



ENUGU STATE UNIVERSITY OF SCIENCE & TECHNOLOGY

JOURNAL OF SOCIAL SCIENCES & HUMANITIES

**Volume 11
Number 2,
2026**

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PUBLISHED BY

**Faculty of Social Sciences,
Enugu State University of Science And Technology**

AI-Augmented HR Practices and Agripreneurial Success: The Mediating Roles of Innovation Capability and Risk-Taking Behavior in the Southwest Region of Cameroon

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Abstract

This study examined the relationship between AI-augmented Human Resource practices and agripreneurial success, with particular focus on the mediating roles of innovation capability and risk-taking behavior among agribusiness enterprises in the Southwest Region of Cameroon. A mixed-methods research design was employed, combining quantitative survey data from 384 agribusiness owners and managers with qualitative interviews from 15 key informants. Data analysis utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) for quantitative data and thematic analysis for qualitative data. The findings indicated that AI-augmented HR practices significantly and positively influence agripreneurial success, with innovation capability and risk-taking behavior serving as partial mediators in this relationship. The study contributed to the theoretical understanding of AI integration in agricultural human resource management and offered practical recommendations for agribusiness development in emerging economies.

Keywords: *Artificial Intelligence, Human Resource Management, Agripreneurship, Innovation Capability, Risk-Taking Behavior, Cameroon*

Introduction

The agricultural sector occupies a central position in the economic landscape of Cameroon, contributing approximately 20% to the nation's Gross Domestic Product and providing livelihoods for nearly 60% of the active population (Ministry of Agriculture and Rural Development, 2021). Within this sector, agripreneurship defined as entrepreneurial activity focused on agricultural value chains has emerged as a critical mechanism for poverty reduction, rural development, and food security enhancement. The Southwest Region of Cameroon, with its favorable climatic conditions and diverse agricultural potential, represents a significant hub for agribusiness activities, encompassing cash crops such as cocoa, coffee, oil palm, and rubber, alongside food crops including plantains, cassava, and maize (Njong & Nkote, 2020).

Despite its considerable agricultural potential, the Southwest Region faces persistent challenges that constrain entrepreneurial success in the sector. These challenges include limited access to modern technologies, inadequate human capital development, insufficient financial resources, and suboptimal organizational practices (Asongwe et al., 2021). The contemporary business environment is witnessing unprecedented technological transformation, with artificial intelligence (AI) emerging as a powerful force reshaping

organizational practices across sectors. In the human resource management domain specifically, AI-augmented practices encompassing automated recruitment systems, predictive analytics for workforce planning, personalized training algorithms, and intelligent performance management tools have demonstrated considerable potential to enhance organizational efficiency, strategic human capital development, and competitive advantage (Votto et al., 2021).

The integration of AI into HR functions represents a fundamental paradigm shift from traditional administrative approaches to data-driven, strategic human resource management. This transformation has the potential to unlock innovation capability and entrepreneurial success by enabling more effective talent acquisition, development, and retention strategies (Kalia & Mishra, 2023). Entrepreneurial success in agribusiness contexts is contingent upon multiple factors, with innovation capability and risk-taking behavior emerging as critical determinants. Innovation capability encompasses an organization's capacity to develop novel products, processes, and business models that create value and sustain competitive advantage in dynamic markets. Risk-taking behavior, defined as the willingness to commit significant resources to uncertain ventures with potential for high returns, is fundamental to entrepreneurial action in the volatile agricultural sector (Polas et al., 2026).

The interplay between AI-augmented HR practices and these entrepreneurial dimensions presents a compelling area for empirical investigation, particularly in developing country contexts where technological adoption may catalyze transformative change. Cameroon currently occupies the 153rd position out of 193 countries in terms of public sector AI adoption, with limited infrastructure and policy frameworks constraining AI integration in organizational functioning (Ntemen et al., 2025). This context of emerging AI adoption presents both opportunities and challenges for agribusiness enterprises seeking to leverage technology for entrepreneurial success.

The fundamental problem addressed by this study is the persistent gap between the potential benefits of AI-augmented HR practices and their actual implementation and impact in agribusiness enterprises in the Southwest Region of Cameroon. Despite growing global evidence of AI's transformative potential in HR management, the agricultural sector in Cameroon continues to rely predominantly on traditional human resource approaches characterized by informal recruitment, limited performance management systems, and inadequate employee development practices (Bilola Fouda, 2018). This disconnect between technological potential and organizational practice may significantly constrain innovation capability and entrepreneurial success in the agribusiness sector.

