The Influence Of Digital Literacy And Relative Advantage On E-Commerce Adoption Through Digital Training And Mentoring Among Msmes In Jakarta

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Abstract.

The Micro, Small and Medium Enterprises (MSME) sector has an important role in driving the country's economic development. In order for MSMEs to remain competitive with the growth of digital technology, they must be able to adapt to digitalization. Utilizing an e-commerce platform can provide information about which products are selling best and which products are not selling well. This data can be used to make decisions about inventory management, marketing, and more. Only 13% of MSMEs that utilize technology use e-commerce. The adoption of digital e-commerce technology among MSMEs in Jakarta is still uneven. This research aims to determine the influence of digital literacy and relative benefits on the adoption of digital e-commerce technology for MSMEs in Jakarta with digital training and mentoring as mediating variables. This research method is causal quantitative by collecting data using an online questionnaire to 399 respondents. The analysis technique used in this research is Sem with the help of the Smart-PLS program. The research results show that digital literacy and relative benefits influence digital training and mentoring, but not the adoption of e-commerce platform technology. Meanwhile, digital training and mentoring influences the adoption of e-commerce platform technology. The mediation results show that digital training and mentoring play a full mediating role in the relationship between digital literacy and the relative benefits of adopting e-commerce platform technology.

Keywords: *Digital Literacy, Relative Advantage, E-Commerce Adoption, Digital Training and Mentoring and MSMEs.*

I. INTRODUCTION

Jakarta is the primary business center in Indonesia. It is one of the regions with the fourth largest number of MSMEs (Micro, Small, and Medium Enterprises) after West Java, Central Java, and East Java. In 2022, the number of MSMEs in the Special Capital Region of Jakarta reached 658,365 units, accounting for 98.78% of the total enterprises in the region, contributing 51.99% to the Gross Regional Domestic Product (GRDP) [1]. The increasing number of MSMEs in Jakarta presents challenges for these enterprises to continuously innovate and maintain competitive advantage.One form of innovation for Micro, Small, and Medium Enterprises (MSMEs) is the implementation of digital marketing strategies, e-commerce, and information technology to expand market reach and improve operational efficiency. However, adopting these technologies is not an easy task for MSMEs. This is consistent with data from the MSME development program performance report by the Ministry of Communication and Information in 2022, which shows that the use of digital technology among MSMEs in Jakarta is still predominantly at the observer level rather than the adopter level. This indicates that the adoption of digital e-commerce technology among MSMEs in Jakarta is not yet widespread.One of the variables that determine technology acceptance from individual factors is digital literacy [2]. Low digital literacy can be a barrier for SMEs in adopting e-commerce technology. Research findings indicate that digital literacy influences technology adoption [3], [4], [5]. However, some studies suggest that digital literacy does not affect technology adoption [6].

Technological factors encompass components such as hardware, software, network infrastructure, and information systems used within organizations. The literature suggests that technological factors, such as complexity and security, explain the slow uptake of new technologies [7]. Technology can include aspects like relative advantages, which supports organizational operations. Relative advantage refers to SMEs' perceptions of the benefits and advantages gained by adopting e-commerce technology compared to traditional methods. Research findings demonstrate that relative advantage influences technology adoption [8]. However, some studies suggest that relative advantage does not affect technology adoption [9].The inconsistent results provide an opportunity for this study to develop a research model by incorporating the mediating variables of digital training and mentoring. The importance of digital training and mentoring,

which requires organizational support, or more specifically, "top management support," becomes an issue when considering the large number of micro-SMEs in Indonesia [2]. The market expansion of MSMEs can be facilitated through the use of e-commerce applications and social media, making it necessary to conduct digitalization training for supported MSMEs.

