

Artificial Intelligence, Business Model Transformation, and Entrepreneurial Sustainability in Emerging Economies: A Systematic Literature Review

¹Onyewuchi, Franklin Chibuzor, ²Okorie, Chisom George, ³Ozuomba, Chidinma Nwamaka, ⁴Otika Udoka Stephen

¹Department of Accounting, Imo State University, Owerri

²Department of Cooperative and Rural Development, University of Agriculture and Environmental Sciences, Umuagwo, Imo State

³Department of Accounting, University of Agriculture and Environmental Sciences, Umuagwo, Imo State

⁴Department of Marketing, University of Agriculture and Environmental Sciences, Umuagwo, Imo State

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ABSTRACT

Artificial Intelligence (AI) is transforming entrepreneurship and organizational development by enabling firms to improve decision-making, enhance innovation, optimize operations, and redesign business models. These capabilities are particularly valuable in emerging economies, where SMEs and family-owned businesses face significant resource and technological constraints. Despite growing research, evidence on AI, business model transformation, and entrepreneurial sustainability remains fragmented. This study employs a Systematic Literature Review (SLR) using the PRISMA 2020 framework to synthesize studies published between 2020 and 2026. The review examines the role of AI in business model transformation, entrepreneurial sustainability, relevant theoretical perspectives, implementation challenges, and future research directions. The findings reveal that AI enhances entrepreneurial competitiveness by strengthening innovation, organizational agility, strategic decision-making, and customer value creation. However, successful AI adoption depends on complementary investments in digital capabilities, leadership, organizational learning, and supportive institutional environments. This review provides an integrated understanding of AI-enabled entrepreneurship and offers practical insights for researchers, practitioners, and policymakers seeking to promote sustainable entrepreneurial development in emerging economies.

Keywords: Artificial Intelligence, Entrepreneurship, Business Model Transformation, Sustainability, SMEs, Emerging Economies, Digital Transformation, PRISMA 2020.

INTRODUCTION

Artificial Intelligence (AI) has evolved from a technological innovation into a strategic capability that is transforming entrepreneurship, business operations, and organizational competitiveness. Technologies such as machine learning, natural language processing, predictive analytics, intelligent automation, and generative AI enable organizations to improve decision-making, enhance customer experiences, optimize operations, and strengthen long-term competitiveness (Kaplan & Haenlein, 2020; Verhoef et al., 2021; Dwivedi et al., 2023). Consequently, AI has become a key driver of digital transformation across industries.

In entrepreneurship, AI has significantly reduced barriers to innovation by enabling entrepreneurs to identify opportunities, analyze markets, automate business processes, personalize customer interactions, and improve strategic decision-making. These capabilities allow startups and small and medium-sized enterprises (SMEs)

to compete more effectively with larger firms while improving efficiency and reducing costs (Dwivedi et al., 2023). AI also facilitates business model transformation by helping organizations redesign value propositions, optimize value creation, strengthen customer relationships, and develop innovative revenue models, thereby enhancing organizational agility and resilience (Verhoef et al., 2021).

The role of AI is particularly important in emerging economies, where SMEs and family-owned businesses are major contributors to employment and economic growth. Despite their importance, many of these firms face challenges such as inadequate digital infrastructure, financial constraints, limited technical expertise, and weak institutional support, which hinder AI adoption. Nevertheless, evidence suggests that effective AI integration can improve organizational resilience, innovation, governance, and long-term business sustainability.

Several theoretical perspectives explain these relationships. The Dynamic Capability View emphasizes firms' ability to adapt and reconfigure resources, the Resource-Based View highlights AI as a strategic resource, while the Technology–Organization–Environment (TOE) framework explains how technological, organizational, and environmental factors influence AI adoption. Together, these theories provide a strong foundation for understanding AI-enabled business transformation and entrepreneurial sustainability.

Although research on AI and entrepreneurship has expanded rapidly, existing studies remain fragmented across management, entrepreneurship, innovation, and information systems. Few reviews comprehensively examine how AI drives business model transformation and entrepreneurial sustainability, particularly in emerging economies. This gap limits a holistic understanding of AI's strategic role.