Furthermore, the specific mechanisms through which AI-augmented HR practices influence entrepreneurial outcomes remain inadequately understood in the context of African agribusinesses. While studies have examined the direct effects of HR practices on organizational performance, limited empirical attention has been devoted to the mediating pathways involving innovation capability and risk-taking behavior, particularly in developing country agricultural settings (Ntemen et al., 2025). The agricultural sector in the Southwest Region presents unique characteristics including seasonal production cycles, environmental uncertainties, market volatility, and workforce characteristics that necessitate adaptive HR practices capable of supporting flexible workforce management and continuous innovation.

The empirical evidence from related contexts indicates that AI integration in HRM can yield substantial benefits. Ntemen et al. (2025) found that AI significantly enhanced employee

engagement and willingness to take calculated risks (93.34%), improved workers' innovation (75%), and increased usage of HR management software and workers' proactiveness (88.89%) in Cameroonian multinational corporations. These findings suggest significant potential for AI-augmented HR practices to influence entrepreneurial outcomes, yet the specific mechanisms and contextual factors remain insufficiently explored in the agribusiness sector. Specifically, the study is designed to: Examine the effect of AI-augmented HR practices on agripreneurial success in the Southwest Region of Cameroon. Determine the mediating roles of innovation capability and risk-taking behavior in the relationship between AI-augmented HR practices and agripreneurial success. Based on the research objectives and theoretical framework, the following hypotheses were formulated: **H1:** AI-augmented HR practices have a significant positive effect on agripreneurial success in the Southwest Region of Cameroon. **H2:** Innovation capability significantly mediates the relationship between AI-augmented HR practices and agripreneurial success. **H3:** Risk-taking behavior significantly mediates the relationship between AI-augmented HR practices and agripreneurial success.

Literature Review

2.0 Conceptual Clarification

2.1 AI-Augmented Human Resource Practices

AI-augmented human resource practices refer to the integration of artificial intelligence technologies into various HR functions to enhance efficiency, effectiveness, and strategic value. These practices encompass a spectrum of applications including automated recruitment and selection systems that utilize algorithms to screen candidates and predict job fit; predictive analytics tools for workforce planning and talent management; personalized training and development platforms that adapt to individual learning needs; and intelligent performance management systems that provide real-time feedback and evaluation (Kalia & Mishra, 2023). Votto et al. (2021) conceptualized AI in HRM as the use of machine learning algorithms and intelligent systems to automate, augment, or improve HR processes and decision-making. The defining characteristic of AI-augmented HR practices is their capacity to process vast amounts of data, identify patterns, and generate insights that support more informed and strategic human resource decisions. In the context of agribusiness, AI-augmented HR practices may include digital platforms for managing seasonal workers, predictive analytics for agricultural labor planning, and intelligent training systems for developing agricultural skills (Ntemen et al., 2025).

2.2 Agripreneurial Success

Agripreneurial success refers to the achievement of positive outcomes in agricultural entrepreneurship, encompassing financial performance, business growth, sustainability, and value creation. It is a multidimensional construct that reflects the extent to which agribusiness enterprises accomplish their economic, social, and environmental objectives (Asongwe et al., 2021). Key indicators of agripreneurial success include profitability, revenue growth, market share expansion, employment generation, innovation adoption, and contribution to food security and rural development. In the agricultural context, entrepreneurial success extends beyond financial metrics to include sustainable resource utilization, community development, and resilience to environmental and market shocks. The achievement of agripreneurial success requires effective management of human resources, adoption of appropriate

technologies, and strategic responses to the unique challenges and opportunities of the agricultural sector (Polas et al., 2026).

2.3 Innovation Capability

Innovation capability is defined as an organization's ability to develop and implement new ideas, processes, products, or business models that create value and enhance competitive advantage (Jimenez-Jimenez et al., 2013). This capability encompasses multiple dimensions, including technological innovation (adoption of new technologies and production methods), product innovation (development of new or improved products), process innovation (enhancement of operational processes), and managerial innovation (implementation of new organizational practices). Innovation capability is fundamental to entrepreneurial success as it enables organizations to adapt to changing market conditions, differentiate themselves from competitors, and create new sources of value. In the agricultural sector, innovation capability may manifest through the adoption of precision farming technologies, the development of new crop varieties or processing methods, the implementation of sustainable farming practices, or the creation of novel business models for agricultural value chains (Ntemen et al., 2025).

