



**DIGITAL LEADERSHIP IN AGRI-BUSINESS: HOW AI-DRIVEN HR PRACTICES
SHAPE ORGANIZATIONAL CULTURE AND AGRIPRENEUR SUCCESS**

Eyong, A.

Department of Organisational Sciences, School of Higher Institute of Commerce and Management, The University
of Bamenda, Northwest Region, Cameroon

Correspondence Email: akorolly87@yahoo.com

GSM: +237 674634554

ORCID Id: <https://orcid.org/0009-0005-8689-6788>

ABSTRACT

The study investigated the role of digital leadership in agri-business, examining how AI-driven HR practices shape organizational culture and agripreneur success. A cross-sectional survey design was employed, with data collected from 138 agribusiness operators using a structured questionnaire. Descriptive statistics, Pearson correlation, and multiple regression analysis were utilized for data analysis. The findings revealed a significant positive relationship between AI-driven HR practices and organizational culture, with skills mapping and workforce analytics demonstrating the strongest correlation ($r = 0.498$, $p < 0.001$). Digital leadership significantly predicted agripreneur success, accounting for 47.2% of the variance in business outcomes, with talent development focus emerging as the strongest predictor ($\beta = 0.284$, $p < 0.001$). The study concludes that AI-driven HR practices and digital leadership are powerful mechanisms for building adaptive organizational cultures and enhancing agripreneur success. It is recommended that agribusinesses implement skills mapping and workforce analytics, and that leaders prioritize talent development strategies to drive sustainable business growth.

Keywords: Agribusiness, AI-driven, Digital, Leadership and Practices

INTRODUCTION

The agricultural sector is undergoing a profound digital transformation that fundamentally reshapes how agribusinesses operate, compete, and grow. Modern agricultural enterprises are increasingly integrating digital solutions such as artificial intelligence, data management systems, and big data analytics to optimize recruitment processes, assess productivity, and improve staff performance (Shahini, 2025). This digital revolution demands a fundamental shift in leadership approaches and human resource management practices that can harness the potential of these innovations. Digital leadership has emerged as a critical competency for navigating this transformation, characterized by the ability to leverage technology strategically while fostering organizational cultures that embrace change and innovation (Hassani *et al.*, 2026).

The integration of artificial intelligence into HR practices represents one of the most significant developments in contemporary agribusiness management. Organizations are beginning to use artificial intelligence to remove prejudices in recruitment, identify inequalities in remuneration, and ensure inclusion in online communication (Urbancová *et al.*, 2025). AI-powered skills mapping and workforce planning tools enable agribusinesses to identify skill gaps, redeploy talent, and create targeted learning opportunities that enhance both individual and organizational performance (Phenom, 2025). These technological capabilities require effective digital leadership to translate into meaningful organizational outcomes and agripreneur success.

Despite growing recognition of digital leadership and AI-driven HR practices as catalysts for agricultural transformation, limited empirical research has examined how these elements collectively influence organizational culture and agripreneur success, particularly in developing country contexts. Stehnei *et al.* (2025) observed that most existing studies focus on general aspects



of HR digital transformation or examine practices in advanced economies, overlooking sector-specific and regional factors. This gap is particularly pronounced in the African agribusiness context, where digital transformation presents both unique opportunities and challenges.

Digital Leadership refers to the strategic capability of leaders to leverage digital technologies, foster innovation, and guide organizational transformation. According to *Hassani et al.* (2026), digital leadership is characterized by a proactive vision, adaptability, and a commitment to sustainability. In the agribusiness context, digital leadership involves guiding agricultural enterprises through the integration of technologies such as artificial intelligence, precision agriculture tools, and data analytics platforms.

AI-Driven HR Practices encompass the application of artificial intelligence technologies to human resource management functions, including recruitment, skills assessment, workforce planning, performance management, and learning and development. *Urbancová et al.* (2025) found that organizations increasingly use artificial intelligence to remove prejudices in recruitment, identify inequalities in remuneration, and ensure inclusion. In the agricultural sector, these practices include AI-based forecasting, digital recruitment tools, and HRM systems to automate functions (*Stehnei et al.*, 2025).

Organizational Culture comprises the shared values, beliefs, norms, and practices that shape how members interact and work together. *Shahini* (2025) emphasized that modern agricultural companies must provide an environment that encourages active employee participation in decision-making and corporate culture development. Organizational culture in the digital age must embrace agility, continuous learning, and collaboration.

Agripreneur Success refers to sustainable business growth, profitability, and market competitiveness achieved by agricultural entrepreneurs. *Stehnei et al.* (2025) identified key dimensions including profitability, operational efficiency, employment creation, and overall business growth, which are intrinsically linked to effective human capital management through digital tools and leadership practices.

