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The Influence of Digital Transformation and Human Resource Competence on Business Sustainability in MSMEs in Depok City

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Abstract

This study aims to analyze the influence of digital transformation and human resource competency on business sustainability in Micro, Small, and Medium Enterprises (MSMEs) in Depok City. This study uses a quantitative method with a causal associative approach. Data were collected through distributing questionnaires to 100 MSMEs in Depok City who were selected as research samples using a purposive sampling technique. Data analysis was carried out using instrument testing, classical assumption testing, hypothesis testing, multiple linear regression analysis, and coefficient of determination (R^2) with the help of the IBM SPSS version 29 program. The results of the study indicate that partially digital transformation has a significant effect on business sustainability with a regression coefficient value of 0.638, a calculated t value of 6.728, and a significance value <0.001. Human resource competency also has a significant effect on business sustainability with a regression coefficient value of 0.332, a calculated t value of 5.924, and a significance value <0.001. Simultaneously, digital transformation and human resource competency significantly influence the sustainability of MSMEs in Depok City based on the results of the F test with a significance value of <0.001. The Adjusted R Square value of 0.600 indicates that digital transformation and human resource competency are able to explain 60% of the variation in business sustainability, while the remaining 40% represents variation not explained by the variables included in the model, outside the study. Thus, digital transformation is a variable that has a greater influence on business sustainability than human resource competency.

Keywords: *Digital Transformation, Human Resource Competence, Business Sustainability, MSMEs.*

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are one of the sectors that play a strategic role in Indonesia's economy. MSMEs not only contribute to job creation and the equitable distribution of income but also serve as a key pillar in promoting both national and regional economic growth (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2023). In addition, MSMEs play a vital role in maintaining economic stability and improving community welfare through their contribution to Gross Domestic Product (GDP) and employment generation (Junaidi, 2024). Despite their significant contribution, MSMEs face various challenges, particularly in responding to the rapid development of globalization and digitalization. Intensifying business competition, changing consumer behavior, and rapid technological advancements require MSME owners to continuously adapt to an increasingly dynamic business environment. This adaptive capability has become a crucial factor in determining business success, particularly in sustaining long-term business performance amid intense market competition (Tambunan, 2021). The advancement of information and communication technology has accelerated digital transformation across various sectors, including business activities. Digital transformation enables MSME owners to utilize technologies such as the internet, social media, and e-commerce platforms in conducting their business operations. The adoption of these technologies can improve operational efficiency, expand market reach, and enhance the quality of customer service (Rahyati et al., 2025). Furthermore, digital transformation has become an essential factor in strengthening business competitiveness and supporting business sustainability (Bahtiar et al., 2025).

However, the rapid advancement of digital technology has not always been accompanied by its optimal utilization among MSME owners. This is reflected in the relatively low level of digital adoption among MSMEs, despite the substantial potential of the digital market, particularly in Depok City, which has a high level of digital economic activity (kementerian Perdagangan, 2025). This condition indicates a gap between the available digital opportunities and the ability of MSME owners to effectively utilize them. In addition to technological factors, the success of MSMEs is also strongly influenced by the competence of human resources (HR). Human Resource Management (HRM) plays a crucial role in enhancing the capabilities, skills, and knowledge of business owners, enabling them to manage their businesses effectively and efficiently (Caylan, 2024). Well-developed human resource competencies support MSME owners in managing their businesses, fostering innovation, and adapting to the continuously changing business environment (Rosari et al., 2024).

Digital transformation and human resource competence are two interrelated factors that play a fundamental role in determining business sustainability. Digital transformation enhances efficiency and innovation, while human resource competence ensures that digital technologies are effectively adopted and utilized (Verhoef et al., 2021). Therefore, the integration of digital transformation and improved human resource competence is expected to strengthen the competitiveness and long-term sustainability of MSMEs (OECD, 2021). In the context of Depok City, fluctuations in the number of MSMEs over recent years indicate dynamic changes in business sustainability (BPS, 2026). At the same time, although the government has actively promoted MSME digitalization programs, the participation rate among business owners remains relatively low (Center, 2025). This suggests that significant challenges still exist in the implementation of digital transformation and the development of human resource competence among MSMEs. Based on the foregoing, this study aims to examine the effects of Digital Transformation and Human Resource Competence on the Business Sustainability of MSMEs, particularly in Depok City. It is expected that the findings of this study will contribute to a better understanding of the factors influencing MSME sustainability and provide a basis for policymakers in formulating strategies to support MSME development in the digital era.

