**Crafting Sustainability: Enhancing SDG Outcomes through E-Training-Driven Digital Competence and Employee Engagement in Rattan MSMEs**

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**Abstract**

This study seeks to examine the influence of e-training on digital competence and employee engagement, as well as its effect on sustainable organisational performance within the rattan craft-based MSME sector. This study employed a quantitative methodology utilising the Structural Equation Modeling-Partial Least Squares (SEM-PLS) technique, with 200 respondents from rattan MSMEs in Indonesia. The analytical results indicate that e-training significantly impacts digital competency and employee engagement. Moreover, digital competency and staff involvement substantially enhance sustainable organisational performance. The findings are bolstered by the application of the Technology Acceptance Model (TAM), Social Exchange Theory (SET), and Dynamic Capability Theory, which collectively elucidate how digital training influences employee behaviour and enhances organisational capacities. This study provides theoretical contributions in developing an understanding of the digitalization of human resources in the traditional sector as well as practical implications in strengthening digital training strategies based on local needs. Thus, e-training is an important strategy to support the digital transformation of rattan MSMEs towards sustainability in line with the Sustainable Development Goals (SDGs) agenda.

**Keywords:** E-Training, Employee Engagement, Digital Competency, Sustainable Organizational Performance

1. **Introduction**

Over the past decade, developments in digital technology have brought about profound changes across virtually every sector of life, including the micro, small, and medium enterprise (MSME) sector. Digitization has not only transformed how large corporations manage human resources and business operations, but it also compels MSMEs to undergo their own transformations in order to remain relevant and competitive. MSMEs play a vital role in Indonesia’s economy as providers of employment and drivers of local economic growth (Putri, 2023). In this context, enhancing digital competencies becomes crucial to support the competitiveness and sustainability of MSMEs amid the pressures of globalization and shifting consumer behaviors. One particularly relevant and adaptive form of transformation is the utilization of digital‐based training, or e-training, to develop MSME human resources. This step aligns with the Sustainable Development Goals (SDGs), notably Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth), whereby developing digital skills among vulnerable groups such as MSME entrepreneurs constitutes an integral part of an inclusive and sustainable development agenda.

Among the diverse MSME sectors, the rattan crafts industry exhibits distinctive characteristics alongside significant economic potential. Rattan, a non-timber natural resource, can be processed into various high-value products such as furniture and handicrafts. The rattan industry not only stimulates regional economies but also carries cultural and environmental sustainability values (Latifah et al., 2024; Sarjiyanto et al., 2025). With growing global demand for eco-friendly products, the rattan industry’s relevance continues to rise. However, to meet the demands of a competitive market, rattan MSMEs require strengthened capabilities in technology use, innovative design, and digital skills aligned with the dynamics of the creative industry (Pratono, 2019; Wicaksono & Kadafi, 2020).

Although the potential of e-training has been widely discussed in the literature, its implementation within the rattan MSME sector still encounters a number of obstacles (Soehandoko, 2023). The main challenges include limited technological infrastructure, low levels of digital literacy among the workforce, and minimal experience or trust in digital training methods (Ali, 2018; Fahimah et al., 2023). In many cases, traditional MSME actors face barriers to optimally accessing and leveraging technology—whether due to geographical, economic, or socio-cultural factors. Moreover, the lack of management support or owner buy-in toward digital transformation further slows and undermines effective e-training adoption (Bello et al., 2017; Moradi et al., 2018).

To address these issues, several studies propose general solution approaches that integrate technology-based training into MSME human resource development strategies. E-training is seen as capable of reaching a larger number of participants at lower cost, offering temporal flexibility, and accommodating individual learning needs. Additionally, e-training facilitates lifelong learning, which is especially relevant in a dynamic and disruptive context (Sahoo et al., 2022; Wolor et al., 2020). Digital training thus becomes a tool not only for education but also for empowering individuals to participate actively in organizational transformation. However, the efficacy of e-training is significantly contingent upon designs that are customised to the particular context and attributes of the target sector.

More specifically, solutions to boost digital competencies among rattan MSMEs can be found in literature highlighting the importance of interactivity and trust within digital training systems (Alkali & Mansor, 2017). Studies demonstrate that e-training platforms incorporating gamification elements, engaging user experiences, and structured mentorship improve motivation, participation, and training success. Furthermore, management involvement and the provision of social support such as mentors and online discussion forums have been proven to reduce technology resistance and foster successful digital transformation within small and medium-sized organizations(Bello et al., 2017; Moradi et al., 2018).

In the context of craft sectors such as rattan, it is critical that digital training approaches consider local work cultures, community values, and technology adoption capacities. Research by Fahimah et al. (2023) emphasizes that applying digital andragogical methods in community training enhances material relevance and knowledge transfer effectiveness. This insight is particularly pertinent for rattan MSMEs, which are often community-based and operate under informal organizational structures. Technology adoption in training must therefore be inclusive, simple, and practical to bridge the digital divide without disrupting existing work systems.

Overall, the literature on the relationships among e-training, digital competency, and MSME performance enhancement is extensive especially in service and manufacturing sectors. Studies by Wolor et al. (2020), Altwijri & Aldosemani (2022), and Sahoo et al. (2022) indicate that digital training correlates positively with operational efficiency, employee engagement, and product innovation. However, there remains a scarcity of research specifically exploring e-training implementation in the traditional handicraft sector, particularly rattan, which possesses unique production processes, organizational structures, and socio-cultural approaches to business. This gap underscores the need for more contextual and applied studies to evaluate the role of e-training in traditional MSME sectors.

