# THE EFFECT OF DIGITAL MARKETING TRAINING ON INTENTION TO USE TECHNOLOGY; AN EMPIRICAL STUDY IN INDONESIAN SMES

**Siti Zulaikha Wulandari[1]*, Monica Rosiana[1], Sulistyandari[1,2]**
[1]Faculty of Economic and Business, Universitas Jenderal Soedirman, Purwokerto, Indonesia
[2]College of Management, National Yunlin University of Science and Technology, Yunlin, Taiwan

*Email: siti.wulandari@unsoed.ac.id

**Abstract.** The Technology Acceptance Model (TAM) is a widely used theory to measure technology adoption. It combines the Technological Readiness (TR) and Readiness Theory theories. This study aims to expand the TRAM model by incorporating technology-related training as an antecedent variable. A structured questionnaire was administered to SMEs in Indonesia to assess their readiness and acceptance of Digital Marketing Technology. As many as 180 valid responses were collected and analysed using SEM. The research supports all the hypotheses that training (digital marketing training) significantly impacts technology readiness (TR), and Technology readiness significantly impacts perceived usefulness (PU) and perceived ease of use (PEU). It also suggests that increased PU and PEU lead to a more positive attitude towards digital marketing technology and increased intention to use it. The study concludes that SMEs should prioritize digital marketing training quality to enhance SMEs technological readiness, as it consequently impacts their intention to use technology. Integrating Training, technology readiness (TR) and technology acceptance model (TAM) is very useful in predicting SMEs intention to adopt technology. This paper is the first to explore the role of training in an extended TRAM model in SMEs in Indonesia.

**Keywords:** training, technology readiness, perceive ease of use, perceive usefulness

## A. Introduction

The adoption of technology, particularly digital marketing, by Small and Medium Enterprises (SMEs) in Indonesia has been recognized as both crucial and challenging. SMEs are often hesitant to embrace digital marketing due to limited resources, lack of expertise, and constrained budgets. These limitations create a phenomenon where SMEs struggle to integrate digital marketing despite its potential to enhance business competitiveness and sustainability.

There is a clear gap between the need for digital marketing integration and SMEs' reluctance to adopt the technology. Despite the growing relevance of digital tools in today's business landscape, SMEs often remain behind larger organizations in leveraging these advancements. The phenomenon highlights the necessity of targeted training to overcome barriers to technology adoption. Digital marketing training can serve as an essential tool in bridging this gap by enhancing SMEs' readiness and willingness to adopt technology.

The theoretical framework supporting technology adoption frequently relies on models like the Technology Acceptance Model (TAM) and Technology Readiness (TR) developed by Parasuraman [1]. The Technology Readiness and Acceptance Model (TRAM) combines these two frameworks to better understand how individuals and organizations adopt new

technologies. While much research has extended TRAM by introducing mediation and moderation variables, a significant theory gap exists in exploring exogenous factors, specifically the impact of digital marketing training on technological readiness.

Previous studies have not sufficiently investigated how training as an antecedent can influence technology readiness. This research seeks to address this theory gap by incorporating digital marketing training into the TRAM framework to examine its effects on SMEs' readiness to adopt technology. Most of the research that is an extension of TRAM (Extended TRAM) includes mediation and/or moderation variables [2].