2. RESEARCH METHODOLOGY

This study employed a quantitative research approach with a causal associative design to examine the effects of Digital Transformation and Human Resource Competence on Business Sustainability among Micro, Small, and Medium Enterprises (MSMEs) in Depok City, Indonesia. Primary data were collected through a structured questionnaire using a five-point Likert scale from 100 MSME owners selected through purposive sampling. The independent variables were Digital Transformation (X_1) and Human Resource Competence (X_2), while Business Sustainability (Y) served as the dependent variable. Data were analyzed using IBM SPSS Statistics version 29 through descriptive statistics, validity and reliability tests, classical assumption tests (normality, multicollinearity, and heteroscedasticity), multiple linear regression analysis, partial (t) and simultaneous (F) hypothesis tests, and the coefficient of determination (Adjusted R^2) to evaluate the extent to which the independent variables explain variations in Business Sustainability.

3. RESULTS AND DISCUSSION

a. Descriptive Analysis of Respondents

There were 100 respondents in this study. The characteristics of the respondents in this study are as follows:

Table 1. Characteristics of Respondents

Attributes	Category	Number	Percentage
Gender	Male	48	48 %
	Female	52	52 %
Age Range	< 20 Years	3	3%
	20–30 Years	36	36%
	31–40 Years	46	46%
	41–50 Years	13	13%
	>50 Years	2	2%
Last Education	Elementary School/Equivalent	0	0%
	Junior High School/Equivalent	0	0%
	Senior High School/Vocational High School or Equivalent	37	37%
	Diploma (D3)	19	19%
	Bachelor's Degree (S1)	41	41%

Attributes	Category	Number	Percentage
	Postgraduate Degree (Master's/Doctoral, S2/S3)	3	3%
Sub-district domicile	Beji	7	7%
	Bojongsari	9	9%
	Cilodong	5	5%
	Cimanggis	14	14%
	Cinere	8	8%
	Cipayung	18	18%
	Limo	10	10%
	Pancoran Mas	12	12%
	Sawangan	7	7%
	Sukmajaya	7	7%
	Tapos	3	3%
Type of Business	Culinary	25	25%
	Fashion	21	21%
	Handicrafts	19	19%
	Services	22	22%
	Trade	12	12%
	Others	1	1%
Business Duration	1 – 3 Years	37	37%
	4 – 6 Years	46	46%
	7 – 10 Years	11	11%
	> 10 Years	6	6%
Annual Turnover	< Rp. 50.000.000	40	40%
	Rp. 50.000.000 – Rp. 500.000.000	54	54%
	> Rp. 500.000.000	6	6%

Source: Processed primary data, 2026.

Based on the table above, the respondents in this study were predominantly female, aged 31–40 years, held a Bachelor's degree (S1), were mostly domiciled in Cimanggis Sub-district, operated primarily in the culinary sector, had been running their businesses for 4–6 years, and generated an annual turnover of IDR 50,000,000–500,000,000. These characteristics suggest that the respondents were relatively well-educated entrepreneurs of productive age with considerable business experience, making them suitable participants for achieving the objectives of this study.

b. Descriptive of Research Variables

There are 100 respondents in this study. The description of the research variables is as follows:

Table 2. Descriptive Analysis Based on the Research Variables

Variables	Indicators	Average	Category
Digital Transformation (X1)	Use of E-Commerce	3,66	High
	Social Media Usage	3,55	High
	Use of Management Information Systems	3,64	High

Variables	Indicators	Average	Category
Human Resource Competence (X2)	Motives	3,63	High
	Traits	3,58	High
	Self Concept	3,67	High
	Knowledge	3,70	High
	Skills	3,62	High
Business Sustainability (Y)	Business Sustainability Capability	3,75	High
	Business Growth	3,66	High
	Revenue Increase	3,83	High
	Ability to Adapt to Change	3,70	High
	Market Development	3,78	High

Source: Processed primary data, 2026.