Taking this context into account, the present study aims to investigate how the utilization of e-training can enhance digital competencies, employee engagement, and performance of rattan MSMEs in Indonesia. This research offers novelty by focusing on the rattan craft sector a field that has received little attention in the context of human resource digitalization. The study also emphasizes the importance of an inclusive training approach tailored to local characteristics so that the outcomes are not only theoretically relevant but also practically applicable. The research scope covers rattan MSMEs spread across regions rich in rattan resources, such as Trangsan and its surroundings, known as rattan industry centers. Through this approach, the study is expected to contribute to the academic literature and offer practical insights for sustainable and contextual digital training development for traditional MSME actors.

1. **Literature Review**

*2.1 Theoretical Foundation*

This study employs four foundational theories to explain the relationships among e-training, digital competency, employee engagement, and sustainable organizational performance in the context of rattan-sector MSMEs. These theories are Resource-Based View (RBV), Technology Acceptance Model (TAM), Social Exchange Theory (SET), and Dynamic Capability Theory.

The Resource-Based View (RBV) is a theory that proposes that the development of internal resources that are rare, precious, inimitable, and non-substitutable is the source of sustained competitive advantage and organisational performance (Barney et al., 2001; Wernerfelt, 1984). In this study’s context, digital competency and employee engagement are strategic resources emerging from organizational investment in training. The development of human capital through the use of e-training not only boosts the effectiveness of work productivity but also generates long-term strategic value for the organisation. According to the Technology Acceptance Model (TAM), the effective acceptance of technology, including digital training systems, is contingent on two most important perceptions: the perceived usefulness of the technology and the perceived simplicity of using the technology (Davis, 1989). Employees are more inclined to use an e-training platform if they find it beneficial and user-friendly. Therefore, e-training success is influenced by system design, relevant content, and accessibility, especially for MSME actors who may have limited digital literacy.

Social Exchange Theory (SET) helps us understand the reciprocal dynamics between organization and employees (Blau, 1964). When an organization demonstrates commitment to employee development through e-training, employees respond with increased engagement, loyalty, and contribution to organizational goals. In this way, e-training symbolizes the organization’s recognition and trust, triggering positive psychological behaviors and proactive performance. Lastly, the Dynamic Capability Theory makes available a framework for comprehending the manner in which organisations construct and modify their capabilities in order to adapt to changes in the environment (Teece et al., 1997). E-training serves as a primary means to continuously update employees’ knowledge and skills. The digital competencies acquired through training enable rattan MSMEs to adapt rapidly to market shifts, technological advances, and evolving consumer preferences.

By integrating these four theories, this study constructs a conceptual framework showing that e-training not only enhances technical skills but also strengthens employee engagement and lays the foundation for sustainable competitive advantage in the rattan-craft MSME context.

*2.2 Key Constructs and Their Relevance to the Study*

**Sustainable Organizational Performance reflects a holistic approach to performance that emphasizes not only economic aspects but also social and environmental dimensions** (ALRawashdeh et al., 2024; Amjad et al., 2021). Sustainable performance is achieved by integrating sustainability principles into core strategy, operations, and employee engagement, ultimately driving superior organizational outcomes.

**E-Training is defined as the use of digital platforms to support flexible and adaptive human-resource training and development** (Alkali & Mansor, 2017; Wolor et al., 2020). Through easily accessible, needs-based online training, e-training contributes to skill enhancement, motivation, and work efficiency (Alghamdi et al., 2021; Moradi et al., 2018). Its success also lies in its ability to include participants from diverse backgrounds in an inclusive manner (Alhelal & Abdelwahed, 2024; Bello et al., 2017).

**Employee Engagement refers to the degree of emotional involvement, commitment, and active participation of employees in their work and organization** (Memon et al., 2020; Wolor et al., 2020). Engaged employees demonstrate higher performance, stronger loyalty, and greater contributions to organizational sustainability (Xerri et al., 2020). Factors such as effective communication, recognition, and leadership support critically influence engagement levels.

Digital Competency is the set of essential skills enabling individuals to use digital technologies effectively in their professional lives (Espina-Romero et al., 2024). This competency includes information literacy, digital communication, and adaptability to technological tools (Tao et al., 2019; Yu & Moon, 2021). Ongoing digital training helps employees respond better to technological changes and serves as a catalyst for building agile, competitive organizations.

Together, these four constructs complement each other in explaining how digital training can reinforce human-resource capacity and drive employee engagement, ultimately yielding sustainable performance for MSMEs amid digital transformation.

*2.3 Hypothesis Development*

*2.3.1* *E-Training and Employee Engagement*

E-training contributes significantly to enhancing employee engagement by providing flexible, continuous access to training. Digital technology allows training to be tailored to individual needs and accessed at any time, thereby boosting participation (Wolor et al., 2020). Based on Social Exchange Theory (Blau, 1964), offering digital training is perceived as organizational support that elicits reciprocation in the form of loyalty and emotional engagement.

Employees who undergo e-training tend to feel valued and motivated, which improves performance and job satisfaction (Alkali & Mansor, 2017; Hassan et al., 2020). In remote-work contexts, e-training reinforces psychological attachment and productivity by delivering relevant, continuous learning (Altwijri & Aldosemani, 2022).

Additionally, according to Technology Acceptance Model (Davis, 1989)perceptions of ease of use and usefulness drive e-training acceptance. Thus, user-friendly design is key to fostering a work culture that supports engagement. Effective e-training becomes a strategic element in creating competitive, sustainable rattan-craft MSMEs (Ahuja et al., 2023).

*H1.* E-Training affects Employee Engagement

*2.3.2* *E-Training and Digital Competency*

E-training plays a central role in strengthening employees’ digital competencies, particularly in meeting the demands of an increasingly digitized workplace. Through technology-based training, employees gain flexible access to materials designed to enhance digital skills such as information literacy, digital communication, and platform mastery (Wolor et al., 2020). From an Resource-Based View perspective (Barney et al., 2001; Wernerfelt, 1984), digital competency is a strategic asset that can create sustainable competitive advantage. E-training serves as an organizational investment vehicle in developing human resources that are valuable and difficult to imitate. Moreover, according to Dynamic Capability Theory (Teece et al., 1997), digital training enables organizations to build and adjust competencies adaptively in response to technological changes.