2.4 Risk-Taking Behavior

Risk-taking behavior in the entrepreneurial context refers to the willingness to commit resources to ventures or decisions characterized by uncertainty and potential for significant loss or gain (Polas et al., 2026). It is a fundamental dimension of entrepreneurial orientation and involves the propensity to undertake bold actions that may challenge the status quo, enter new markets, develop new products, or adopt new technologies despite the associated uncertainties. Risk-taking behavior is particularly relevant in agricultural entrepreneurship, where environmental variability, market volatility, and production uncertainties create a naturally risky operational context. Effective risk-taking involves calculated assessment of potential outcomes, strategic allocation of resources, and willingness to learn from both successes and failures. Studies have demonstrated that risk-taking behavior is positively associated with entrepreneurial success and innovation adoption, as it enables entrepreneurs to seize opportunities that more risk-averse actors may avoid (Ntemen et al., 2025; Polas et al., 2026).

2.2 Theoretical Framework

This study draws upon three theoretical frameworks that provide complementary perspectives on the relationship between AI-augmented HR practices and agripreneurial success.

2.2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis (1989), posits that an individual's intention to adopt a technology is determined by two primary factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a particular technology would enhance their job performance, while perceived ease of use refers to the degree to which an individual believes that using the technology would be free of effort. The TAM has been extensively applied in information

systems research and has been extended to examine technology adoption in various organizational contexts, including agriculture. In the context of AI-augmented HR practices, the TAM suggests that agribusiness owners and managers will adopt AI technologies to the extent that they perceive these technologies as useful for improving HR outcomes and easy to integrate into their organizational practices (Polas et al., 2026).

2.2.2 Dynamic Capabilities Theory

Dynamic Capabilities Theory, articulated by Teece et al. (1997), explains how organizations achieve competitive advantage in rapidly changing environments through the development of capabilities that enable sensing, seizing, and transforming. Dynamic capabilities are defined as the organization's ability to integrate, build, and reconfigure internal and external competencies to address changing environments. This theory is particularly relevant to understanding how AI-augmented HR practices can enhance agripreneurial success through improved innovation capability and risk-taking behavior. AI-augmented HR practices can be understood as a dynamic capability that enables agricultural enterprises to sense opportunities in the external environment, seize these opportunities through effective human resource deployment, and transform their organizational processes to sustain competitive advantage. The theory suggests that the integration of AI into HR practices enhances the organization's capacity to adapt to changing market conditions, innovate, and take calculated risks (George & Thomas, 2019).

2.2.3 Human Capital Theory

Human Capital Theory, originally developed by Becker (1964), posits that investments in education, training, and health enhance individuals' productive capacities and contribute to economic growth and organizational performance. The theory suggests that organizations can achieve competitive advantage through strategic investment in their human resources, including recruitment, training, development, and retention of skilled employees. In the context of AI-augmented HR practices, Human Capital Theory provides a framework for understanding how AI technologies can enhance the value of human capital through improved recruitment, training, and performance management. The integration of AI into HR practices enables more effective identification, development, and deployment of human capital, which in turn enhances innovation capability and entrepreneurial success. Research by Ntemen et al. (2025) supports this theoretical perspective, demonstrating that AI-enhanced HR practices significantly improve employee engagement and willingness to take calculated risks.

2.3 Empirical Review

2.3.1 AI-Augmented HR Practices and Entrepreneurial Success

Empirical studies examining the relationship between AI-augmented HR practices and entrepreneurial outcomes have provided substantial evidence of positive associations. Ntemen et al. (2025) conducted a qualitative investigation of AI's effects on HRM practices and intrapreneurship in multinational corporations operating in Cameroon, employing manual thematic analysis of interview data from three regional HR managers. The findings revealed that AI significantly enhanced time economy in executing administrative tasks and workers' innovation (75%), usage of HR management software and workers' proactiveness (88.89%), and enhanced employee engagement and willingness to take calculated risks (93.34%). The

study also identified subsidiary factors influenced by AI, including task automation (94.45%) and procedure digitalization (50%). These findings provide compelling evidence for the transformative potential of AI integration in HRM within the Cameroonian context, though the study was limited to multinational corporations operating outside crisis zones.

In a related study, Polas et al. (2026) investigated the behavioral drivers of AI adoption among rural agripreneurs in emerging economies. The findings revealed that innovativeness significantly and positively influences attitude and risk-taking behavior, while relative advantage significantly and positively impacts the intention to adopt AI and influences attitude and risk-taking behavior. The study further demonstrated that attitude mediates the relationship between innovativeness and relative advantage on AI adoption, and risk-taking behavior mediates the relationship between relative advantage and AI adoption. These findings underscore the importance of psychological and behavioral factors in shaping AI adoption decisions among agripreneurs and suggest that innovation capability and risk-taking behavior play critical mediating roles.

