

Entrepreneurial Performance Model: A Business Perspective in the Digital Economy Era

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Abstract:

The adequacy of digital literacy (DL) among entrepreneurs can trigger the birth of readiness and ability to carry out digital transformation (DT) in relevant business processes and models in the digital economy era to improve entrepreneurial performance with better competitiveness. Also the existence of an entrepreneurial commitment to market orientation (MO) will facilitate business success. This research identifies and explores entrepreneurial performance (EP) models in the digital economy era in terms of DT, DL and MO mediation. The path analysis model was used to test the combined interaction of DT and DL with EP, and the MO relationship that mediates all three. The findings, DT and DL had a significant positive effect on MO both individually and jointly. DT directly has a significant positive effect on EP, also DL directly has a significant positive effect on EP. Sobel test results, it is known that DT has an insignificant positive effect on EP through MO, while DL has a significant positive effect on EP through MO. MO has the mediating effect of DT and DL relationships in influencing EP, consequently MO has a positive impact on EP. This research offers a framework for the performance model of entrepreneurship in a business perspective in the era of the digital economy. The adoption and modification of marketing mix factors into new marketing mix models is necessary to support the implementation of strategies and practices. An exploration of the influence of innovative new marketing mix models on DT practices, DL readiness and MO clarity in the context of entrepreneurship, as well as their implications for business performance, can be considered as future research directions.

Keywords: Digital Transformation, Digital Literation, Marketing Orientation, Entrepreneurial Performance

1. Introduction

In the disruptive era in Industry 4.0, the issue of the digital economy continues to grow and is now underway. The development of technology has expanded multiliteration and a variety of skills that challenge anyone to have readiness to face it (Firmansyah, Rifa'i, et al., 2022). The ability to navigate and trace economic issues digitally that may be able to provide profitable opportunities from an economic aspect is no longer enough just to have an understanding of the

economy, but obviously in this era requires digital readiness, namely digital knowledge or literacy to be able to access it wisely so that it can make decisions from an economic information obtained is said to be profitable or not, both for personal/family economic interests, groups and in the context of business development (Firmansyah, 2022a). Digital literacy is closely related to new literacy, media literacy, and even multiliteration (Pangrazio et al., 2020), this is important to complement the existence of economic understanding, where digital literacy has a broader meaning that can involve critical literacy or performative and instrumental literacy.

Oluwakemi (2019), mentioned that digital literacy fundamentally changes business models, how work is performed and managed, and the variety of types of skills needed in the workplace, while also changing the expectations that are shared about the traditional skills and leadership models of business owners that are no longer enough to drive market-leading innovation and entrepreneurial returns. The adequacy of digital literacy (DL) among entrepreneurs can trigger the birth of readiness and ability to carry out digital transformation (DT) in business processes and models, as well as a form of relevant business innovation practices needed in this era to improve entrepreneurial performance with better competitiveness (Firmansyah & Saepuloh, 2022). In addition, the commitment of business actors to market orientation (MO) will facilitate business success (Oplatka & Hemsley - Brown, 2007; Aghazadeh, 2015), with all the marketing strategies it develops and implements (Helfert et al., 2002; Oplatka & Hemsley-Brown, 2007; Firmansyah et al., 2020). The adoption of the traditional marketing mix and the new marketing mix developed into a new marketing model needs to be considered to develop a viral marketing strategy (Jackson & Ahuja, 2016). Such a marketing strategy is very possible with the digital readiness and digital transformation ability of entrepreneurship to survive and develop with sustainable resilient performance in a turbulent and increasingly competitive environment (Narver & Slater, 1990; Helfert et al., 2002), MO that goes beyond customer orientation as a commitment that can underlie and facilitate entrepreneurial success in an effort to achieve its best performance in the era of the digital economy.

This research identifies and explores models of entrepreneurial performance in the era of the digital economy. The practice of digital transformation and digital literacy is considered, as well as the role of market orientation in mediating the relationship between the three in predicting and influencing entrepreneurial performance, where new relevant marketing mix models may later be adopted and developed to complement the successful practice of the business model being carried out. The research was conducted on a group of young farmers in South Sukabumi, West Java, who are considered to have a vulnerable and weak performance in line with global economic issues that continue to disrupt business processes that are usually carried out in line with the development of the digital economy. This condition is an important issue considering that digital literacy can fundamentally encourage the transformation of business models as flexibility and adaptation in responding to changes in the business environment in the digital economy era in order to change and be able to create new ones, on the other hand, market orientation with all selected marketing strategies can facilitate the success of adaptive and innovative business process practices and models so that entrepreneurship has strong endurance, rise and continue to grow with better performance and competitiveness in a sustainable manner in a business perspective in the era of the digital economy.

2. Literature Review

2.1 Entrepreneurial Performance

According to Ireland et al., (2009:1), states that entrepreneurship can be defined as the process by which an individual or a group of individuals, in association with an existing organization, create a new organization or trigger an update or innovation within that organization (Theriou & Chatzoudes, 2015; Firmansyah, 2022).

Entrepreneurial performance is the ability to run a business to continue operating or stop operating (Gill & Biger, 2012). Indikator yang digunakan mengukur kinerja kewirausahaan disesuaikan dengan konteks penelitian. The indicators used to measure entrepreneurial performance are adjusted to the research context. The entrepreneurial indicators used are management and knowledge, products and services, customers and markets, quality, ways of business and cooperation, financial resources, marketing strategy and external environment (Gill & Biger, 2012; Zulkiffli, 2014). Factors that affect entrepreneurial performance in the digital era are economic literacy, digital literacy and digital transformation (Firmansyah, 2022a). While Oplatka & Hemsley - Brown (2007), mention market orientation as a factor that supports the successful development and implementation of marketing strategies that have implications for the performance of institutions/organizations, even market orientation can facilitate other aspects of meeting the needs and satisfaction of intended customers.

Firmansyah research results (2022); Wahdiniwaty et al., (2022), found that it is important to master digital literacy and digital transformation practices to improve entrepreneurial performance today. Hidayati dkk., (2019), the results of their research show that organizational support, digital literacy, and the external environment simultaneously affect the improvement of SMEs performance through the adoption of e-Commerce. While Oplatka & Hemsley-Brown (2007); Oplatka & Hemsley-Brown (2012); Jogaratnam (2017), mentions the importance of improving organizational design and marketing options available to businesses and offers guidance to management who seek to shape organizational culture and behavior related to the implementation of market orientation, transformation and digitization to improve organizational performance.

2.2 Digital Transformation

Digital business transformation is an objective process that responds to changes in the business environment (Firmansyah, 2022a). Digital transformation is the use of digital technology (Negroponte, 1995; Morze & Strutynska, 2021), to fundamentally increase the productivity and value of the company (Westerman et al., 2014). Digital Transformation requires organizations and actors involved to have digital literacy readiness and develop various capabilities according to the business context and needs (Reis et al., 2018). In today's renewable economy era, the focus of businesses and their personnel from actively competing industries around the world (Morze & Strutynska, 2021), puts pressure on *going digital* before others do, striving to survive, strengthen business performance and achieve competitive advantage (A. S. Bharadwaj, 2000; Reis et al., 2018). Digital transformation is closely related to: (1) the use and alignment of digital technologies in a company, (2) making organizational changes, (3) enabling activities, (4) creating and capturing new opportunities and values (Jeansson & Bredmar, 2019).