Active participation in e-training has also been shown to increase employees’ confidence in using technology and their comfort in digital work environments (Alkali & Mansor, 2017). This leads to higher productivity and innovation, which are crucial for the continuity of rattan MSMEs amid digital transformation (Moradi et al., 2018; Wolor et al., 2020). Therefore, e-training represents a strategic foundation for creating a workforce ready to compete in the digital economy.

*H2.* E-Training affects Digital Competency

*2.3.3* *Employee Engagement and* ***Sustainable Organizational Performance***

Employee engagement plays a pivotal role in driving sustainable organizational performance. Memon et al. (2020) emphasize that training and development that bolster engagement can reduce turnover intent, foster loyalty, and enhance contributions to organizational goals. This aligns with Social Exchange Theory (Blau, 1964), ), which explains that employees who feel valued will reciprocate with greater commitment and participation.

Engaged employees tend to exhibit high productivity and a strong sense of responsibility for organizational continuity (Al Mehrzi & Singh, 2016). This emotional commitment becomes a crucial foundation for achieving sustainable performance that not only targets short-term results but also reinforces social and environmental values in work processes (Chowdhury et al., 2023). Furthermore, Xerri et al. (2020) highlight that psychological development and healthy team collaboration spur innovation, an essential element for creating adaptive, sustainable organizations. Thus, employee engagement is not only an operational effectiveness determinant but also a strategic key to building comprehensive competitive advantage and organizational sustainability.

*H3.* Employee Engagement affects **Sustainable Organizational Performance**

*2.3.4* *Digital Competency and* ***Sustainable Organizational Performance***

Digital competency encompasses the knowledge, skills, and attitudes required to use digital technologies effectively, ethically, and strategically in the workplace. It is crucial for driving operational efficiency, innovation, and organizational adaptability amid digital transformation (Giudice et al., 2019). Within the Resource Based View framework (Barney et al., 2001; Wernerfelt, 1984), digital competency is viewed as a strategic asset capable of generating sustainable competitive advantage when optimally managed. Enhancement of digital skills directly impacts organizational performance, especially in supporting long-term sustainability objectives (Yu & Moon, 2021). Employees with high digital competency can boost productivity while driving innovation, including the development of eco-friendly products and services (Espina-Romero et al., 2024).

Additionally, based on Dynamic Capability Theory (Teece et al., 1997), organizations that continuously build digital competencies are better equipped to adapt to market and technological changes. This enables process optimization, enhanced competitiveness, and broader stakeholder engagement (Ji et al., 2023; Mollah et al., 2023). Therefore, digital competency constitutes a vital foundation for sustainable organizational performance in the digital era.

*H4.* Digital Competencyaffects **Sustainable Organizational Performance**

*2.4 Research Model*

Based on the hypotheses that have been formulated, the conceptual model is formulated as shown in Figure 1.

H1

H2

H3

H4

**Figure 1. Conceptual Model**

1. **Methodology**

This study employs a descriptive quantitative approach combined with Partial Least Squares–based Structural Equation Modeling (SEM-PLS). This approach was selected because it can simultaneously explain the relationships among variables and is effective for testing complex theoretical models, particularly in the context of measuring the effects of e-training on digital competency, employee engagement, and sustainable performance of rattan MSMEs. SEM-PLS is appropriate when the research model is still exploratory and when data are non-normal or sample sizes are limited (Ghozali, 2021; Sekaran & Bougie, 2020). The population for this study consists of practitioners in Indonesia’s rattan craft MSME sector, specifically those located in the Trangsan and Rajapolah villages—key centers of rattan production in Indonesia (Agung, 2024; Fahriyadi, 2011). A purposive sampling technique was used, whereby respondents were active employees of rattan MSMEs who have participated in digital-based training within the last two years. This criterion ensures a direct link between participants’ training experiences and their perceptions of digital competency, work engagement, and organizational performance.

The research aimed for a sample size of 200 participants. This figure is considered sufficient according to minimum sample-size criteria for SEM-PLS, which advise a minimum of 5–10 times the number of indicators in the model. Data were gathered by a closed-ended questionnaire on a five-point Likert scale, distributed both online and offline to qualified respondents. All data will be examined with SmartPLS software to assess construct validity, reliability, and the relevance of the structural pathways among the model's constructs. Construct validity and internal consistency will be evaluated using composite reliability values, average variance extracted (AVE), and discriminant validity to ensure sufficient measurement quality.

We modified various questionnaires from prior research to assess these variables. Specifically, this study utilized a 6-item scale developed by Kamal et al. (2016) and Wolor et al. (2020) to measure e-training, a 4-item scale by Hameduddin & Lee (2021) to assess employee engagement, a 6-item scale by Conde-Jiménez (2018) to assess digital competency, and a 5-item scale by Weerasinghe et al. (2023) to measure sustainable organization performance. In total, 21 items were included in the survey, and participants were required to provide responses based on a Likert scale to indicate the extent of their agreement with each statement.

1. **Results and Discussion**

*4.1 Distribution of the Respondents*

Table 1 displays the distribution of respondents according to their social positions and demographic variables derived from the survey. Of the total responders, approximately 112 are female and 88 are male. Furthermore, 107 respondents are married, representing 54% of the sample. Conversely, approximately 92 respondents are single, constituting 45%, while about 1 is divorced, accounting for 1%. The duration of employment for individuals in micro, small, and medium enterprises (MSMEs) is as follows: Of the respondents, 81 (40%) have operated their firm for one to three years, 92 (46%) for four to six years, 22 (11%) for seven to 10 years, and 6 (3%) for beyond ten years. Additionally, the data indicates that 125 respondents, representing 62% of the total, have attained a high school education; 25 respondents, accounting for 12%, possess a Diploma; 50 respondents, comprising 25%, hold an undergraduate degree; and 1 respondent, equating to 1%, has achieved a graduate degree.