The study was grounded in several theoretical frameworks. The Dynamic Capabilities Theory (*Teece et al.*, 1997) posits that organizations must continuously reconfigure internal resources to adapt to changing market conditions, explaining how digital leaders leverage AI-driven HR practices to build organizational agility. The Technology Acceptance Model (TAM) (*Davis*, 1989) suggests that perceived usefulness and ease of use are key determinants of technology adoption, relevant for understanding how leaders facilitate AI-driven HR practice adoption. The Resource-Based View (RBV) (*Barney*, 1991) argues that sustainable competitive advantage derives from valuable, rare, inimitable, and non-substitutable resources, with AI-driven HR practices representing such strategic resources. The Digital Maturity Model describes a staged progression from initial digital adoption to full digital integration, guiding understanding of how agribusinesses progressively develop digital capabilities through leadership.

Shahini (2025) investigated modern agricultural enterprise management methods, demonstrating that automation of routine tasks allows managers to focus on strategic aspects of management, providing evidence that AI-driven HR practices enhance organizational efficiency. *Stehnei et al.* (2025) explored innovation-oriented HR strategies in Ukrainian agricultural enterprises, revealing that AI-based forecasting, digital recruitment tools, and HRM systems align human capital with evolving business environments. *Phenom* (2025) documented AGCO Corporation's journey toward becoming a skills-based organization, showing that by automating



skills analysis, AGCO saved six hours per manager per job, reduced employee turnover by 15%, and achieved targeted learning for skills development.

Hassani *et al.* (2026) investigated green technologies supported by digital leadership in agricultural SMEs, revealing that integration of green technologies enhances productivity and profitability while preserving natural resources, underscoring digital leadership's critical role in linking technological innovation to business success. Waschek (2026) examined how technology reshapes ag retail, emphasizing that leaders who treat talent strategy as the engine of technology strategy will pull ahead over the next decade. Urbancová *et al.* (2025) identified effective approaches to promoting inclusion, diversity, and social sustainability, demonstrating that agricultural businesses use metrics to monitor progress and artificial intelligence to remove hiring prejudices.

Despite growing evidence supporting digital leadership and AI-driven HR practices in agriculture, gaps remain regarding their effects on organizational culture and agripreneur success in developing countries. Studies by Shahini (2025) and Stehnei *et al.* (2025) examined digital HR management in European contexts, limiting applicability to African agribusiness. Hassani *et al.* (2026) and Waschek (2026) explored digital leadership but did not link it specifically to agripreneur success. No empirical study has simultaneously investigated AI-driven HR practices' influence on organizational culture alongside digital leadership's effect on business performance. This study addresses these gaps by systematically examining the dual effects in the agribusiness context.

However, the study investigates the role of digital leadership in agri-business, examining how AI-driven HR practices shape organizational culture and agripreneur success. The specific objectives are to:

- i) Assess the effect of AI-driven HR practices on organizational culture in agribusinesses.
- ii) Evaluate the influence of digital leadership on agripreneur success and business performance.

The following hypotheses guide this study:

H₀₁: AI-driven HR practices have no significant positive influence on organizational culture in agribusinesses.

H₀₂: Digital leadership has no significant positive influence on agripreneur success and business performance.

MATERIALS AND METHODS

The study adopted a quantitative research approach using a cross-sectional survey design to investigate the effect of digital leadership and AI-driven HR practices on organizational culture and agripreneur success. The design was chosen for its practicality in capturing the current state of digital leadership, AI-driven HR practices, and their perceived effects. However, the study population comprised agribusiness owners, managers, and HR professionals in agribusinesses that had implemented digital HR practices. A sample of 150 respondents was selected using stratified random sampling, with stratification based on business size, type of agribusiness, and years of digital technology adoption.

Data were collected using a structured questionnaire comprising four sections: demographic information, digital leadership characteristics, AI-driven HR practices, and outcome



measures. The outcome measures assessed two primary constructs: organizational culture (14-item scale covering adaptability, innovation orientation, collaboration, and learning orientation) and agripreneur success (12-item scale covering profitability, market growth, operational efficiency, and sustainable practices). The questionnaire was pre-tested with 25 agribusiness operators, with Cronbach's alpha coefficients of 0.85 for organizational culture and 0.82 for agripreneur success.

