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Human Resource Development and Enhancement of Core Competencies for Sustainable Agro Tourism Community Enterprises: A Creative Economy Perspective

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ABSTRACT

This study investigates the role of Human Resource Development (HRD) and enhancement of core competencies in promoting the sustainability and competitiveness of agro-tourism community enterprises in Thailand. Utilizing a quantitative method design, data were collected from 265 participants using structured questionnaires and interviews. The study employed confirmatory factor analysis (CFA) and structural equation modeling (SEM) to examine the relationships among variables. Results indicated that HRD significantly influenced both the enhancement of core competencies ($\beta = 0.53, p < 0.001$) and enterprise sustainability and competitiveness ($\beta = 0.31, p < 0.001$). Additionally, core competencies positively impacted sustainability and competitiveness ($\beta = 0.45, p < 0.001$), confirming the mediating role of competencies in the HRD-performance linkage. The final structural model demonstrated good fit indices (CFI = 0.977, RMSEA = 0.075), affirming the model's robustness. These findings underscore the importance of integrated HRD strategies tailored to rural tourism contexts, with implications for

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policy, training design, and sustainable development. The study highlights that well-structured HRD initiatives, including skill development, leadership training, and knowledge-sharing practices, can equip local communities with the capabilities required to adapt to market changes and environmental challenges. Strengthening competencies not only ensures long-term sustainability but also enhances the competitiveness of agro-tourism enterprises in domestic and international markets. Moreover, the results provide practical insights for policymakers and educators in designing interventions that align with community needs, thereby fostering inclusive growth and resilience in Thailand's rural tourism sector.

Keywords: Human Resource Development; Enhancement of Core Competencies; Sustainable; Agro Tourism Community Enterprises

1. Introduction

While agro tourism community enterprises are increasingly acknowledged as dynamic vehicles for sustainable rural development and economic diversification, their continued growth and resilience are persistently undermined by structural, managerial, and contextual barriers. Despite numerous policy endorsements and targeted interventions, many rural enterprises remain ill-equipped to navigate the complexities of modern tourism markets, particularly as the global economy becomes more digitalized, competitive, and susceptible to external shocks such as pandemics, climate change, and economic volatility^[1, 2]. The theoretical premise of human capital underscores the potential for competency-based training and systematic human resource development (HRD) to enable local enterprises to innovate, adapt, and differentiate themselves in saturated markets^[3, 4]. However, in practice, significant gaps persist in the design, implementation, and scaling of HRD interventions, especially those integrating digital skills, financial management, and creative problem solving within community-based tourism organizations^[5, 6].

These challenges are further compounded by disparities in access to technology, variable levels of organizational leadership, and limited policy coherence across administrative tiers, which collectively hinder the effective adoption of best practices and innovative business models^[7, 8]. Furthermore, the operational realities of rural enterprises including fluctuating demand, constrained resources, and the need to balance commercial imperatives with social and environmental values create additional layers of complexity that are not adequately

addressed by existing one size fits all solutions^[9, 10]. As a result, there is a pressing need for empirical research that not only elucidates the mechanisms through which HRD contributes to enterprise sustainability and competitiveness but also identifies the moderating roles of local context, resource availability, and external support networks.

In summary, the core problem confronting agro tourism community enterprises is not merely the lack of access to training or capital, but rather the absence of integrated, context sensitive HRD strategies that foster innovation, build core competencies, and enable long term adaptation in an uncertain and rapidly changing environment. This gap underscores both a theoretical and practical issue: without robust evidence and tailored frameworks for HRD in agro tourism, rural community enterprises risk stagnation, reduced competitiveness, and the erosion of their potential as engines of inclusive and sustainable rural transformation.

Therefore, the researcher is interested in studying the structural equation model of Human Resource Development and enhancement of core competencies that influences Sustainable Agro Tourism Community Enterprises. The aim is to develop a predictive model capable of forecasting the levels of Human Resource Development and Innovative Community Management for Sustainable Agro Tourism Community Enterprises. This model will serve as a strategic reference framework that can be applied to further enhance the development of Agro Tourism Community Enterprises.