**Table 1**

*The Respondents' Social Status Distribution, According to The Distribution of The Responses*

|  |  |  |  |
| --- | --- | --- | --- |
| **Profile** |  | **Frequency** | **Percent** |
| Sex | Male | 88 | 44 |
| Female | 112 | 56 |
| Conjugal status | Married | 107 | 54 |
| Single | 92 | 45 |
| Divorce | 1 | 1 |
| Duration of employment | 1-3 years | 81 | 40 |
| 4-6 years | 92 | 46 |
| 7-10 years | 22 | 11 |
| >10 years | 6 | 3 |
| Educational attainment has been achieved | Senior High School | 125 | 62 |
| Diploma | 25 | 12 |
| Undergraduate | 50 | 25 |
| Graduate | 1 | 1 |

*4.2 Common Method Bias*

The aggregation of data from a single source at a specific point in time may pose the risk of common method bias (CMB), compromising the study's trustworthiness (Podsakoff et al., 2003). The authors utilised Hermann’s one-factor test to assess the CMB danger in their study (Table 2). The evaluation indicated that all items could be classified into five variables, with the principal component representing just 43.657% of the variance, well below the 50% threshold. The authors determined that CMB was not a significant issue in this study according to the findings.

**Table 2.**

*The Result Of Hermann’s One-Factor Test*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Factor | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
| Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.671 | 47.651 | 47.651 | 6.112 | 43.657 | 43.657 |
| 2 | .997 | 7.120 | 54.771 |  |  |  |
| 3 | .756 | 5.398 | 60.168 |  |  |  |
| 4 | .729 | 5.204 | 65.373 |  |  |  |
| 5 | .665 | 4.748 | 70.121 |  |  |  |
| 6 | .618 | 4.417 | 74.538 |  |  |  |
| 7 | .582 | 4.156 | 78.695 |  |  |  |
| 8 | .546 | 3.901 | 82.595 |  |  |  |
| 9 | .509 | 3.635 | 86.231 |  |  |  |
| 10 | .494 | 3.528 | 89.759 |  |  |  |
| 11 | .438 | 3.130 | 92.889 |  |  |  |
| 12 | .380 | 2.715 | 95.603 |  |  |  |
| 13 | .337 | 2.407 | 98.011 |  |  |  |
| 14 | .279 | 1.989 | 100.000 |  |  |  |

*4.3 Measurement Model*

The measurement model was assessed by Confirmatory Factor Analysis (CFA) as described by Hair et al. (2014). This study explicitly evaluated the measuring model by examining content validity, convergent validity, and discriminant validity. Content validity was established by reviewing pertinent literature and conducting preliminary evaluations of the instrument, resulting in the removal of certain questions due to insufficient overall item correlations. Hair et al. (2014) recommend evaluating factor loadings, Cronbach’s alpha, composite reliability (CR), and average variance extracted (AVE) before establishing convergent validity. The suggested thresholds stipulate that Cronbach’s alpha, composite loadings, and CR values must each above 0.7, and the AVE should surpass 0.5. All metrics must remain within allowable limits (Ghozali, 2021; Hair et al., 2014). Table 3 indicates that both Cronbach’s alpha and composite reliability values are greater than 0.7, while the AVE for all constructs surpasses 0.5. The data exhibit robust convergent validity. However, seven indicators must be discarded since their factor loadings are below 0.7.

Furthermore, discriminant validity assessment measures the degree to which questions distinguish between different constructs or evaluate distinct concepts (Ghozali, 2021; Hair et al., 2014). This research employs the Fornell-Larcker Criterion approach, as illustrated in Table 4. This method assesses the correlation of each construct with other components against the square root of the Average Variance Extracted (AVE). The measurement model is deemed suitable if the square root of the Average Variance Extracted (AVE) for each construct surpasses its correlation with other constructs, as indicated in the relevant rows and columns (Ghozali, 2021; Hair et al., 2014). The findings in Table 4 validate that the measurement model attains sufficient discriminant validity.

**Table 3.**

*The Result of The Measurement Model*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Constructs** | **Items** | **Loading factors** | **Cronbach's Alpha** | **Composite reliability** | **AVE** | **Adapted from** |
| E-Training | Training content is prepared for employees through the identification of training needs. (ET2) | 0,808 | 0,804 | 0,872 | 0,630 | (Kamal et al., 2016; Wolor et al., 2020) |
| I feel that the business owner has competent knowledge in managing electronic training. (ET3) | 0,795 |
| The business owner has adequate knowledge about electronic training content. (ET4) | 0,763 |
| The business owner uses electronic simulation applications. (ET5) | 0,807 |  |  |  |  |
| Employee Engagement | My work makes me excited. (EG1) | 0,736 | 0,738 | 0,836 | 0,559 | (Hameduddin & Lee, 2021) |
| I exert all my physical energy to complete my work tasks. (EG2) | 0,745 |
| It is easy for me to happily become immersed in my work. (EG3) | 0,749 |
| I feel engaged in my work. (EG4) | 0,761 |
| Digital Competency | I know how to use basic digital tools. (DC1) | 0,798 | 0,711 | 0,839 | 0,634 | (Conde-Jiménez, 2018) |
| I can access and use various digital platforms. (DC2) | 0,775 |
| I download items of interest from the internet. (DC6) | 0,815 |
| Sustainable Organization Performance | The implementation of sustainable principles in the organisation resulted in an increase in the quantity of newly produced items. (SOP3) | 0,837 | 0,775 | 0,870 | 0,690 | (Weerasinghe et al., 2023) |
| The implementation of sustainability principles in the organisation resulted in a rise in sponsorships. (SOP4) | 0,817 |
| The number of training sessions increased following the implementation of sustainable measures within the organisation. (SOP5) | 0,837 |

