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ARTICLE

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

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ABSTRACT

This study investigates the role of e-training in enhancing digital competency and employee engagement and how these factors contribute to sustainable organizational performance within Indonesia's rattan micro, small, and medium-sized enterprises (MSMEs). Utilizing a quantitative research design and Partial Least Squares Structural Equation Modeling (SEM-PLS), data were collected from 200 employees of rattan MSMEs who had participated in digital-based training programs. The findings reveal that e-training significantly improves digital competencies and employee engagement, both of which are crucial drivers of organizational sustainability. Dynamic Capability Theory highlights the importance of adapting competencies in response to environmental changes. This research provides theoretical contributions by extending these frameworks into the traditional craft sector and offers practical

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insights for digital human resource development in MSMEs. Specifically, it emphasizes the importance of contextualized training approaches tailored to local cultural and technological conditions. The results support e-training as a strategic tool for driving digital transformation and long-term sustainability, in alignment with the Sustainable Development Goals (SDGs), particularly Goals 4 and 8. By focusing on rattan MSMEs, this study fills a notable gap in the literature and demonstrates how digital interventions can empower traditional industries in a technology-driven era.

Keywords: E-Training; Employee Engagement; Digital Competency; Sustainable Organizational Performance; Rattan; Sustainable Growth

1. Introduction

Over the past decade, developments in digital technology have brought about profound transformations across virtually every sector of life, including micro, small, and medium enterprises (MSMEs). Digitization has revolutionized how large corporations manage human resources and business operations, compelling MSMEs to undertake similar transformations to remain competitive. In Indonesia, MSMEs are vital to the economy as key providers of employment and drivers of local growth [1]. Strengthening digital competencies is therefore crucial to maintaining their competitiveness and sustainability amid globalization and shifting consumer preferences. Among the available strategies, the use of digital-based training, or e-training, has emerged as a particularly effective approach for developing MSME human resources. This aligns with the Sustainable Development Goals (SDGs), notably Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth), by promoting inclusive skill development among vulnerable groups.

Within the diverse MSME landscape, the rattan crafts industry stands out for its unique combination of cultural heritage, environmental sustainability, and economic potential [2, 3]. Rattan, a renewable non-timber forest product, is widely sought after for its use in eco-friendly furniture and handicrafts. While global demand for such products is increasing, rattan MSMEs must strengthen their technological capacity, design innovation, and digital skills to compete in creative and sustainable markets [4, 5].

Despite the potential benefits of e-training, its adoption in rattan MSMEs is hindered by infrastructural gaps, limited digital literacy, and resistance to change [6]. The main challenges include limited technological infrastructure, low levels of digital literacy among the workforce, and minimal experience or trust in digital training methods [7, 8]. In many cases, traditional MSME actors face barriers to accessing and leveraging technology optimally—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 the effective adoption of e-training [9, 10]. Similar barriers have been observed in traditional craft sectors worldwide, such as the bamboo weaving industry in China [11]. Comparative studies show that targeted, context-sensitive training interventions—such as mobile-learning platforms in Peru's textile MSMEs [12]—can accelerate digital transformation when tailored to local needs and capacities.

E-training offers multiple advantages: scalability, cost-efficiency, temporal flexibility, and the ability to customize content to learners' contexts [13, 14] However, its success depends on careful design that incorporates interactive elements, trust-building mechanisms, and culturally relevant content [15]. In the context of rattan MSMEs, adopting lessons from global peers requires sensitivity to local work cultures, community values, and existing organizational structures [8]. Digital andragogy, as shown in community-based education in Southeast Asia, enhances the relevance of materials and improves knowledge transfer, making it an essential principle in training design. The integration of such approaches can bridge the digital divide without disrupting traditional production systems.

Existing literature on e-training, digital competency, and MSME performance is extensive in the service and manufacturing sectors [14, 16], with consistent

evidence of positive impacts on operational efficiency, employee engagement, and innovation [13]. However, research focusing specifically on traditional craft sectors remains limited. This gap is evident when comparing global digitalization trajectories: while Southeast Asian manufacturing MSMEs increasingly adopt Industry 4.0 tools, many traditional craft producers remain on the periphery of digital transformation.