Providing insights on the benefits of technology, such as social media, to supported MSMEs can help them market their products more effectively. Supported MSMEs that are still selling their products manually should be further encouraged to adopt social media technology, particularly e-commerce [10].Based on the background outlined above, it is important to conduct research on the influence of digital literacy and relative advantage on the adoption of digital e-commerce technology by MSMEs in Jakarta, with digital training and mentoring as mediating variables. This is motivated by the existing lack of in-depth research on the influence of digital literacy and relative advantage on the adoption of digital e-commerce technology by MSMEs in Jakarta, as well as the role of digital training and mentoring as mediating variables in this relationship. Therefore, this study aims to fill this knowledge gap and provide a better understanding of the factors influencing the adoption of digital e-commerce technology by MSMEs in Jakarta. By examining the influence of digital literacy and relative advantage on the adoption of digital e-commerce technology by MSMEs in Jakarta, as well as the mediating role of digital training and mentoring, the results of this study are expected to provide policy recommendations and strategies that can enhance the adoption of digital e-commerce technology among MSMEs in Jakarta, thereby allowing them to fully leverage the potential of the digital era for the growth and sustainability of MSMEs in Jakarta.

II. METHODS

This research is of a quantitative causal nature with a correlational research design. The study population consists of all micros, small, and medium enterprises (MSMEs) in Jakarta. According to data from the Ministry of Cooperatives and Small and Medium Enterprises, the number of MSMEs in DKI Jakarta in 2022 reached 658,365 units. The sampling technique used is non-probability sampling with purposive sampling. The minimum sample size was determined using Slovin's formula, resulting in 399 MSME practitioners in Jakarta as research respondents.Data were collected by distributing a questionnaire to respondents via Google Forms. The questionnaire comprised 50 items and 2 screening questions, utilizing a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The survey also gathered demographic data including organizational role, gender, age group, and highest level of education. Specific organizational data included the number of employees, annual sales, and types of products and services.The collected data were then analyzed using Structural Equation Modelling (SEM) with the Partial Least Squares (PLS) method. The SEM PLS analysis was conducted in two main stages: Outer Model Testing and Inner Model Testing.

The Outer Model Testing evaluates the validity and reliability of the questionnaire items, including convergent validity (measured by a loading factor value of 0.5 to 0.6), construct validity (measured by an Average Variance Extracted (AVE) value above 0.5), discriminant validity (measured by cross loading values), and composite reliability (measured by a reliability value greater than 0.7). The Inner Model Testing or structural model comprises several stages, including coefficient of determination testing, hypothesis testing for direct effects, and hypothesis testing for mediation effects. Hypothesis testing for direct effects involves examining whether the t-statistic exceeds 1.96 and the p-value is significant at the 5% level. The acceptance criteria for the hypothesis are as follows: H1 is accepted and H0 is rejected if the t-statistic is greater than 1.96 and/or if the p-value is less than 0.05. For testing mediation effects using SEM-PLS, the causal step strategy is employed, which includes three regression tests: the relationship between the independent variable (X) and the dependent variable (Y), the relationship between the independent variable (X) and the mediator variable (Z), and the relationship between the independent variable (X) and the mediator variable (Z) with the dependent variable (Y) [11].