In conclusion, extending the discussion of HRD within agro-tourism enterprises is both timely and necessary. As the sector continues to grow amidst global

uncertainties, the ability of rural communities to adapt, innovate, and compete will largely depend on how effectively they can develop and mobilize their human resources. This study seeks to contribute to filling the knowledge gap by constructing and empirically testing a structural equation model that captures the dynamic interplay between HRD, competencies, and enterprise sustainability. Beyond its theoretical contributions, the research aims to provide actionable insights for policymakers, educators, and practitioners seeking to design interventions that strengthen the long-term resilience and competitiveness of agro-tourism community enterprises in Thailand and beyond.

1.1. Research Objective

1. To examine the effect of Human Resource Development (HRD) on the enhancement of core competencies.
2. To analyze the impact of Human Resource Development (HRD) on enterprise sustainability and competitiveness.
3. To investigate the influence of enhanced core competencies on enterprise sustainability and competitiveness.

1.2. Hypotheses

H1: *Human Resource Development has a positive effect on the Enhancement of Core Competencies.*

H2: *Human Resource Development has a positive effect on Enterprise Sustainability and Competitiveness.*

H3: *Enhancement of Core Competencies has a positive effect on Enterprise Sustainability and Competitiveness.*

These three hypotheses are connected through Human Capital Theory, which posits that investments in employee development (Human Resource Development, H1 & H2) build valuable skills (Enhancement of Core Competencies, H1). This accumulation of knowledge and skills is a crucial resource for the firm (Resource-Based View), directly leading to increased productivity and resilience, which are the foundations of Enterprise Sustainability and Competitiveness (H2 & H3). Essen-

tially, HRD builds competencies, and those competencies drive competitive success.

2. Theoretical Framework

The relationship between Human Resource Development (HRD), core competencies, and enterprise performance is a central theme in strategic management and organizational theory. This framework posits a sequential and interconnected process where Human Resource Development (HRD) serves as a strategic lever that directly influences an organization's capabilities and its long-term success. HRD, through activities such as training, education, and career development, fundamentally works to enhance the knowledge, skills, and abilities of employees^[10]. This investment in human capital has a direct and positive effect on the enhancement of core competencies. A company's core competencies are its unique, valuable, and hard-to-imitate capabilities that differentiate it from competitors, such as superior R&D, exceptional customer service, or a highly efficient supply chain^[11]. Without continuous development of its workforce, a company cannot build or maintain these critical competencies. For example, a firm that excels in technological innovation must constantly train its engineers on the latest software and hardware advancements to keep its technological edge.

This enhancement of core competencies, in turn, has a positive and significant effect on enterprise sustainability and competitiveness. A strong core competency allows an organization to create superior products or services, innovate faster, and respond more effectively to market changes, which are all key to securing a competitive advantage^[12]. This means that the long-term viability and market position of a company are not just a result of its financial resources or physical assets, but are fundamentally dependent on its unique capabilities, which are embedded in its people. Furthermore, HRD can also have a direct, positive effect on enterprise sustainability and competitiveness independently of core competencies^[13]. HRD initiatives foster a culture of learning and adaptability, improve employee engagement and morale, and cultivate strong leadership, which are all critical for an organization's resilience and abil-

ity to thrive in a dynamic market environment. This direct path suggests that the benefits of HRD extend beyond just technical skills to include the broader organizational culture and strategic agility that contribute to a firm's sustained success. The overall framework thus presents a layered relationship where HRD acts as both a foundational element for building core competencies and a direct driver of long-term enterprise sustainability and competitiveness.

The modern enterprise operates within a dynamic, competitive global landscape, necessitating continuous adaptation and the strategic leveraging of internal resources. This review critically examines the theoretical and empirical justifications for three core research objectives that seek to establish the cascading influence of Human Resource Development (HRD) on Core Competencies, which subsequently drive Enterprise Sustainability and Competitiveness. The relationship among these variables is central to the Resource-Based View (RBV) of the firm and the concept of Sustainable Competitive Advantage (SCA). This objective is fundamentally justified by the premise that human capital is the primary source of unique, inimitable organizational capabilities. Core competencies are defined as the collective learning, especially how to coordinate diverse production skills and integrate multiple streams of technology^[14]. These are the foundational organizational strengths that allow an enterprise to provide unique benefits to customers.