Against this backdrop, this study investigates the role of e-training in enhancing digital competencies, employee engagement, and sustainable organizational performance in Indonesia's rattan MSMEs. It contributes to the literature by extending the analysis to a traditional industry context and integrating insights from international cases to broaden the applicability of the findings. The study underscores the necessity of inclusive, culturally adapted training approaches that not only address local constraints but also leverage best practices from similar industries worldwide. By situating the rattan MSME experience within a global comparative framework, this research enhances both its theoretical universality and its practical relevance for policymakers, industry stakeholders, and development agencies seeking to foster sustainable digital transformation in traditional sectors.

2. Materials and Methods

2.1. Theoretical Foundation

This study employs the Dynamic Capability Theory (DCT) as the principal framework to explain the relationships among e-training, digital competency, employee engagement, and sustainable organizational performance in the rattan sector MSME context. The reliance on a single, well-justified theory ensures conceptual clarity and strengthens analytical depth, addressing reviewers' concerns about theoretical focus.

DCT emphasizes an organization's ability to integrate, build, and reconfigure internal and external competencies to respond effectively to environmental changes [17]. Within this perspective, e-training is understood as a strategic mechanism that equips employees with adaptive digital competencies, enabling MSMEs to innovate and sustain competitiveness. Employees' ability to develop and renew digital skills through structured training directly contributes to building dynamic capabilities, thereby ensuring long-term sustainability.

Employee engagement, in turn, can also be explained through DCT. Engaged employees embody adaptive and innovative capacities, allowing organizations to sense opportunities and seize them through reconfiguration of resources [18]. Thus, engagement is not merely an attitudinal outcome but a strategic asset that sustains organizational resilience and performance.

Similarly, digital competency represents a core manifestation of dynamic capabilities, reflecting the workforce's proficiency in leveraging technology for efficiency, innovation, and market responsiveness [19]. By fostering continuous skill development, MSMEs enhance their ability to align operations with evolving consumer demands and sustainability imperatives [20].

In this framework, e-training functions as the enabler of capability building, employee engagement represents the behavioral expression of adaptability, and digital competency embodies the technical dimension of organizational renewal. Together, these constructs illustrate how dynamic capabilities emerge and reinforce sustainable organizational performance in traditional industries.

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 [21, 22]. 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 [14, 15]. Through easily accessible, needs-based online training, e-training contributes to skill enhancement, motivation, and work efficiency [10, 23]. Its success also lies in its ability to include participants from diverse backgrounds in an inclusive manner [9, 24].

Employee Engagement refers to the degree of emotional involvement, commitment, and active participa-

tion of employees in their work and organization [14, 18]. Engaged employees demonstrate higher performance, stronger loyalty, and greater contributions to organizational sustainability [25]. Factors such as effective communication, recognition, and leadership support have a critical influence on engagement levels.

Digital Competency is the set of essential skills enabling individuals to use digital technologies effectively in their professional lives [26]. This competency includes information literacy, digital communication, and adaptability to technological tools [19, 27]. 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. **Table 1** shows the differences between this study and previous studies.

Table 1. Research gap between existing studies and the present study.

No.	Focus Area	Evidence from Prior Studies	Identified Gap	Contribution of the Present Study
1	E-Training in MSMEs	Prior studies, e.g., Wolor et al. [14] and Sahoo et al. [13] demonstrate the positive effects of e-training on performance, mainly in manufacturing or service sectors.	Limited empirical evidence exists in traditional craft-based MSMEs, particularly rattan enterprises, which face unique cultural and infrastructural challenges.	Extends analysis of e-training effectiveness to rattan MSMEs, incorporating sector-specific constraints and opportunities.
2	Digital Competency	Research conducted by Espina-Romero et al. [26] and Yu and Moon [19] links digital competency with innovation and sustainability, largely in urban and technologically advanced contexts.	Scarce evidence on digital competency development in rural, resource-constrained craft industries.	Provides empirical evidence of the role of digital competency in sustainability within rural craft MSMEs, highlighting adaptive capacity in low-tech environments.
3	Employee Engagement and Sustainability	Studies conducted by Memon et al. [18] and Xerri et al. [25] confirm the role of engagement in enhancing organizational outcomes, often in corporate or large-scale organizations.	Lack of focus on engagement in small, family-owned, or culturally traditional MSMEs.	Examines how engagement functions in small-scale, heritage-based industries and its link to sustainable performance.
4	Methodological Context	Many studies rely on secondary or organizational-level data (Giudice et al. [28]; Ji et al. [20]).	Insufficient studies using primary, employee-level survey data to assess perceptions of sustainability practices.	Uses primary data from employees directly involved in production and decision-making, offering granular insights into the implementation of sustainability.