2.3 Digital Literacy

Digital literacy touches and includes many unclaimed things, this includes the presentation of information, without including creative writing and visualization (Firmansyah & Saepuloh, 2022). It includes the evaluation of information, without claiming systematic review and metaanalysis as its own, covering the organization of information but does not claim the construction and operation of terminology, taxonomy, and thesauri (Koltay, 2011). Digital literacy is a skill needed to navigate information critically in an increasingly digital age (Gilster, 1997; Davydov et al., 2020; Pangrazio et al., 2020). Iordache et al., (2017); Rozak et al., 2021; Firmansyah & Susetyo (2022), grouping digital literacy indicators, including operational and technical, digital information and communication, digital and strategic content creation, ICT literacy, media literacy and habits using digital platforms. Digital skills can improve ICT use, social media transformation and engagement, organizational competitiveness and performance in SMEs.

2.4 Market Orientation

Market orientation (MO) has been developed not only reflected in tangible products, but the evolution of market orientation in the service sector is also considered (Esteban et al., 2002). MO is associated with an improvement in a broad set of results in a broad set of settings and MO is widely and well accepted in many businesses and organizations (Liao et al., 2011). MO is the degree to which an organization generates and uses intelligence about current and future customer needs, develops strategies to meet those needs, and applies those strategies to meet those needs and wants (Oplatka & Hemsley-Brown, 2007). MO takes into account the influence of competitors and incorporates coordination between functions. As the business grows, MO can now be used as an element of organizational culture beyond customer orientation. Liyanaarachchi et al., (2021), found that the digitization of market-oriented companies and positioning vulnerable customers as key stakeholders is influenced by the success of the strategy and the positive effects of digital transformation practices, as well as integrating digital readiness and corporate digital responsibility as important elements of the market and customer focus organizational strategy. The three components of MO are customer orientation, competitor orientation and coordination between functions (Oplatka & Hemsley-Brown, 2007), where MO can facilitate other factors in meeting the needs and satisfaction of the intended customer so that it will affect marketing relationships, the success of marketing communications and organizational performance.

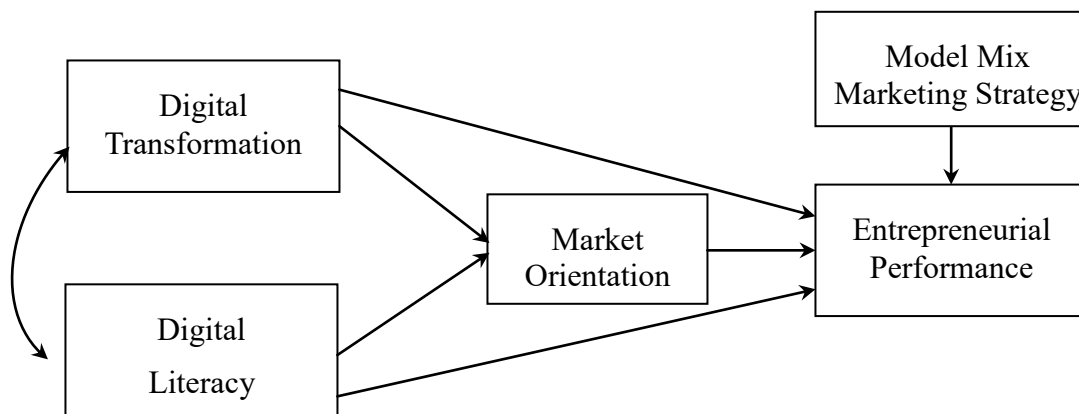


Figure 1. Framework Model

Source: Developed from various theories and relevant research studies (Authors, 2023)

$H_1; H_2$: Digital transformation and digital literacy affect market orientation

$H_3; H_4$: Digital transformation, digital literacy and market orientation have a direct effect on entrepreneurial performance

H_5 : Digital transformation and digital literacy have an indirect effect on entrepreneurial performance through market orientation

3. Research Method

3.1 Research Design

This research is a survey research with a quantitative approach. Survey research seeks to quantitatively expose the tendencies, attitudes, or opinions of a particular population by examining a sample of that population (Creswell, 2014). Quantitative research is an approach to test objective theory by testing the relationship between variables (Creswell, 2014). Research using a quantitative approach emphasizes its analysis on numerical data (numbers) processed by statistical methods and supported by qualitative data.

3.2 Research Respondents

The purposive sampling technique was used by researchers in selecting a sample of 40 respondents. Respondent nominations are specifically based on selected criteria to meet certain goals (Firmansyah, 2022b). Sampling criteria (1) carrying out agricultural business activities; (2) age between 20-40 years; (3) have attended training and empowerment of young farmers; (4) clarity of the cultivated field grown; and (5) have clarity of financial information, capital and market access. In addition, understanding and habits of using digital technology are considered (Firmansyah, 2022b). To reach samples located in the sample selector area, it was developed by choosing an innovative sampling strategy, namely a survey study of a farmer group of an area,

which connects the subsamples of the intended farmers (Hibberts et al., 2012).

3.3 Data Collection

The data used is primary data, cross section based on time dimensions. Data collection tools use instruments, namely digital transformation instruments (DT = 14dt), digital literacy (DL = 12dl), market orientation (MO = 10mo), and entrepreneurial performance (EP = 14ep), using a likert scale, all used as data collection instruments.

3.4 Data Analysis

This study uses a *path analysis* approach to test the combined interaction of digital transformation and digital literacy with entrepreneurial performance, and the market orientation relationship that mediates the three.

The collected data were analyzed using descriptive analysis and statistical analysis to test hypotheses using a spreadsheet computer program (MS. Excel) and the help of SPSS v25. SPSS is still effectively used to verify the relationship between latent constructions and observed variables for *simple path analysis models*, this is also based on the number of samples studied ($\sum n < 100 < 200$ of the minimum recommended sample count). The accuracy of measuring the variance of latent variables allows it to still be met. The model adopts the process SPSS macro usage model developed by Hayes (2018), to test mediation, using the bias correction method and the percentile method to test the mediation effect, and the confidence level for the confidence interval is 95%. Five important research questions (*RQs*) to answer in this study.

3.5 Conversion and Measurement Models

In this study, *SPSS test/output* data were taken from variable path coefficients (regression coefficients of all variables) that had been transformed into *standardized coefficients* (Beta).