Based on the table above, the descriptive analysis indicates that Digital Transformation, Human Resource Competence, and Business Sustainability are all perceived to be at a high level by the respondents. Among the indicators, Revenue Increase recorded the highest average score (3.83), while Social Media Usage had the lowest average score (3.55).

Nevertheless, all indicators are classified as high, suggesting that respondents have successfully adopted digital technologies, possess strong human resource competencies, and demonstrate sustainable business performance. These findings provide preliminary evidence that the respondents have favorable conditions regarding the key variables examined in this study.

c. Validity and Reliability Test

Validity Test

Table 3. Validity Test

Statement	Calculated R	Table R	Result
X1.1	0,668	0,361	**VALID**
X1.2	0,808	0,361	**VALID**
X1.3	0,707	0,361	**VALID**
X1.4	0,534	0,361	**VALID**
X1.5	0,536	0,361	**VALID**
X1.6	0,846	0,361	**VALID**
X1.7	0,742	0,361	**VALID**
X1.8	0,792	0,361	**VALID**
X1.9	0,740	0,361	**VALID**
X2.1	0,784	0,361	**VALID**
X2.2	0,842	0,361	**VALID**
X2.3	0,738	0,361	**VALID**
X2.4	0,779	0,361	**VALID**
X2.5	0,778	0,361	**VALID**
X2.6	0,768	0,361	**VALID**
X2.7	0,569	0,361	**VALID**

Statement	Calculated R	Table R	Result
X2.8	0,752	0,361	**VALID**
X2.9	0,692	0,361	**VALID**
X2.10	0,800	0,361	**VALID**
X2.11	0,777	0,361	**VALID**
X2.12	0,773	0,361	**VALID**
X2.13	0,811	0,361	**VALID**
X2.14	0,734	0,361	**VALID**
X2.15	0,721	0,361	**VALID**
Y.1	0,705	0,361	**VALID**
Y.2	0,597	0,361	**VALID**
Y.3	0,755	0,361	**VALID**
Y.4	0,618	0,361	**VALID**
Y.5	0,576	0,361	**VALID**
Y.6	0,570	0,361	**VALID**
Y.7	0,540	0,361	**VALID**
Y.8	0,507	0,361	**VALID**
Y.9	0,738	0,361	**VALID**
Y.10	0,581	0,361	**VALID**
Y.11	0,657	0,361	**VALID**
Y.12	0,708	0,361	**VALID**
Y.13	0,651	0,361	**VALID**
Y.14	0,641	0,361	**VALID**
Y.15	0,441	0,361	**VALID**

Source: Processed with SPSS, 2026.

The results of this study indicate that all questionnaire items on the variables of digital transformation (X1), human resource competence (X2), and business sustainability (Y) have a calculated r value greater than 0.361, with correlations ranging from 0.441 to 0.846. This indicates that all statement items are valid and suitable for measuring the research construct.

Reliability Test

A reliability test was conducted to measure the internal consistency of the research instrument using *Cronbach's Alpha* coefficient. A variable is considered reliable if it has a *Cronbach's Alpha* value > 0.60 (Sugiyono, 2023).

Table 4. Reliability Test

Variables	*Cronbach's Alpha*	Result
Digital Transformation (X1)	0,875	**Reliable**
Human Resource Competence (X2)	0,945	**Reliable**
Business Sustainability (Y)	0,885	**Reliable**

Source: Processed with SPSS, 2026.

The test results show that all variables have a Cronbach's Alpha value above 0.60, which indicates a high level of reliability. This indicates that the research instrument has good internal consistency and is suitable for use in data collection.

d. Classical Assumption Test

Normality Test

The decision regarding the normality test is based on the significance (Sig.) value. If the significance value is greater than 0.05, the residuals are considered to be normally distributed, indicating that the regression model satisfies the normality assumption (Ghozali, 2021).

Table 5. *Kolmogorov–Smirnov* Normality Test

Metode Uji	Statistik *Kolmogorov-Smirnov*	N	Sig.	Explanation
Kolmogorov-Smirnov	0.054	100	0.200^d	Normally distributed

Source: Processed with SPSS, 2026.

