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THE IMPACT OF DIGITAL TRANSFORMATION ON THE COMPETITIVENESS OF SMES CENTERS IN LAMONGAN REGENCY WITH INNOVATION AS A MEDIATION VARIABLE

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Abstract. Tightness competition business scale national and also international, encouraging actors business besides adopting digital is also necessary For do innovation. However, the process of digitalizing MSMEs also has complexity, challenges and risks that need to be be noticed with good. The role of innovation is very important in entering the market in the digital age. Research objectives This For analyze influence digital transformation towards Power compete, analyze influence digital transformation towards innovation, analyzing influence innovation to Power competition as well as analyze influence digital transformation towards Power competition mediated by innovation. The methods used in study This is method quantitative with taking sample using purposive sampling with obtained 150 respondents, then For analyze influence between variable use tool SEM-PLS analysis. Research results This show mark p-value influence digital transformation towards Power competition as big as 0.005 where < 0.05, so reject H0 means there is influence significant between digital transformation towards Power competitiveness. p- value influence Digital transformation towards Innovation as big as 0.000 where < 0.05, so reject H0 means there is influence significant between Digital transformation towards Innovation. p-value influence Innovation on Competitiveness as big as 0.001 where < 0.05, so that reject H0 means there is influence significant between Innovation on Competitiveness. The p-value of the influence No direct as big as 0.030 < 0.05, so reject H0 means Innovation significant mediate connection between Digital Transformation towards Competitiveness.

Keywords: competitiveness; innovation; digital transformation

I. INTRODUCTION

The existence of Micro, Small and Medium Enterprises (MSMEs) for Indonesian economy is very important, no only become bone back in move wheel economy, will but MSMEs also play a role as creator field work, sustainability economy and innovation (Liu, et al 2020). Data on the development of MSMEs in the district Lamongan from in 2021, 116,421 experienced improvement amounting to 252,734 in 2023 (Disperindag, 2023). Potential of MSMEs in the Regency Lamongan is very big, it is proven marked with development businesses in the village that are used as UMKM center. There is seven type business that is made as UMK centers in the Regency Lamongan namely songkok center, center convection, center wicker bamboo, batik center, boran rice center center ikat weaving and brick and tile centers (Disperindag, 2023). The perpetrators business the has start apply digitalization For operational his efforts (Zhang and Ma, 2020) in the era of the digital economy, digital transformation has become approach new for company For get superiority competitive in context tight and dynamic market competition. According to Pellegrini, et.al (2020), the digital transformation is characterized by with adoption of smartphones, digital currencies and e - commerce wide has become change fundamental in operational business. Digital transformation includes digitalization all over aspects and components in a activity businesses that are facilitated by digital technology so that push reorganization and evolution of business processes (Broekhuizen, et.al, 2021). Currently, MSME actors have Lots use digital adoption for do transaction sale the product. The tightness competition business scale national and also international, encouraging actors business besides adopting digital is also necessary For do innovation. However, the process of digitalizing MSMEs also has complexity, challenges and risks that need to be be noticed with good. The role of innovation is very important in entering the market in the digital era (Evangeulista, et.al, 2023).

A number of study in a way consistent show that innovation as need important For maintain income and lead to increased Power competition effort (Issau and Acquah, 2021). Based on results Ribau, et.al (2017) research power competition depend on innovation. Then Appio, et.al (2021) added that digital transformation and innovation own Lots interrelated aspects related to which one can open possibilities and challenges new so that need study more continue. Based on background behind on so formulation the problem that will

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researched : (1) How influence digital transformation towards Power compete, (2) How influence digital transformation towards innovation, (3) How influence innovation to Power compete, (4) How influence digital transformation towards Power competition mediated by innovation. Urgency study This done For increase Power competition product UMKM centers that have adopting digital in operate his efforts to be able to enter competition to the market on a large scale national until international. Because during This Power competition part product Still sold in scale local. Additionally, research This will use relevant indicators with characteristics MSME actors and different methods with study previously so that results research that has been done Later can help in solve problems that occur related Power competition business as well as give solution the right alternative For carried out by MSME actors. The approach used For breakdown problems in research This namely with approach study quantitative use questionnaire, survey for verify the research model. According to Sugiyono (2022) research quantitative namely research based on philosophy positivism, used For research population or sample certain and use instrument research, data analysis is quantitative or statistics number with objective describe and test hypothesis that has been set. Solving strategy formulated problem namely with use Partial Least Square (PLS) method which comes from from the Structural Equation Modeling (SEM) model with second order confirmatory factor analysis approach. Stages analysis use evaluation of measurement models (outer model), evaluation of structural models (inner model) and testing hypothesis (path analysis) all measured use help application SmartPLS 3.0 for analyze data in research. Research This use variable mediation, according to Sugiyono (2022) namely variables that are theoretical influence connection between variable exogenous with endogenous to become relationship that is not direct and indirect can observed and measured. Variables mediation in research This namely variable innovation reflected through three indicator namely innovation product, process innovation and market innovation.