Simple path diagram conversion for endogenous latent variables:

$$\eta_1 = \text{Market Orientation} = Y_1$$

$$\eta_2 = \text{Entrepreneurial Performance} = Y_2$$

Measurement Model conversion for each of the latent variables:

$$\text{Digital Transformation} = \lambda \xi = \text{DT (14dt)}$$

$$\text{Digital Literacy} = \lambda \xi = \text{DL (12dl)}$$

$$\text{Market Orientation} = \lambda \eta_1 = \text{MO (10mo)}$$

$$\text{Entrepreneurial Performance} = \lambda \eta_2 = \text{EP (14ep)}$$

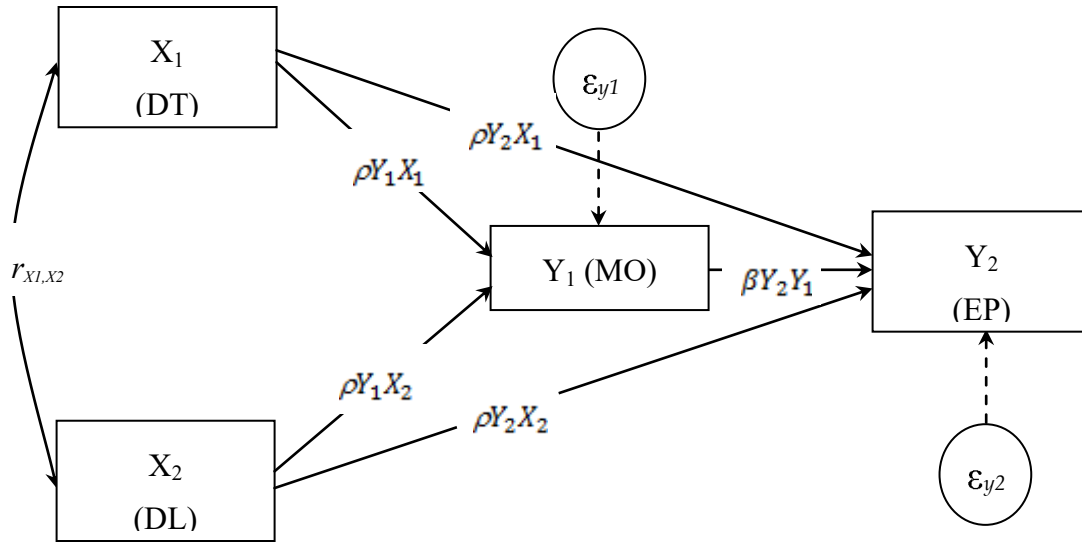


Figure 2. Simple Path Analysis Model

Source: Developed by Author (2023)

Structural Equation I

$$Y_1 = \rho_{Y_1X_1}X_1 + \rho_{Y_1X_2}X_2 + \varepsilon_1 \quad \dots (1)$$

Structural Equation II

$$Y_2 = \rho_{Y_2X_1}X_1 + \rho_{Y_2X_2}X_2 + \beta_{Y_2Y_1}Y_1 + \varepsilon_2 \quad \dots (2)$$

Sobel Test

$$t = \frac{ab}{\sqrt{(b^2 SE_a^2) + (a^2 SE_b^2)}} \quad \dots (3)$$

4. Findings and Discussions

The quality of the analyzed data is indispensable to avoid finding biased results from the variance of predicted factors. Instrument tests are used to ensure the stage of fit data analysis. From the results of the instrument test showed that DT = composite of 12 DT items is valid and reliable (from 14dt), with $C_\alpha = 0,838$ ($C_\alpha > 0,70$). DL = composite of 8 valid and reliable DL items (from 12dl), with $C_\alpha = 0,722$ ($C_\alpha > 0,70$). MO = 9 valid and reliable EP items (from 10mo), with $C_\alpha = 0,793$ ($C_\alpha > 0,70$). Also EP = composite 12 EP items are valid and reliable (out of 14ep), with $C_\alpha = 0,746$ ($C_\alpha > 0,70$).

Meanwhile, for classical assumption tests (structural paths I and II), normality tests are used (One-Sample K-S NPar Tests; *Asymp. Sig* > $\alpha = 0,05$), heteroskedasticity test (*Sig* > $\alpha = 0,05$), and multicollinearity test (*Tolerance* value > 0,10 and VIF < 10).

Test Results of Classical Assumptions of Structural Line I

It is known that the value of *Asymp. Sig* (2-tailed) of $0.200 > 0.05$ (*Asym. Sig* $> \alpha$), so the data used in this study is normally distributed. While the hail heteroskedasticity test was performed using the Glejser test, the *Sig. DT* = 0.772 and *DL* = 0.067 were obtained, all *Sig values*. *DT*, *DL* $> \alpha$ ($0.772 > 0.05$; $0.067 > 0.05$), so that heteroskedasticity does not occur in the model. These results also show that there is no multicholnearity problem among independent variables in structural path I (tolerance value $_{DT_X1, DL_X2} = 0,975 > 0,10$; $VIF_{DT_X1, DL_X2} = 1,026 < 0,10$).

Structural Line II Data Normality Test Results

Table 1. Path Structural II Normality Test Results

		Unstandardized Residual
N		40
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	2.78230979
Most Extreme Differences	Absolute	.086
	Positive	.086
	Negative	-.067
Test Statistic		.086
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Author's Calculation Results (2023)

Table 1 shows the *Asymp values*. A *sig* (2-tailed) of 0.200 is greater than 0.05 (*Asymp. Sig* $> \alpha$), so that the data used in structural path II is normally distributed.

Table 2. Path Structural II Heteroscedasticity & Multicollinearity Test Results

		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6.481	3.795		1.708	.096		
	DT_X1	.029	.078	.093	.374	.711	.425	2.353
	DL_X2	-.040	.129	-.062	-.308	.760	.634	1.577
	MO_Y1	-.125	.138	-.260	-.906	.371	.318	3.149

a. Dependent Variable: ABS_RES2

Source: Author's Calculation Results (2023)

From the results of the heteroskedasticity and multicholnearity structural pathway II tests, *Sig* values were obtained. *DT* = 0.711, *DL* = 0.760, and *MO* = 0.371, all third *Sig* values of exogenous variables are more than 0.05 ($0.711 > 0.05$; $0.760 > 0.05$; $0.371 > 0.05$), so that heteroskedasticity does not occur in the model. This result also shows that there is no multicholnearity problem among exogenous variables in structural II pathways, where it is known that the tolerance value $_{DL_X2} = 0,634 > 0,10$; and tolerance value $_{MO_Y1} = 0,318 > 0,10$,

as well as VIF values $DT_X1 = 2,353 < 0,10$; VIFvalue $DL_X2 = 1,557 < 0,10$; and the VIF value $MO_Y1 = 2,149 < 0,10$.

Based on the results of the instrument test, it is known that the data is fit, as well as from the results of the data prerequisite test (classical assumption test) it is concluded that the data is normally distributed, free from heteroskedasticity problems and there are no symptoms of multicollinearity, so that the data feasibility test for both structural pathways is met.