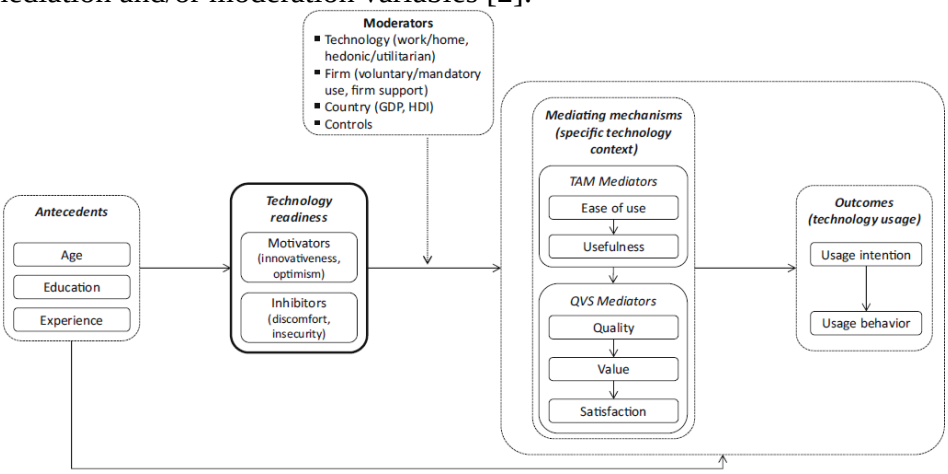


Figure 1. Framework of TRAM Meta-Analysis

Source: Blut and Wang, 2020 [2]

The Technology Adoption Model (TAM) is a highly influential theory used to explain individual adoption of information technology systems. Developed by Davis in 1989 [4], TAM is based on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein [5], which suggests that behaviour is driven by the intention to act. The TAM model outlines that the acceptance of technology is determined by five constructs: perceived ease of use, perceived usefulness, attitude towards using, intention to use, and actual system usage. These constructs help explain and predict user acceptance of technology, which is driven by its perceived benefits and ease of use TAM is still considered a valid and empirically tested model for predicting technology adoption [6].

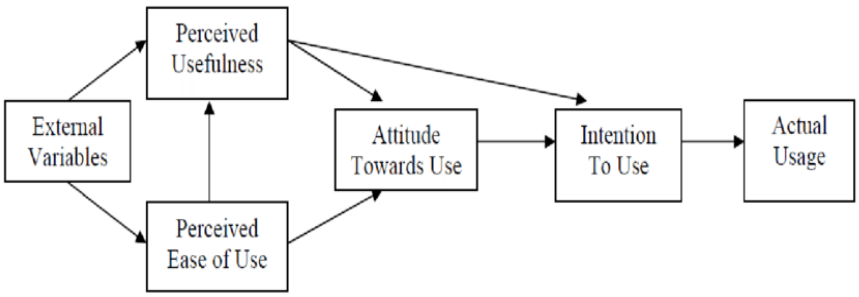


Figure 2. TAM Construct based on Davis et al. 1989 [3]

The adoption of technology in SMEs specifically in innovative devices and techniques in digital advertising and marketing has provided more convenience, a wider reach, cost-effectiveness, and the ability to cross boundaries of distance and time. Digital marketing utilizes all forms of technology, including artificial intelligence (AI) and the Internet of Things (IoT), to fulfil marketing objectives in both consumer-to-consumer and business-to-consumer environments [7]. Study [8] gives a theoretical analysis of various benefits received by SMEs

because of digital marketing in the different capacities helping organizations to uplift their productivity. Another study showed that the actual use of digital marketing and SMEs' sustainable growth was also proven positive, affirming that digital marketing significantly improved the sustainable growth of SMEs in developing countries [9]. Studies, such as [10] also show that technological orientation positively impacts product innovation, helping companies differentiate and grow. Companies with strong technological orientation tend to innovate more due to their vision and commitment to applying new technologies.

Perceive Ease of Use refers to the degree to which a person believes using technology is free of effort, influencing their decision-making process [11]. Perceived Usefulness is the belief that using technology will enhance work performance [4]. It relates to how well a system improves productivity, efficiency, and work quality, affecting users' attitudes towards technology. Intention to Use is the frequency or intensity with which an individual uses technology, influenced by their interest [12]. It is commonly researched as a dependent variable in technology adoption studies. Intention is a key factor in influencing actions or behavior. It refers to the intention a person must have before performing an action, which in turn affects the actual behaviour [4] ; [12]

Training is critical for organizational success, facilitating learning and enhancing productivity [13]. The effectiveness of training is influenced by design choices and can impact behavior and organizational outcomes [14]. Reactions to training, whether positive or utility-based, can predict the effectiveness of skill transfer [15].