Human Resource Development (HRD), encompassing training, career development, and performance management, serves as the organizational mechanism for accumulating, shaping, and refining the knowledge, skills, and abilities (KSAs) that form the building blocks of core competencies. The relationship is direct: HRD Core Competencies. When HRD initiatives are strategically aligned with the firm's overall goals, they foster distinctive skills that are Valuable, Rare, Inimitable, and Non-substitutable (VRIN), thereby transforming individual expertise into organizational core competence. For example, a company's core competence in rapid product innovation is not merely the sum of its engineers' skills, but the result of cross-functional development programs (HRD) that teach collaboration, systems integration, and rapid prototyping. Empirical evidence con-

sistently shows that firms investing heavily in continuous learning and skill upgrade key facets of HRD demonstrate a superior ability to develop and maintain these distinctive capabilities over time^[15]. Without targeted HRD, existing core competencies may atrophy, and the organization will fail to develop new ones required for future challenges. Thus, investigating this effect is critical to understanding the strategic value of HR practices.

This objective extends the focus of HRD from internal capabilities to its ultimate strategic outcomes: Enterprise Sustainability and Competitiveness. Competitiveness refers to the ability of an organization to offer products or services effectively and efficiently that meet the market criteria of price and quality, thereby sustaining market share and profitability. Sustainability, in this context, refers to the organization's capacity to maintain its success over the long term while balancing economic, social, and environmental responsibilities (the Triple Bottom Line). The relationship explored here is: HRD (Sustainability and Competitiveness).

HRD impacts competitiveness through several avenues. First, high-quality training and development increase employee productivity and efficiency, leading to reduced operational costs and improved quality, which directly enhance cost- or differentiation-based competitive advantage^[16]. Second, HRD programs focused on leadership, organizational culture, and strategic thinking ensure the firm can adapt quickly to market shifts, a crucial element of dynamic capability and competitiveness^[15].

Furthermore, HRD plays a pivotal role in enterprise sustainability. Programs that embed ethical standards, social responsibility, and environmental stewardship (e.g., green HRD) into employee values and decision-making processes ensure that the firm's growth is responsible and long-lasting. Employees trained in sustainability reporting and eco-efficient operations are better equipped to reduce waste and regulatory risks, thereby enhancing the firm's reputation and attracting socially conscious consumers and investors. Research confirms that firms with dedicated training and development systems exhibit superior long-term financial performance and are better positioned to weather economic downturns, a true measure of sustainability^[16]. There-

fore, understanding this direct impact is essential for CEOs and HR strategists.

This objective closes the strategic loop, establishing the direct causal link between internal capabilities and external performance outcomes. It posits that the true benefit of HRD is realized when it successfully translates into stable and unique organizational capabilities. The relationship investigated is: Core Competencies (Sustainability and Competitiveness).

The RBV strongly asserts that sustainable competitive advantage stems from the possession of unique, non-tradable, and hard-to-replicate resources and capabilities i.e., core competencies. Unlike tangible assets (like machinery), which can be easily acquired by competitors, a deeply embedded core competence (like superior supply chain management, or world-class customer service integration) provides a barrier to entry and allows the firm to consistently outperform its rivals. This concept is closely tied to the VRIN framework for resource advantage^[15].

For instance, a firm whose core competence lies in rapid, proprietary technological integration (a competence born from effective HRD) can continuously launch differentiated products, commanding premium prices and ensuring competitiveness. This competence also enhances sustainability, as the capacity for organizational learning and continuous innovation (a meta-competence) is what allows the firm to navigate and survive disruptive industry changes over decades^[14]. Without a clear link between core competencies and performance, the justification for HRD investment weakens. This objective, therefore, serves to validate the strategic management theory that resources (HRD) must be converted into capabilities (Core Competencies) to ultimately achieve superior performance (Competitiveness and Sustainability). The investigation completes the theoretical model, demonstrating that enhanced core competencies serve as the vital mediating factor between HRD efforts and desirable enterprise outcomes.

The three objectives together form a coherent, hierarchical model of strategic management. They move logically from the development phase (HRD Competencies), to the direct impact on performance (HRD Performance), and finally, to the mechanism of advantage (Competen-

cies Performance). The literature overwhelmingly supports the critical, interlinked nature of these variables, justifying the proposed investigation as a vital effort to understand how organizations translate human capital investment into unique, sustained competitive advantage in the 21st century^[16].

3. Materials and Methods

Sampling A multi-stage sampling strategy was adopted to ensure the robustness and representativeness of the data across both quantitative and qualitative. For the quantitative phase, probability sampling was implemented through a stratified random sampling technique, which divides the overall population into homogeneous subgroups (strata) such as enterprise role, age, or gender, and randomly selects participants from each stratum. This method enhances the generalizability of findings and controls for variability among subgroups. The sample size for quantitative analysis (e.g., surveys or Confirmatory Factor Analysis) was determined using the formula for finite population correction.