4.1 Findings

Descriptive Analysis

Table 3. Descriptive Analysis Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
DT_X1	40	33	55	46.68	5.210
DL_X2	40	26	37	31.85	2.587
MO_Y1	40	29	42	34.83	3.404
EP_Y2	40	37	55	46.65	4.538
Valid N (listwise)	40				

Source: Author's Calculation Results (2023)

Descriptive analysis of statistics above (table 3), it can be explained that the data of this study as much as N which describes the amount of data analyzed as many as 40 data for each of the variables studied is measured based on the empirical concepts mentioned in the previous section, it also shows information about the minimum value, maximum value, average and standard as well as deviations from each variable studied.

Structural Path Analysis I

Correlation Test

Table 4. Pearson Correlation Test Results

		Market Orientation	Digital Transformation	Digital Literacy
Market Orientation	Pearson Correlation	1	.715**	.521**
	Sig. (2-tailed)		.000	.001
	N	40	40	40

Source: Author's Calculation Results (2023)

Based on the results of the correlation test above, it can be seen that digital transformation has a correlation (r) = 0.715, significant at $\alpha = 0.000 < 0.05$. Digital literacy with a value of $r = 0.521$, significant at $\alpha = .001 < 0.05$. This means that digital transformation and digital literacy have a correlation with market orientation, where the level of correlation between the two is interpreted to be in a strong category, and the correlation of digital literacy with market orientation is at a moderate level of closeness. The relationship between each of the variables is

positive and significant.

In structural equation I, there are two independent variables and one dependent variable.

Table 5. Coefficients^a Structural Path Test Results I

Model	Unstandardized Coefficients		Standardized Coefficients	t-Stat	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	-2.502	4.492		-.557	.581		
DT_X1	.424	.061	.649	6.920	.000	.975	1.026
DL_X2	.550	.123	.418	4.461	.000	.975	1.026

a. Dependent Variable: MO_Y1

Source: Author's Calculation Results (2023)

Structural equation I:

$$Y_1 = 0,649 \text{ DT} + 0,418 \text{ DL} + \varepsilon_{y1}$$

The Effect of Digital Transformation and Digital Literacy on Market Orientation

t test

Digital transformation (DT_X1) has a positive effect on market orientation (MO_Y1), significant on t_{stat} ; $p < \alpha$ ($t_{\text{stat}} = 6.310$; $0,000 < 0,05$), with $n = 40$, $k = 3$. Digital literacy (DL_X2) has a positive effect on market orientation (MO_Y1), and is significant on t_{stat} ; $p < \alpha$ ($t_{\text{stat}} = 3.763$; $0,001 < 0,05$), with $n = 40$, $k = 3$.

Table 6. Individual Influence Significance Test Results (Structural I)

Hypothesis	Stdz. Coeff. Beta	t-Stat	Sig.	Results
Digital transformation has a significant positive effect on market orientation	.715	6.310	.000	Accepted
Digital literacy has a significant positive effect on market orientation	.521	3.763	.001	Accepted

F test

The significance of simultaneous influence is seen from the results of ANOVA (Structural I)

Table 7. Analysis of Variance (ANOVA^a)

Model		Sum of Squares	df	Mean Square	F-Stat	Sig.
1	Regression	308.312	2	154.156	39.758	.000 ^b
	Residual	143.463	37	3.877		
	Total	451.775	39			

a. Dependent Variable: MO_Y1

b. Predictors: (Constant), DL_X1, DT_X2

Source: Author's Calculation Results (2023)

Digital transformation (DT_X1) and digital literacy (DL_X2) have a positive effect on market orientation (MO_Y1), and are significant on F_{stat} ; $p < \alpha$ ($F_{\text{stat}} = 39.758$; $0,000^b < 0,05$), with $n = 40$, $k = 3$ (v_1 ; v_2).

Table 8. Simultaneous Influence Significance Test Results (Structural I)

Hypothesis	F_{Stat}	Sig.	Results
H_2 Digital transformation and digital literacy have a significant positive effect on market orientation	39.758	.000 ^b	Accepted

Coefficient of Determination

To find out the magnitude of the ability to explain independent variables to dependent variables seen from the value of $Adj. R^2$.

Table 9. Model Summary^b-Coefficient of Determination (Structural I)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.826 ^a	.682	.665	1.969	2.335

a. Predictors: (Constant), DL_X2, DT_X1

b. Dependent Variable: MO_Y1

Source: Author's Calculation Results (2023)

$Adj. R^2$ value of $0.665 = 66,5\%$, The magnitude of the joint contribution of digital transformation and digital literacy in influencing market orientation by 66.5% of the total market orientation variance $R^2 = 68,2\%$; $Adj. R^2 = 66,5\%$. The implication of 33.5% is the rest of the market orientation variance, influenced by other variables that are not included in the model.

Structural Path Analysis II

Correlation Test

Table 10. Pearson Correlation Test Results

		Entrepreneurial Performance	Digital Transformation	Digital Literacy	Market Orientation
Entrepreneurial Performance	Pearson Correlation	1	.502**	.576**	.761**
	Sig. (2-tailed)		.001	.000	.000
	N	40	40	40	40

Author's Calculation Results (2023)

From the results of the correlation test, it can be seen that digital transformation (DT_X1) has a correlation (r) = 0.502, significant at $\alpha = 0.001 < 0.05$. Digital literacy (DL_X2) with a value of $r = 0.576$, significant at $\alpha = 0.000 < 0.05$, and market orientation (MO_Y1) has a value of $r = 0.761$, significant at $\alpha = 0.000 < 0.05$. These results can be explained that digital transformation and digital literacy have a moderate level of correlation with entrepreneurial performance (EP_Y2), while the correlation of market orientation with entrepreneurial performance is at a strong level of closeness. The relationship between each of the variables is positive and significant.

In structural equation II consists of three latent exogenous variables (DT_X1, DL_X2, and MO_Y1), and one latent endogenous variable (EP)

Table 11. Coefficients^a Structural Path Test Results (Structural II)

		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
Model		B	Std. Error	Beta	t-Stat	Sig.	Tolerance	VIF
1	(Constant)	3.103	6.634		.468	.643		
	DT_X1	.020	.137	.023	.149	.883	.425	2.353
	DL_X2	.445	.225	.253	1.995	.049	.634	1.577
	MO_Y1	.817	.242	.613	3.378	.002	.318	3.149

a. Dependent Variable: EP_Y2

Source: Author's Calculation Results (2023)

Structural equation II:

$$Y_2 = 0,023 \text{ DT} + 0,253 \text{ DL} + 0,613 \text{ MO} + \varepsilon_{y2}$$

The Effect of Digital Transformation and Digital Literacy on Entrepreneurial Performance Through Market Orientation

1. Direct Effect

T test

Digital transformation (DL_X1) directly positively affects entrepreneurial performance (EP_Y2), significant on t_{stat} ; $p < \alpha$ ($t_{\text{stat}} = 3.573$; $0,001 < 0,05$), with $n = 40$, $k = 4$. Digital literacy (DL_X2) directly affects entrepreneurial performance (EP_Y2), and significantly on t_{stat} ; $p < \alpha$ ($t_{\text{stat}} = 4,347$; $0,000 < 0,05$), with $n = 40$, $k = 4$. As well as market orientation (MO_Y1) positively affects entrepreneurial performance (EP_Y2), and significantly on t_{stat} ; $p < \alpha$ ($t_{\text{stat}} = 7.237$; $0,000 < 0,05$), with $n = 40$, $k = 4$.