The conceptual model in this study integrates the Theory of Technology Readiness (TR) and the Technology Acceptance Model (TAM), forming the TRAM Integrated Model. This model is expanded with Training as an additional variable, specifically focusing on digital marketing training for MSMEs. Technology Readiness (TR) includes four subdimensions: optimism, innovation, discomfort, and insecurity [3]. While optimism and innovation promote technology readiness, discomfort and insecurity act as barriers to technology acceptance.

In the TRAM model, TR impacts two key constructs from TAM: Perceived Usefulness and Perceived Ease of Use, which in turn influence an individual's interest in using technology (Attitude and Intention). According to Davis [4], perceived benefits and ease of use shape behavioural intentions, determining actual system usage. If a technology is perceived as easy and beneficial, users develop a positive attitude towards its use leading to higher adoption [16].

Studies show that perceived usefulness has a significant impact on attitudes toward using technology [17]; [18] and a positive attitude increases user intention. Attitudes are influenced by the perception of ease and benefits, and these attitudes ultimately affect the likelihood of continued technology use [3]; [4]. The TRAM model highlights how technology readiness interacts with user perceptions to drive technology adoption intention [19]. Below is the research framework for our hypotheses:

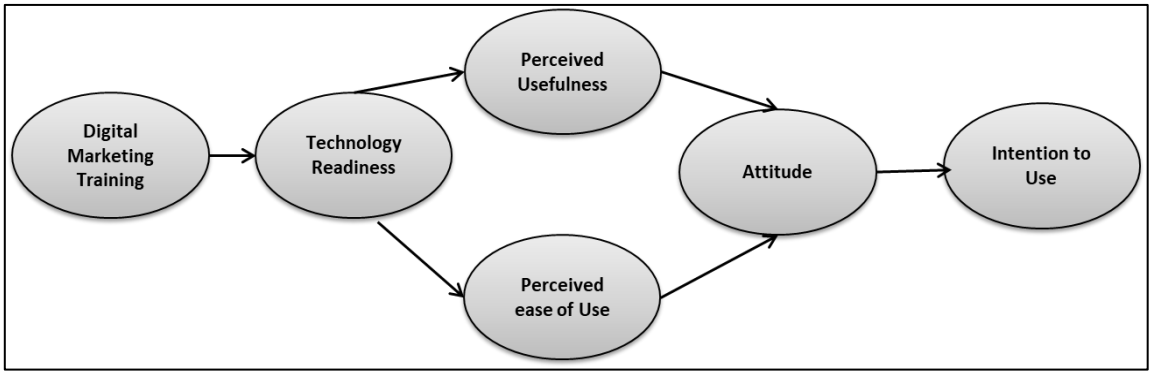


Figure 3. Extended TRAM Model

## B. Methods

Based on the method, this is a descriptive quantitative basic research. Basic research is a systematic inquiry that involves a quest for some fundamental scientific aspects of phenomena without any specific practical applications in mind. This research method uses a survey method that is widely used in the social field and involves many respondents, which can be partial, or the entire population (census). According to it, this research equipped with a survey method, where data is taken from some of the existing population, and then generalized to all populations. The survey was conducted by distributing questionnaires to respondents who were research samples. This research method uses a survey method that is widely used in the social field and involves many respondents, which can be partial, or the entire population (census).

The population in this study is MSME owners in Indonesia who have participated in Digital Marketing Training. The number of populations in this study is not known for sure, so the determination of the sample size will be based on the estimation interval method. Samples are part of the number and characteristics of the population. The sample is a part or representative of the population studied. Because the population number is not known for sure, the number of samples in this study is determined using an estimated interval model. Based on that formulation, the minimum number of samples was obtained 96.04. The sample selection method was carried out by the purposive sampling method, based on certain criteria. The certain criteria of respondents were SMEs that participated in digital marketing training.

Training (X1) can be evaluated on four levels of outcomes: 1) reactions, 2) learning and attitudes, 3) behaviours, and 4) organizational outcomes [13]. Technology Readiness(TR) embodies a gestalt of mental motivators and inhibitors that collectively determine a person's predisposition to use new technologies [19]. Perceived Ease of Use (PEU) is defined as the degree to which a person believes that engaging in online transactions would be free of effort [4]; Perceived usefulness (PU) is defined as the extent to which a person believes that using a particular technology will enhance his or her job performance [4]. [20] defined attitude as one's desirability to use the system pr technology. Intention to Use is defined as interest in using technology (digital marketing), it is a mental statement that can reflect the plan to use digital marketing technology.