Further empirical evidence from international contexts supports these findings. Research on the role of AI in transforming HR engineering in agrarian entrepreneurship has identified key directions for digitalizing HR functions, including automated recruitment, predictive analytics, personalized training, and adaptive workforce planning (e.g., the potential for AI to reduce administrative workload, optimize HR management processes, and improve the quality of personnel decisions in agricultural enterprises, as synthesized in recent reviews). Barriers to AI adoption are often systemized, including organizational, technological, personnel-related, and ethical constraints, underscoring the complexity of AI integration in agricultural contexts (Kalia & Mishra, 2023).

2.3.2 Innovation Capability as a Mediator

Empirical research on innovation capability as a mediator in the relationship between organizational practices and entrepreneurial outcomes has provided substantial evidence for its critical mediating role. Jimenez et al. (2013) examined the relationship between HR practices and innovation performance, finding that HR practices significantly influence innovation capability, which in turn affects organizational performance. The study demonstrated that effective HR practices including selective staffing, comprehensive training, performance-based compensation, and participative decision-making enhance organizational learning and knowledge creation, which subsequently contribute to innovation capability and performance.

In the context of agricultural entrepreneurship, research has demonstrated that innovation capability mediates the relationship between digital technology adoption and entrepreneurial performance. The integration of digital technologies, including AI, into agricultural enterprises enhances organizational learning, knowledge sharing, and creative problem-solving, leading to improved innovation capability and entrepreneurial outcomes (Kalia & Mishra, 2023). This suggests that the effect of AI-augmented HR practices on agripreneurial success may be partially explained by the enhancement of innovation capability.

2.3.3 Risk-Taking Behavior as a Mediator

Empirical studies have established risk-taking behavior as a significant mediator in the relationship between organizational practices and entrepreneurial outcomes. Research by

Ntemen et al. (2025) demonstrated that AI-enhanced HRM practices significantly improved employee willingness to take calculated risks, with 93.34% of respondents indicating enhanced risk-taking behavior following AI integration. This suggests that AI-augmented HR practices may influence entrepreneurial success through the enhancement of risk-taking behavior.

Polas et al. (2026) found that risk-taking behavior mediates the relationship between perceived relative advantage and AI adoption among agripreneurs, indicating that risk-taking behavior is a critical mechanism through which organizational factors influence technological adoption and entrepreneurial outcomes. The study suggests that the willingness to take calculated risks enables agripreneurs to overcome barriers to AI adoption and leverage technology for enhanced performance.

2.4 Literature Gap

Despite growing research on AI integration in HRM, significant gaps remain in the literature. Limited empirical attention has been devoted to agribusiness enterprises in developing countries, particularly sub-Saharan Africa, with most studies focusing on multinational corporations in developed economies. The mediating mechanisms of innovation capability and risk-taking behavior remain inadequately understood in agricultural settings. Methodological limitations persist, with few quantitative studies employing rigorous statistical techniques to examine these relationships. The Southwest Region of Cameroon, with its distinctive agricultural characteristics, has not been examined in relation to AI-augmented HR practices and agripreneurial outcomes.

3. Research Methodology

3.1 Research Design

The study employed a mixed-methods research design combining quantitative and qualitative approaches (Creswell & Plano Clark, 2018). This design was selected to enable comprehensive examination of the relationships among AI-augmented HR practices, innovation capability, risk-taking behavior, and agripreneurial success, while also capturing the contextual nuances and participant perspectives that quantitative data alone cannot provide. The mixed-methods approach followed a concurrent triangulation design, wherein quantitative and qualitative data were collected simultaneously, analyzed separately, and then integrated during interpretation to validate and enrich findings. The sample for this study is independent from any prior or concurrent research projects by the author on related topics.

3.2 Study Area

The study was conducted in the Southwest Region of Cameroon, selected due to its significant agricultural potential, diverse agribusiness activities, and the unique challenges facing agricultural enterprises in the region. Major agricultural activities include cocoa and coffee production, oil palm cultivation, rubber production, and food crop farming.

3.3 Target Population and Sampling

The target population comprised all registered agribusiness enterprises operating in the Southwest Region of Cameroon. According to the Regional Delegation of Agriculture and Rural Development, there were approximately 5,200 registered agribusiness enterprises in the region as of 2025.

The sample size was determined using Yamane's (1967) formula:

$$n = N / (1 + N \times e^2)$$

Where:

n = desired sample size

N = population size (5,200)

e = margin of error (0.05)

The calculation yielded a sample size of approximately 372 respondents. To account for potential non-response, the sample size was increased to 420 respondents. A total of 384 valid questionnaires were returned and analyzed, yielding a response rate of 91.4%.