**Table 4.**

*Discriminant Validity: Fornell-Larcker Criterion*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Digital Competency | E-Training | Employee Engagement | Sustainable Organization Performance |
| Digital Competency | 0,796 |  |  |  |
| E-Training | 0,726 | 0,793 |  |  |
| Employee Engagement | 0,721 | 0,733 | 0,748 |  |
| Sustainable Organization Performance | 0,555 | 0,703 | 0,631 | 0,831 |

*4.4 Discussion*

In recent years, attention has increasingly focused on how e-training and digital competency influence sustainable organizational performance in the MSME context. However, the linkage between digital-based training, employee engagement, and digital competency in strengthening organizational competitiveness remains underexplored, especially in traditional industries such as rattan crafts. By employing the theoretical frameworks of the Technology Acceptance Model (TAM), Social Exchange Theory (SET), and Dynamic Capability Theory, this study offers a comprehensive understanding of how digital training can shape organizational behavior and capacity in responding to market dynamics.

**Table 5.**

*Path Coefficients among Latent Variables*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Path** | **β** | **T Statistics** | **P-Value** | | **Significance** | |
| 1 | E-Training *→* Employee Engagement | 0.773 | 28.916 | 0.000 | Supported | |
| 2 | E-Training *→* Digital Competency | 0.755 | 31.051 | 0.000 | Supported | |
| 3 | Employee Engagement *→* Sustainable Organization Performance | 0.478 | 5.858 | 0.000 | Supported | |
| 4 | Digital Competency Work Behaviour *→* Sustainable Organization Performance | 0.203 | 2.368 | 0.018 | Supported | |

Table 5 presents statistical results that support the four hypotheses proposed in this study. Specifically, the table shows that e-training significantly affects employee engagement and digital competency (p < 0.05). Furthermore, employee engagement and digital competency significantly affect sustainable organizational performance. These findings highlight the interrelated roles of e-training practices, employee engagement, and digital competency in shaping sustainable organizational performance in MSMEs.

**First, this study’s findings show that e-training significantly affects employee engagement. This reinforces the TAM approach, which explains that technology adoption is largely determined by perceived usefulness and perceived ease of use** (Davis, 1989). **When an e-training system is designed to be interactive and easily accessible, employees are more likely to engage with the training process because they feel they derive direct benefits from the program** (Alkali & Mansor, 2017; Bello et al., 2017). Wolor et al. (2020) **also confirm that e-training aligned with employees’ needs can boost motivation and strengthen organizational commitment. In this context, engagement arises not only from the provision of technology but also from users’ perceptions of value and comfort**.

**Second, e-training significantly enhances employees’ digital competency. This aligns with Dynamic Capability Theory, which asserts that organizations must build and renew their competencies to adapt to technological and market changes** (Teece et al., 1997). **E-training provides a learning platform that enables employees to develop essential digital literacy—from basic software usage to understanding advanced technologies. Moradi et al.** (2018) **highlight that digital-based training stimulates motivation and facilitates technology mastery, while** Alkali & Mansor (2017) **demonstrate that trust and interactivity in e-training increase the adoption of digital skills.**

**Third, employee engagement is shown to contribute significantly to sustainable organizational performance. This finding is consistent with Social Exchange Theory** (Blau, 1964) which emphasizes the importance of reciprocity between an organization and its employees. When an organization demonstrates care through consistent training and development, employees respond by increasing their dedication and productivity. Hussein & Jaaffar (2024) **note that a positive and inclusive work environment fosters high engagement, which in turn reinforces organizational performance**. Xerri et al. (2020) **add that employees’ emotional engagement provides a strong foundation for innovation and sustainable growth**.

**Fourth, digital competency has a significant impact on sustainable organizational performance. This reflects a core principle of Dynamic Capability Theory: the organization’s ability to respond swiftly to change through the utilization of internal resources** (Teece et al., 1997). Ji et al. (2023) and Giudice et al. (2019) emphasize that digital competency supports process efficiency, enables product innovation, and enhances customer satisfaction. In the context of rattan MSMEs, this competency is crucial for maintaining market relevance and competitiveness in the digital economy.

Overall, this study demonstrates that e-training, employee engagement, and digital competency interact to shape sustainable organizational performance. By integrating TAM, SET, and Dynamic Capability Theory, the study highlights not only the importance of technology in training but also how that technology can facilitate engagement and establish the foundation for long-term competitiveness for MSMEs in the digital era.

*4.5 Managerial Implications*

The structural model's results are analysed for managerial implications to elucidate the impact of exogenous variables on endogenous variables, especially in the context of strategic planning (Hsu, 2008). According to the findings illustrated in the strategic management map, SMEs can prioritise improvement areas based on the PLS outcomes. The strategic management map consists of four quadrants: QI (Keep up the good work), QII (Possibly overrated), QIII (Low priority), and QIV (Concentrate here). (Figure 2). Quadrant interpretation can be explained where Q1: Keep up the good work (Extremely important-Excellent performance). In this quadrant it can be said that someone is considered to perform well with their competence and highly values ​​the competence. This shows that someone must continue to work well. Q2: Possible overkill (Slightly important-Excellent performance). In this quadrant it can be said that someone is considered to perform well with their competence but only slightly values ​​it. Q3: Low priority (Slightly important-Fair performance). In this quadrant it can be said that someone has quite good performance with their competence and does not consider it very important. Q4: Concentrate here (Extremely important-Fair performance). In this quadrant it can be said that someone considers competence very important but shows unsatisfactory performance (Martilla & James, 1977; Ting et al., 2020).