II. RESEARCH METHODS

Methods used in study namely method quantitative with do survey use questionnaire distributed to respondents. Respondents in the study This namely perpetrator MSME Center business in the Regency Lamongan. Meanwhile study This apply purposive sampling technique. According to Ghozali and Latan (2015) purposive sampling is sampling technique where the data collection process takes into account factors certain. The following is consideration For election sample in research This as following :

(1) Respondents is perpetrator businesses located in the area the village that was made as a Center for MSMEs in the Regency Lamongan.
(2) Respondents is perpetrator efforts that have been apply digitalization in operational his efforts. Determination amount sample in research This use Hair formula. According to Hair, et.al (2019), Hair formula used Because size population that has not been known sure and suggest that size minimum sample with formula as following :

(Amount Indicator + Amount Latent Variable) x 5-10 times

Based on formula the so sample in research This namely (12 + 3) x 10 = 150 samples. So the number of sample maximum in research is 150 respondents. Research This use Partial Least Square (PLS) method which comes from from the Structural Equation Modeling (SEM) model with second order confirmatory factor analysis approach. Stages analysis use evaluation of measurement models (outer model), evaluation of structural models (inner model) and testing hypothesis (path analysis) all measured use help application SmartPLS 3.0 for analyze data in research. The second order confirmatory factor analysis analysis model can seen in Figure 1 as following :

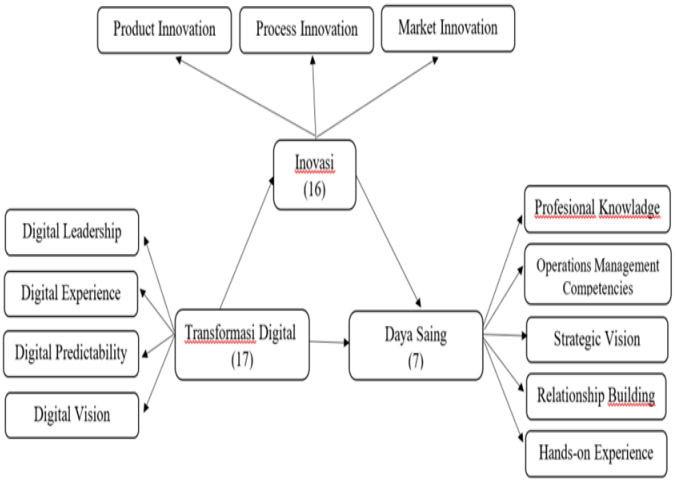
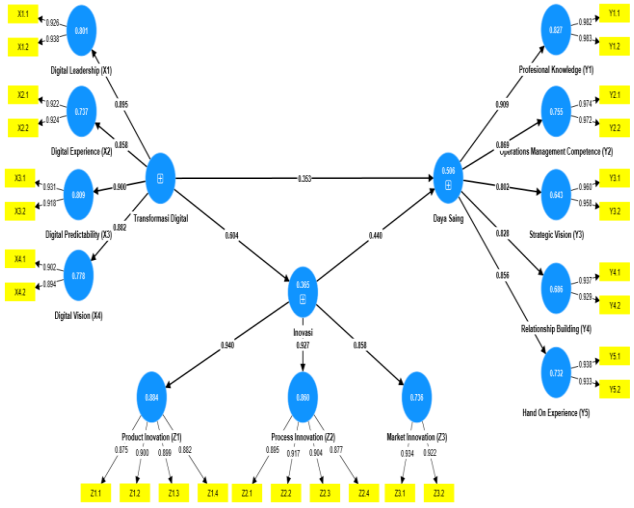


Figure 1. Analysis Model

III. RESULTS AND DISCUSSION

Evaluation of Measurement Model (Outer Model)

The measurement model explains the relationship between latent variables and their indicators, where for the reflective variables used in this study, the relationship is based on the loading of the indicator with the corresponding latent variable. The loading value from the analysis results using SmartPLS software shows the correlation between the indicator and its latent variable or the extent to which the indicator reflects its latent variable. Evaluation of the measurement model (outer model) of a latent variable consists of a validity test (convergent validity) and a discriminant test (discriminant validity).