2.3. Hypothesis Development

This study develops its hypotheses under the lens of Dynamic Capability Theory (DCT), which provides a comprehensive framework to understand how organizations build, integrate, and reconfigure competencies to maintain competitiveness in changing environments [18]. By situating e-training, digital competency, and employee engagement within this theoretical foundation, the hypotheses are structured systematically to reflect how dynamic capabilities emerge and drive sustainable organizational performance.

2.3.1. E-Training and Employee Engagement

E-training is a strategic mechanism that equips employees with adaptive skills required in a digital-

ized workplace. Through well-designed training, employees develop competencies without disrupting traditional workflows, which is particularly important for rattan MSMEs. DCT emphasizes that organizational adaptability depends on learning-oriented mechanisms that enhance workforce capabilities [17]. In this context, e-training signals organizational investment in employee growth, which fosters emotional commitment and active participation [15, 29]. Prior research has shown that training and development initiatives stimulate employee motivation, loyalty, and productivity [18]. Engagement thus becomes the behavioral expression of dynamic capabilities, ensuring employees' willingness to innovate and sustain organizational resilience.

H1. *E-Training positively influences employee engagement.*

2.3.2. E-Training and Digital Competency

Digital competency reflects a core manifestation of dynamic capabilities, as it enables organizations to seize opportunities and reconfigure resources through effective use of technology [19]. E-training provides structured learning environments where employees acquire, update, and refine digital skills essential for innovation and competitiveness [10, 14]. From the perspective of DCT, such training facilitates adaptive processes by allowing employees to sense market demands and adjust their skills accordingly [20]. Evidence shows that digital-based training enhances literacy, confidence, and technology mastery [26], positioning MSMEs to meet evolving consumer expectations and sustainability imperatives.

H2. *E-training positively influences digital competency.*

2.3.3. Employee Engagement and Sustainable Organizational Performance.

Employee engagement, defined as employees' emotional involvement, commitment, and active participation, functions as a dynamic capability that strengthens organizational adaptability. According to DCT, engaged employees actively contribute to the reconfiguration of organizational resources, thereby supporting innovation and resilience [17]. Research has shown that engagement enhances organizational performance by reducing turnover intentions and fostering collaboration and innovation [25]. In the context of rattan MSMEs, engaged employees are crucial in sustaining traditional craft practices while embracing new technologies for sustainable growth [30, 31]. Engagement, therefore, constitutes both a psychological and strategic asset that reinforces sustainable organizational outcomes.

H3. *Employee engagement positively influences sustainable organizational performance.*

2.3.4. Digital Competency and Sustainable Organizational Performance

The ability to utilize digital technologies effectively is indispensable for organizational sustainability. Within DCT, digital competency enables firms to sense opportunities, seize market demands, and reconfigure production processes in alignment with sustainability imperatives [20]. Employees with strong digital competencies can improve efficiency, foster innovation, and create eco-friendly products that align with consumer preferences and global sustainability goals [26]. In rattan MSMEs, digital competency enhances market responsiveness and long-term viability by bridging traditional craftsmanship with modern business practices [20, 32].

H4. *Digital competency positively influences sustainable organizational performance.*

2.4. Research Model

Based on the hypotheses formulated, the conceptual model is presented in **Figure 1**.

2.5. Methodology

This study employs a descriptive quantitative approach combined with Partial Least Squares–based Structural Equation Modeling (SEM-PLS). This method was selected for its ability to simultaneously explain complex relationships among variables and its suitability for testing theoretical models in the context of measuring the effects of e-training on digital competency, employee engagement, and sustainable performance of rattan MSMEs. SEM-PLS is particularly appropriate when the research model is exploratory, the data are non-normal, and the sample size is limited. SEM-PLS per-

forms especially well when the model includes formative constructs, involves high model complexity, and emphasizes prediction-oriented analysis. It is also effective under conditions where multicollinearity among indicators is minimal and the measurement models are well-specified. Conversely, SEM-PLS may perform less optimally when extreme multicollinearity exists, the sample size falls significantly below recommended thresholds, or the indicators fail to demonstrate sufficient reliability and validity [33, 34]. 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 [35, 36]. A purposive sampling technique was used, whereby respondents were active employees of rattan MSMEs who had 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.

