiveness, which is reflected by the stronger application of knowledge and technological capabilities, the higher the ability of MSMEs to realize competitive-competitive values. The technology orientation also makes it easier for MSME management to communicate, distribute and market their products to the wider community at an efficient costa nd time. Therefore, technology orientationis a driving force in increasing the competitive advantage of MSMEs. Second, entrepreneurial competence has a positive and significant impact on the competitive advantage of SMEs. The results of the second study were also conducted by Mole etal. (1993); Man etal. (2002); Kurniawan & Yun (2018) where the results also support the second finding in this study. Entrepreneurial competence is beneficial for MSMEs to create quality human resources such as having special skills, high knowledge to increase the purchasing power of their consumers. The ability of MSMEs to acquire entrepreneurial competencies depends on unique historical conditions. This means that when MSMEs evolve, they have taken unique skills, abilities, and resources so that they are able to develop competencies because they are in the right place and at the right time. From this, entrepreneurial competence is also valuable and rare because it will produce a greater competitive advantage compared to its competitors. In addition, entrepreneurial competence is related to survival efforts. MSMEs can take advantage of entrepreneurial competenciesto gain continuity in business. The local government has provided support to this industry. Government support, especially through seminars, training, workshops, and assistance provided to MSME footwear in Mojokerto was quit eeffective in increasing the ability of MSMEs to generate new product ideas. Seminars and training held periodically, MSME owners become more open-minded, especially on the design of the products they produce. However, this potential can not be used optimally because most MSMEs are only fix at e don the models that have been provided by the brand holder who submits the production contract. If Mojokerto footwear SMEs can be more proactive in promoting their new designs and increase marketing activities independently, it will help footwear MSMEs to improve their business performance and competitiveness in thefuture. The growth and sales performance off ootwear MSMEs in Mojokerto which was obtained through the growth in the number of customers and the development of the marketing area was achieved thanks to the participation of the local government in supporting marketing and introducing footwear products produced by MSMEs, especially by establishing a Shoe Village in the Miji area, Mojokerto. The strategy of establishing an industrial village that is professionally managed and made as one of the tourist destinations in the city of Mojokerto has turned out to be very effective in increasing sales of MSME footwear products in the industrial village area. In addition, the existence of this industrial village also makes it easier for medium and large industries (brand holders) to allocate orders in large quantities because the group of MSMEs results in a large accumulation of production capacity. The pattern of developing and fostering MSMEs with the model of the foot wear industry village in the city of Mojokerto, which is accompanied by efforts to increase the abilityof MSMEs to carry out marketing activities independently and more proactively, will have the potential to increase the competitiveness of Mojokerto footwear MSMEs in the future.

CONCLUSIONS

From the results of the data analysis and discussion that has been described, the researchers conclude that: (1) there is a positive and significant influence given by the orientation of technology to the competitive advantage of MSMEs; (2) there is a positive and significant influence given by entrepreneurial competence on the competitive advantage of MSMEs; (3) there is an effect that is given by the orientation of technology and entrepreneurial competence simultaneously on the competitive advantage of SMEs which is positive and significant.

Based on these results, it is recommended to: (1) always improve technology orientation by developing knowledge and capabilities of technology and information and continue to innovate on products because it will affect the competitive advantage of MSMEs; (2) conducting education and training programs to develop the knowledge of MSME owners on technology and their competencies by involving educational institutions and universities in order to form a sustainable MSME competitive advantage; (3) make research results as references and descriptions, reports or references regarding the effectiveness of entrepreneurial competencies and differentiation strategies to achieve competitive advantage; (4) further research is expected to add other variables that are in line with increasing competitive advantage so that the research results can be better defined, or can also add mediating variables in this study. In addition, the sample and the scope of the research can be expanded and not only limited to the Mojokerto Regency area.

REFERENCES

Anderson, B. S., Kreiser, P. M., Kuratko, D. F., Hornsby, J. S., & Eshima, Y. (2015). Reconceptualizing entrepreneurial orientation. Strategic Management Journal, 36(10), 1579-1596.

Auger, P. (2005). The impact of interactivity and design sophistication on the performance of commercial websites for small businesses. Journal of Small Business Management, 43(2), 119-13

Barney, J.B. (2010). Gaining and Sustaining Competitive Advantage, AddisonWesley, Massachusetts.

Bharadwaj, S.G, P.R.Varadarajan, & F. Jihn. (1993). Sustainable Competitive Advantage in Service Industries: A Conceptual Model and Research Propositions. Journal of Marketing, 57, 83-99.

Binneman, B., H. Steyn, H. (2014).Criteria for Selection and Gate Reviews of Technology Innovation Projects. South African Journal of Industrial Engineering, 25, 117-130.

Bird, B. (2019). Toward a Theory of Entrepreneurial Competency. In Advances in Entrepreneurship, Firm Emergence and Growth.