Table 12. Individual Influence Significance Test Results (Structural II)

	Hypothesis	Stdz. Coeff. Beta	t_{Stat}	Sig.	Results
	Digital transformation directly positively affects entrepreneurial performance	.502	3.573	.001	Accepted
H_3	Digital literacy directly has a significant positive effect on entrepreneurial performance	.576	4.347	.000	Accepted
	Market orientation directly has a significant positive effect on entrepreneurial performance	.761	7.237	.000	Accepted

F Test

The significance of simultaneous influence is seen from the results of ANOVA (Structural II)

Table 13. Analysis of Variance (ANOVA^a)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	501.191	3	167.064	19.921	.000 ^b
	Residual	301.909	36	8.386		
	Total	803.100	39			

a. Dependent Variable: EP_Y2

b. Predictors: (Constant), MO_Y1, DL_X2, DT_X1

Source: Author's Calculation Results (2023)

Digital transformation (DT_X1), digital literacy (DL_X2), and market orientation (MO_Y1) have a positive effect on entrepreneurial performance (EP_Y2), and are significant on F_{stat} ; $p < \alpha$ ($F_{\text{stat}} = 19.921$; $0,000^b < 0,05$), with $n = 40$, $k = 4$ (v_1 ; v_2).

Table 14. Simultaneous Influence Significance Test Results (Structural II)

	Hypothesis	F_{Stat}	Sig.	Results
H_4	Digital transformation, digital literacy and market orientation directly have a significant positive effect on market orientation	19.921	.000 ^b	Accepted

Coefficient of Determination

The magnitude of the contribution of the joint influence of digital transformation, digital literacy

and market orientation in influencing entrepreneurial performance is seen from the $Adj.R^2$ model summary on the calculation of structural path II.

Table 15. Model Summary^b-Coefficient of Determination (Structural II)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.790 ^a	.624	.593	2.896	2.057

a. Predictors: (Constant), MO_Y1, DL_X2, DT_X1

b. Dependent Variable: EP_Y2

Source: Author's Calculation Results (2023)

$Adj. R^2$ value of 0.593 = 59,3%, The magnitude of the contribution of the joint influence of digital transformation (DT_X1), digital literacy (DL_X2) and market orientation (MO_Y1) in influencing entrepreneurial performance (EP_Y2) of 59.3% of the total variance of entrepreneurial performance $R^2 = 79,0\%$; $Adj. R^2 = 59,3\%$. The implication of 40.7% is the rest of the variance in entrepreneurial performance, influenced by other variables that are not included in the model.

2. Indirect Effect Through Market Orientation

Whether or not there is a market orientation effect in mediating the influence of digital transformation and digital literacy on entrepreneurial performance is used by the Sobel Test.

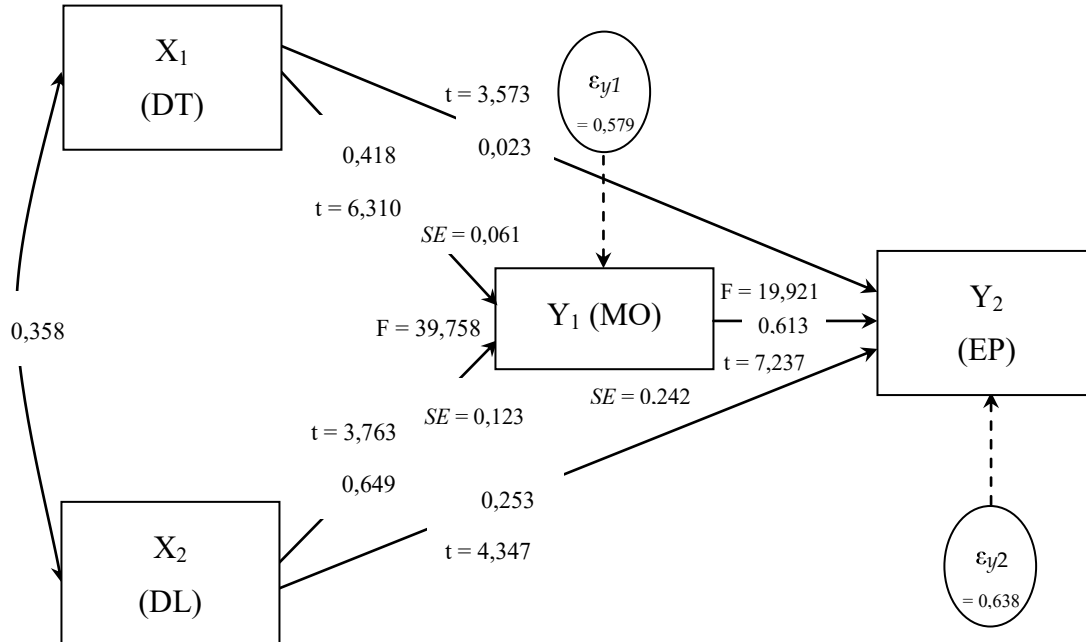


Figure 3. Test Results of the Structural Path Model I and II

The Effect of Digital Transformation on Entrepreneurial Performance Through Market Orientation

$$DT_X_1 \text{ to } MO_Y_1 : Y_1 = \rho Y_1 X_1$$

$$DT_X_1 \text{ to } EP_Y_2 \text{ through } MO_Y_1 : Y_2 = \rho Y_1 X_1 . \beta Y_2 Y_1$$

The results of the Sobel test calculation DT_X_1 to EP_Y_2 through MO_Y_1 (substitution of the value of each equation)

$$n = 40; \alpha = 0,05; k = 3; t_{\text{tabel}} = 2,026$$

$$t_{\text{stat}} = 2,464 \text{ (sobel test results)}$$

Based on the calculation results on the Sobel test, it can be seen that the calculated value (t_{stat}) is 2,464181 (2,464). So the $t_{\text{stat}} > t_{\text{tabel}}$ (2,464 > 2,026), so that digital transformation (DT_X_1) indirectly positively affects entrepreneurial performance (EP_Y_2) through market orientation (MO_Y_1). Early results can be explained that there is a mediating effect of market orientation on the influence of digital transformation on entrepreneurial performance.

The Effect of Digital Literacy on Entrepreneurial Performance Through Market Orientation

$$DL_X_2 \text{ to } MO_Y_1 : Y_1 = \rho Y_1 X_2$$

$$DL_X_2 \text{ to } EP_Y_2 \text{ through } MO_Y_1 : Y_2 = \rho Y_1 X_2 . \beta Y_2 Y_1$$

The results of the Sobel test calculation DL_X_2 through EP_Y_2 melalui MO_Y_1

$$n = 40; \alpha = 0,05; k = 3; t_{\text{tabel}} = 2,026$$

$$t_{\text{stat}} = 2,031 \text{ (sobel test results)}$$

Based on the calculation results in the Sobel test, it can be seen that the calculated value (t_{stat}) is 2,030948 (2,031). So the $t_{\text{stat}} > t_{\text{tabel}}$ (2,031 > 2,026), so that digital digital literacy (DL_X_2) indirectly positively affects entrepreneurial performance (EP_Y_2) through market orientation (MO_Y_1), and significantly on the $p < \alpha = 0,05$. It means that market orientation mediates the influence of digital literacy on entrepreneurial performance.