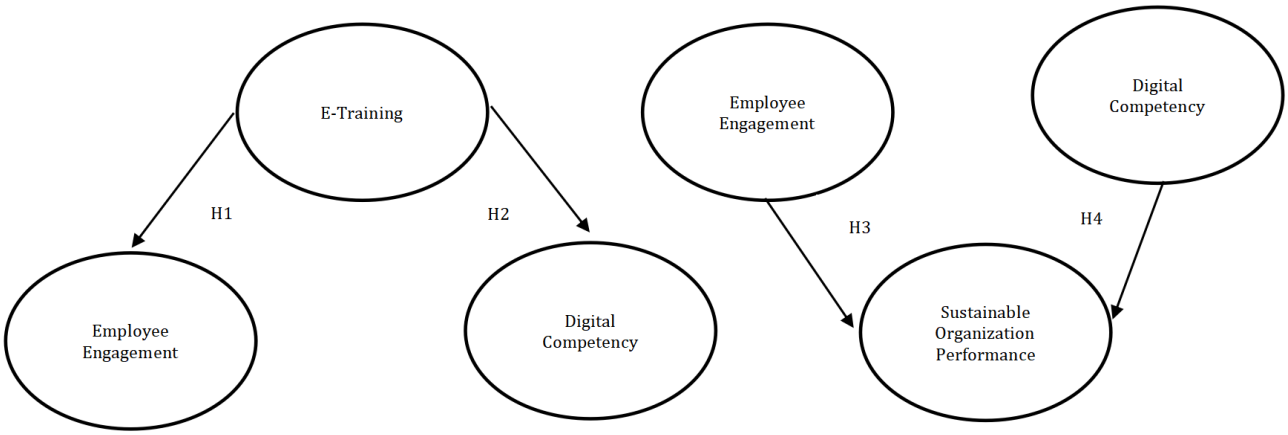

Figure 1. Conceptual model.

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 advises 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. [37] and Wolor et al. [14] to measure e-training, a 5-item scale by Hameed et al. [38] and Weerasinghe et al. [39] to measure sustainable organization performance, a 4-item scale by Hameduddin and Lee [40] to assess employee engagement, and a 6-item scale by Conde-Jiménez [41] to assess digital competency. In total, 21 items were included in the survey, and participants were required to respond based on a Likert scale to indicate the extent of their agreement with each statement.

The five items used to measure Sustainable Organizational Performance (SOP) in this study were indeed self-reported by employees. This approach is methodologically justifiable given the study's focus on capturing employees' perceptions of how sustainability principles are operationalized within their organizations. As highlighted by Weerasinghe et al. [39], employees are often directly exposed to day-to-day practices, processes, and resource allocation decisions, making them reliable informants regarding the implementation of sustainability initiatives. Individual-level perceptions can serve as valid proxies for organizational-level outcomes, particularly when the constructs involve qualitative aspects such as work environment, training availability, innovation adop-

tion, and stakeholder engagement—dimensions that may not be fully captured by archival or financial metrics.

Furthermore, prior research in organizational behavior and human resource management supports the use of aggregated individual perceptions to represent collective organizational phenomena, provided the sample adequately represents the workforce and demonstrates within-group agreement [18].

3. Results and Discussion

3.1. Distribution of the Respondents

Table 2 presents the distribution of respondents by their social positions and demographic variables, as determined 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.

3.2. 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 [42]. The authors utilised Hermann's one-factor test to assess the CMB danger in their study (**Table 3**). 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.

The presence of a VIF greater than 3.3 has been proposed as an indication of pathological collinearity, and also as an indication that a model may be contaminated by common method bias [43, 44]. The VIF values shown in **Table 4** are less than 3.3. This result indicates that there is no common method bias and confirms the findings of Hermann's one-factor test, as shown in **Table 4**.

To mitigate the risk of CMB during the data collection phase, a well-thought-out strategy for questionnaire distribution was implemented. This process begins with ensuring complete anonymity and confidentiality for respondents, which is explicitly communicated in the survey introduction to reduce evaluation concerns and the tendency to provide socially desirable answers.

Table 2. The respondents' social status distribution, as indicated by 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

Table 3. The result of Hermann's one-factor test.

Factor	Initial Eigenvalues			Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.671	47.651	47.651	6.112	43.657	43.657
2	0.997	7.120	54.771			
3	0.756	5.398	60.168			
4	0.729	5.204	65.373			
5	0.665	4.748	70.121			
6	0.618	4.417	74.538			
7	0.582	4.156	78.695			
8	0.546	3.901	82.595			
9	0.509	3.635	86.231			
10	0.494	3.528	89.759			
11	0.438	3.130	92.889			
12	0.380	2.715	95.603			
13	0.337	2.407	98.011			
14	0.279	1.989	100.000			

Table 4. The result of the inner VIF values.

