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# The Effect of Digital Literacy and Technology Readiness on Business Sustainability of Culinary MSMEs in the Utilization of Digital Point-of-Sale Systems

**Irma Santikarama[1], Faiza Renaldi[2], Kayla Sejatining Pangesti[3]**
*[1,2,3] Jenderal Achmad Yani University, Bandung, Indonesia*
*Email: irma.santikarama@lecture.unjani.ac.id[1], faiza.renaldi@unjani.ac.id[2], ksp.22@si.unjani.ac.id[3]*

## Abstract

*Digital transformation has encouraged culinary micro, small, and medium enterprises (MSMEs) to adopt digital technologies, including point-of-sale (POS) systems. However, the use of digital technology does not necessarily ensure business sustainability. This study aims to analyze the effects of Digital Literacy and Technology Readiness on Business Sustainability among culinary MSMEs using digital POS systems. A quantitative explanatory approach was employed, involving 95 respondents selected through purposive sampling. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4. The results indicate that Digital Literacy has a positive and statistically significant relationship with Business Sustainability, with a path coefficient of 0.275 and a T-statistic of 2.385. Technology Readiness also has a positive and statistically significant relationship with Business Sustainability, with a path coefficient of 0.336 and a T-statistic of 3.225. The structural model explains 22.1% of the variance in Business Sustainability. The measurement model demonstrates adequate internal consistency reliability and convergent validity. These findings suggest that Digital Literacy and Technology Readiness contribute positively to Business Sustainability among culinary MSMEs using digital POS systems, although a substantial proportion of business sustainability is explained by other factors not included in the model. Future research may examine additional factors and involve more diverse samples to obtain a broader understanding of MSME business sustainability.*

**Keywords:** *Digital Literacy; Technology Readiness; Business Sustainability; Digital Point-of-Sale; Culinary MSMEs*

## Introduction

Digital transformation has become increasingly important for Micro, Small, and Medium Enterprises (MSMEs) in managing business operations and adapting to technological changes (Verhoef et al., 2021). One technology that supports these activities is a digital Point of Sale (POS) system, which facilitates transaction recording, inventory management, financial recording, and sales reporting. However, the utilization of digital POS among culinary MSMEs is not necessarily optimal, as its use may remain limited to basic transaction recording rather than supporting broader business decision-making (Purnomo et al., 2024). This condition indicates that the benefits of digital technology may depend not only on its availability but also on the capabilities and readiness of business owners.

Digital literacy represents the ability of business owners to access, understand, evaluate, and utilize digital technology and information according to business needs. Meanwhile, technology readiness reflects an individual's psychological tendency to accept and use new technologies, represented by optimism, innovativeness, discomfort, and insecurity. These capabilities are relevant to the effective utilization of digital POS because business owners need both the competence to use digital technology and the readiness to adapt to technological change (Fernando & Wiratama, 2023; Magdalena Sipayung et al., 2020).

Previous studies have examined digital literacy in relation to MSME performance and sustainability, while technology readiness has been widely discussed in the context of technology adoption and digital entrepreneurship. Studies on digital POS have also primarily focused on system adoption, perceived usefulness, ease of use, and operational efficiency (Philbin et al., 2022). However, research integrating digital literacy and technology readiness as factors influencing business sustainability in the context of digital POS utilization among culinary MSMEs remains limited. This gap is particularly relevant because the utilization of digital technology does not automatically result in sustainable business outcomes (Purnomo et al., 2024; Sagala & Őri, 2024).

This study adopts the Resource-Based View (RBV) to position digital literacy as an internal capability, the Technology Readiness Index (TRI) to explain users' readiness toward technology, and the Triple Bottom Line (TBL) to assess business sustainability through economic, social, and environmental dimensions (Parasuraman, 2000). Based on this framework, digital literacy and technology readiness are expected to contribute to business sustainability by enabling MSME owners to utilize digital POS technology more effectively and adapt to technological changes.

Therefore, this study aims to analyze the influence of digital literacy and technology readiness on the sustainability of culinary MSMEs in the utilization of digital POS systems (Ibrahim & Aduah, 2025; Susanto et al., 2026).

**Research Method**

This study employed a quantitative explanatory research design to examine the influence of digital literacy and technology readiness on business sustainability among culinary MSMEs using digital point-of-sale (POS) systems. The population consisted of culinary MSMEs in Bekasi City. A total of 95 respondents were selected using purposive sampling, with the criteria that the MSMEs operated in the culinary sector and had used a digital POS system for at least six months.

The research instrument was a structured questionnaire developed based on the variables and indicators in the research model. Digital literacy was measured based on the DigComp 2.1 framework, while technology readiness was measured using the Technology Readiness Index (TRI), consisting of optimism, innovativeness, discomfort, and insecurity. Business sustainability was measured based on the Triple Bottom Line (TBL) dimensions, namely economic, social, and environmental aspects.

Data were collected through online questionnaires using Google Forms and offline data collection. The collected data were first examined for completeness and prepared for analysis. Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4. The analysis included evaluation of the measurement model

through validity and reliability testing, followed by evaluation of the structural model using path coefficients, coefficient of determination ($R^2$), effect size ($f^2$), and bootstrapping to test the hypothesized relationships between variables.

## Results and Discussion

The research model consists of Digital Literacy and Technology Readiness as independent variables and Business Sustainability as the dependent variable. The model was analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to examine the relationships between the constructs.