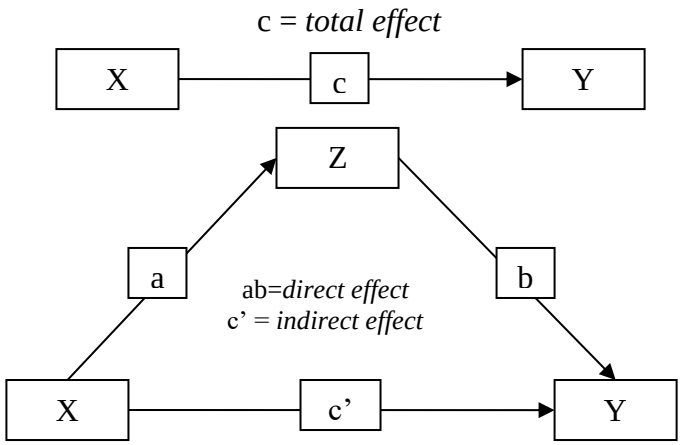

Fig 1. Causal Step Strategy

The Causal Step Strategy is also used to assess whether the mediation effect is complete or partial, by examining whether the coefficient value of c' is statistically significant. Complete mediation occurs when the independent variable does not affect the dependent variable when the mediator is controlled, meaning if c' decreases (c' < c) and becomes non-significant, it indicates full mediation. Partial mediation occurs if the coefficient c' is significant with a decrease in c' (c'<c) and there is a significant mediation effect. Mediation is considered absent if c' is significant but unchanged (c'=c) [11].

Complete mediation implies that the mediator variable functions solely as a mediator and cannot act as an independent variable. Partial mediation indicates that the mediator variable can function both as a mediator and an independent variable. Mediation hypothesis testing is conducted by examining the specific indirect effect values in the PLS output. The acceptance criteria for the hypothesis are that H1 is accepted and H0 is rejected if the t-statistic is greater than 1.96 and/or if the p-value is less than 0.05. Conversely, H1 is rejected and H0 is accepted if the t-statistic is less than 1.96 and/or if the p-value is greater than 0.05.

III. RESULT AND DISCUSSION

Descriptive Statistic

The results of the descriptive analysis indicate that the respondents in this study are predominantly female, comprising 52.4% (209 respondents), while males account for 47.6% (190 respondents). This suggests that the number of micro, small, and medium enterprises (MSMEs) in Jakarta is higher among women than men. In terms of educational background, most respondents have completed high school or equivalent, totaling 170 individuals (42.6%). In contrast, MSME operators with a bachelor's degree or higher number 18 (4.5%). Respondents with a junior high school education total 118 (29.6%), and those with an elementary school education amount to 53 (13.3%). This is higher compared to those with higher education degrees, with the lowest number being those who did not complete elementary school, totaling 25 individuals (6.3%). This is consistent with data from the DKI Jakarta Provincial Statistics Agency (BPS) (2024), which indicates that 42.96% of MSME operators in DKI Jakarta have high school diplomas, followed by 28.46% with junior high school diplomas.In terms of business type, the majority of respondents are engaged in the food and beverage sector, totaling 111 individuals (27.8%). Businesses in the fashion/clothing sector follow with 98 respondents (24.6%). Respondents with furniture businesses rank third with 68 individuals (17%), and those in the electronics sector number 28 (7%).

Handicraft businesses are represented by 23 respondents (5.8%), and other types of businesses account for 12 respondents (3%). This aligns with data from BPS DKI Jakarta (2024), which shows that 34.09% of MSME operators in DKI Jakarta are involved in the food industry [12]. Regarding business longevity, the analysis shows that most respondents have been in business for 3-6 years, with this group comprising 189 individuals (47.4%). Those with businesses lasting less than 3 years number 135 (33.8%). Respondents with businesses lasting more than 6 years total 75 (18.8%). Based on annual business turnover, the analysis reveals that respondents generally achieve a turnover between > 300 million and ≤ 2.5 billion,

totaling 189 individuals (47.4%). Respondents with a turnover of less than 300 million amount to 135 (33.8%), while those with a turnover between > 2.5 billion and ≤ 50 billion number 75 (18.8%).

SEM Analysis-Outer Model Measurement

The initial stage of validity testing in PLS analysis employs convergent validity. Convergent validity can be assessed through the Outer Loadings values. If the loading factor value is greater than 0.7, it indicates that the construct has a good level of validity [13]. The results of the convergent validity test for the variables, with their loading factor values, are as follows:

Table 1. Result of *Convergent Validity Test*

Variables	Indicators	*Loading Factor* (> 0,7)	Description
Digital Literation	X1.1	0,798	Valid
	X1.2	0,817	Valid
	X1.3	0,801	Valid
	X1.4	0,786	Valid
	X1.5	0,775	Valid
	X1.6	0,810	Valid
	X1.7	0,781	Valid
	X1.8	0,760	Valid
	X1.9	0,778	Valid
	X1.10	0,775	Valid
	X1.11	0,723	Valid
	X1.12	0,730	Valid
	X1.13	0,782	Valid
	X1.14	0,723	Valid
	X1.15	0,769	Valid
	X1.16	0,742	Valid
	X1.17	0,752	Valid
	X1.18	0,720	Valid
Relative Advantage	X2.1	0,881	Valid
	X2.2	0,895	Valid
	X2.3	0,908	Valid
	X2.4	0,889	Valid
	X2.5	0,887	Valid
	X2.6	0,924	Valid
	X2.7	0,883	Valid
	X2.8	0,921	Valid
	X2.9	0,908	Valid
	X2.10	0,899	Valid
	X2.11	0,909	Valid
	X2.12	0,903	Valid
	X2.13	0,921	Valid
	X2.14	0,912	Valid
	X2.15	0,906	Valid
Digital Training and Mentoring	Y1.1	0,884	Valid
	Y1.2	0,843	Valid
	Y1.3	0,845	Valid
	Y1.4	0,883	Valid
	Y1.5	0,882	Valid
	Y1.6	0,847	Valid
	Y1.7	0,868	Valid
	Y1.8	0,875	Valid
	Y1.9	0,875	Valid
	Y1.10	0,841	Valid
	Y1.11	0,897	Valid
	Y1.12	0,885	Valid
	Y1.13	0,836	Valid
	Y1.14	0,866	Valid
	Y1.15	0,834	Valid
	Y1.16	0,866	Valid

Variables	Indicators	*Loading Factor* (> 0,7)	Description
	Y1.17	0,814	Valid
Technology Adoption	Z	1,000	Valid

Table 1 shows that all constructs related to digital literacy, relative advantage, digital training and mentoring, and technology adoption have loading factor values greater than 0.70. This suggests that, overall, the collected data is valid and exhibits good convergent validity.Discriminant validity testing in this study uses the Average Variance Extracted (AVE) value. The AVE value must be greater than 0.50 to be considered valid [13].

Table 2. Result of Descriminant Validity Test

Variables	AVE	Description
Digital Literation	0,591	Valid
Relative Advantage	0,816	Valid
Digital Training and Mentoring	0,742	Valid
Technology Adoption	1,000	Valid

The table above indicates that the AVE values for each variable exceed 0.50, thus meeting the criteria for subsequent discriminant validity testing.The Fornell-Larcker test for each variable, including digital literacy, relative advantage, digital training and mentoring, and technology adoption, yields the following results:

Table 3. Fornell Larcker Test

Variables	Technology Adoption	Relative Advantage	Digital Literation	Digital Training and Mentoring
Technology Adoption	1,000			
Relative Advantage	-0,044	0,903		
Digital Literation	-0,050	0,526	0,768	
Digital Training and Mentoring	0,055	0,553	0,516	0,862

The table above shows that each construct measured has an Average Variance Extracted (AVE) root value higher than those of other constructs. This means that all indicators within each variable have good discriminant validity.Reliability testing employs composite reliability and Cronbach's Alpha to assess the reliability of the data within the research model. The research model is considered reliable if the Composite Reliability (CR) value is greater than 0.7, although a value of 0.6 is still acceptable, rHo_A is greater than 0.7, and Cronbach's Alpha is greater than 0.6 [14]. The results of the reliability tests are as follows:

Table 4. Result of Reliability Test

Variables	*Cronbach's Alpha* (>0,6)	*rHo_A* (>0,7)	*Composite Reliability* (>0,7)	Description
Digital Literation	0,959	0,961	0,963	Reliabel
Relative Advantage	0,984	0,985	0,985	Reliabel
Digital Training and Mentoring	0,978	0,980	0,980	Reliabel
Technology Adoption	1,000	1,000	1,000	Reliabel

The table above shows that the Cronbach's Coefficient Alpha values for all variables are greater than 0.6, rHo_A values exceed 0.7, and Composite Reliability values are above 0.7, indicating that all variables in this study are deemed reliable.