## C. Results And Discussion

A total of 180 usable survey responses were collected and examined from SMEs in Indonesia. The number of male respondents was 36 people and 14 women so that 80% of the respondents were female. The age of the respondents in the study varied from less than 25 years old to more than 50 years old with a distribution of 10% being less than or 25 years old; the age of 26 – 40 years is 37.78% and the most; 31.67% of people aged 40-50 years and 20.56% of others over 50 years old.

Table 1. Respondent characteristics

| Criteria | | Number of Respondent | Percentage ( % ) |
|---|---|---|---|
| Gender | Male | 36 | 20,00% |
| | Female | 144 | 80,00% |
| Age | <= 25 y.o. | 18 | 10,00% |
| | 26 – 40 y.o. | 68 | 37,78% |
| | 40 – 50 y.o. | 57 | 31,67% |
| | > 50 y.o. | 37 | 20,56% |
| Education | Elementary School | 7 | 3,89% |
| | Junior High School | 17 | 9,44% |
| | Senior High School | 97 | 53,89% |
| | Bachelor | 57 | 31,67% |
| | Master | 2 | 1,12% |

Data on the characteristics of respondents based on their last education was also collected and the results were obtained that more than half of the respondents only succeeded in

completing education up to the high school/vocational level, namely 97 people or 53.89% while others had the last education equivalent to elementary school as many as 7 people or as many as 3.89%; Junior high school students are 17 people or around 9.44% and S1 students are 57 people (31.67%) while S2 and S3 are both 1 person (0.56%).

1. SEM Model

Structural Equation Model (SEM) was used to analyze the data of this study. The research model presented in Figure 4 was analyzed using SEM AMOS 22.0 version.

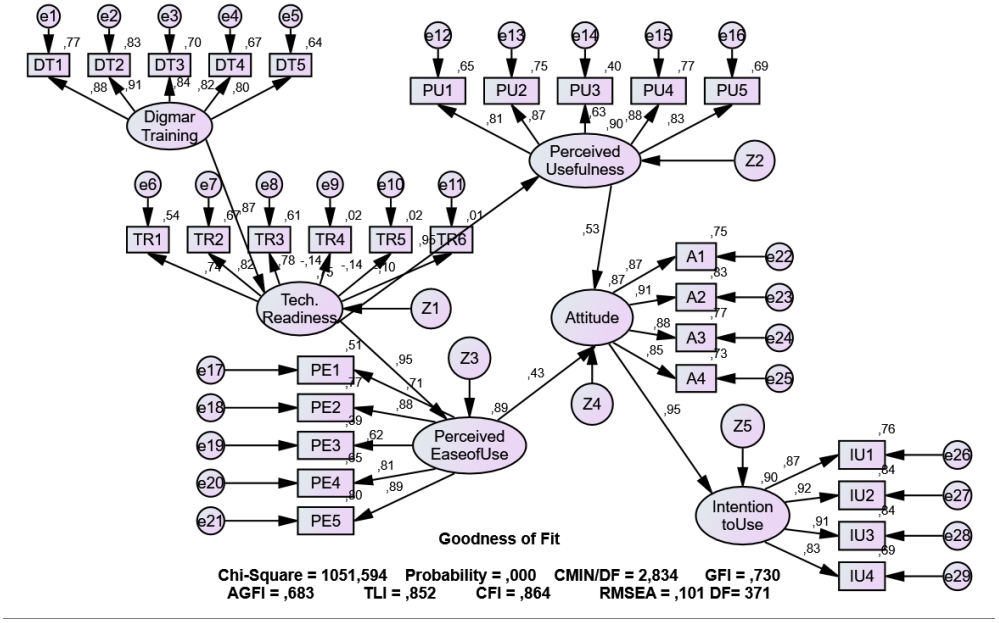


Figure 4. Initial SEM Model

The result of SEM analysis in Table 2 showed the relationship among the variables in the research model