Based on the results of the normality test using the *Kolmogorov–Smirnov* method, the *Kolmogorov–Smirnov* test statistic was 0.054, with a total sample size (N) of 100 respondents. In addition, the significance value (Asymp. Sig. 2-tailed) was 0.200^d.

According to the decision criterion, if the significance (Sig.) value is greater than 0.05, the data are considered to be normally distributed. Therefore, since the significance value of 0.200^d is greater than 0.05, it can be concluded that the residuals are normally distributed, indicating that the regression model satisfies the assumption of normality.

Multicollinearity Test

A multicollinearity test was conducted to determine whether there was a high correlation between the independent variables in the regression model. The test was conducted by looking at the *tolerance* and *Variance Inflation Factor* (VIF) values, with the criteria of *tolerance* > 0.10 and VIF < 10, which indicate that there is no multicollinearity (Sugiyono, 2023).

Table 6. Multicollinearity Test

Variables	Tolerance	VIF
Digital Transformation (X1)	0,782	1,279
Human Resource Competence (X2)	0,782	1,279
a. Dependent Variable: Business Sustainability (Y)		

Source: Processed with SPSS, 2026.

The test results indicate that the digital literacy and financial literacy variables each have a tolerance value of 0.782 and a *Variance Inflation Factor* (VIF) value of 1.279. A *tolerance* value greater than 0.10 and a VIF value below 10 indicate that the regression model is free from multicollinearity. Therefore, it can be concluded that the independent variables in this study do not exhibit a high degree of correlation with one another and are suitable for inclusion in the regression analysis.

Heteroscedasticity Test

A heteroscedasticity test was conducted to assess whether there was a difference in residual variance in the regression model. The test was performed using the Glejser method by regressing the absolute residual values against the independent variables (Ghozali, 2021). The decision criterion was that if the significance value was > 0.05, then the model did not exhibit heteroscedasticity.

Table 7. Heteroscedasticity Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.255	1.850		5.003	<.001
	Digital Transformation	-.084	.055	-.168	-1.531	.129
	Human Resource Competence	-.050	.032	-.170	-1.551	.124

Source: Processed with SPSS, 2026.

The test results indicate that both independent variables have significance values greater than 0.05, namely 0.129 for Digital Transformation and 0.124 for Human Resource Competence. Therefore, it can be concluded that the regression model does not exhibit symptoms of heteroscedasticity, meaning that the residual variance is constant (homoscedasticity). This indicates that the model has fulfilled one of the classical assumptions and is appropriate for use in multiple linear regression analysis.

e. Hypothesis Testing

Partial Test (T-test)

In this research, the independent variables are Digital Transformation (X_1) and Human Resource Competence (X_2), while the dependent variable is Business Sustainability (Y). The following are the results of the partial (t) test:

Table 8. T-test Result

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.275	3.213		5.377	<.001
	Digital Transformation	.638	.095	.484	6.728	<.001
	Human Resource Competence	.332	.056	.426	5.924	<.001
a. Dependent Variable: Business Sustainability (Y)						

Source: Processed with SPSS, 2026.

a) For the Digital Transformation (X_1) variable, the calculated t-value was 6.728, with a significance value of < 0.001. Since the significance value is less than 0.05, this indicates that a higher level of digital transformation implemented by MSME owners is associated with greater business sustainability. In other words, H_0 is rejected and H_1 is accepted. Therefore, it can be concluded that Digital Transformation has a statistically significant positive effect on Business Sustainability.

H_{a1}: Digital Transformation has a statistically significant effect on Business Sustainability among MSMEs in Depok City. (Accepted)

b) For the Human Resource Competence (X_2) variable, the calculated t-value was 5.924, with a significance value of < 0.001 and the significance value was < 0.05. This indicates that the better the competencies possessed by MSME owners, in terms of knowledge, skills, and attitudes, the greater the support for business sustainability. Therefore, H_0 is rejected and H_2 is accepted. It can be concluded that Human Resource Competence has a statistically significant positive effect on Business Sustainability.