3.1. Sampling and Sample Size

Quota sampling was used for the quantitative phase to recruit survey participants (n = 265). Sample size adequacy for factor analysis was confirmed based on the recommendations by Abatecola et al.^[17] and recent guidelines in HRD research^[18].

3.2. Instrument

The primary instrument for data collection in this study was a structured questionnaire, designed to comprehensively capture both quantitative and qualitative dimensions of human resource development (HRD) within rural agro tourism community enterprises. The questionnaire was meticulously developed based on established frameworks in HRD, rural enterprise management, and digital skills assessment^[19].

The questionnaire consisted of multiple sections. The first section collected demographic and organizational background information, such as age, gender, role within the enterprise, years of experience, and enter-

prise type. Subsequent sections assessed key research variables, including digital competency, financial management skills, innovation practices, and perceptions of enterprise sustainability. Items were predominantly measured using five-point Likert scales (ranging from “strongly disagree” to “strongly agree”), allowing for quantitative analysis of attitudes, knowledge, and behaviors.

Overall, the integration of structured questionnaires, expert validation, and multi-method instruments ensured robust, credible, and contextually appropriate data collection aligned with the study’s objectives.

3.3. Data Analysis

Quantitative data were analyzed using the statistical software AMOS. Descriptive statistics (mean, standard deviation, frequencies) summarized participant characteristics and baseline competencies. Inferential analyses included Confirmatory factor analysis (CFA) and reliability testing (e.g., Cronbach’s alpha) to identify latent constructs, test hypotheses, and confirm scale validity^[20, 21]. Data cleaning and normality tests were conducted to ensure robustness.

4. Results

Based on the testing and analysis of causal relationships using statistical methods within the structural equation modelling (SEM) development process involving the variables Human Resource Development Enhancement of core competencies and Enterprise Sustainability and Competitiveness, the following findings were revealed:

- 1) Human Resource Development has a statistically significant direct influence on Enterprise Sustainability and Competitiveness at the 0.001 level, with a standardized path coefficient of 0.31.
- 2) Human Resource Development has a statistically significant direct influence on Enhancement of Core Competencies at the 0.001 level, with a standardized path coefficient of 0.53.
- 3) Enhancement of Core Competencies has a statistically significant direct influence on Enterprise Sus-

tainability and Competitiveness at the 0.001 level, with a standardized path coefficient of 0.45.

Result According to Research Objective 3: To develop a structural equation model that can predict the level of Sustainable Argo Tourism Community Enterprises within the context of agro tourism community enterprises.

4.1. Findings

Before proceeding to test the hypotheses or examine the consistency of the empirical data with the model according to the procedures of the Structural Equation Modeling process, the researcher assessed the reliability and validity. The Average Variance Extracted (AVE) and the square root of the AVE were presented to evaluate discriminant validity and convergent validity. In addition, the researcher examined the normal distribution of the data for each variable category based on the mean values of kurtosis and skewness, as shown in **Tables 1** and **2**.

Based on the development of the research conceptual framework derived from the literature review, the researcher collected data and conducted analyses to examine the consistency between the proposed model and the empirical data. The researcher tested the Measurement Model, and after refining and modifying the model, the finalized structure of the Measurement Model is presented in **Figure 1**.

As shown in **Figure 1**, after the researcher assessed the Measurement Model using Confirmatory Factor Analysis (CFA), the following fit indices were obtained: $\chi^2 = 49.309$, $df = 19$, $p\text{-value} = 0.000$, $\chi^2/df = 2.595$, $GFI = 0.960$, $NFI = 0.936$, $IFI = 0.954$, $TLI = 0.930$, $CFI = 0.954$, and $RMSEA = 0.078$. These values indicate a good fit between the model and the empirical data. Consequently, the researcher proceeded to assess the Structural Model based on the conceptual framework. After model refinement, the following fit indices were obtained: $\chi^2 = 47.335$, $df = 19$, $p\text{-value} = 0.000$, $\chi^2/df = 2.491$, $GFI = 0.962$, $NFI = 0.963$, $IFI = 0.978$, $TLI = 0.957$, $CFI = 0.977$, and $RMSEA = 0.075$. These results suggest that the structural model demonstrated a good fit with the empirical data, as illustrated in **Figure 2**.