Table 2. Regression result initial model

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| Tech._Readiness | <--- | Digmar_Training | ,768 | ,073 | 10,475 | *** | par_24 |
| Perceived_Usefulness | <--- | Tech._Readiness | 1,052 | ,101 | 10,417 | *** | par_25 |
| Perceived_Ease of Use | <--- | Tech._Readiness | 1,158 | ,102 | 11,386 | *** | par_26 |
| Attitude | <--- | Perceived Usefulness | ,524 | ,127 | 4,110 | *** | par_27 |
| Attitude | <--- | Perceived Ease of Use | ,384 | ,113 | 3,407 | *** | par_28 |
| Intention_to Use | <--- | Attitude | ,956 | ,064 | 14,938 | *** | par_29 |

From table 2, it can be seen that all relationships in the model before the revision were statistically significant (p <0.001), indicating a strong relationship between the variables

Table 3. Coefficient initial model

| | | | Estimate |
|---|---|---|---|
| Tech._Readiness | <--- | Digmar_Training | ,868 |
| Perceived_Usefulness | <--- | Tech._Readiness | ,950 |
| Perceived_Ease of Use | <--- | Tech._Readiness | ,945 |
| Attitude | <--- | Perceived_Usefulness | ,529 |
| Attitude | <--- | Perceived_Ease of Use | ,428 |
| Intention_to Use | <--- | Attitude | ,950 |

From Table 3 can be seen that Digital Marketing Training has a strong positive relationship with Technology Readiness due to the path coefficient is 0.868, meaning digital marketing

training significantly increases technology readiness. The coefficient of Technology Readiness on Perceived Usefulness is 0.950 shows a very strong influence of technology readiness on usability perception, implying that being ready for technology strongly enhances the perception of usefulness. Effect of Technology Readiness on Perception of Ease of Use Similarly, the path coefficient of 0.945 suggests that higher technology readiness leads to a stronger perception that the technology is easy to use.

Perceived Usefulness on Attitude with a coefficient of 0.529 shows a moderate positive relationship, indicating that a higher perception of technology's usefulness moderately impacts users' attitudes. Perceive Ease of Use towards Attitude, a path coefficient of 0.428 indicates that the perception of ease of use also has a moderate influence on users' attitudes, though slightly less than usability perception.

Lastly, Attitude towards Intention to Use, the coefficient of 0.950 shows a very strong positive relationship, meaning that a positive attitude towards technology significantly increases the intention to use it.