H_{a2}: Human Resource Competence has a statistically significant effect on Business Sustainability among MSMEs in Depok City. (Accepted)

Simultaneous Test (F Test)

The simultaneous test, or F-test, is used to determine whether all independent variables jointly have a significant effect on the dependent variable. In this study, the F-test was conducted to examine whether Digital Transformation (X_1) and Human Resource Competence (X_2) simultaneously have a significant effect on Business Sustainability (Y). The results of the analysis are presented below:

Table 9. F-test Result

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3501.214	2	1750.607	75.177	<.001b
	Residual	2258.786	97	23.286		
	Total	5760.000	99			
a. Dependent Variable: Business Sustainability						
b. Predictors: (Constant), Human Resource Competence, Digital Transformation						

Source: Processed with SPSS, 2026.

c) Based on the table above, the calculated F-value was 75.177, with a significance value (Sig.) of < 0.001. This significance value is lower than the 0.05 significance level (0.001 < 0.05). Furthermore, with a sample size (n) of 100 respondents, two independent variables (k = 2), and a significance level of 5%, the critical F-value (F-table) was 3.09. Since the calculated F-value (75.177) is greater than the critical F-value (3.09) and the significance value is less than 0.05, H_0 is rejected and H_a is accepted. Therefore, it can be concluded that Digital Transformation (X_1) and Human Resource Competence (X_2) simultaneously have a positive and statistically significant effect on Business Sustainability (Y) among MSMEs in Depok City.

H_{a3}: Digital Transformation and Human Resource Competence simultaneously have a statistically significant effect on Business Sustainability among MSMEs in Depok City. (Accepted)

f. Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical model that involves more than one independent variable (X). It is used to examine the significance of the coefficients of the independent variables and to assess how well the regression model explains the variation in the dependent variable (Y), thereby identifying the relationship between the independent variables (X) and the dependent variable (Y) (Sahir, 2021). The analysis results are presented in the following table:

Table 10. Multiple Linear Regression Test Analysis Result

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	17.275	3.213	
	Digital Transformation	.638	.095	.484
	Human Resource Competence	.332	.056	.426
a. Dependent Variable: Business Sustainability (Y)				

Source: Processed with SPSS, 2026.

Based on the results of the analysis of the table above, the regression equation is as follows:

$$\mathbf{Y = 17{,}275 + 0{,}638X1_1 + 0{,}332X_2}$$

a) The constant (α) value of 17.275 indicates that when Digital Transformation (X_1) and Human Resource Competence (X_2) are assumed to be zero, the predicted value of Business Sustainability (Y) is 17.275.

b) The regression coefficient for Digital Transformation (X_1) is 0.638, indicating that a one-unit increase in Digital Transformation increases Business Sustainability by 0.638 units, assuming Human Resource Competence remains constant. The positive coefficient indicates a positive relationship between Digital Transformation and Business Sustainability.

c) The regression coefficient for Human Resource Competence (X_2) is 0.332, indicating that a one-unit increase in Human Resource Competence increases Business Sustainability by 0.332 units, assuming Digital Transformation remains constant. The positive coefficient indicates a positive relationship between Human Resource Competence and Business Sustainability.

Overall, the results of the multiple linear regression analysis indicate that both Digital Transformation and Human Resource Competence have a positive relationship with Business Sustainability.

g. Coefficient of Determination Test

The coefficient of determination is used to measure the extent to which the independent variables, namely Digital Transformation (X1) and Human Resource Competence (X2), explain the dependent variable, Business Sustainability (Y). A higher coefficient of determination indicates a greater contribution of the independent variables in explaining the variation in the dependent variable. The coefficient of determination can be observed in the following Model Summary table:

Tabel 1. Result of the Coefficient of Determination Test

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0,780[a]	0,608	0,600	4.826
a. Predictors: (Constant), Human Resource Competence, Digital Transformation				
b. Dependent Variable: Business Sustainability				

Source: Processed with SPSS, 2026.