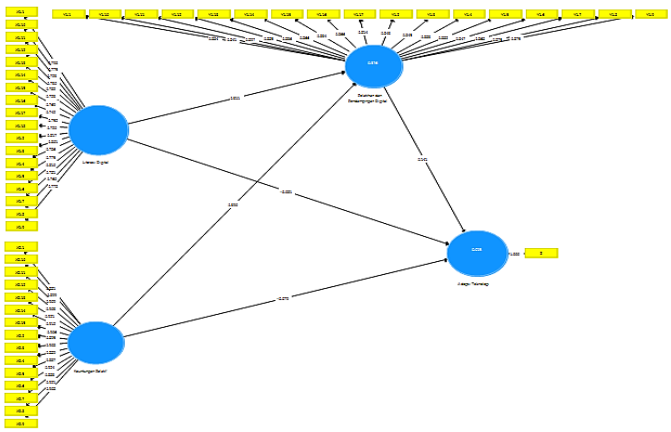

Fig 2. Result of PLS Algorithm Measurement Model

Inner Model Measurement

The R Square (R^2) value, also known as the coefficient of determination, indicates the extent to which endogenous data can be explained by exogenous data. R Square ranges from 0 to 1, with values approaching 1 or 100% indicating a better fit.

Table 5. Result of Determination Coefficient Test

Variabel	*R-Square*
Pelatihan dan Pendampingan Digital	0,376
Adopsi Teknologi	0,015

According to the table above, the coefficient of determination for digital training and mentoring is 0.376 or 37.6%. This value suggests that the variation in the digital training and mentoring variable can be explained by digital literacy and relative advantage variables by 37.6%, while the remaining 62.4% is explained by factors outside the scope of this study.

The results of the model fit for this research can be observed in the following table:

Table 6. Result of Fit Model Test

Fit Model	Score
SRMR	0,054
NFI	0,799

The model fit results presented in the table above show that the standardized root mean residual (SRMR) is 0.054, which is considered good as it is <0.1. Additionally, the normed fit index (NFI) is 0.799, which is also considered good because it falls within the range of 0.00 – 1.00. This implies that the research model is appropriate and suitable for use.The construction of the path diagram for the structural model test in this study uses 2 exogenous variables and 2 endogenous variables, depicting the relationships between variables as shown in the following figure.

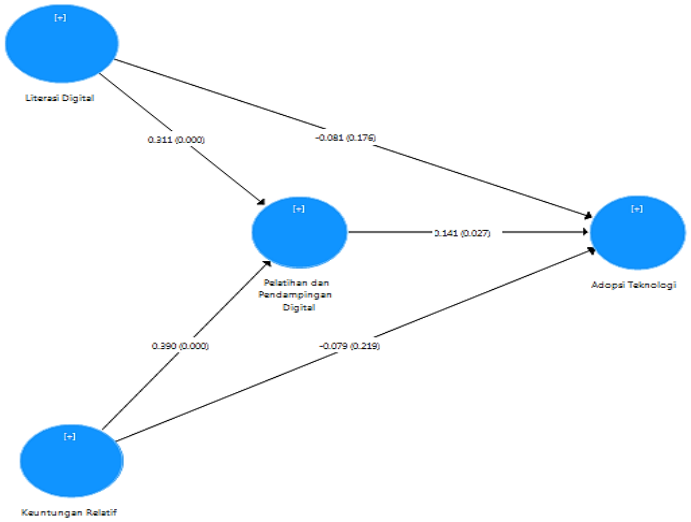

Fig 3. Inner Model Result

Hypothesis Test Results

Based on the results of the structural model test using the bootstrapping method, the hypothesis testing results are presented in the table below:

Table 7. Result of Hypothesis Testing

Ha	Relationship	Path Coefficient	T Statistic	*P value*	Results
H1	Digital Literacy -> Digital Training and Mentoring	0,311	5,884	0,000	Accepted
H2	Relative Advantage -> Digital Training and Mentoring	0,390	7,904	0,000	Accepted
H3	Digital Literacy -> Technology Adoption	-0,081	1,354	0,176	Rejected
H4	Relative Advantage -> Technology Adoption	-0,079	1,231	0,219	Rejected
H5	Digital Training and Mentoring -> Technology Adoption	0,141	2,220	0,027	Accepted
H6	Digital Literacy -> Digital Training and Mentorship -> Technology Adoption	0,044	1,976	0,049	Accepted
H7	Relative Advantage -> Digital Training and Mentorship -> Technology Adoption	0,055	2,091	0,037	Accepted

The impact of digital literacy on digital e-commerce training and mentoring for SMEs in Jakarta

Table 7 shows that the path coefficient value is 0.311 (positive), with a t-statistic value of 5.884, which is greater than 1.96, and a p-value of 0.000 ($p < 0.05$) (significant). Therefore, H1 is accepted and H0 is rejected, indicating that there is a positive impact of digital literacy on digital e-commerce training and mentoring for SMEs in Jakarta. This means that the higher the digital literacy of SMEs in Jakarta, the greater the digital e-commerce training and mentoring they receive, thus confirming the first hypothesis.The findings of this study underscore the importance of enhancing digital literacy among SMEs as a strong foundation to support the effectiveness of digital e-commerce training and mentoring. Therefore, efforts to improve digital literacy among SMEs should be a priority in the e-commerce development strategy for the SME sector in Jakarta. This is supported by Liu et al. (2020), who found that digital literacy helps individuals choose training and mentoring programs that match their needs. Individuals can evaluate available programs, understand their content and difficulty level, and assess the program's alignment with their personal goals [15]. Furthermore, Budiono et al. (2020) found that individual constructs, including digital literacy, significantly and positively influence top management support, including digital training and mentoring programs [16].

The Impact of Relative Advantage on Training and Digital E-Commerce Mentoring for SMEs in Jakarta

Table 7 shows that the path coefficient value obtained is 0.390 (positive) with a t-statistic value of 7.904, which is greater than 1.96, and a p-value of 0.000 ($p < 0.05$) (significant). Therefore, H1 is accepted and H0 is rejected, indicating that there is a positive effect of relative advantage on training and digital e-commerce mentoring for SMEs in Jakarta. This means that the higher the SMEs' perception of the relative advantage of e-commerce platforms, the greater the training and digital e-commerce mentoring they receive. The findings of this study emphasize the importance of building a strong perception of relative advantage among SMEs to encourage their active participation in digital e-commerce training and mentoring programs. Efforts to demonstrate and promote the benefits that SMEs can gain from e-commerce are crucial in supporting the optimal adoption and utilization of digital technology. This is consistent with the research by Chienwattanasook et al. (2021), which found that relative advantage impacts digital training and mentoring [17].

The Influence of Digital Literacy on the Adoption of Digital E-Commerce Technology by SMEs in Jakarta

Table 7 indicates a path coefficient of -0.081 (negative), with a t-statistic value of 1.354, which is less than 1.96, and a p-value of 0.176 ($p > 0.05$) (not significant). Therefore, H1 is rejected and H0 is accepted, meaning there is no effect of digital literacy on the adoption of digital e-commerce technology by SMEs in Jakarta. Consequently, the third hypothesis is rejected. This implies that the level of digital literacy among SMEs does not impact the adoption of digital e-commerce technology.These findings support previous research that suggests digital literacy does not affect technology adoption [6]. This result contrasts with the studies by Suryani et al. (2020) and Suryani et al. (2022), which demonstrated a positive effect of digital literacy on e-commerce technology adoption [18]. Azizah et al. (2023) also found a positive influence of digital literacy on e-commerce technology adoption [19].