3.4 Sampling Technique

A stratified random sampling technique was employed to ensure representation across enterprise categories (crop farming, livestock farming, agro-processing, agricultural services, and marketing/trade). Within each stratum, enterprises were selected randomly using proportional allocation. For the qualitative component, purposive sampling was used to select 15 key informants, including agribusiness owners, HR managers, agricultural extension officers, and industry association representatives.

3.5 Data Collection Instruments

3.5.1 Quantitative Instrument

A structured questionnaire comprising four sections was used. Section A captured demographic and enterprise characteristics. Section B measured AI-augmented HR practices using a scale adapted from Votto et al. (2021) and Ntemen et al. (2025). To ensure clarity and face validity given Cameroon's low national AI-adoption ranking, the survey instrument explicitly defined and operationalized "AI-augmented HR practices" for respondents. The term was described as using "computer-based systems that can learn from data to assist with HR tasks" and included examples such as "software that helps screen job applications," "systems that suggest training based on performance," "predictive tools for workforce planning," and "digital platforms for managing seasonal workers." This was to differentiate genuine AI/machine-learning use from basic digital record-keeping or generic software. Section C measured innovation capability using a scale adapted from Jimenez-Jimenez et al. (2013). Section D measured risk-taking behavior using a scale adapted from Polas et al. (2026). Section E measured agripreneurial success using indicators from Asongwe et al. (2021). All items were measured on a five-point Likert scale.

3.5.2 Qualitative Instrument

A semi-structured interview guide was used to collect qualitative data, containing open-ended questions organized around the key constructs of the study.

3.6 Validity and Reliability

Content validity was ensured through extensive literature review and consultation with subject matter experts. Construct validity was assessed through confirmatory factor analysis (CFA), with all factor loadings exceeding 0.60, composite reliability values above 0.70, and AVE values above 0.50. Reliability was assessed using Cronbach's alpha, with values of 0.87 for AI-augmented HR practices, 0.84 for innovation capability, 0.82 for risk-taking behavior, and 0.89 for agripreneurial success.

3.7 Data Collection Procedures

Data collection was conducted over three months from March to May 2026. Trained research assistants administered the questionnaire to selected agribusiness owners and managers. The qualitative component involved in-depth interviews with 15 key informants, audio-recorded with consent and transcribed verbatim.

3.8 Ethical Considerations

Ethical approval was obtained from the institutional research ethics committee. Informed consent was obtained from all participants, and anonymity and confidentiality were assured through coding systems.

3.9 Data Analysis Techniques

3.9.1 Quantitative Data Analysis

Quantitative data were analyzed using SPSS version 26.0 and SmartPLS version 4.0. Descriptive statistics summarized respondent characteristics and construct scores. Inferential analysis employed Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2021), proceeding in two stages: measurement model assessment and structural model evaluation. Mediation analysis was conducted using bootstrapping with 5,000 resamples.

3.9.2 Qualitative Data Analysis

Qualitative data were analyzed using thematic analysis following Braun and Clarke's (2006) six-phase approach: familiarization, initial coding, theme search, theme review, theme definition, and report production. Themes were developed inductively from the data.

4. Results of the Findings

4.1 Descriptive Statistics

A total of 384 valid questionnaires were returned, representing a response rate of 91.4%. Respondent characteristics are presented in Table 1.

Table 1: Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Gender	Male	227	59.1
	Female	157	40.9
Age	18-30 years	89	23.2
	31-45 years	186	48.4
	46-60 years	79	20.6
	Above 60 years	30	7.8
Education	Primary	42	10.9
	Secondary	113	29.4
	Tertiary	201	52.3
	Postgraduate	28	7.3
Enterprise Type	Crop farming	126	32.8
	Livestock farming	77	20.1
	Agro-processing	96	25.0
	Agricultural services	54	14.1
	Marketing/trade	31	8.1
Enterprise Size	Micro (1-5 employees)	158	41.1
	Small (6-20 employees)	139	36.2
	Medium (21-100 employees)	58	15.1
	Large (>100 employees)	29	7.6

(Source: Field Survey, 2026)

The descriptive statistics indicated moderate levels of AI-augmented HR practices among agribusiness enterprises in the Southwest Region (mean = 3.24, SD = 0.87). Innovation capability showed a mean score of 3.41 (SD = 0.79), while risk-taking behavior had a mean of 3.15 (SD = 0.82). Agripreneurial success was rated relatively high (mean = 3.53, SD = 0.74).

4.2 Measurement Model Assessment

The measurement model was assessed for internal consistency, convergent validity, and discriminant validity. As shown in Table 2, all constructs demonstrated satisfactory composite reliability ($CR \geq 0.70$) and average variance extracted ($AVE \geq 0.50$), supporting convergent validity. Discriminant validity was confirmed through the Fornell-Larcker criterion and heterotrait-monotrait ratio (HTMT).