4. CONCLUSION

This research demonstrates that Digital Transformation and Human Resource Competence play a crucial role in supporting Business Sustainability among MSMEs in Depok City. The findings confirm that both variables not only have a positive and significant individual effect, but also jointly contribute to strengthening the sustainability of MSME businesses. Digital Transformation emerges as a key driver in enhancing business sustainability, particularly in enabling MSMEs to improve operational efficiency, expand market reach, and adapt to rapid environmental changes. Meanwhile, Human Resource Competence reinforces this effect by ensuring that business actors possess the necessary knowledge, skills, and attitudes to effectively utilize digital technologies and manage their businesses sustainably.

The combination of these two factors creates a synergistic effect, where technological adoption is maximized through competent human resources. This indicates that sustainability in MSMEs is not solely dependent on technology implementation, but also on the quality of the human capital managing it. Furthermore, the study highlights that MSMEs in Depok City are generally in favorable conditions, with high levels of digital adoption, strong human resource competencies, and positive business sustainability performance. This reflects their readiness to compete and survive in an increasingly dynamic and digital-driven business environment. In conclusion, strengthening digital transformation initiatives alongside continuous development of human resource competencies is essential for ensuring long-term business sustainability. These findings emphasize the importance for MSME actors, policymakers, and stakeholders to prioritize integrated strategies that combine technological advancement with human resource development to achieve sustainable business growth.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to report.

REFERENCES

Bahtiar, H., Rizal, L., Falentina, Y., Husna, M., & Selvi, G. (2025). Digital transformation towards sustainability : Challenges and opportunities for Indonesian MSMEs The research on digital transformation in Indonesian MSMEs was chosen because of the need to address the digital inequality between MSMEs and large. 28(1), 131–150.

BPS, J. B. (2026). Provinsi Jawa Barat Dalam Angka, Jawa Barat Province in Figures 2026. 51.

Caylan, S. (2024). Role of Human Resource Management on Strategic Management. 51–69. https://doi.org/10.4018/979-8-3693-1155-4.ch003

Center, N. I. (2025). Peta Perdagangan Elektronik Indonesia. 106.

Ghozali, I. (2021). Aplikasi Analisis Multivariate Dengan Program IBM SPSS 26 Edisi 10.

Junaidi, M. (2024). UMKM Hebat, Perekonomian Nasional Meningkat. Ditjen Perbendaharaan Kemenkeu RI. https://djpb.kemenkeu.go.id/kppn/curup/id/data-publikasi/artikel/2885-umkm-hebat,-perekonomian-nasional-meningkat.html

Kementerian Koordinator Bidang Perekonomian Republik Indonesia. (2023). Dorong UMKM Naik Kelas dan Go Export, Pemerintah Siapkan Ekosistem Pembiayaan yang Terintegrasi. https://www.ekon.go.id/publikasi/detail/5318/dorong-umkm-naik-kelas-dan-go-export-pemerintah-siapkan-ekosistem-pembiayaan-yang-terintegrasi

kementerian Perdagangan, R. I. (2025). Kinerja Perdagangan Melalui Sistem Elektronik (PMSE) Indonesia Tahun 2025.

OECD. (2021). The Digital Transformation of SMEs.

Rahyati, L., Studi, P., Manajemen, M., Pascasarjana, P., & Paramadina, U. (2025). THE EFFECT OF DIGITAL TRANSFORMATION ON THE MARKET SHARE AND PROFITABILITY OF MSMEs PENGARUH TRANSFORMASI DIGITAL TERHADAP PANGSA PASAR DAN PROFITABILITAS UMKM. 8, 936–947.

Rosari, R., Alvina, C., & Pawitan, G. (2024). Wahana : Tridarma Perguruan Tinggi Transformasi Digital dan Strategi Bisnis : Mencapai Keunggulan Bersaing di Era Digital. 76(2).

Sahir, S. H. (2021). Metode Penelitian (M. S. Dr. Ir. Try Koryati (ed.)). PENERBIT KBM INDONESIA.

Sugiyono. (2023). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. PENERBIT ALFABETA BANDUNG.

Tambunan, T. T. H. (2021). UMKM Di INDONESIA: Perkembangan, Kendala, dan Tantangan. https://url-shortener.me/OQT6

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation : A multidisciplinary re fl ection and research agenda ☆. 122(July 2018), 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022