Picture 2. Analysis Model

Validity and Reliability Test

Table 1. Results of Convergent Construct Validity Test

Variabel / Dimensi	Composite reliability	Average variance extracted (AVE)
Transformasi Digital	0.939	0.660
Digital Leadership (X1)	0.930	0.869
Digital Experience (X2)	0.920	0.851
Digital Predictability (X3)	0.922	0.855
Digital Vision (X4)	0.893	0.806
Inovasi	0.956	0.684
Product Inovation (Z1)	0.938	0.791
Process Innovation (Z2)	0.944	0.807
Market Innovation (Z3)	0.926	0.862
Daya Saing	0.953	0.668
Profesional Knowledge (Y1)	0.982	0.965
Operations Management Competence (Y2)	0.973	0.947
Strategic Vision (Y3)	0.958	0.920
Relationship Building (Y4)	0.931	0.871
Hand On Experience (Y5)	0.933	0.875

Next is the test of convergence validity at the construct level which requires a minimum average variance extracted (AVE) value of 0.5 and a minimum composite reliability value of 0.7 (Hair et al., 2019). Table 1 shows the results of the reliability test of all constructs in this study that have values above the acceptance criteria, which are 0.70 for composite reliability, and 0.5 for the average variance extracted (AVE) value. Thus, all instruments used in this study have a good level of validity and reliability and are suitable for further use in this study.

Discriminant Test

Discriminant validity is a measure that shows that a variable has uniqueness in capturing measurement phenomena so that it is different from other variables. Discriminant validity can be tested at the indicator level and the variable level. Discriminant validity at the indicator level is called cross loading, where the indicator loading value of a variable must be greater than the indicator loading value to other variables. Table 2 and Table 3 show the results of the cross loading discriminant analysis of each variable in this study.

Table 2. Cross Loadings

	X1	X2	X3	X4	Y1	Y2	Y3	Y4	Y5	Z1	Z2	Z3
X1.1	**0.926**	0.633	0.631	0.618	0.431	0.463	0.396	0.388	0.435	0.503	0.508	0.515
X1.2	**0.938**	0.663	0.742	0.719	0.445	0.442	0.363	0.430	0.397	0.397	0.419	0.419
X2.1	0.611	**0.922**	0.615	0.644	0.341	0.399	0.436	0.405	0.449	0.441	0.453	0.467
X2.2	0.673	**0.924**	0.651	0.569	0.498	0.480	0.392	0.560	0.493	0.387	0.521	0.381
X3.1	0.716	0.661	**0.931**	0.743	0.415	0.411	0.437	0.443	0.493	0.441	0.506	0.450
X3.2	0.648	0.606	**0.918**	0.642	0.377	0.422	0.383	0.446	0.378	0.395	0.399	0.322
X4.1	0.635	0.664	0.658	**0.902**	0.384	0.414	0.469	0.450	0.445	0.465	0.482	0.470
X4.2	0.656	0.514	0.692	**0.894**	0.400	0.494	0.342	0.542	0.411	0.491	0.465	0.453
Y1.1	0.478	0.449	0.434	0.433	**0.982**	0.768	0.659	0.678	0.681	0.524	0.547	0.537
Y1.2	0.446	0.445	0.410	0.424	**0.983**	0.790	0.645	0.704	0.669	0.501	0.544	0.505
Y2.1	0.456	0.464	0.458	0.488	0.777	**0.974**	0.592	0.624	0.677	0.486	0.574	0.506
Y2.2	0.489	0.463	0.418	0.496	0.767	**0.972**	0.546	0.592	0.633	0.492	0.522	0.479
Y3.1	0.421	0.466	0.478	0.470	0.652	0.566	**0.960**	0.565	0.588	0.469	0.517	0.466
Y3.2	0.358	0.395	0.374	0.397	0.620	0.557	**0.958**	0.500	0.638	0.377	0.457	0.385
Y4.1	0.416	0.512	0.415	0.482	0.709	0.621	0.529	**0.937**	0.605	0.476	0.574	0.463
Y4.2	0.404	0.509	0.483	0.549	0.600	0.543	0.507	**0.929**	0.644	0.455	0.506	0.468
Y5.1	0.454	0.508	0.490	0.492	0.653	0.615	0.623	0.666	**0.938**	0.503	0.514	0.449
Y5.2	0.378	0.401	0.395	0.399	0.632	0.645	0.571	0.583	**0.933**	0.401	0.455	0.401
Z1.1	0.409	0.382	0.366	0.479	0.484	0.403	0.376	0.507	0.362	**0.875**	0.705	0.724
Z1.2	0.436	0.365	0.406	0.465	0.452	0.459	0.387	0.363	0.506	**0.900**	0.708	0.610
Z1.3	0.387	0.428	0.421	0.475	0.484	0.479	0.432	0.504	0.401	**0.899**	0.709	0.738
Z1.4	0.480	0.420	0.419	0.473	0.433	0.446	0.373	0.396	0.455	**0.882**	0.649	0.651
Z2.1	0.430	0.448	0.427	0.420	0.598	0.568	0.457	0.529	0.463	0.661	**0.895**	0.563
Z2.2	0.438	0.496	0.454	0.478	0.416	0.419	0.478	0.482	0.467	0.710	**0.917**	0.671
Z2.3	0.443	0.464	0.445	0.470	0.528	0.566	0.401	0.566	0.423	0.717	**0.904**	0.644
Z2.4	0.468	0.488	0.439	0.525	0.458	0.476	0.490	0.506	0.513	0.711	**0.877**	0.630
Z3.1	0.505	0.457	0.415	0.493	0.570	0.516	0.459	0.526	0.466	0.738	0.690	**0.934**
Z3.2	0.417	0.393	0.363	0.460	0.409	0.421	0.361	0.395	0.376	0.683	0.605	**0.922**