2. Final SEM Model (Revised Model)

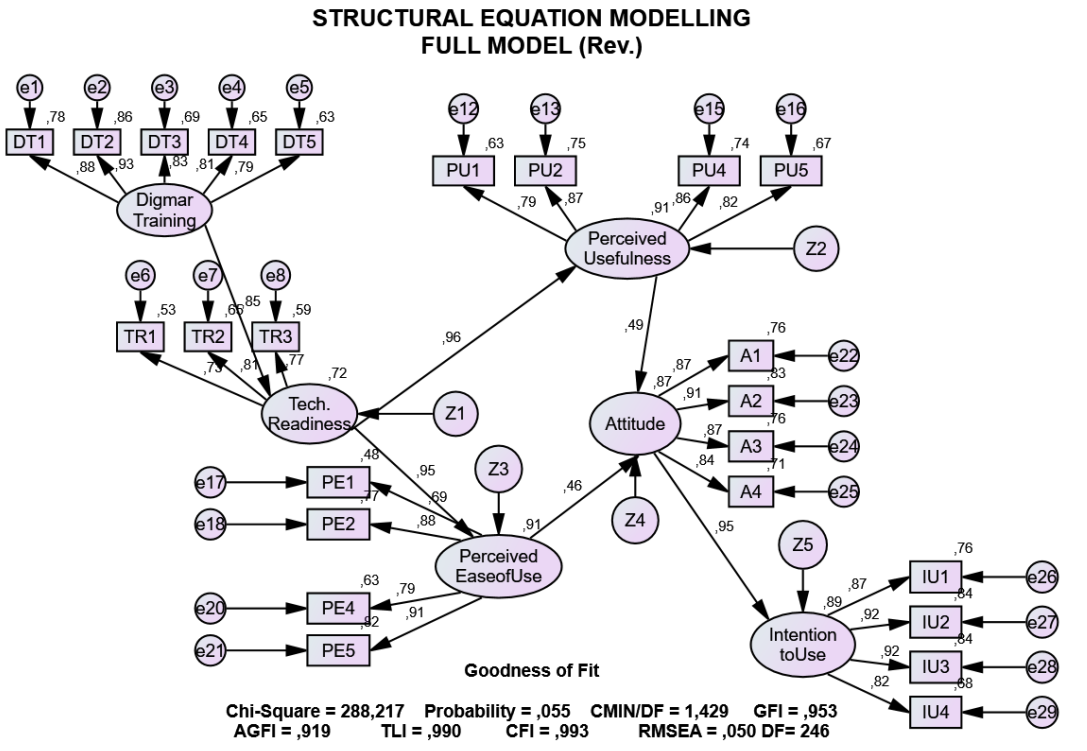


Figure 5. Final SEM Model

Table 4. Regression result after revision

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| Tech._Readiness | <--- | Digmar_Training | ,743 | ,075 | 9,888 | *** | par_19 |
| Perceived_Usefulness | <--- | Tech._Readiness | 1,055 | ,107 | 9,849 | *** | par_20 |
| Perceived_Ease of Use | <--- | Tech._Readiness | 1,205 | ,108 | 11,164 | *** | par_21 |
| Attitude | <--- | Perceived_Usefulness | ,497 | ,150 | 3,319 | *** | par_22 |
| Attitude | <--- | Perceived_Ease of Use | ,406 | ,129 | 3,154 | ,002 | par_23 |

From table 4. It can be seen that all relationships in the model after the revision are statistically significant ($p < 0.001$), which indicates a strong relationship between the variables. The results are the same as in testing the initial model.

Table 5. Coefficient final model

| | | | Estimate |
|---|---|---|---|
| Tech._Readiness | <--- | Digmar_Training | ,850 |
| Perceived_Usefulness | <--- | Tech._Readiness | ,955 |
| Perceived_Easeof Use | <--- | Tech._Readiness | ,954 |
| Attitude | <--- | Perceived_Usefulness | ,494 |
| Attitude | <--- | Perceived_Ease of Use | ,462 |
| Intention_toUse | <--- | Attitude | ,946 |

The results from Table 5 show the updated path coefficients after improvements were made by removing five invalid indicators from the model. Digital Marketing Training on Technology Readiness, the path coefficient decreased slightly from 0.868 to 0.850, indicating a small reduction in the strength of the relationship, but it remains a strong positive influence. Digital marketing training still plays a significant role in increasing technology readiness.

Technology Readiness on Perceive Usefulness, the coefficient increased slightly from 0.950 to 0.955, reflecting an even stronger positive impact of technology readiness on usability perception. This suggests that being technologically ready continues to strongly influence how useful users perceive the technology to be. Technology Readiness on Perception of Ease of Use, similarly, the slight increase in the coefficient from 0.945 to 0.954 shows that technology readiness now has an even stronger effect on the perception of ease of use. This means users with higher readiness are more likely to find the technology easier to use.

Perceived Usefulness on Attitude, the coefficient decreased slightly from 0.529 to 0.494, showing a modest reduction in the influence of usability perception on user attitudes. Despite this, usability perception still has a moderate impact on how positively users feel about the technology. Perceived Ease of Use towards Attitude, the coefficient increased slightly from 0.428 to 0.462, indicating that ease of use perception now has a stronger positive effect on users' attitudes towards technology. This suggests that users who find the technology easy to use are more likely to develop a favourable attitude.

Attitude on Intention to Use, the path coefficient experienced a slight decrease from 0.950 to 0.946, but the relationship remains very strong. Users' attitudes continue to be a critical factor in determining their intention to use the technology.