In addition, the researcher assessed construct re-

liability, convergent validity, discriminant validity, and model fit with empirical data based on the criteria proposed by McGinty and Smyth^[22]. The analysis indicated that all values met the required thresholds, thereby val-

idating the measurement model. As a result, the researcher proceeded to conduct path analysis to examine the causal relationships among variables, as presented in **Tables 3** and **4**.

Table 1. Reliability and Validity.

Validity	Cronbach's Alpha	ρ_c	ρ_v
HDR	0.866	0.869	0.690
ECC	0.851	0.844	0.645
ESC	0.801	0.811	0.590

Table 2. Skewness and Kurtosis.

	HDR	ECC	ESC
Skewness	-0.418	-0.451	-0.265
Kurtosis	-0.518	-0.181	-0.598

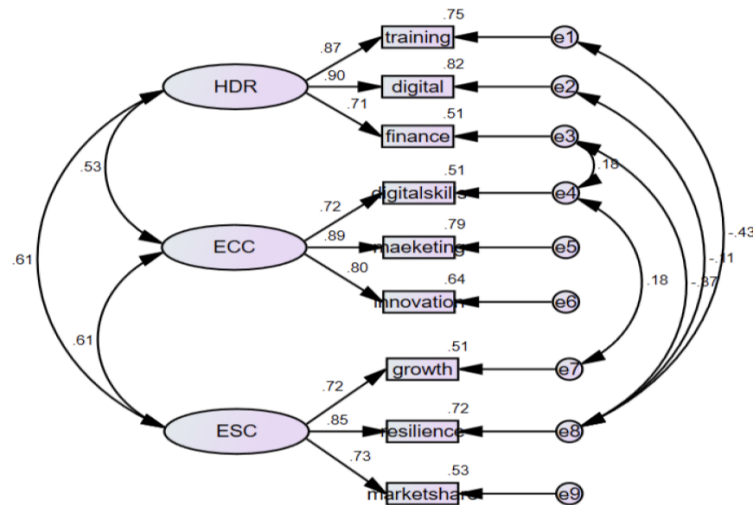


Figure 1. Adjusted Measurement Model.

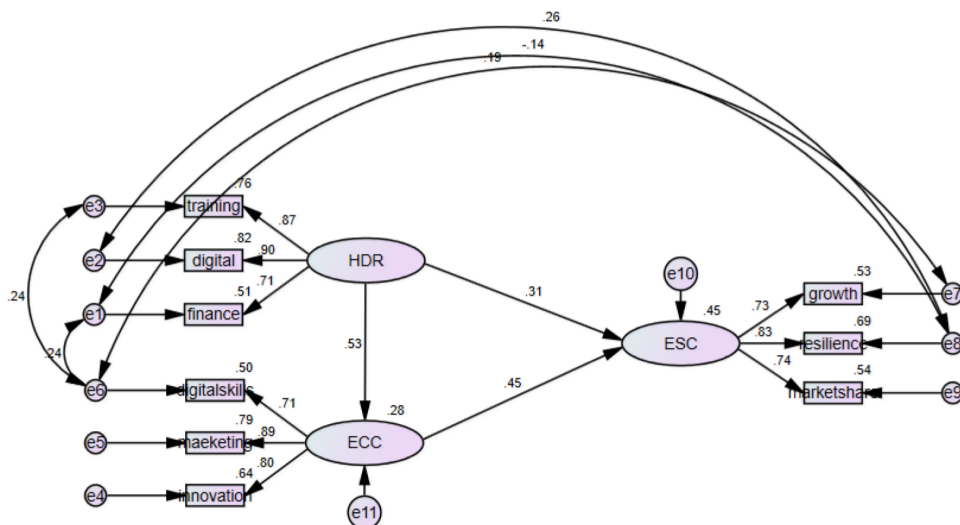


Figure 2. Adjusted Structural Model.

Table 3. Results of the Regression weights and squared multiple correlation coefficients.

			Estimate	S.E.	C.R.	p-Value
ECC	←	HRD	0.527	0.068	7.339	0.000***
ESC	←	HRD	0.306	0.083	3.885	0.000***
ESC	←	ECC	0.454	0.092	5.468	0.000***

Note: ***: significant level at 0.001 ($p < 0.001$).

Table 4. Path Analysis.