Table 16. Results of the Indirect Effect Significance Test (Structural II)

	Hypothesis	t-Stat	t-tabel	Sig.	Results
H_5	Digital transformation has an insignificant positive effect on the performance of enterprises through market orientation	2.464	2.026	.883	Accepted
	Digital literacy has a positive effect on the performance of entrepreneurship through market orientation	2.031	2.026	.049	Accepted

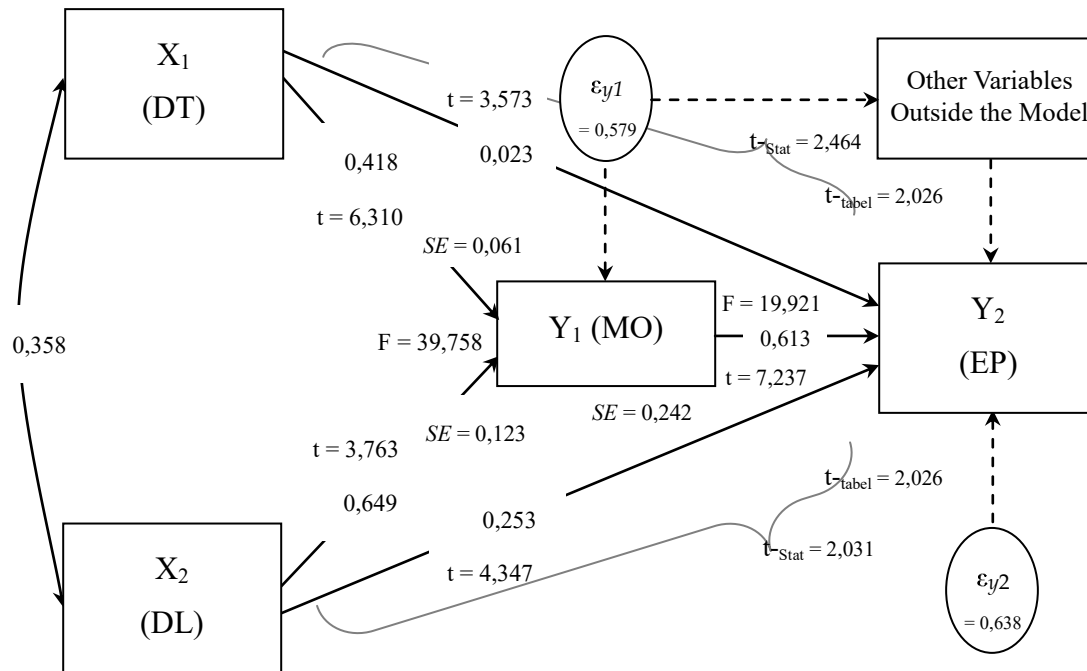


Figure 4. Mediation of the Effect of Market Orientation on the Effect of Digital Transformation and Digital Literacy on Entrepreneurial Performance, As well as the Prediction of the Value of the Error Path Analysis Model

4.2 Discussions

Digital transformation and digital literacy have a direct correlation with market orientation, as well as influencing the commitment to market orientation in corporate practice (path structural I). Causality of digital transformation and literacy towards market orientation: $Y_1 = 0,649DT + 0,418DL + \varepsilon_{y1}$. Where the magnitude of the error term value $\varepsilon_{y1} = 0,579$, is influenced by other factors outside the model. Statistically, the findings suggest that digital transformation and digital literacy individually have a positive effect on market orientation, both of which are significant on $p < \alpha = 0,05$ (H_1 is proven and accepted). The findings also show that digital transformation and digital literacy have a shared contribution in influencing orientation, positively and significantly at $F = 39,758$, $Sig = p < 0,05$, H_2 proven and accepted. The magnitude of the contribution of the common influence of digital transformation and digital literacy amounted to 66.5% of the total market orientation variance; R^2 ; $Adj. R^2$. The implication of 33.5% is the rest of the market orientation variance, influenced by other variables that are not included in the model. These findings are in line with the results of research by Liyanarachchi et al., (2021), which found that digital transformation has a positive impact on the company's market-oriented strategy and positions vulnerable customers as key stakeholders, integrating digital readiness and corporate digital responsibility as important elements of a market-focused organizational strategy. The adequacy of digital literacy and the ability to carry out digital transformation of business in the current era are increasingly important to expand networks and real time in disseminating product and service information in the intended market (Wahdiniwaty et al., 2022; Firmansyah, Suryana, et al., 2022).

Business actors/entrepreneurs are certainly no longer just fixated on conventional business processes although they remain important, but more than that, now operating in a very complex and dynamic environment with so massive changes occurring and unpredictable. As a result, it must be able to move towards more agility, activity and dynamism, and become more aware of the importance of movement in this direction and align themselves with change as their most important competitive advantage. Where in a competitive world, the reputation and permanence of the business position are very important for organizations with the products / services they offer. It largely depends on how well they are accepted and supported by the consumers, because of trust. This shows the importance of an entrepreneurial commitment to market orientation that needs to be realized to have consequences to meet market needs and customers exceed their expectations. Digital readiness and digital transformation practices in business processes are demands that are at the same time innovative business practices and relevant to disruptive technology in Industry 4.0.

The implication is that the importance of market orientation and customer emphasizes an understanding of customer needs, desires and expectations to be the main focus of business actors, who move and operate using intelligence about current and future customer needs. It is necessary to adopt and adapt new business models and processes in the era of the digital economy. Therefore, digital transformation practices supported by adequate digital literacy as part of the process, allowing the implementation of strategies in adaptive business models in line with customer needs are found, and can even be developed by taking into account the influence of competitors and coordination between existing functions internally. Digital literacy is closely related to the ability to carry out digital transformation in business practices so that business actors are better prepared to explore the expansion of cyberspace with various digital platforms that cover everything that is unstoppable, as well as those that have changed every dimension of the lifestyle of target customers as the main market orientation.