	Digital Competency	E-Training	Employee Engagement	Sustainable Organization Performance
Digital Competency				2.080
E-Training	1.000		1.000	
Employee Engagement				2.080
Sustainable Organization Performance				

3.3. Measurement Model

The measurement model was assessed by Confirmatory Factor Analysis (CFA) as described by Hair et al.[45]. 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.[45] recommend evaluating factor loading, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) before establishing convergent validity. The suggested thresholds stipulate that Cronbach's alpha, composite loading, and CR values must each be above 0.7, and the AVE should surpass 0.5. All metrics must remain within allowable limits[33, 45]. **Table 5** 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 loading are below 0.7.

Furthermore, discriminant validity assessment measures the degree to which questions distinguish between different constructs or evaluate distinct concepts[33, 45]. This research employs the Fornell-Larcker Criterion approach, as illustrated in **Table 6**. 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[33, 45]. The findings in **Table 6** validate that the measurement model attains sufficient discriminant validity.

The removal of seven indicators from previously validated scales during Confirmatory Factor Analysis (CFA) was not undertaken arbitrarily but was guided by both empirical evidence and theoretical considerations. While the original instruments had been validated in prior studies, measurement performance can vary across contexts, cultures, and respondent profiles[45]. In this study, cer-

tain items displayed factor loadings below the recommended threshold of 0.70, indicating insufficient shared variance with their intended constructs [33, 45]. Retaining such items could have introduced measurement error, reduced internal consistency, and compromised the clarity of the latent variable representation.

Table 5. 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. [37] and Wolor et al. [14]
	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 and Lee [40]
	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 [41]
	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	Hameed et al. [38] and Weerasinghe et al. [39]
	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 6. 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

The decision to remove these items followed a two-step process. First, content validity was reassessed to ensure that item removal would not alter the theoretical domain of each construct. This involved cross-referencing with the conceptual definitions established in prior literature. Second, convergent and discriminant validity were re-evaluated post-removal to confirm that the remaining items adequately captured the constructs and maintained theoretical integrity.

Thus, the refinement of the scales reflects an evidence-based approach to improving psychometric properties within the specific context of Indonesian rattan MSMEs, while still preserving alignment with the constructs' original conceptualizations.

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 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 7 presents statistical results that support the four hypotheses proposed in this study. Specifically, the table shows that e-training has a significant impact on 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, the results confirm that e-training significantly enhances employee engagement in rattan MSMEs. Within DCT, training represents an intentional capability-building mechanism that fosters adaptability. By providing flexible, context-specific learning, e-training equips employees with knowledge and demonstrates organizational commitment to development, thereby enhancing motivation and loyalty [9, 15]. Prior research supports this, showing that structured training reduces turnover intent and strengthens employee collaboration and innovation [18]. In traditional craft industries, this engagement becomes a dynamic resource that sustains competitiveness while supporting adaptation to digital transformation [14].

Second, the analysis also shows that e-training has a significant impact on digital competency. From a DCT perspective, digital competency is a central dynamic capability that enables organizations to respond effectively to technological and market changes [19]. Through digital-based training, employees acquire essential skills ranging from basic literacy to advanced applications, enhancing adaptability and innovation. Moradi et al. [10] emphasize that structured e-training stimulates motivation and strengthens technology mastery, while Alkali and Mansor [15] highlight the role of interactivity and trust in promoting digital skill adoption. For rattan MSMEs, this competency is critical to bridging traditional craftsmanship with modern market demands.

Third, the findings further indicate that employee engagement has a positive impact on sustainable organizational performance. Engagement, viewed through DCT, represents a behavioral manifestation of dynamic capabilities, enabling organizations to reconfigure resources and sustain resilience in volatile environments [17]. Prior studies highlight that engaged employees foster collaboration, innovation, and long-term sustainability [25]. In rattan MSMEs, engagement ensures the preservation of cultural production methods while facilitating adaptation to sustainability-focused markets [46].