After the removal of the five invalid indicators, the model has improved, as all the remaining indicators now have loadings above 0.70, which is an acceptable threshold for model reliability. The overall fit of the model has improved, indicating that the modifications enhanced the model's ability to explain the relationships between the constructs. This suggests that removing the invalid indicators has refined the measurement of the constructs and increased the accuracy of the model.

## 3. Discussion

In general, both the initial model and final model have the same basic structure of the model. Removing some problematic indicators slightly changed the strength of the relationship, but the overall pattern of the model remained consistent. The final model may have better construct validity due to the removal of indicators that have a low loading factor. Digital Marketing Training has sa trong positive relationship with Technology Readiness, followed by the strong influence of Technology Readiness on Perceived Usefulness and ease of Use that is maintained in both models. Attitude also proved as a strong predictor of Intention to Use in both models (before and after the revision model).

The results of this study are in line with previous research which shows a significant influence between Technology readiness on perceived usefulness and Perceived ease of use. These results are consistent with [4] showing that Perceived Usefulness significantly impacts attitudes toward using technology, which is corroborated by the current study. Similarly, [18]

also found a significant relationship between perceived usefulness and attitudes. The positive and significant effect of perceived usefulness on attitudes is further supported by [19] whose findings align with the data processing results of this study. The results of data processing also support the research of [14]; [18] which stated that the perceived usefulness and Perceived ease of Use have a positive and significant effect on attitudes [3]; [14]; [18]. But, at some point, this research result shows a contradiction with the previous study [21] showed the inconsistency effect of TR on PU and PEU. The study of [21], analyzed TR based on 5 indicators separately, while this research measure TR as a whole construct. This provides a challenge for further research to analyze more critically the role of TR in determining PEU and PU.

## D. Conclusion

The findings from this study demonstrate that Training significantly impact on Technology Readiness. Subsequently, Technology Readiness has a strong and consistent influence on both perceived usefulness and perceived of Ease of Use across models, both the initial and final models. This aligns with existing literature that emphasizes the critical role of technology readiness in shaping users' perceptions of technology. Additionally, the study confirms that Attitude remains a strong predictor of Intention to Use, reinforcing the importance of user attitudes in technology adoption.

In conclusion, the study validates the established relationships between technology readiness, Perceive Usefulness, Perceive ease of use, and their impact on attitudes and intention to use technology, thus reinforcing the robustness of the Technology Acceptance Model (TAM) and Technology Readiness frameworks (TRAM Model).

These interrelated factors suggest that a holistic approach—addressing training, perceived benefits, ease of use, and attitude formation—is the most effective strategy for successful technology adoption. These findings offer valuable insights for organizations, pointing to key areas that must be prioritized to facilitate effective technology integration.

Based on the conclusion, it is believed that this study makes a valuable addition to the intention to adopt digital marketing in SMEs, and provides useful implications for both theory and practice. Therefore, we suggest exploring TRAM model to speed up the adoption of technology in SMEs as well as developing another extending TRAM model.

## E. Acknowledgement

This research was a project supported by Universitas Jenderal Soedirman Research and Community Service Institute (LPPM Unsoed). This project has received funding from LPPM Basic Research Programme (RDU) 2024. The authors would like to thank LPPM Unsoed for their valuable insights and support.

## F. References

[1]. Parasuraman, A., 2000. Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies. Journal of Service Research, Vol. 2 No.4, pp. 307–320.

[2]. Blut, Markus & Cheng Wang. 2020. Technology readiness: a meta-analysis of conceptualizations of the construct and its impact on technology usage. Journal of the Academy of Marketing Science (2020) 48:649–669.

[3]. Parasuraman, A. &. Colby, C.L., 2001. TechnoReady Marketing: How and Why Customers Adopt Technology The Free P., Australia: Simon and Schuster AU.

[4]. Davis, F.D., 1989. Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology. MIS Quarterly, Vol. 13, No. 3, Hal. 319-339.

[5]. Ajzen, I. and Fishbein, M. 1980. Understanding Attitudes and Predicting Social Behavior.