Table 2: Construct Validity and Reliability

Construct	Cronbach's Alpha	Composite Reliability	AVE
AI-Augmented HR Practices	0.873	0.895	0.632
Innovation Capability	0.841	0.872	0.587
Risk-Taking Behavior	0.823	0.856	0.542
Agripreneurial Success	0.894	0.912	0.678

Source: Field Survey, 2026 - Computed from PLS-SEM Analysis

4.3 Structural Model Assessment and Hypothesis Testing

The structural model was assessed using PLS-SEM to test the hypothesized relationships. The model explained 48.6% of the variance in agripreneurial success ($R^2 = 0.486$), indicating moderate explanatory power.

Hypotheses were evaluated at $\alpha = 0.05$ significance level. As shown in Table 3, the direct effect (H1) was significant. For the mediation hypotheses (H2 and H3), the specific indirect effects and the constituent paths (a and b) were examined using the bootstrapping method with 5,000 resamples. All pathways were statistically significant, confirming the partial mediating roles of innovation capability and risk-taking behavior.

Table 3: Path Coefficients and Hypothesis Testing

Hypothesis	Relationship	Path Coefficient (β)	t-statistic	p-value	Decision
Direct Effect					
H1	AI-HRP $\rightarrow$ Agripreneurial Success (c')	0.208	4.105	0.000	Supported
Constituent Paths for Mediation					
-	AI-HRP $\rightarrow$ Innovation Capability (a_1)	0.419	9.845	0.000	-
-	Innovation Capability $\rightarrow$ Agripreneurial Success (b_1)	0.513	10.672	0.000	-
-	AI-HRP $\rightarrow$ Risk-Taking Behavior (a_2)	0.376	7.218	0.000	-
-	Risk-Taking Behavior $\rightarrow$ Agripreneurial Success (b_2)	0.487	9.004	0.000	-
Specific Indirect Effects					
H2	AI-HRP $\rightarrow$ Innovation Capability $\rightarrow$ Agripreneurial Success ($a_1 \times b_1$)	0.215	4.521	0.000	Supported
H3	AI-HRP $\rightarrow$ Risk-Taking Behavior $\rightarrow$ Agripreneurial Success ($a_2 \times b_2$)	0.183	3.894	0.000	Supported

Source: Field Survey, 2026 - Computed from PLS-SEM Analysis

Note: AI-HRP = AI-Augmented HR Practices; t-statistics > 1.96 and p-values < 0.05 indicate statistical significance at $\alpha = 0.05$.

4.4 Integration of Quantitative and Qualitative Findings

The qualitative findings complemented and enriched the quantitative results. Table 4 presents the integration of qualitative themes with corresponding quantitative findings.

Table 4: Integration of Quantitative and Qualitative Findings

Quantitative Finding	Qualitative Theme	Integration Insight
H1: AI-HRP → Agripreneurial Success ($c'=0.208$)	Theme 1: AI Integration as a Transformative Force in HR Management	Qualitative narratives confirmed the quantitative finding; participants described specific mechanisms through which AI enhances HR practices.
H2: Innovation Capability mediates the relationship ($a1 \times b1=0.215$)	Theme 2: Innovation Capability as a Key Outcome of AI-Enhanced HR	Qualitative data explained how AI enhances innovation through personalized training and skill development.
H3: Risk-Taking Behavior mediates the relationship ($a2 \times b2=0.183$)	Theme 3: Enhanced Risk-Taking through Data-Driven Decision Making	Qualitative data revealed why AI increases risk-taking through data access and improved confidence.
Contextual constraints identified	Theme 4: Challenges and Barriers to AI Adoption	Qualitative data identified moderating factors not captured in the quantitative model, such as infrastructure and skills gaps.

4.4.1 Qualitative Findings

Thematic analysis of interview data revealed four major themes that complemented and enriched the quantitative findings.

Theme 1: AI Integration as a Transformative Force in HR Management

Participants consistently emphasized the transformative potential of AI in HR management. One respondent stated, "AI has completely changed how we manage our workforce. We now use digital platforms to track performance, identify training needs, and even predict labor requirements for different seasons." This finding aligns with the quantitative results showing significant positive effects of AI-augmented HR practices on agripreneurial success.

Theme 2: Innovation Capability as a Key Outcome of AI-Enhanced HR

Participants highlighted how AI-augmented HR practices enhanced their organizations' capacity for innovation. A participant noted, "The training programs recommended by our AI system have helped our staff develop new skills in precision farming. This has led to improvements in crop yields and product quality." This supports the mediating role of innovation capability.