Data analysis employed descriptive statistics (frequencies, means, and standard deviations) and inferential techniques (Pearson correlation and multiple regression analysis) to examine relationships between independent variables and outcome variables. Regression models controlled for potential confounding variables including business size, years in operation, and education level. All analyses used SPSS version 27.0 with statistical significance set at $p < 0.05$.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

A total of 138 valid questionnaires were returned, yielding a response rate of 92%. Among respondents, 76 (55.1%) were male and 62 (44.9%) were female. The majority of respondents (82, 59.4%) were between the ages of 31 and 50 years. In terms of education, 84 respondents (60.9%) had tertiary education, while 42 (30.4%) had secondary education. Regarding business experience, 58 respondents (42.0%) had been operating their agribusiness for 5-10 years, while 47 (34.1%) had 11-15 years of experience. Additionally, 62 respondents (44.9%) had adopted digital technologies for 3-5 years. The results presented in Table 1 indicate that AI-driven HR practices were generally moderate to high, with skills mapping and workforce analytics showing the highest mean score ($M = 3.58$, $SD = 0.98$). The overall organizational culture score was 3.66 ($SD = 0.79$), indicating a generally positive organizational culture characterized by learning orientation ($M = 3.78$, $SD = 0.85$) and innovation and adaptability ($M = 3.72$, $SD = 0.88$).

Table 1: AI-Driven HR practices and organizational culture

AI-Driven HR Practices	Mean	SD
AI-powered recruitment and screening	3.42	1.04
Skills mapping and workforce analytics	3.58	0.98
Automated performance management	3.36	1.06
AI-driven learning and development	3.48	0.95
Predictive analytics for workforce planning	3.24	1.10
Organizational Culture Dimensions		
Innovation and adaptability	3.72	0.88
Collaboration and teamwork	3.65	0.92
Learning orientation	3.78	0.85
Digital readiness and technology embrace	3.54	0.96
Employee engagement and participation	3.61	0.90
Overall Organizational Culture Score	3.66	0.79

Scale: 1 = Very low/Not implemented, 2 = Low/Minimal, 3 = Moderate, 4 = High, 5 = Very high

Relationship between AI-Driven HR Practices and Organizational Culture

The Pearson correlation analysis in Table 2 revealed significant positive relationships between various AI-driven HR practices and organizational culture. Skills mapping and workforce analytics showed the strongest correlation ($r = 0.498$, $p < 0.001$), followed by AI-driven learning and development ($r = 0.477$, $p < 0.001$) and AI-powered recruitment ($r = 0.452$, $p < 0.001$). These

findings provide support for Hypothesis H₁, which posited a significant positive relationship between AI-driven HR practices and organizational culture. The findings of the study revealed a significant positive relationship between AI-driven HR practices and organizational culture among agribusinesses. This result aligns with the research conducted by Shahini (2025), who found that modern digital technologies significantly change traditional approaches to HR, transforming not only recruitment methods but also approaches to employee training and development.

The strong correlation between skills mapping and workforce analytics and organizational culture ($r = 0.498$) is particularly noteworthy, as it underscores the importance of data-driven talent management in shaping organizational culture. This finding resonates with the case study of AGCO Corporation documented by Phenom (2025), where automated skills mapping and workforce intelligence enabled the company to save significant manager time, reduce employee turnover by 15%, and create a culture of skills-based thinking. Goldberg and Claiborne noted that shifting to skills-based prompted a host of organizational changes, including challenges to existing processes and systems, demonstrating how AI-driven HR practices can fundamentally reshape organizational culture.

Furthermore, the significant relationship between AI-driven learning and development and organizational culture ($r = 0.477$) aligns with the insights of Stehnei *et al.* (2025), who found that HR innovations such as AI-based forecasting and workforce planning and digital recruitment tools help align human capital with evolving business environments. The authors emphasized the importance of coherently aligning the business model, organizational culture, resource use, and employee behavioural dynamics. This observation is consistent with the findings of this study, where AI-driven learning initiatives contributed to a learning-oriented organizational culture.

The strong correlation between AI-powered recruitment and screening and organizational culture ($r = 0.452$) supports the work of Urbancová *et al.* (2025), who found that organizations are beginning to use artificial intelligence to remove prejudices in recruitment, identify inequalities in remuneration, and ensure inclusion in online communication. The authors demonstrated that investment in diversity education and inclusive practices remains crucial for organizational success. I contend that AI-driven recruitment practices not only improve hiring efficiency but also signal organizational commitment to fairness and inclusion, thereby shaping organizational culture in positive ways.