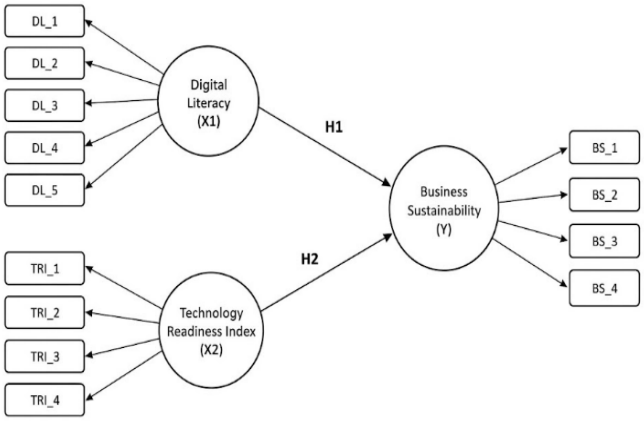


Figure 1. Research Model SEM-PLS

The research model proposes two direct relationships. The first relationship examines the effect of Digital Literacy on Business Sustainability (H1), while the second examines the effect of Technology Readiness on Business Sustainability (H2). The results of the empirical analysis are presented in the following sections.

The study involved 95 culinary MSMEs using digital point-of-sale (POS) systems. The respondents had varying business durations, with the largest proportion having operated their businesses for 1–3 years, followed by those operating for 4–6 years and more than 6 years. In terms of digital POS usage, most respondents had used the system for more than 2 years, while

the remaining respondents had used it for 1–2 years, 6–12 months, or less than 6 months. These characteristics indicate that the respondents had varied business experience and different levels of experience in using digital POS systems.

Measurement Model

The measurement model was evaluated to assess the reliability and validity of the constructs. The evaluation included outer loading, internal consistency reliability, convergent validity, and discriminant validity. The outer loading results are presented in Table 1.

Tabel 1. Reliability dan Validity Construct

| Construct | Cronbach's Alpha | Composite Reliability | AVE |
|---|---|---|---|
| Business Sustainability | 0,802 | 0,870 | 0,628 |
| Digital Literacy | 0,762 | 0,840 | 0,514 |
| Technology Readiness | 0,760 | 0,847 | 0,582 |

The measurement model was evaluated to ensure that the research constructs met the required reliability and validity criteria. The assessment covered internal consistency reliability, convergent validity, and discriminant validity. The results indicate that the measurement instruments demonstrate adequate reliability and convergent validity, suggesting that the indicators consistently represent their respective constructs. Although a few indicators have outer loading values slightly below the recommended threshold, they were retained because the overall construct reliability and convergent validity remained acceptable, while their theoretical relevance was also considered. These findings provide a sufficient basis for proceeding with the structural model assessment.

Discriminant validity was also assessed to determine whether each construct represents a conceptually distinct variable from the other constructs in the research model. This assessment is important to ensure that Digital Literacy, Technology Readiness, and Business Sustainability measure different concepts rather than overlapping with one another. The results of these assessments are used to determine whether the constructs satisfy the discriminant validity requirements.

Structural Model

The coefficient of determination results indicate that the proposed research model has relatively limited explanatory power. This suggests that Digital Literacy and Technology Readiness explain only part of the variation in Business Sustainability. Therefore, other factors beyond the variables examined in this study may also play an important role in supporting the sustainability of culinary MSMEs.

The effect size assessment indicates that both independent variables provide a relatively small contribution to Business Sustainability. However, Technology Readiness demonstrates a greater contribution than Digital Literacy. This suggests that MSMEs' readiness to adopt and utilize technology may play a more prominent role in supporting business sustainability within the proposed research model. The results test are presented in table 2.

Tabel 2. Hypothesis Testing

| Relationship | Coefficients Path | T-statistics | P-values | Note |
|---|---|---|---|---|
| Digital Literacy → Business Sustainability | 0,275 | 2,385 | 0,017 | Significant |
| Technology Readiness → Business Sustainability | 0,336 | 3,225 | 0,001 | Significant |

The hypothesis testing results indicate that Digital Literacy has a positive and significant effect on Business Sustainability. This finding suggests that the ability of culinary MSME owners to understand, evaluate, and utilize digital technology can support the sustainability of their businesses. In other words, stronger digital literacy may help business owners make better use of digital tools to support their business operations and development.

Similarly, Technology Readiness has a positive and significant effect on Business Sustainability. This finding indicates that MSMEs' willingness and preparedness to adopt and utilize technological solutions can contribute to maintaining and developing their businesses. The result also highlights the importance of technological readiness in helping culinary MSMEs adapt to changes in their business environment.

Overall, the findings support both research hypotheses. Both Digital Literacy and Technology Readiness play important roles in explaining Business Sustainability, with Technology Readiness demonstrating a stronger relationship than Digital Literacy.

## Conclusion

This study concludes that Digital Literacy and Technology Readiness have positive and significant effects on Business Sustainability among culinary MSMEs using digital point-of-sale systems. The hypothesis testing results indicate that both variables contribute positively to business sustainability, with Technology Readiness demonstrating a stronger direct effect than Digital Literacy. The structural model explains 22.1% of the variance in Business Sustainability, while the effect size results indicate small effects for both independent variables. Furthermore, the measurement model demonstrates adequate internal consistency reliability and convergent validity across all three constructs. However, the relatively low $R^2$ value indicates that other factors beyond Digital Literacy and Technology Readiness may also contribute to business sustainability. Future research should involve larger and more diverse samples, explore additional factors influencing business sustainability, and further investigate how digital capabilities and technological readiness support the long-term development of culinary MSMEs.

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## Conflicts Of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

## Use Of Artificial Intelligence (AI)

The authors transparently disclose the use of AI Tool exclusively for the purpose of linguistic editing and grammatical refinement of the original draft. The authors maintain full responsibility for the manuscript's substantive content, data integrity, andfinal scientific conclusions.sion to publish the results.

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