Finally, digital competency is found to significantly enhance sustainable organizational performance. Within DCT, digital competency reflects the technical dimension of adaptability, allowing organizations to optimize processes, introduce eco-friendly innovations, and meet evolving consumer preferences [20]. Giudice et al. [28] emphasize that digital skills foster efficiency and customer satisfaction, which are vital for MSMEs striving to remain competitive in global markets. For rattan

enterprises, digital competency is indispensable for integrating tradition with digital innovation.

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

Table 7. 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

4.1. 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[47]. The results of the structural model provide important insights for managerial decision-making, particularly in aligning strategic priorities with operational realities in rattan-based MSMEs. The findings, analysed using the Importance-Performance Matrix[48, 49], highlight the positioning of each construct within four strategic quadrants: QI (Keep up the good work), QII (Possible overkill), QIII (Low priority), and QIV (Concentrate here) (**Figure 2**). This analysis allows managers to identify which areas require sustained attention, improvement, or strategic repositioning.

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

Figure 2. Importance-performance matrix.

First, digital competency registers an importance value of 0.209 (**Table 8**) and a performance score of 62.805, placing it in Quadrant II (Possible overkill) (**Figure 3**). This suggests that while performance in digital competency is relatively good, its perceived strategic importance remains moderate. For MSME managers, this finding implies the need to elevate digital competency from a supportive skill to a core driver of competitiveness. Practical action plans include: (1) embedding digital skills as part of strategic objectives for innovation and market expansion, (2) providing advanced, context-specific digital training tailored to craft production and marketing, (3) appointing digital mentors within the MSME community to guide ongoing adaptation, and (4) incorporating digital competency metrics into performance evaluations. Such measures will help integrate digital capabilities not only as technical proficiencies but also as strategic assets aligned with long-term sustainability goals.

Second, e-training achieves an importance value of 0.504 (**Table 8**) and a performance score of 63.905, placing it in Quadrant I (Keep up the good work) (**Figure 3**). This indicates that e-training is both highly valued and effectively implemented within these MSMEs. To maintain and enhance this position, managers should ensure that training content remains relevant, practical, and aligned with evolving technological trends. Recommended steps include: (1) continuous curriculum updates reflecting market and technology changes, (2) investment in user-friendly e-learning platforms, (3) managerial involvement in training activities to reinforce organisational commitment, and (4) creating feedback loops where employees can propose training improvements. Such initiatives will sustain high participation rates and ensure that e-training remains a central pillar in workforce development.

Third, employee engagement holds an importance

value of 0.480 (**Table 8**) and a performance score of 64.016, also in Quadrant I (Keep up the good work) (**Figure 3**). This underscores the success of MSMEs in fostering a motivated and committed workforce. However, to safeguard and enhance this strength, managers should implement measures such as: (1) adopting a participatory management style to involve employees in decision-making, (2) recognising and rewarding high performance consistently, (3) offering opportunities for professional growth, and (4) promoting work-life balance to maintain morale. Enhancing engagement will also require integrating employees' input into strategic planning, thereby reinforcing their sense of ownership over organisational outcomes.

Table 8. IPMA results.

	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)