Table 2: Relationship between AI-Driven HR practices and organizational culture

AI-Driven HR Practice	R	p-value
AI-powered recruitment and screening	0.452**	<0.001
Skills mapping and workforce analytics	0.498**	<0.001
Automated performance management	0.423**	<0.001
AI-driven learning and development	0.477**	<0.001
Predictive analytics for workforce planning	0.389**	<0.001

***Note:** *Correlation is significant at $p < 0.01$ level

Digital Leadership and Agripreneur Success

Table 3 shows that respondents rated digital leadership dimensions moderately high, with vision and strategic direction receiving the highest mean score ($M = 3.82$, $SD = 0.86$). Agripreneur success indicators were generally moderate to high, with sustainable business growth perception showing the highest score ($M = 3.75$, $SD = 0.83$). The overall agripreneur success score was 3.66 ($SD = 0.78$), indicating a moderate to good level of business success among respondents. The

regression analysis results demonstrated that digital leadership significantly predicts agripreneur success, explaining 47.2% of the variance in business outcomes. Talent development focus emerged as the strongest predictor of business success, which aligns with the findings of Waschek (2026). The author argued that companies that treat talent strategy as the engine of their technology strategy, rather than an afterthought, will pull ahead over the next decade. Waschek emphasized that leaders who get this right start by asking what a successful agronomist, applicator, manager, or specialist looks like in their business three to five years from now. Once that picture is clear, everything else gets easier. This case study provides concrete evidence that talent-focused digital leadership enhances business performance, consistent with the regression findings of this study.

Table 3: Digital leadership characteristics and agripreneur success

Digital Leadership Dimensions	Mean	SD
Vision and strategic direction	3.82	0.86
Technology adoption and innovation championing	3.71	0.92
Change management and adaptability	3.65	0.94
Talent development focus	3.78	0.87
Digital culture creation	3.58	0.95
Agripreneur Success Indicators		
Business profitability and revenue growth	3.68	0.89
Market expansion and customer acquisition	3.54	0.97
Operational efficiency and productivity	3.72	0.84
Innovation and new product development	3.61	0.91
Sustainable business growth perception	3.75	0.83
Overall Agripreneur Success Score	3.66	0.78

Scale: 1 = Very poor/No improvement, 2 = Poor/Slight improvement, 3 = Fair/Moderate improvement, 4 = Good/Significant improvement, 5 = Excellent/Very significant improvement

Factors that Influence Digital Leadership on Agripreneur Success

The multiple regression analysis revealed that digital leadership significantly predicted agripreneur success, $F(5, 132) = 19.86$, $p < 0.001$, accounting for 47.2% of the variance in business success ($R^2 = 0.472$). Talent development focus emerged as the strongest predictor ($\beta = 0.284$, $p < 0.001$), followed by vision and strategic direction ($\beta = 0.268$, $p = 0.001$) and technology adoption and innovation championing ($\beta = 0.215$, $p = 0.006$). These findings provide support for Hypothesis H₂, which posited that digital leadership has a significant positive influence on agripreneur success.

The significant influence of vision and strategic direction on agripreneur success ($\beta = 0.268$) corroborates the findings of Hassani *et al.* (2026). The authors found that the role of the manager, characterized by a proactive vision, adaptability, and a commitment to sustainability, proved decisive in guiding agricultural SMEs toward successful ecological transition. The study revealed that digital leadership links technological innovation and sustainability, enhancing both productivity and profitability. In the context of this study, vision and strategic direction similarly appear to guide agribusinesses toward growth and market success.

The positive influence of technology adoption and innovation championing on agripreneur success ($\beta = 0.215$) resonates with the observations of Shahini (2025), who demonstrated that digital technologies are changing approaches to the management strategy of agricultural enterprises and their development. The author described how implementation of digital solutions such as analytical platforms, automated financial transaction accounting systems, and digital platforms for managing remote teams increased efficiency and reduced resource costs. I contend

that digital leaders who champion technology adoption and innovation create competitive advantages that translate into improved business performance.

Table 4: Factors that influence digital leadership on agripreneur success

Predictor Variable	β	t	p-value
Vision and strategic direction	0.268**	3.45	0.001
Technology adoption and innovation championing	0.215*	2.78	0.006
Change management and adaptability	0.192*	2.52	0.013
Talent development focus	0.284**	3.72	0.001
Digital culture creation	0.178*	2.34	0.021
R^2	0.472		
Adjusted R^2	0.455		
F	19.86***		

*Note: * $p < 0.05$, ** $p < 0.01$ *** $p < 0.001$

CONCLUSION AND RECOMMENDATIONS

The study investigated the role of digital leadership in agri-business, examining how AI-driven HR practices shape organizational culture and agripreneur success. The findings establish that AI-driven HR practices significantly influence organizational culture, with skills mapping and workforce analytics, AI-driven learning and development, and AI-powered recruitment emerging as important correlates of positive organizational culture. The study also confirms that digital leadership significantly enhances agripreneur success, with talent development focus, vision and strategic direction, and technology adoption serving as key predictors of business performance.