Hasil analisis pada persamaan struktural II, menunjukkan bahwa transformasi digital, literasi digital dan orientasi pasar memiliki korelasi dengan kinerja kewirausahaan, juga ketiganya mampu memprediksi dan mempengaruhi kinerja kewirausahaan para petani muda. Temuan menunjukkan bahwa transformasi digital secara langsung berpengaruh positif signifikan terhadap kinerja kewirausahaan, literasi digital secara langsung berpengaruh positif tidak signifikan terhadap kinerja kewirausahaan, dan orientasi pasar berpengaruh positif signifikan terhadap kinerja kewirausahaan, dimana pengaruh ketiganya signifikan pada $p < \alpha = 0,05$ (H_3 terbukti dan diterima). Selain itu, diketahui bahwa secara langsung transformasi digital, literasi digital dan orientasi pasar secara bersama-sama berpengaruh positif signifikan terhadap kinerja kewirausahaan ($F = 19,921$, $Sig = p < 0,05$), H_2 terbukti dan diterima. Temuan menunjukkan bahwa besarnya kontribusi pengaruh bersama transformasi digital, literasi digital dan orientasi pasar dalam mempengaruhi kinerja kewirausahaan sebesar 59,3% dari total varians kinerja kewirausahaan; R^2 ; $Adj. R^2$. Implikasinya sebesar 40,7% adalah sisanya dari varians kinerja kewirausahaan, dipengaruhi variabel-variabel lain yang tidak termasuk dalam model. Temuan ini diperkuat hasil penelitian Bouwman et al., (2019), menemukan bahwa UKM akan berkinerja lebih baik ketika transformasi digital mampu mengubah model bisnis (BM) mereka, transformasi digital mempengaruhi kinerja UKM keseluruhan. Sementara Rozak et al., (2021), hasil penelitiannya menunjukkan bahwa literasi digital dapat meningkatkan kinerja organisasi di

UKM. Firmansyah (2022a), juga menemukan bahwa penciptaan dan eksploitasi pengetahuan termasuk pengetahuan/literasi ekonomi, literasi digital dan kemampuan melakukan transformasi digital bisnis, memiliki komitmen kuat pada orientasi pasar dan pelanggan memainkan peran penting dalam penentuan posisi perusahaan yang lebih baik di pasar global sehingga mampu memperkuat kinerja usaha ditengah ketatnya persaingan.

The indirect influence of digital transformation and digital literacy on entrepreneurial performance through market orientation. Statistically, the results of the Sobel test show that digital transformation indirectly has a significant positive effect on entrepreneurial performance through market orientation ($t_{stat} > t_{tabel} = 2,464 > 2,026$). These findings mean that there is a mediating effect of market orientation on the effect of digital transformation on entrepreneurial performance. It was also found that digital literacy indirectly had a significant positive effect on the performance of the company through market orientation ($t_{stat} > t_{tabel} = 2,031 > 2,026$; $Sig = p < 0,05$), so it can be known that there is a mediating effect of market orientation on the influence of digital literacy on entrepreneurial performance. These findings have answered questions and at the same time prove the hypothesis proposed, that there is an indirect influence of market orientation mediating digital transformation and digital literacy on entrepreneurial performance. The findings of this study are also reinforced by the results of research by Oplatka & Hemsley-Brown (2007), that MO can facilitate other factors in meeting the needs and satisfaction of intended customers so that it will affect marketing relationships, the success of marketing communications and organizational performance. While Oplatka & Hemsley-Brown (2012); Jogaratnam (2017), mentions the importance of improving organizational design and marketing options available to businesses and offers guidance to management who seek to shape organizational culture and behavior related to the implementation of market orientation, transformation and digitization to improve organizational performance.

The implications of the findings of this study reinforce that today's digital knowledge and skills are also so necessary to support business models and processes that are increasingly disrupting traditional ways, critical thinking in accordance with economic goals, have increased awareness of the importance of digital literacy to be able to access various information, issues and challenges and problems of the economy digitally even to identify and know opportunities for market expansion Digital can encourage the courage of digital adoption in business processes. This allows the emergence of the ability to carry out digital transformation of businesses as a form of business model innovation in order to find and create new ones with a commitment to market orientation, both business processes and products or services that meet expectations and even exceed customer orientation as the target market that is the most important stakeholder, as well as the practice of relevant business models and processes in line with the development of the renewable economy in the current digital economy era, So that directly or indirectly it will strengthen competitiveness and improve entrepreneurial performance in a sustainable manner. To be able to comprehensively improve business performance in the era of the digital economy, even from time to time it is necessary to have continuous innovative cooperation among interested actors in order to improve digital readiness and the success of business digital transformation (go digital) in realizing the fulfillment of customer needs and satisfaction as the main market orientation, where the environment and information on competitors' behavior also need to get attention and become one of the considerations important in every decision making

regarding the plan and strategy to be carried out. The existence of adaptive cooperation with interested actors through the circulation of innovative collaborations well established in healthy sustainable business practices can create resilience, development and increase business competitiveness with better economic performance (Firmansyah, Suherman, et al., 2022; Wahdiniwaty et al., 2022).

Technological disruption along with the development of the digital economy era, has an intervention on the importance of an organization's agility in its business practices. Organizational agility indicates the ability to anticipate or respond quickly to external changes, it is essential to survive and compete in today's turbulent landscape, which is characterized by technological advances and digitalization (Troise et al., 2022). Digital transformation and digital literacy as part of the entrepreneurial response to technological advances and digitalization that have changed the wajah of old business practices, while market orientation as a commitment and consequence of digital transformation practices in business that clarifies the needs and desires of the current real market and potential customers in the future so that the survival of entrepreneurship is maintained sustainably by having entrepreneurial performance that good and more competitive.

Causality of digital transformation and literacy towards entrepreneurial performance through market orientation: $Y_2 = 0,023DT + 0,253DL + 0,613MO + \varepsilon_{y2}$. Where the magnitude of the error term value $\varepsilon_{y2} = 0,638$, is influenced by other factors outside the model. There are many factors that can be considered as an entrepreneurial model framework, a theoretical framework and future research directions. In the case of this research, other factors that are considered relevant both in terms of theoretical concepts and empirical concepts at the practical level, one of which is the mix of marketing models to meet and complement digital transformation practices supported by adequate digital literacy and a clear market orientation in an effort to improve entrepreneurial performance so that it can be used as a framework for entrepreneurial performance models that are relevant in a business perspective in the digital economy era.