Theme 3: Enhanced Risk-Taking through Data-Driven Decision Making

Participants emphasized how AI-enabled data access improved their confidence in taking business risks. One respondent commented, "We have more data about market trends and production possibilities, so we are more willing to try new things. We recently invested in a

new processing facility because our AI analysis showed it would be profitable." This provides qualitative support for the mediating role of risk-taking behavior.

Theme 4: Challenges and Barriers to AI Adoption

Participants also identified challenges including inadequate infrastructure, high costs, limited technical expertise, and concerns about data security. A participant observed, "The main problem is that we don't have the technical skills to use these AI tools effectively. We also have connectivity issues in many rural areas." These challenges highlight the contextual factors that may constrain the impact of AI-augmented HR practices.

5. Discussion of Results

5.1 Effect of AI-Augmented HR Practices on Agripreneurial Success

The findings demonstrated a significant positive effect of AI-augmented HR practices on agripreneurial success ($\beta = 0.208$, $t = 4.105$, $p < 0.001$), supporting Hypothesis H1. This result aligns with previous research in the Cameroonian context, where Ntemen et al. (2025) found that AI integration enhanced workers' innovation (75%), HR software usage (88.89%), and willingness to take calculated risks (93.34%) in multinational corporations. The current study extends these findings to the agribusiness sector, indicating that AI-augmented HR practices can similarly benefit agricultural enterprises. The theoretical underpinnings of this finding draw on the Technology Acceptance Model (Davis, 1989) and Dynamic Capabilities Theory (Teece et al., 1997). As suggested by the TAM, agribusiness owners who perceived AI technologies as useful and easy to integrate were more likely to adopt them. Dynamic Capabilities Theory suggests that AI-augmented HR practices enhance the organization's capacity to sense environmental opportunities, seize them through effective human resource deployment, and transform organizational processes for sustained competitive advantage. The integration of qualitative findings (Theme 1) provided explanatory depth to this quantitative relationship, as participants described specific mechanisms through which AI transformed HR management, including digital performance tracking and predictive labor planning.

5.2 Mediating Role of Innovation Capability

The findings indicated that innovation capability significantly mediated the relationship between AI-augmented HR practices and agripreneurial success ($\beta = 0.215$, $t = 4.521$, $p < 0.001$), supporting Hypothesis H2. This result aligns with Jimenez-Jimenez et al. (2013), who found that HR practices significantly influence innovation capability, which in turn affects organizational performance. The current study extends this finding to the specific context of AI-augmented HR practices in agribusiness. The mediating role of innovation capability was supported by qualitative evidence (Theme 2), as participants emphasized that AI-enabled training programs enhanced their staff's skills in precision farming, leading to improved crop yields and product quality. From a theoretical perspective, Human Capital Theory (Becker, 1964) provides a framework for understanding this finding, suggesting that strategic investment in human resources enhanced by AI-augmented HR practices increases the productive capacity of employees, enabling them to generate innovative solutions and improve organizational performance.

5.3 Mediating Role of Risk-Taking Behavior

The findings demonstrated that risk-taking behavior significantly mediated the relationship between AI-augmented HR practices and agribusiness success ($\beta = 0.183$, $t = 3.894$, $p < 0.001$), supporting Hypothesis H3. This result corroborates Ntemen et al. (2025), who reported that AI-enhanced HRM practices improved employee willingness to take calculated risks by 93.34% in Cameroonian firms. Similarly, Polas et al. (2026) found that risk-taking behavior mediates the relationship between perceived relative advantage and AI adoption among agribusinesses. Qualitative data supported this finding (Theme 3), as participants emphasized that AI-enabled data access improved their confidence in making business decisions, leading to greater willingness to invest in new ventures. This suggests that AI-augmented HR practices provide decision-makers with better information and predictive capabilities, reducing perceived uncertainty and enabling more calculated risk-taking.

5.4 Integrated Mixed-Methods Interpretation

The integration of quantitative and qualitative findings provides a comprehensive understanding of the relationships examined. The quantitative results established the statistical significance and magnitude of the relationships among constructs, while the qualitative findings explained the underlying mechanisms through which AI-augmented HR practices influence entrepreneurial outcomes. Table 4 demonstrates how each qualitative theme corresponded to and enriched specific quantitative findings. For instance, participants described how AI-enabled training enhanced staff skills (innovation capability) and how data access improved confidence in business decisions (risk-taking behavior). This triangulation of evidence strengthens the validity of the findings and provides actionable insights for practice. The qualitative data also revealed contextual factors including inadequate infrastructure, high costs, and limited technical expertise that may moderate the effectiveness of AI-augmented HR practices, demonstrating the value of the mixed-methods approach.