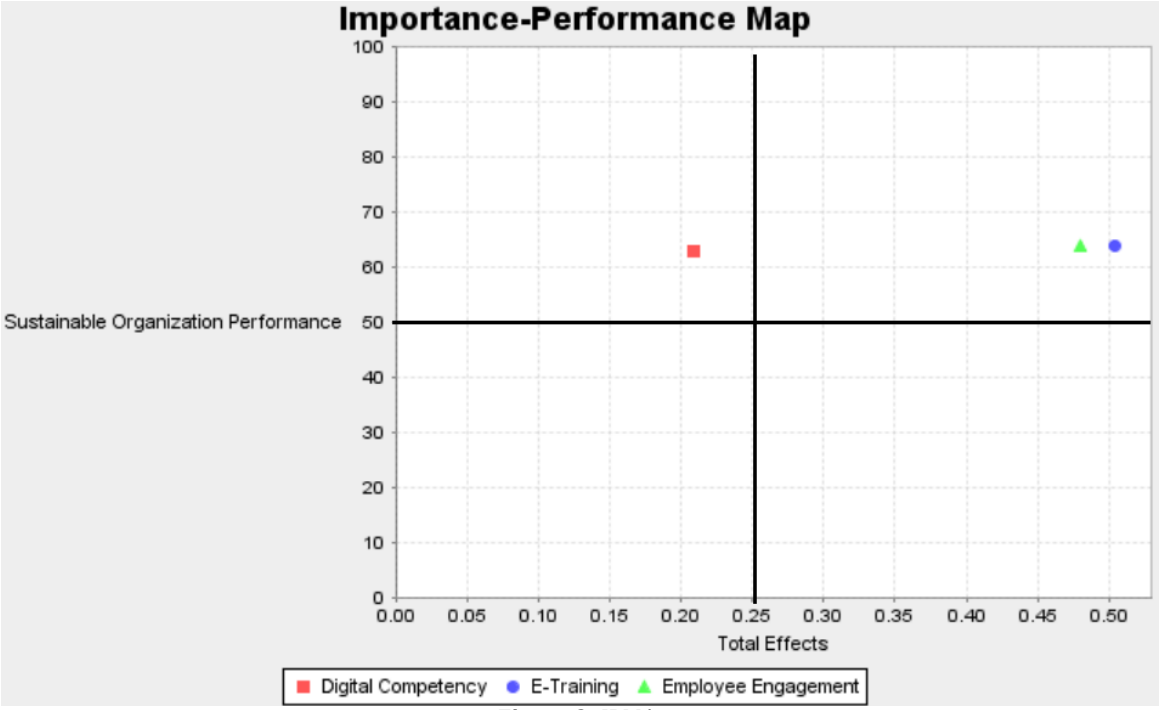

Figure 3. IPMA.

From a broader perspective, these findings carry direct implications for logistics operations management within MSMEs. Efficient supply chain coordination in the rattan craft sector depends heavily on timely communication, effective digital record-keeping, and adaptive workforce skills—all of which are strengthened by robust digital competency, e-training, and employee engagement. For example, higher digital competency enables more efficient inventory management and order tracking, while engaged employees are more likely to contribute to process innovations that improve delivery performance. Furthermore, sustained e-training ensures that logistical workflows adapt quickly to market changes and customer demands.

In summary, MSME managers should: (1) strategically reposition digital competency as a central element of competitive advantage, (2) sustain and innovate e-training programs to align with industry and market evolution, and (3) strengthen employee engagement mechanisms to foster a proactive, skilled, and committed workforce. By aligning these areas with strategic priorities, MSMEs in the rattan sector can enhance operational effi-

ciency, market competitiveness, and organisational sustainability.

4.2. Theoretical Implications

Theoretically, this study strengthens and expands the understanding of the Dynamic Capability Theory. The findings show that perceptions of the ease and usefulness of e-training have a positive impact on employee engagement, which further strengthens digital competence as a form of organizational dynamic capability [17]. This study enhances the literature by synthesizing three theoretical frameworks to elucidate the connection between digital training, employee behaviour, and organizational sustainability within traditional MSMEs.

5. 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 by which competitive advantages are formed based on digital human resources. These results strengthen the relevance of Dynamic Capability theoretical approaches in the context of the digitalization for traditional MSMEs. Therefore, e-training is a key strategy for driving digital transformation and long-term sustainability among MSMEs in the craft sector, particularly in a technology-based economy.

Research Limitations and Future Studies

Although this study provides significant theoretical and practical contributions to understanding the role of e-training in enhancing digital competency, employee engagement, and sustainable organizational performance in rattan-based MSMEs, several limitations must be acknowledged. First, the research employed a cross-sectional design, which restricts the ability to draw definitive causal inferences among variables. Future longitudinal studies would better capture the dynamic changes in these variables over time. Second, the scope of this study is limited to rattan-based MSMEs in specific regions of Indonesia, generalizing other sectors or regions necessary, and thus, it should be approached with caution. Variations in cultural context, technological infrastructure, and digital literacy levels may influence the effectiveness of e-training and its relationship to sustainable performance. Finally, the research model only included e-training, digital competency, and employee engagement as predictors of sustainable organizational performance. Other factors such as leadership style, organizational culture, and external policy support could be important variables to consider in future studies. As noted by Khalufi et al. [50], their study integrates advanced sustainability practices with customer relationship quality, addressing a critical gap in the existing literature.

Author Contributions

Conceptualization, C.W.W. and U.S.; methodology, A.P. and S.A.; formal analysis, C.W.W. and U.S.; investigation, H.M.; data curation, M.A.R. and W.C.H; writing—original draft preparation, C.W.W. and U.S.; writing—review and editing, A.P., S.A., M.A.R., H.M., and W.C.H.; supervision, C.W.W.; project administration, W.C.H. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare that there is no conflict of interest.

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