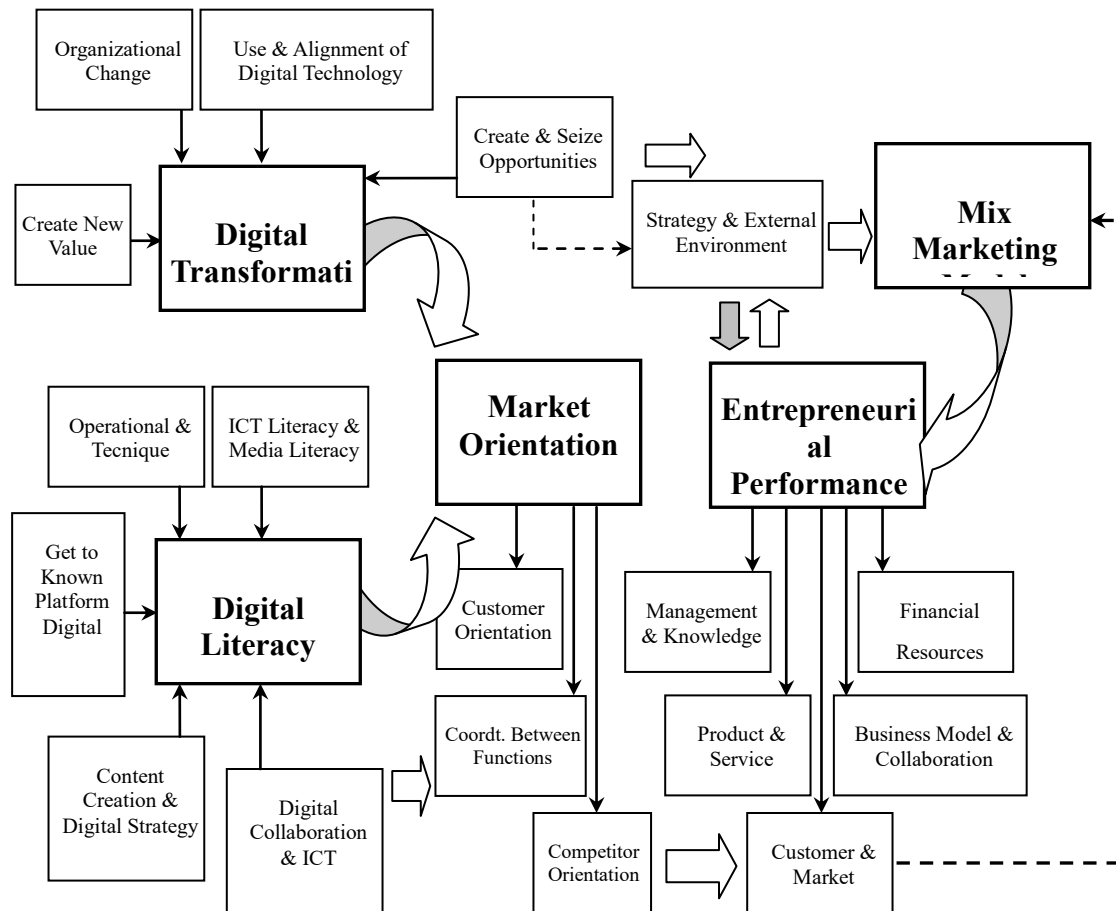


Figure 5. Entrepreneurial Performance Model

Source: Author's Synthesis Results (2023)

The antecedent of digital transformation is seen from organizational change, use and alignment of digital technology, create new value, create and seize opportunity can influence digital transformation in predicting and explaining the market orientation of entrepreneurial performance. Digital literacy as an antched variable affects market orientation and entrepreneurial performance, where the antecedent of digital literacy considers operational techniques, ICT literacy, media literacy, get to kown digital platforms, content creation and digital strategy, and digital collaboration. Market orientation facilitates the practice of digital transformation and digital literacy in an effort to improve entrepreneurial performance in a business perspective in the era of the digital economy. Market orientation as a commitment to market orientation and customers, competitor competition, and considering the importance of collaboration between functions internally. The consequence is that with a clear market orientation commitment, it is possible to make a positive contribution to entrepreneurial performance with all sub-scales that can be used as a measure such as management and knowledge, product and service, financial resources, business model and collaboration, also focus customer and market.

Finally, the adoption and adaptation of several factors of the relevant marketing mix can be considered in the face of environmental changes, technological developments, competitor behavior and changes in customer behavior. The adoption and modification of marketing mix factors is necessary to support the implementation of digital transformation strategies and practices supported by digital readiness and market orientation implementation that considers customer orientation, competitor orientation and coordination between functions in an entrepreneurial environment. A more comprehensive marketing mix pays attention to a variety of factors; 4Ps, 5Ps or 7Ps is even more to be able to increase trust, customer satisfaction, society and other stakeholders.

Modification and development of the marketing mix model can be carried out, due to seven fundamental factors that are quite different in marketing activities in the digital age. For example combining 4Ps of traditional marketing mix, such as people, promotions, and prices, combined with four different elements: program, excellence, prospectus, and premium (Ivy, 2008), or 3Ps such as price, promotion, and product combined with marketing communications with a new model (Alipour et al., 2012). Even 7Ps or more to improve the development of marketing communications according to the context in which they are marketed (Jain, 2013). It is also possible to use the 4Ps model, namely products, prices, places, and promotions (Indriani & Firmansyah, 2020), by preparing understandings to be combined and refined by adopting the SAVE (solutions, access, value and education) mix model, because the SAVE model is actually widely studied to be relevant for B to B businesses (Wani, 2013). Also, the concept of integrated marketing communication (IMC) which includes media advertising, sales promotion, public relations, package design, personal sales and direct marketing (Dewitt, 1974; Schultz, 1993; Jackson & Ahuja, 2016), perhaps it can be used to be applied in marketing in the age of the digital economy. Goals and objectives, constraints and results of needs evaluation, the flow of changes in consumer/user styles, clarity of market orientation commitments, technological developments and cyber expansion, as well as efforts to optimize the marketing mix underlie the birth of a new marketing mix model (Jackson & Ahuja, 2016; Ryńca & Ziaecian, 2021), to achieve better entrepreneurial performance and strengthen sustainable competitive advantage.

5. Conclusions

Digital transformation, digital literacy and market orientation have a correlation with entrepreneurial performance. Digital transformation and digital literacy can predict and influence the market orientation and entrepreneurial performance of young farmers in a business perspective in the era of the digital economy, as well as the consequences of market orientation contribute positively to improving entrepreneurial performance. Research findings from the results of structural analysis I, it is known that digital transformation and digital literacy have a significant positive effect on market orientation both individually and together. The results of structural analysis II, the findings show that digital transformation directly has a significant positive effect on entrepreneurial performance, as well as digital literacy directly has a significant positive effect on entrepreneurial performance. The results of the Sobel test, it is known that digital transformation has an insignificant positive effect on entrepreneurial performance through market orientation, while digital literacy has a significant positive effect on entrepreneurial performance through market orientation. Market orientation has a mediating effect on the relationship between digital transformation and digital literacy in influencing

entrepreneurial performance, the consequence is that market orientation has a positive impact on entrepreneurial performance with all sub-scales that can be used as a measure. The adoption and modification of marketing mix factors into a new marketing mix model is needed to support the implementation of digital transformation strategies and practices supported by digital readiness and market orientation implementation that considers customer orientation, competitor orientation and coordination between functions in the entrepreneurial environment, in order to ensure the achievement of better entrepreneurial performance with strong competitiveness in a sustainable manner.

Digital readiness and practical digital transformation support the development of entrepreneurship in the era of the digital economy in implementing business relationships, products or services offered with the business environment and target markets towards better competitiveness and entrepreneurial performance, becoming the originality of this research. Also this research offers a framework for the performance model of entrepreneurship in a business perspective in the era of the digital economy as a practical and relevant strategy by viewing the importance of adoption and developing the application of mix marketing models as new and innovative marketing strategies. The exploration of the influence of innovative new marketing mix models in line with economic developments in the digital era on digital transformation practices supported by digital literacy and clarity of market orientation in the context of entrepreneurship and MSMEs, as well as their implications for business performance, can be considered as a future research direction.

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