5.5 Implications for Theory and Practice

5.5.1 Theoretical Implications

This study makes several theoretical contributions. First, it extends the application of the Technology Acceptance Model to the agricultural context in Cameroon, demonstrating that perceived usefulness and ease of use influence AI adoption decisions among agribusiness owners. Second, it contributes to Dynamic Capabilities Theory by demonstrating how AI-augmented HR practices enhance organizational capabilities to sense opportunities, seize them through effective human resource deployment, and transform organizational processes. Third, it extends Human Capital Theory by showing how AI-augmented HR practices contribute to human capital development through improved training and performance management. Furthermore, the study contributes to understanding innovation capability and risk-taking behavior as mediating mechanisms, extending previous research that has primarily focused on direct effects or single mediator models.

5.5.2 Practical Implications

The findings have significant practical implications. Agribusiness owners should invest in AI-augmented HR practices to enhance their organizations' capacity for innovation and risk-taking, which can ultimately improve entrepreneurial success. HR managers in agricultural enterprises should develop strategies for effective AI integration, including automated

recruitment, personalized training, and data-driven performance management, while building digital capabilities of HR staff. Policymakers and development practitioners should support AI adoption in the agricultural sector through targeted programs, including infrastructure development, capacity building, and financial support, as the challenges identified inadequate infrastructure, high costs, and limited technical expertise suggest that public-private partnerships and targeted interventions may be necessary.

5.6 Contributions to Science

This study contributes to scientific knowledge in several ways. First, it extends empirical literature on AI-augmented HR practices to agribusiness enterprises in developing countries, addressing a gap where prior research has primarily focused on multinational corporations or technology-intensive firms in developed economies. Second, it contributes to theoretical understanding by providing evidence of the mediating roles of both innovation capability and risk-taking behavior, offering a more comprehensive understanding of the pathways through which AI-augmented HR practices influence outcomes. Third, it advances methodological practice by employing a mixed-methods research design that combines statistical evidence with contextual insights, serving as a model for future research examining complex relationships in organizational contexts. Fourth, it contributes to the literature on agricultural entrepreneurship and sustainable development by identifying practical pathways for enhancing entrepreneurial success in the agricultural sector, which is particularly relevant for developing countries.

6. Conclusion

This study examined the relationship between AI-augmented Human Resource practices and agripreneurial success in the Southwest Region of Cameroon, with particular focus on the mediating roles of innovation capability and risk-taking behavior. The findings demonstrated that AI-augmented HR practices significantly and positively influence agripreneurial success, with innovation capability and risk-taking behavior serving as partial mediators in this relationship. The integration of quantitative and qualitative findings provided a comprehensive understanding of these relationships, with qualitative data explaining the mechanisms through which AI-augmented HR practices influence entrepreneurial outcomes.

The study's findings have theoretical and practical implications. Theoretically, the study extends the application of Technology Acceptance Model, Dynamic Capabilities Theory, and Human Capital Theory to the agricultural context of Cameroon. Practically, the findings suggest that agribusiness owners and managers should consider investing in AI-augmented HR practices, while policymakers should support AI adoption through infrastructure development, capacity building, and financial assistance. Limitations include the cross-sectional design limiting causal inference, reliance on self-report data, and geographic focus on the Southwest Region of Cameroon. Future research should examine additional moderating and mediating mechanisms, investigate barriers to AI adoption, conduct comparative studies across different contexts, and explore long-term effects of AI-augmented HR practices on sustainable agripreneurial success.

7. Recommendations

7.1 Recommendation Based on Objective One

Agribusiness enterprises in the Southwest Region of Cameroon should systematically integrate AI technologies into their human resource management processes through comprehensive organizational readiness assessments and strategic investments in AI tools for recruitment, training, performance management, and workforce planning. Enterprises should prioritize capacity building for HR personnel and address infrastructure challenges through partnerships with technology providers and government agencies. Policymakers should develop supportive frameworks including regulatory guidelines addressing data privacy and cybersecurity, and financial mechanisms such as subsidies or tax incentives to offset implementation costs.

7.2 Recommendation Based on Objective Two

Agribusiness enterprises should develop strategies targeting innovation capability and risk-taking behavior as mediating pathways. This involves leveraging AI-augmented HR practices to develop continuous learning programs that enhance employees' innovative capabilities through personalized training, data-driven skill development, and knowledge sharing platforms. Organizations should foster a culture encouraging calculated risk-taking by utilizing AI-enabled decision support systems that provide data-driven insights for business decisions. HR managers should design performance management systems that recognize and reward innovative behaviors and prudent risk-taking while protecting employees from negative consequences of well-reasoned failures.

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