|  |  |
| --- | --- |
| Possible overkill  QII | Keep up the good work  QI |
| Low priority  QIII | Concentrate here  QIV |

**Figure 2.** Importance-Performance Matrix.

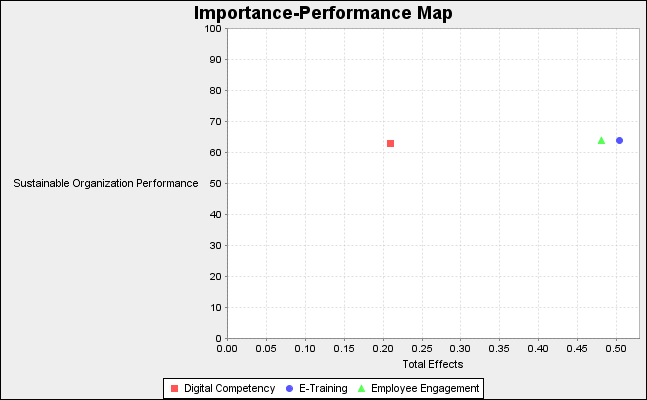
According to table 6 and figure 3, digital competency has an important value of 0.209 and a performance value of 62.805, indicating that this aspect is in quadrant II (possible overkill) indicating that this aspect is important but can still be improved. The managerial implication is the need to reposition strategic perceptions of digital competency as a core part of the transformation of traditional craft-based MSMEs towards digital adaptation. MSME management needs to be more active in socializing the importance of digitalization, both for operational efficiency, increasing market access, and product innovation. Practical steps that can be taken include implementing advanced training based on specific needs, strengthening the role of digital mentors in the MSME community, and integrating digital competency into employee performance evaluation indicators. Furthermore, it is important for MSME managers to formulate structured, sustainable training policies that are tailored to technological readiness and organizational culture. Investment in information and communication technology (ICT) must be accompanied by human resource capacity building so that digital competency is not only technical but also strategic in supporting the organization's sustainability vision.

**Table 6.**

IPMA Resuls

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total Effect (Importance) | Index Value (Performance) | Category |
| Digital Competency | 0,209 | 62,805 | Q2 (Possible overkill) |
| E-Training | 0,504 | 63,905 | Q1 (Keep up) |
| Employee Engagement | 0,480 | 64,016 | Q1 (Keep up) |

Meanwhile, e-training has an importance value of 0.504 and a performance value of 63.905, indicating that this aspect is in quadrant I (keep up) which means it has a high level of importance and performance. Employee engagement also has an importance value of 0.480 and a performance value of 64.016, indicating that this aspect is in quadrant I (keep up) which means it has a high level of importance and performance. This indicates that rattan MSMEs have succeeded in integrating digital training and building employee engagement in the organization's work process. Therefore, the practical implication is that e-training programs must continue to be maintained and improved through the provision of relevant materials, user-friendly training technology, and consistent managerial involvement to ensure active employee participation. In addition, to strengthen employee engagement, MSMEs are advised to adopt a humanistic and participatory approach, pay attention to welfare, performance recognition, and provide space for innovation in daily work.



**Figure 3.** Importance-performance matrix analysis map

*4.6 Theoretical Implications*

Theoretically, this study strengthens and expands the understanding of the Technology Acceptance Model (TAM), Social Exchange Theory (SET), and Dynamic Capability Theory. The findings show that perceptions of the ease and usefulness of e-training (TAM) have a positive impact on employee engagement (SET), which further strengthens digital competence as a form of organizational dynamic capability (Teece et al., 1997). This study enhances the literature by synthesising three theoretical frameworks to elucidate the connection between digital training, employee behaviour, and organisational sustainability within traditional MSMEs.

1. **Conclusion**

This study concludes that e-training plays a significant role in improving digital competence and employee engagement, which in turn has a positive impact on sustainable organizational performance in the rattan MSME sector. The integration of these three variables explains the internal mechanism of forming competitive advantages based on digital human resources. These results strengthen the relevance of the TAM, SET, and Dynamic Capability theoretical approaches in the context of digitalization of traditional MSMEs. Therefore, e-training is a key strategy in driving digital transformation and long-term sustainability for MSMEs in the craft sector in the era of a technology-based economy.

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**References**

Agung, A. (2024). Klaster Rotan Trangsan yang Terbantu Berkat Pemberdayaan BRI (Trangsan Rattan Cluster Helped by BRI Empowerment). *Tempo*. https://www.tempo.co/info-tempo/klaster-rotan-trangsan-yang-terbantu-berkat-pemberdayaan-bri-38465

Ahuja, J., Puppala, H., Sergio, R. P., & Hoffman, E. P. (2023). E-Leadership Is Un(usual): Multi-Criteria Analysis of Critical Success Factors for the Transition From Leadership to E-Leadership. *Sustainability*, *15*(8), 6506. https://doi.org/10.3390/su15086506

Al Mehrzi, N., & Singh, S. K. (2016). Competing through employee engagement: A proposed framework. *International Journal of Productivity and Performance Management*, *65*(6), 1–16. https://doi.org/10.1108/IJPPM-02-2016-0037

Alghamdi, A. M., Alsuhaymi, D. S., AlGhamdi, F., Mohamed, A. M. F., Shehata, S. M., & Sakoury, M. M. A. (2021). University Students’ Behavioral Intention and Gender Differences Toward the Acceptance of Shifting Regular Field Training Courses to E-Training Courses. *Education and Information Technologies*, *27*(1), 451–468. https://doi.org/10.1007/s10639-021-10701-1