Based on the test results in Table 2, it shows that all indicator loading values on a construct have a greater value compared to the indicator loading values on other constructs. Thus, the results of the discriminant test of this research model have met the requirements for further use in this study. The discriminant validity test at the variable level is carried out by comparing the root of the AVE value of a variable with the correlation of that variable with other variables based on the Fornell-Lacker approach (Hair et al., 2019).

Table 3. Fornell-Lacker Discriminant Validity

	Competitiveness	Innovation	Digital Transformation
Competitiveness	**0.817**		
Innovation	0.653	**0.827**	
Digital Transformation	0.619	0.604	**0.812**

Based on the test results, Table 3 shows that all the roots of the AVE value of a variable are greater than the correlation value of the variable with other variables, so that the discriminant validity meets the requirements of the Fornell-Lacker criteria. The HTMT (heterotrait-monotrait ratio) discriminant validity test was also carried out to ensure that the correlation of indicators between constructs measures different constructs and has uniqueness according to empirical standards. Henseler, Ringle and Sarstedt (2015)

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suggest that the HTMT value is not more than 0.90 so that the construct has good discriminant validity.

Table 4. HTMT Discriminant Validity

	Competitiveness	Innovation	Digital Transformation
Competitiveness			
Innovation	0.689		
Digital Transformation	0.663	0.645	

Based on the test results in Table 4, it shows that the HTMT analysis results of each measurement construct are less than the limit value of 0.90. Thus, it can be said that this research model has good discriminant validity.

Structural Model Evaluation (Inner Model)

Table 5. Path Analysis

Hypothesis	Track	Coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H1	Transformation -> Competitiveness	0.353	0.087	4.066	0.005 **
H2	Transformation -> Innovation	0.604	0.065	9.263	0.000 **
H3	Innovation -> Competitiveness	0.440	0.093	4.755	0.001 **
H4	Transformation -> Innovation -> Competitiveness	0.266	0.071	3,743	0.030 **

Note: *: Significant at alpha 0.10; **: Significant at alpha 0.05; ts: not significant

Discussion of Research Results

Hypothesis 1: Testing the hypothesis of Digital Transformation on Competitiveness. The p-value of the influence of Digital Transformation on Competitiveness is 0.005 where <0.05, so reject H0, meaning there is a significant influence between Digital Transformation on Competitiveness. Based on these results, it can be interpreted that there is a significant influence of the digital transformation variable on the competitiveness variable. This means that the application of digital transformation to MSMEs can increase the competitiveness of product sales produced by business actors. According to Putra et.al (2023) MSMEs in carrying out digital transformation in order to increase business competitiveness and expand market share. With the digital transformation, the process and operational downstreaming of products from producers to consumers will increase, speed of service, better trust, secure data exchange platforms but also an opportunity for digital transformation. With the digital transformation, a new entrepreneurial ecosystem will be formed towards digital that is able to compete with international competitors. By carrying out digital transformation, MSMEs can increase competitive advantage and expand market reach, increase operational efficiency because it reduces time and costs for business activities, and increase market access or downstreaming to consumers.