The Influence of Relative Advantage on the Adoption of Digital E-Commerce Technology by SMEs in Jakarta

Table 7 shows that the path coefficient value obtained is -0.079 (negative), with a t-statistic value of 1.231, which is less than 1.96, and a p-value of 0.219 ($p > 0.05$) (not significant). Thus, H1 is rejected, and H0 is accepted, indicating that there is no effect of relative advantage on the adoption of digital e-commerce technology by SMEs in Jakarta. This implies that a higher perception of relative advantage from e-commerce adoption does not necessarily lead to an increased adoption of digital e-commerce technology. In other words, the level of perception of SMEs regarding the relative advantage of e-commerce adoption does not significantly influence the adoption of digital e-commerce technology.The findings suggest that technological factors alone, including relative advantage, are insufficient to drive e-commerce adoption

among SMEs in Jakarta. A more comprehensive understanding of the needs, challenges, and specific preferences of SMEs is required for digital capacity-building programs to be more effective. These results are consistent with Ahani et al. (2017), who found that relative advantage does not influence technology adoption [9]. However, these results are inconsistent with Anjum (2019), which indicates that technological factors, including relative advantage, positively impact technology adoption among SMEs [8]. This is supported by Jere & Ngidi (2020), who also found that technological factors, including relative advantage, positively influence technology adoption among SMEs [20].

The impact of digital training and mentoring on the adoption of digital e-commerce technology by SMEs in Jakarta

Table 7 shows a path coefficient of 0.141 (positive), with a t-statistic value of 2.220, which is greater than 1.96, and a p-value of 0.027 ($p < 0.05$) (significant). Thus, H1 is accepted and H0 is rejected, indicating that digital training and mentoring have a positive effect on the adoption of digital e-commerce technology by SMEs in Jakarta, and therefore, the fifth hypothesis is accepted. This implies that the more intensively SMEs receive digital training and mentoring, the higher the adoption of digital e-commerce technology. It can be said that digital training and mentoring are crucial factors driving SMEs in Jakarta to adopt digital e-commerce technology. Investing in digital training and mentoring for SMEs can be an effective strategy to enhance the adoption of digital e-commerce technology.

The findings suggest that digital training can improve SMEs' knowledge about the benefits, usage methods, and potential of e-commerce for business development. Digital mentoring helps SMEs develop practical skills in operating e-commerce platforms, conducting online sales, managing digital stores, and more. With adequate digital knowledge and skills, SMEs are more likely to be motivated and confident in adopting e-commerce technology. This is consistent with Rosyidah et al. (2023), which states that a better understanding of various available digital tools and applications enables individuals or organizations to choose and adopt solutions that best meet their needs [21]. It is also aligned with the research by Wulandari & Koe (2022), which shows that digital marketing training and mentoring have a positive impact on the technology adoption of SMEs [22].

The Influence of Digital Literacy on the Adoption of Digital E-Commerce Technology by SMEs in Jakarta through Digital Training and Mentoring

Table 7 presents the path coefficient value for the relationship between digital literacy and the adoption of digital e-commerce technology by SMEs in Jakarta through digital training and mentoring, which is 0.044 (positive), with a t-statistic value of 1.976, exceeding the threshold of 1.96, and a p-value of 0.049 ($p < 0.05$) (significant). Consequently, Hypothesis 1 (H1) is accepted, and the null hypothesis (H0) is rejected. This indicates that there is an influence of digital literacy on the adoption of digital e-commerce technology by SMEs in Jakarta through digital training and mentoring, thus accepting the sixth hypothesis. This implies that a higher level of digital literacy among SMEs correlates with increased adoption of digital e-commerce technology, assuming that digital training and mentoring are also of high quality. It can be stated that digital literacy plays a crucial role in enhancing the adoption of digital e-commerce technology; however, this influence is more effective when supported by adequate training and mentoring. Good digital literacy will help SMEs utilize and adopt digital e-commerce technology more optimally.