Englewood Cliffs, NJ: Prentice-Hall.

[6]. Chuttur M.Y. 2009. Overview of the Technology Acceptance Model: Origins, Developments and Future Directions, Indiana University, USA. Sprouts: Working Papers on Information Systems, 9(37). http://sprouts.aisnet.org/9-37.

[7]. Anjala S. Krishen, Yogesh K. Dwivedi, N. Bindu and K. Satheesh Kumar. 2021. A broad overview of interactive digital marketing: A bibliometric network analysis, Journal of Business Research Volume 131, July 2021, Pages 183-195

[8]. Jadhav, G.G., Gaikwad, S.V. and Bapat, D. 2023. A systematic literature review: digital marketing and its impact on SMEs", Journal of Indian Business Research, Vol. 15 No. 1, pp. 76-91. https://doi.org/10.1108/JIBR-05-2022-0129

[9]. Bruce, E. Shurong, Z. Ying, D. Yaqi, M. Amoah, J., and Egala, S.B. 2023. The Effect of Digital Marketing Adoption on SMEs Sustainable Growth: Empirical Evidence from Ghana. Sustainability 2023, 15, 4760. https://doi.org/10.3390/su15064760

[10]. Widiarta, Putu Gde Kamasaka. 2020. Peran Inovasi Produk Memediasi Orientasi Teknologi Terhadap Keunggulan Bersaing. E-Jurnal Ekonomi Dan Bisnis Universitas Udayana, 2020, 2: 199.

[11]. Jogiyanto, H. M. 2007. Sistem informasi keperilakuan. Yogyakarta: Andi Offset, 235.

[12]. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. 2003. User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478

[13]. Kirkpatrick D. L. 1998. Evaluating training programs: The four levels (2nded.). San Francisco, CA: Berrett–Koehler Publishers.

[14]. Park, Daniel Y., Elizabeth M Goering, Katharine J Head, Rebecca J Bartlett Ellis. 2017. Implications for Training on Smartphone Medication Reminder App Use by Adults With Chronic Conditions: Pilot Study Applying the Technology Acceptance Model, (JMIR Formative Res 2017;1(1)

[15]. Bai, Yangjing, Jiping Li, Yangjuan Bai, Weiguang Ma, Xiangyu Yang and Fang Ma. 2018. Development and validation of a questionnaire to evaluate the factors influencing training transfer among nursing professionals, Bai et al. BMC Health Services Research (2018) 18:107

[16]. Ahmad A. Rabaa'i. 2016. Extending the Technology Acceptance Model (TAM) to Assess Students' Behavioural Intentions to Adopt an e-Learning System: The Case of Moodle as a Learning Tool, Journal of Emerging Trends in Engineering and Applied Sciences (JETEAS) 7(1): 13- 30 © Scholarlink Research Institute Journals, 2016 (ISSN: 2141-7016)

[17]. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. 1989. Technology acceptance model. J Manag Sci, 35(8), 982-1003.

[18]. Mehmet Oytun Cýbaroðlu, Naciye Güliz Uður, Aykut Hamit Turan. 2021. Extending Technology Acceptance Model (TAM) With the Theory of Technology Readiness, International Journal of Economic and Administrative Studies IJEAS, 2021 (31): 1-22 ISSN 1307-9832

[19]. Kishor Kampa. 2023. Combining technology readiness and acceptance model for investigating the acceptance of m-learning in higher education in India, Asian Association of Open Universities Journal Vol. 18 No. 2, 2023 pp. 105-120

[20]. Karjaluoto, H., Mattila, M., and Pento, T. (2002), Factors underlying attitude formation towards online banking in Finland, International Journal of Bank Marketing, 20(6), 261-272.

[21]. Raf Buyle, Mathias Van Compernolle, Eveline Vlassenroot, Ziggy Vanlishout, Peter Mechant and Erik Mannens. 2018. Technology Readiness and Acceptance Model as a Predictor for the Use Intention of Data Standards in Smart Cities, Media and Communication, 2018, Volume 6, Issue 4, Pages 127–139