Alhelal, M. J., & Abdelwahed, N. A. A. (2024). Bolstering a Potent Organizational Development Through Electronic Human Resources in Private Business. *Corporate and Business Strategy Review*, *5*(1, special Issue), 382–393. https://doi.org/10.22495/cbsrv5i1siart12

Ali, S. F. (2018). Geographical Analysis of the Creative Industry and its Role on Achieving the Economic Development. *AL-AMEED JOURNAL*. https://www.iasj.net/iasj/article/146421/metric

Alkali, A. U., & Mansor, N. A. (2017). Interactivity and Trust as Antecedents of E-Training Use Intention in Nigeria: A Structural Equation Modelling Approach. *Behavioral Sciences*, *7*(3), 47. https://doi.org/10.3390/bs7030047

ALRawashdeh, N. M. A., Zaki, N. A. M., Nik Hazimah Binti Nik Mat, Yusof, J. B. M., & Zulkiffli, S. N. ‘. (2024). Impact of Electronic Human Resource Management Practices on Perceived Organization Performance: Moderating Role of Information Technology Capability on Jordanian Universities. *Pakistan Journal of Life and Social Sciences (Pjlss)*, *22*(1). https://doi.org/10.57239/pjlss-2024-22.1.00477

Altwijri, A. M., & Aldosemani, T. (2022). Employee Perceptions of the Effectiveness of E-Training to Meet Performance Evaluation Requirements. *International Journal of Learning Teaching and Educational Research*, *21*(2), 49–71. https://doi.org/10.26803/ijlter.21.2.4

Amjad, F., Abbas, W., Rehman, M. Z. u., Baig, S. A., Hashim, M., Khan, A., & Rehman, H. (2021). Effect of Green Human Resource Management Practices on Organizational Sustainability: The Mediating Role of Environmental and Employee Performance. *Environmental Science and Pollution Research*, *28*(22), 28191–28206. https://doi.org/10.1007/s11356-020-11307-9

Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, *27*(6), 625–641. https://doi.org/10.1177/014920630102700601

Bello, Z., Bhatti, M. A., & Pangil, F. (2017). An Examination of the Factors Affecting the Adoption of E‐training in the Nigerian Civil Service Sector. *Global Business and Organizational Excellence*, *36*(4), 33–42. https://doi.org/10.1002/joe.21788

Blau, P. M. (1964). Justice in Social Exchange. *Sociological Inquiry*, *34*(2), 193–206. https://doi.org/10.1111/j.1475-682X.1964.tb00583.x

Chowdhury, S. R., Mendy, J., & Rahman, M. (2023). A Systematic Literature Review of GHRM: Organizational Sustainable Performance Reimagined Using a New Holistic Framework. *Sustainability*, *15*(9), 1–15. https://doi.org/10.3390/su15097513

Conde-Jiménez, J. (2018). Digital competence as an indicator of the impact of ICT educational policies: Validation of a theoretical model using PLS. *Research on Education and Media*, *10*(2), 37–44. https://doi.org/10.1515/rem-2018-0013

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319. https://doi.org/10.2307/249008

Espina-Romero, L., Ríos Parra, D., Gutiérrez Hurtado, H., Peixoto Rodriguez, E., Arias-Montoya, F., Noroño-Sánchez, J. G., Talavera-Aguirre, R., Ramírez Corzo, J., & Vilchez Pirela, R. A. (2024). The Role of Digital Transformation and Digital Competencies in Organizational Sustainability: A Study of SMEs in Lima, Peru. *Sustainability*, *16*(16), 1–23. https://doi.org/10.3390/su16166993

Fahimah, N., Hatimah, I., Komar, O., Ardiwinata, J. S., & Saepudin, A. (2023). Implementation of Digital-Based Andragogy in Community Education in Indonesia. *International Journal of Professional Business Review*, *8*(4), e01377. https://doi.org/10.26668/businessreview/2023.v8i4.1377

Fahriyadi, F. (2011). Sentra anyaman Rajapolah: Aneka anyaman pandan tersedia di sini (Rajapolah Weaving Center: Various Pandan Weaving Available Here). *Kontan*. https://peluangusaha.kontan.co.id/news/sentra-anyaman-rajapolah-aneka-anyaman-pandan-tersedia-di-sini-1-1

Ghozali, I. (2021). *Partial Least Squares Konsep, Teknik Dan Aplikasi Menggunakan Program SmartPLS 3.2.9 Untuk Penelitian Bisnis (Partial Least Squares Concepts, Techniques and Applications Using the SmartPLS 3.2.9 Program for Business Research)* (3rd ed.). Badan Penerbit Universitas Diponegoro.

Giudice, M. D., Scuotto, V., Garcia-Perez, A., & Messeni Petruzzelli, A. (2019). Shifting Wealth II in Chinese economy. The effect of the horizontal technology spillover for SMEs for international growth. *Technological Forecasting and Social Change*, *145*, 307–316. https://doi.org/10.1016/j.techfore.2018.03.013

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis*. Pearson New International Edition.

Hameduddin, T., & Lee, S. (2021). Employee engagement among public employees: Examining the role of organizational images. *Public Management Review*, *23*(3), 422–446. https://doi.org/10.1080/14719037.2019.1695879

Hameed, Z., Khan, I. U., Islam, T., Sheikh, Z., & Naeem, R. M. (2020). Do green HRM practices influence employees’ environmental performance? *International Journal of Manpower*, *41*(7), 1061–1079. https://doi.org/10.1108/IJM-08-2019-0407

Hassan, A., Hassan, J., & Yen, T. A. (2020). E-Training and Development, Motivation and Employee Performance Among Academicians: Case Study of Academicians in UniMAP. *Journal of Physics Conference Series*, *1529*(3), 032011. https://doi.org/10.1088/1742-6596/1529/3/032011

Hussein, N. J., & Jaaffar, A. H. (2024). The Effect of E-HRM Practices on the Performance of Academic Staff: The Mediating Role of Trust. *International Journal of Management and Sustainability*, *13*(2), 388–403. https://doi.org/10.18488/11.v13i2.3757

Ji, Z., Zhou, T., & Zhang, Q. (2023). The Impact of Digital Transformation on Corporate Sustainability: Evidence from Listed Companies in China. *Sustainability*, *15*(3), 1–19. https://doi.org/10.3390/su15032117

Kamal, K. B., Aghbari, M. A., & Atteia, M. (2016). E-Training & Employees ’ Performance a Practical Study on the Ministry of Education in the Kingdom of Bahrain. *Journal of Resources Development and Management*, *18*, 1–8.