Digital training and mentoring serve as perfect mediators because they effectively connect and strengthen the influence of digital literacy on the adoption of e-commerce technology. Investment in these aspects can be a key factor for SMEs in leveraging e-commerce platforms to expand their businesses. This is consistent with the findings of Religia et al. (2020), which state that through digital training and mentoring, individuals or organizations can enhance their understanding of digital technology, including its functions and benefits. With a better understanding, individuals or organizations will be more open and prepared to adopt digital technology. Previous research also reveals that digital literacy involves awareness of the potential and opportunities offered by digital technology [23]. Through digital training and mentoring, individuals or organizations can learn about various digital applications and tools that can enhance productivity, efficiency, and accessibility. This awareness provides individuals with motivation and clear goals in adopting digital technology [24].

The Impact of Relative Advantage on the Adoption of Digital E-Commerce Technology among MSMEs in Jakarta Through Digital Training and Assistance

Table 7 illustrates that the path coefficient value for the relationship between relative advantage and the adoption of digital e-commerce technology among MSMEs in Jakarta, through digital training and assistance, is 0.055 (positive), with a t-statistic value of 2.091, which exceeds 1.96, and a p-value of 0.037 ($p < 0.05$) (significant). Thus, H1 is accepted and H0 is rejected, indicating that there is an impact of relative advantage on the adoption of digital e-commerce technology among MSMEs in Jakarta through digital training and assistance, and therefore, the seventh hypothesis is accepted.

This implies that the higher the perceived relative advantage by MSMEs, the greater the adoption of digital e-commerce technology, provided that digital training and assistance are also enhanced. It can be stated that the perceived relative advantage plays a crucial role in increasing the adoption of digital e-commerce technology, but this impact is more effective when accompanied by adequate digital training and assistance. High relative advantage will encourage MSMEs to more optimally utilize and adopt digital e-commerce technology, especially with support from digital training and assistance.These findings are consistent with the study by Li et al. (2021), which states that digital training and assistance can help enhance the perceived value of adopting digital technology [25]. By providing a deep understanding of the benefits and advantages of digital technology, individuals or organizations can recognize the significant value that can be gained through its adoption [26].

IV. CONCLUSION

The analysis results indicate that digital literacy and relative advantage have a positive impact on digital e-commerce training and mentoring for SMEs. However, digital literacy and relative advantage do not influence the adoption of digital e-commerce technology among SMEs in Jakarta, while digital training and mentoring do have an effect. Additionally, the results show that digital literacy and relative advantage influence the adoption of digital e-commerce technology among SMEs in Jakarta through digital training and mentoring.Based on these results, it can be stated that digital literacy and relative advantage do not fully account for the adoption of digital e-commerce technology among SMEs in Jakarta. The adoption of digital technology is influenced not only by technological factors but also by individual, organizational, and environmental factors, which may be affected by other related variables. The results of the causal or verificative test indicate that the relative advantage of digital training and mentoring has the greatest impact compared to other variables.

Therefore, it is crucial to enhance the relative advantage of e-commerce for SMEs. Efforts should be focused on improving SMEs' understanding of the relative benefits that can be gained from adopting e-commerce. Provide concrete and quantitative examples of increased sales, cost efficiency, market reach expansion, and other benefits that can be achieved. Additionally, encourage SMEs to conduct in-depth cost-benefit analyses to clearly see the potential relative advantages.The dimensions and indicators of the relative advantage variable with the lowest performance are the dimension of "cost" and the indicator of "reduced promotional and marketing expenses." Therefore, the recommendation is to focus on improving understanding and concrete projections regarding the reduction of promotional and marketing expenses. This can be achieved by providing specific examples of how promotional and marketing costs can be reduced, such as: a drastic decrease in printing and distribution costs of brochures/catalogs, reduced costs for physical store rentals, broader digital promotion reach at lower costs, and practical guidance on how SMEs can utilize digital features to cut promotional and marketing expenses.

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