Hypothesis 2: Testing the hypothesis of Digital Transformation on Innovation. The p-value of the influence of Digital Transformation on Innovation is 0.000 where <0.05, so reject H0, meaning there is a significant influence between Digital Transformation on Innovation. In carrying out digital transformation, innovation is also needed as a form of marketing its products. Innovation in research is emphasized on product innovation, process innovation and market innovation. According to Marpaung et.al (2023), product innovation is the introduction of objects or services that have not yet existed or have gone through a product development process that results in an increase in the benefits of the product. Process innovation is the implementation of new creation procedures or distribution procedures or old procedures that have been improved so that there is a significant increase in performance. Marketing innovation aims to improve marketing performance through packaging policies, product placement, product promotion, or prices. Marketing innovation aims to increase sales, meet consumer needs, open new markets, and place industrial products in the market. In this study, innovation is more reflected in product innovation, because the products produced by MSMEs have been continuously updated as a form of consumer demand, so that this innovation can increase sales turnover.

Hypothesis 3: Hypothesis testing of the influence of Innovation on Competitiveness. The p-value of the influence of Innovation on Competitiveness is 0.001 where <0.05, so reject H0, meaning there is a significant influence between Innovation and Competitiveness. The role of innovation has become one of the strategies in increasing competitiveness in MSMEs. Product innovation has a significant effect on product competitiveness Based on the research results of Elfahmi and Jatmika (2019), it is proven that product innovation has an effect on product competitiveness. Product innovation through Product Excellence, Product Uniqueness, Product Packaging and Cost Efficiency, with Entrepreneurs producing products using technology and entrepreneurs marketing products using technology can increase competitiveness through imitability, durability, ease of matching and marketing, by marketing products well and bringing products closer in principle to consumers.

Hypothesis 4: Hypothesis testing of Digital Transformation on Competitiveness through Innovation. The p-value of the indirect effect is 0.030 <0.05, so reject H0, meaning Innovation significantly mediates the relationship between Digital Transformation and Competitiveness. The role of innovation mediation variables shows that innovation mediation can link the relationship between digital transformation variables and competitiveness. This means that in this study, the innovation variable is a benchmark for the success of competitiveness in MSMEs through digital transformation. Digital transformation includes the digitalization of all aspects and components in a business activity facilitated by digital technology, thereby encouraging the reorganization and evolution of business processes (Broekhuizen, et.al, 2021). Currently, MSME actors have

widely used digital adoption to carry out sales transactions for their products. The tight competition in national and international business, encourages business actors in addition to adopting digital, also need to innovate. However, the MSME digitalization process also has complexities, challenges and risks that need to be considered carefully. The role of innovation is very important in entering the market in the digital era (Evangeulista, et.al, 2023).

IV. CONCLUSION

Based on the results of this study, it can be concluded that Hypothesis 1: Testing the hypothesis of Digital Transformation on Competitiveness. The p-value of the influence of Digital Transformation on Competitiveness is 0.005 where <0.05, so reject H0, meaning there is a significant influence between Digital Transformation on Competitiveness. Hypothesis 2: Testing the hypothesis of Digital Transformation on Innovation. The p-value of the influence of Digital Transformation on Innovation is 0.000 where <0.05, so reject H0, meaning there is a significant influence between Digital Transformation on Innovation. Hypothesis 3: Testing the hypothesis of the influence of Innovation on Competitiveness. The p-value of the influence of Innovation on Competitiveness is 0.001 where <0.05, so reject H0, meaning there is a significant influence between Innovation on Competitiveness. Hypothesis 4: Testing the hypothesis of Digital Transformation on Competitiveness through Innovation. The p-value of the indirect influence is 0.030 <0.05, so reject H0, meaning Innovation significantly mediates the relationship between Digital Transformation on Competitiveness.

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