Dependent Variable	R ²	Effect	Independent Variable		
			HDR	ECC	ESC
ECC	0.28	Direct	0.527***	-	-
		Indirect	-	-	-
		Total	0.527***	-	-
ESC	0.45	Direct	0.306***	0.454***	-
		Indirect	0.239***	-	-
		Total	0.546***	0.454***	-

$\chi^2 = 47.335$, $df = 19$, p -value = 0.000, $\chi^2/df = 2.491$, GFI = 0.962, NFI = 0.963, IFI = 0.978, TLI = 0.957, CFI = 0.977, and RMSEA = 0.075

Note: *significant level at 0.05 ($p < 0.05$); ** significant level at 0.01 ($p < 0.01$); *** significant level at 0.001 ($p < 0.001$).

The results from **Table 3** show that Human Resource Development (HRD) has a significant positive effect on both Employee Communication Competence (ECC) and Employee Service Competence (ESC). Specifically, HRD strongly predicts ECC ($\beta = 0.527$, $p < 0.001$) and also directly influences ESC ($\beta = 0.306$, $p < 0.001$). In addition, ECC has a significant positive impact on ESC ($\beta = 0.454$, $p < 0.001$), indicating that employees with higher communication competence tend to demonstrate better service competence. These findings suggest that HRD not only enhances service competence directly but also indirectly through improving communication competence, highlighting ECC's mediating role in the relationship between HRD and ESC.

4.2. Hypothesis Testing Outcomes

H1: *Human Resource Development has a positive effect on the Enhancement of Core Competencies.*

Based on the results of the path analysis presented in **Table 1**, it can be concluded that the variable Human Resource Development has a positive effect on En-

hancement of Core Competencies at the 0.001 level, with a standardized path coefficient of 0.53. Therefore, Research Hypothesis 1 is accepted.

H2: *Human Resource Development has a positive effect on Enterprise Sustainability and Competitiveness.*

Based on the results of the path analysis presented in **Table 1**, it can be concluded that the variable Human Resource Development has a positive effect on Enterprise Sustainability and Competitiveness at the 0.001 level, with a standardized path coefficient of 0.31. Therefore, Research Hypothesis 2 is accepted.

H3: *Enhancement of Core Competencies has a positive effect on Enterprise Sustainability and Competitiveness.*

Based on the results of the path analysis presented in **Table 1**, it can be concluded that the variable Enhancement of Core Competencies has a positive effect on Enterprise Sustainability and Competitiveness at the 0.001 level, with a standardized path coefficient of 0.45. Therefore, Research Hypothesis 3 is accepted.

From the hypothesis testing results, the findings can be described and presented as shown in **Table 5**.

Table 5. Hypothesis Testing Result.

Path	Estimate	Adjusted R Square	p-Value	Label
Human Resource Development -> Enhancement of Core Competencies	0.527	0.28	0.000***	Accepted

Table 5. Cont.

Path	Estimate	Adjusted R Square	p-Value	Label
Human Resource Development -> Enterprise Sustainability and Competitiveness	0.306	0.45	0.000***	Accepted
Enhancement of Core Competencies -> Enterprise Sustainability and Competitiveness	0.454	0.45	0.000***	Accepted

Note: ***: significant level at 0.001 ($p < 0.001$).

5. Discussion

This study provides compelling evidence that s between HRD and positive enterprise outcomes. These findings align with broader theoretical frameworks that emphasize the strategic role of human capital in achieving organizational goals^[23]. The direct and indirect effects of HRD on enterprise performance highlight its dual function: it directly improves the enterprise’s ability to compete and endure, while also acting as a catalyst for developing the core competencies essential for long-term success.

The significant direct effect of HRD on the enhancement of core competencies ($\beta = 0.53, p < 0.001$) suggests that investing in people through training, skill development, and knowledge sharing is not merely a supportive function but a fundamental driver of enterprise capability. This result is particularly pertinent for the agro-tourism sector, where success hinges on a blend of traditional agricultural knowledge, hospitality skills, and business acumen. The development of competencies in product innovation, technological adaptation, resource management, and market responsiveness is crucial for these enterprises to navigate the complexities of a dynamic market^[24]. For instance, HRD initiatives might include workshops on developing unique agro-tourism products, such as farm-to-table culinary experiences or eco-friendly lodging, which directly enhance their capacity for product innovation. Similarly, training on digital marketing and e-commerce platforms represents a direct HRD intervention aimed at improving market responsiveness and technological adaptation^[25].