Latifah, S., Yonariza, Y., Purwanto, P., Codilan, A., Darwo, Syahputra, O. H., & Rambe, A. N. A. (2024). Study of the Types and Feasibility of the Rattan Industry for the Sustainability of Non-Timber Forest Products in North Sumatra. *Iop Conference Series Earth and Environmental Science*, *1315*(1), 012069. https://doi.org/10.1088/1755-1315/1315/1/012069

Memon, M. A., Salleh, R., Mirza, M. Z., Cheah, J., Ting, H., Ahmad, M. S., & Tariq, A. (2020). Satisfaction Matters: The Relationships Between HRM Practices, Work Engagement and Turnover Intention. *International Journal of Manpower*, *42*(1), 21–50. https://doi.org/10.1108/ijm-04-2018-0127

Mollah, M. A., Choi, J.-H., Hwang, S.-J., & Shin, J.-K. (2023). Exploring a Pathway to Sustainable Organizational Performance of South Korea in the Digital Age: The Effect of Digital Leadership on IT Capabilities and Organizational Learning. *Sustainability*, *15*(10), 1–18. https://doi.org/10.3390/su15107875

Moradi, L., Mohamed, I., & Yahya, Y. (2018). The Effect of Organizational Commitment and E-Training on E-Tourism Job Performance. *International Journal on Advanced Science Engineering and Information Technology*, *8*(6), 2286–2293. https://doi.org/10.18517/ijaseit.8.6.6665

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Pratono, A. H. (2019). Cross-Cultural Collaboration for Inclusive Global Value Chain: A Case Study of Rattan Industry. *International Journal of Emerging Markets*, *15*(1), 149–170. https://doi.org/10.1108/ijoem-01-2017-0028

Putri, A. M. H. (2023). Number of MSMEs Reaches 8.71 Million, Could This Be a “Shield” for Recession? *CNBC Indonesia*. https://www.cnbcindonesia.com/research/20230207115843-128-411724/jumlah-umkm-capai-871-juta-bisa-jadi-tameng-resesi

Sahoo, B. K., Sahoo, S. R., Mishra, J. P., & Pattanayak, B. K. (2022). *Effect of E-Training on Employee Performance in IT Industry*. 233–239. https://doi.org/10.1007/978-981-16-5685-9\_22

Sarjiyanto, S., Haryono, T., Firdaus, R. B. R., & Paska, E. D. (2025). The Community Empowerment Strategy and Its Role in the Entrepreneurial Spirit and Business Sustainability. *Corporate Governance and Sustainability Review*, *9*(1), 32–41. https://doi.org/10.22495/cgsrv9i1p3

Sekaran, U., & Bougie, R. (2020). Research Methods for Business. In *John Wiley & Sons* (8th ed.). John Wiley & Sons. https://doi.org/10.1007/978-94-007-0753-5\_102084

Soehandoko, J. G. (2023). Bank Indonesia Ungkap 4 Masalah dan Tantangan UMKM Indonesia. *Ekonomi Bisnis*. https://ekonomi.bisnis.com/read/20230829/9/1689447/bank-indonesia-ungkap-4-masalah-dan-tantangan-umkm-indonesia

Tao, C., Zhang, J., Cheng, B., & Liu, Y. (2019). An Assessment of the Impact of Spatial Agglomeration on the Quality of China’s Wood Processing Industry Products. *Sustainability*, *11*(14), 3961. https://doi.org/10.3390/su11143961

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, *18*(7), 509–533.

Weerasinghe, N., Weerasinghe, A., Perera, Y., Tennakoon, S., Rathnayake, N., & Jayasinghe, P. (2023). Sustainability practices and organizational performance during the COVID-19 pandemic and economic crisis: A case of apparel and textile industry in Sri Lanka. *PLOS ONE*, *18*(7), 1–31. https://doi.org/10.1371/journal.pone.0288179

Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal*, *5*(2), 171–180.

Wicaksono, P. A., & Kadafi, C. A. (2020). The Improvement of Production Process Impact in Furniture Industry Toward Circular Economy. *E3s Web of Conferences*, *202*, 07052. https://doi.org/10.1051/e3sconf/202020207052

Wolor, C. W., Solikhah, S., Fidhyallah, N. F., & Lestari, D. P. (2020). Effectiveness of E-Training , E-Leadership , and Work Life Balance on Employee Performance during COVID-19. *Journal of Asian Finance, Economics and Business*, *7*(10), 443–450. https://doi.org/10.13106/jafeb.2020.vol7.no10.443

Xerri, M., Farr‐Wharton, B., & Brunetto, Y. (2020). Nurturing Psychological Capital: An Examination of Organizational Antecedents: The Role of Employee Perceptions of Teamwork, Training Opportunities and Leader–member Exchange. *Personnel Review*, *50*(9), 1854–1872. https://doi.org/10.1108/pr-05-2019-0222

Yu, J., & Moon, T. (2021). Impact of Digital Strategic Orientation on Organizational Performance through Digital Competence. *Sustainability*, *13*(17), 1–15. https://doi.org/10.3390/su13179766