Darmawan, D. (2016). Pengantar Ekonomi Mikro. Revka Prima Media, Surabaya.

Darmawan, D & M. Hariani. (2020). Pengantar Kewirausahaan. Metromedia, Surabaya.

Day, G. S. (1994). The Capabilities of Market Driven Organizations. Journal of Marketing, 58, 37-52.

Eva, K., &H. Baert. (2015). Entrepreneurial Competences: Assessment and Predictive Value for Entrepreneurship. Journal of Vocational Behavior, 90, 13–25.

Gatignon, H., & J.M. Xuereb. (1997). Strategic Orientation of the Firm New Product Performance. Journal of Marketing Research, 34(1), 77-90.

Halac, D. S. (2015). Multidimensional Construct of Technology Orientation. World Conference on Technology, Innovation and Entrepreneurship, 195, 1057-1065.

Ibrahim, M. A., & M.N.M. Shariff. (2016). Mediating Role of Access to Finance on the Relationship between Strategic Orientation Attributes and SMEs Performance in Nigeria. International Journal of Business and Society, 17 (3), 473-496.

Issalillah, F. (2020). Kinerja dan Tenaga Kerja, Metromedia, Surabaya.

Khayru, R.K. (2021). Opinions about Consumer Behavior during the Covid-19 Pandemic, Journal of Social Science Studies, 1(1), 31-36.

Kurniawan, A., & Y. Yun. (2018). Pengaruh Kompetensi Kewirausahaan dan Kelanggengan Usaha Terhadap Keunggulan Bersaing, Jurnal Inspirasi Bisnis dan Manajemen, 2(1), 65-78.

Liu, J., & J. Su. (2014). Market Orientation, Technology Orientation and Product Innovation Success: Insights from Cops. International Journal of Innovation Management, 18 (4), 1-25.

Man, W.Y. Thomas., & L. Theresa. (2002). The Competitiveness of Small and Medium Enterprises a Conceptualization with Focus on Entrepreneurial Competencies. Journal of Business Venturing, 17, 123–142.

Mardikaningsih, R., E. A. Sinambela, D. Darmawan & S.N. Halizah. (2021). Hubungan Perilaku Produktif dan Minat Mahasiswa Berwirausaha. Jurnal Manajemen, Bisnis, dan Kewirausahaan, 1(1), 121-130.

Mitchelmore, S., &J. Rowley. (2013). Entrepreneurial Competencies of Women Entrepreneurs Pursuing Business Growth. Journal of Small Business and Enterprise Development, 20(1), 125–142.

Mole,V., S. Dawson., & Winstanley. (1993). Researching Managerial Competencies. Paper Presented to the British Academy of Management Annual Conference. Milton Keynes.

Morris, M. H., J.W. Webb, J. Fu., & S. Singhal. (2013). A Competency-Based Perspective on Entrepreneurship Education: Conceptual and Empirical Insights. Small Business Management, 51(3), 352-369.

Nakola, J. O., B.K. Tarus, K. Buigut., & K.E. Kipchirchir. (2015). Effect of Strategic Orientation on Performance of Small and Medium Enterprises: Evidence from Kenya. International Journal of Economics, Commerce and Management, 3 (11), 336-351.

Padma, A., N. Aisyah, D. Darmawan, I.A. Azmi & A. R. Putra. (2018). Contingency Approach to Strategies for Service Firms, Business Research, 7(2), 178-189.

Prahalad, C.K. & G.Hamel. (1990). The Core Competenceofthe Corporation. Harvard Business Review, 6528.

Rajala, R., & M. Westerlund. (2012). The Effects of Service Orientation, Technology Orientation and Open Innovation on the Performance of Software-Intensive Service Businesses. 45th Hawaii International Conference on System Sciences, 1532-1541.

Scarborough, N.M., & T.W. Zimmerer. (1993). Effective Small Business Management, NewYork, Mc Millan.

Sinambela, E. A. D. Nurmalasari, D. Darmawan, & R. Mardikaningsih. (2021). The Role of Business Capital, Level of Education, and Technology in Increasing Business Income, Studi Ilmu Sosial Indonesia, 1(1), 77-92.

Srinivasan, S. S., R. Anderson, & K. Pannavolu. (2002). Customer Loyalty in E-Commerce: an exploration of its antecedents and consequences, Journal of Retailing. 79, 41-50.

Urban, B., & J. Barreira. (2009). Empirical Investigations into Firm Technology Orientation and Entrepreneurial Orientation. International Journal of Innovation and Technology Management, 7, 1-23.
Zhou, K. Z., C.K. Yim., & D.K. Tse. (2005). The Effects of Strategic Orientations on Technology- and Market-Based Breakthrough Innovations. Journal of Marketing, 69, 42-60.