The mediating role of core competencies is a key finding of this research. The structural model confirms that HRD’s influence on enterprise sustainability and competitiveness is substantially affected by the enhancement of these core competencies ($\beta = 0.45, p < 0.001$). This confirms that HRD’s impact is not a superficial, short-term gain but is rooted in the deep-seated

improvement of organizational capabilities. It means that HRD programs don’t just solve immediate problems; they build a lasting capacity within the enterprise to adapt and thrive. This is consistent with the Resource-Based View (RBV) of the firm, which posits that a firm’s competitive advantage is derived from the valuable, rare, inimitable, and non-substitutable resources it possesses^[26]. In this context, a skilled and competent workforce, cultivated through effective HRD, is a prime example of such a resource. For Thai agro-tourism enterprises, which often operate in highly localized and competitive environments, a unique set of competencies related to their specific cultural and natural resources provides a powerful competitive edge^[27].

The identified competency domains are especially relevant to the current challenges and opportunities facing rural community enterprises. Product innovation is essential for differentiating a business in a saturated market. For example, a community enterprise could innovate by combining traditional farming practices with cultural storytelling, creating a unique narrative-based tour. Technological adaptation is no longer a luxury but a necessity, as it enables enterprises to reach broader markets through online booking systems, social media marketing, and data analytics for customer insights^[28]. Resource management, which includes both natural and financial resources, ensures operational efficiency and long-term viability. This competency is particularly important for agro-tourism enterprises, which depend heavily on the sustainable management of their environmental assets^[29]. Finally, market responsiveness ensures that enterprises remain attuned to customer preferences and market trends, allowing them to adjust their offerings and strategies in real-time. This dynamic capability is a cornerstone of competitive advantage in fast-evolving service industries^[30].

These findings also resonate with the broader discourse on sustainable rural development. By strengthening community enterprises through HRD, this study

demonstrates a pathway to economic empowerment that is both bottom-up and self-sustaining. The focus on local human capital ensures that the benefits of tourism are retained within the community, fostering a more equitable distribution of wealth. The development of these enterprises contributes not only to economic growth but also to the preservation of local culture and traditions, as these often form the basis of their unique tourism offerings. The success of these enterprises depends heavily on the collective action and shared knowledge of community members, underscoring the importance of HRD programs that foster collaboration and social learning.

In conclusion, this research provides a robust empirical foundation for the strategic importance of HRD in the agro-tourism sector. It validates that HRD is a direct catalyst for success and that its impact is amplified by its role in building a strong foundation of core competencies. These competencies, including innovation, technology, resource stewardship, and market agility, are the true engines of sustainability and competitiveness. This study's findings provide a clear mandate for policymakers and community leaders to prioritize and invest in human capital development as a central strategy for fostering resilient and thriving rural economies.

6. Conclusions

The study revealed that the mean levels of HRD, enhancement of core competencies, and enterprise sustainability and competitiveness were 3.54, 3.86, and 3.33, respectively, indicating moderate to high development across all areas. The path analysis further confirmed the validity of the proposed structural relationships. The total effects of HRD on enterprise sustainability were measured at 0.546, with both direct and indirect contributions, emphasizing the integral role of HRD as a transformative driver. The measurement and structural models demonstrated good fit with empirical data (CFI = 0.977, TLI = 0.957, RMSEA = 0.075), reinforcing the reliability of the conceptual framework. Additionally, training evaluations provided by 30 participants reported high satisfaction across accuracy, feasibility, and usefulness (mean = 4.78, SD = 0.33), confirming the practical impact of HRD interventions on participant perceptions

and learning outcomes.

6.1. Implication

These findings bear important implications for policymakers, training providers, and community enterprise leaders. First, they highlight the necessity of investing in structured HRD programs that are context-sensitive and competency-driven, particularly in areas such as digital marketing, financial management, and innovation. Second, the evidence underscores the strategic value of building core competencies not as standalone objectives, but as mediators that translate training into measurable enterprise performance. Third, the research supports the integration of community-based learning, social capital networks, and participatory governance into HRD frameworks. These elements strengthen adaptability, promote innovation, and enable long-term competitiveness in a rapidly shifting rural tourism landscape. The strong empirical support for the HRD–competency–sustainability chain suggests that scaling such programs at national or regional levels could significantly accelerate rural economic transformation in line with creative economy policies and the Sustainable Development Goals (SDGs). The creative economy sector is tightly associated with sustainable development and Sustainable Development Goals (SDGs).