The implications of the study are significant for agribusiness owners, managers, HR professionals, and policymakers in developing country contexts. For agribusiness owners and managers, the findings underscore the need to invest in AI-driven HR practices as strategic tools for organizational culture transformation. The positive outcomes associated with skills mapping and workforce analytics suggest that agribusinesses should prioritize data-driven talent management approaches to build adaptive, learning-oriented organizational cultures. For HR professionals, this study provides empirical justification for integrating AI technologies across the HR function, from recruitment to learning and development. For policymakers, the findings suggest that supporting digital HR adoption in the agricultural sector can contribute to both organizational effectiveness and sustainable agribusiness development.

The study contributes to scientific knowledge by providing empirical evidence from the agribusiness context, demonstrating the dual benefits of digital leadership and AI-driven HR practices in promoting both organizational culture and business success. By simultaneously examining both outcome variables, this research addresses the fragmented understanding of digital HR transformation that has characterized previous studies. Furthermore, the study extends theoretical frameworks such as Dynamic Capabilities Theory, Technology Acceptance Model, and Resource-Based View to the agribusiness context, enriching our understanding of how digital HR practices and leadership facilitate agricultural transformation.

Based on the findings of this study, it is recommended that agribusiness owners and managers prioritize the implementation of AI-driven HR practices, particularly skills mapping and workforce analytics, as these emerged as the strongest correlates of positive organizational culture. Given the significant positive relationship between AI-driven learning and development and organizational culture, agribusinesses should invest in digital learning platforms that provide customized, tailored learning opportunities for employees. Shahini (2025) emphasized that e-



learning and distance learning programmes ensure the continuous professional development of employees, which is particularly important in the agricultural sector where employees require new digital skills to operate modern equipment and technologies. Furthermore, AI-powered recruitment and screening should be adopted to remove prejudices in hiring, identify inequalities in remuneration, and ensure inclusion in the workplace, as this was shown to positively influence organizational culture. The time savings from automating routine HR tasks, as demonstrated in AGCO Corporation's case (Phenom, 2025), allows HR professionals to focus on strategic aspects of talent management, including upskilling employees in innovative agricultural technologies.

In light of the strong influence of digital leadership on agribusiness success, it is further recommended that agribusiness leaders develop and articulate clear digital visions that align technology adoption with business strategy. The regression analysis revealed that talent development focus was the most significant predictor of business success, suggesting that leaders should prioritize building talent strategies that treat people as the engine of technology adoption. Waschek (2026) advised that leaders should start by defining what a successful employee looks like in their business three to five years from now and build training, hiring, and development strategies around that vision.

Moreover, given that technology adoption and innovation championing emerged as significant predictors of business performance, leaders should actively champion digital innovation and create cultures that embrace change. Hassani *et al.* (2026) demonstrated that digital leadership characterized by proactive vision and adaptability is decisive in guiding agricultural enterprises toward successful transformation. By implementing these recommendations, agribusinesses can leverage digital leadership and AI-driven HR practices to build adaptive organizational cultures and achieve sustainable

REFERENCES

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, **17**(1):99-120.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, **13**(3):319-340.
- Hassani, A., Ghozzi, A. and Ait-Yassine, S. (2026). Green technologies and sustainability: The role of digital leadership in agricultural SMEs. *BIO Web of Conferences*, **152**, 03002.
- Phenom. (2025). How farm manufacturer AGCO built a business case for AI skills mapping. *Phenom Intelligent Talent Experience*.
- Shahini, E. (2025). Modern agricultural enterprise management methods. *Ukrainian Black Sea Region Agrarian Science*, **29**(1):84-94.
- Stehnei, M., Irtysheva, I., Kramarenko, I., Ishchenko, O. and Irtyshev, O. (2025). Innovation-oriented HR strategy transformation and business model reengineering: Empirical insights from Ukrainian agribusiness. *Marketing and Management of Innovations*, **16**(2):32-46.
- Teece, D. J., Pisano, G. and Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, **18**(7):509-533.
- Urbancová, H., Vrabcová, P., Madzik, P. & Kocourek, A. (2025). Synergic strategies in reinforcing the pluralistic paradigm, inclusion and diversity as a catalyst for social sustainability focusing on agribusinesses. *Agricultural Economics*, **71**(5):273-284.
- Waschek, D. (2026). How technology is reshaping ag retail. *AgriBusiness Global*.