6.2. Contribution

This study advances theoretical and empirical understanding in several ways. Theoretically, it enriches the discourse on Human Capital Theory by empirically validating a competency-based HRD framework within a grassroots tourism context. It also demonstrates the mediating power of core competencies, thereby refining our understanding of causal pathways in rural enterprise development. Empirically, the study introduces a robust structural model that can be adapted and applied in other regions with similar agro-tourism and rural enterprise ecosystems. Furthermore, the high reliability of instruments and rigorous data validation techniques (e.g., Cronbach's alpha > 0.80, CFA fit indices) offer a strong methodological contribution to HRD and

tourism research. From a practical standpoint, the study provides a replicable model for designing HRD interventions that are relevant, impactful, and scalable, helping bridge the gap between training policy and community-level implementation.

6.3. Limitations & Future Research Directions

Despite its contributions, this study has several limitations. First, its cross-sectional design limits the ability to establish causal relationships over time; therefore, longitudinal studies are recommended to capture the dynamic impacts of human resource development (HRD). Second, although the sample size ($n = 265$) was sufficient for the statistical analyses conducted, it was geographically restricted, which may constrain the generalizability of the findings beyond the specific regional and cultural context examined. Third, the use of self-reported data introduces the possibility of social desirability bias and response inaccuracies, particularly regarding perceived skill acquisition and enterprise performance. Moreover, the study focused on short-term training outcomes, without assessing long-term behavioral or operational changes. Finally, while the study examined key competency domains such as digital literacy and financial management, future research should broaden its scope to include emerging areas like environmental sustainability, green HRM, and circular economy skills within rural tourism enterprises. Building upon the limitations acknowledged in this study, several avenues for future research can be identified. First, the adoption of longitudinal research designs would allow scholars to examine the causal effects of Human Resource Development (HRD) interventions over time. Such designs could capture the evolving trajectories of competency development and provide deeper insights into the sustained impacts of HRD on enterprise performance. Second, the present study's findings are limited to a specific regional and cultural setting. Future research should aim to replicate and extend this work across different geographical contexts, cultural environments, and types of tourism enterprises. Comparative studies could highlight contextual variations, thereby enhancing the generalizability and cross-cultural rele-

vance of HRD strategies. Third, to address potential biases inherent in self-reported data, future investigations might incorporate multi-source or mixed-method approaches. For example, triangulating survey responses with performance records, observational methods, or qualitative interviews could provide a more holistic and objective assessment of training effectiveness.

Fourth, given that the current research primarily assessed short-term training outcomes, subsequent studies should seek to measure long-term behavioral, operational, and strategic changes. This may include tracking the retention and application of acquired skills, changes in organizational practices, and broader community-level impacts over extended periods. Finally, as rural tourism enterprises continue to evolve in response to global sustainability imperatives, future research should broaden the scope of HRD competencies beyond digital literacy and financial management. In particular, there is a need to investigate how emerging domains such as environmental sustainability, green HRM practices, and circular economy skills can be integrated into training and development frameworks. Exploring these areas would not only align HRD with global sustainable development goals but also ensure the resilience and competitiveness of rural tourism enterprises in a rapidly changing environment.

Author Contributions

Wrote the research proposal: C.R., P.C., and E.C.; Did the research methodology: C.R., P.C., and E.C.; Designed the instrument: B.P.; Collected the data: C.R., W.J., P.C., E.C., and B.P.; Analyzed and processed: P.L. and M.S.K.; Verified for accuracy: O.S. and M.K.; Wrote the report: C.R., P.L., and M.S.K. All authors have read and approved the published manuscript.

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Institutional Review Board Statement

This article is part of research that has passed the evaluation of human research ethics and examined the tools used to collect data from samples, with Certificate Number: COE.2/448/2024 Study Code: 67-477-2-1 from the Human Research Ethics Review Committee, Suan Sunandha Rajabhat University, Thailand.

Informed Consent Statement

This study does not involve human research because the data is subjective and no personally identifying information is disclosed.

Data Availability Statement

The data supporting the reported results in this study are available upon request from the corresponding author. The datasets analyzed or generated during the study are not publicly available due to privacy and ethical restrictions. However, data can be made available for academic research purposes upon reasonable request.

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Conflicts of Interest

The authors declare that they have no conflict of interest.

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