To address this limitation, this study adopts the PRISMA 2020 Systematic Literature Review approach to synthesize evidence published between 2020 and 2026 on AI, business model transformation, and entrepreneurial sustainability. Specifically, the review examines the impact of AI on entrepreneurship, explores its role in business model innovation, evaluates its contribution to sustainable entrepreneurial development, identifies relevant theoretical perspectives, and highlights future research directions. The findings provide valuable insights for researchers, practitioners, and policymakers seeking to leverage AI for sustainable entrepreneurial growth.

Artificial Intelligence

Artificial Intelligence (AI) has become a transformative technology influencing entrepreneurship, organizational strategy, and business sustainability. It comprises computational systems capable of learning, reasoning, recognizing patterns, processing language, and supporting decision-making (Kaplan & Haenlein, 2020; Dwivedi et al., 2023). Advances in machine learning, deep learning, natural language processing, predictive analytics, and robotics have enabled organizations to automate processes, improve forecasting, and enhance evidence-based decision-making. AI is therefore regarded as a strategic capability that promotes innovation, operational efficiency, and organizational adaptability.

Within entrepreneurship, AI supports opportunity recognition, customer analysis, demand forecasting, pricing optimization, business planning, and personalized customer engagement. Generative AI has further expanded these capabilities, enabling startups and SMEs to compete more effectively with limited resources. AI also facilitates business model innovation by improving value creation, customer relationships, operational processes, and revenue generation.

Despite these benefits, AI adoption in emerging economies is constrained by inadequate infrastructure, financial limitations, shortages of skilled personnel, cybersecurity concerns, and regulatory challenges. Consequently, sustainable AI implementation requires investments in digital infrastructure, organizational capabilities, responsible governance, and continuous learning. Overall, the literature views AI as a strategic enabler of innovation, business model transformation, and long-term organizational sustainability.

Entrepreneurship

Entrepreneurship is widely recognized as a driver of innovation, employment, and economic development through opportunity recognition, resource mobilization, and value creation (Shane & Venkataraman, 2000). In the digital era, technologies such as AI, cloud computing, big data, and the Internet of Things have transformed entrepreneurial activities by improving market analysis, innovation, customer engagement, and strategic decision-making.

AI enhances entrepreneurial opportunity recognition by processing large datasets, identifying market trends, forecasting demand, and reducing uncertainty. It also strengthens innovation, organizational agility, and resilience by enabling firms to respond quickly to changing business environments. For SMEs and family-owned businesses, AI improves operational efficiency, customer relationship management, governance, and long-term sustainability despite resource constraints.

However, AI-enabled entrepreneurship continues to face barriers, including limited digital literacy, inadequate infrastructure, financial constraints, and regulatory uncertainty. Addressing these challenges requires supportive policies, stronger digital ecosystems, and investments in entrepreneurial capabilities. Overall, AI has transformed entrepreneurship into a technology-driven process of continuous innovation, learning, and strategic adaptation.

Business Model Transformation

Business model transformation refers to the strategic redesign of how organizations create, deliver, and capture value in response to digital disruption (Verhoef et al., 2021). AI has accelerated this transformation by enabling firms to automate operations, improve decision-making, personalize customer experiences, optimize resources, and develop innovative digital products and services. Rather than improving efficiency alone, AI supports comprehensive changes in value propositions, customer engagement, and revenue generation.

AI-driven business model transformation enhances innovation capability, organizational agility, and entrepreneurial orientation. Organizations increasingly adopt digital platforms, subscription services, software-as-a-service models, and data-driven revenue streams to strengthen competitiveness. SMEs and family-owned businesses particularly benefit from cloud-based AI applications that improve productivity, governance, and long-term sustainability while requiring relatively lower capital investment.

Nevertheless, successful business model transformation requires more than technology adoption. Financial constraints, inadequate infrastructure, organizational resistance, cybersecurity concerns, and limited digital skills remain major obstacles, especially in developing economies. Consequently, effective transformation depends on complementary investments in leadership, employee capabilities, organizational learning, and digital governance. Overall, AI serves as a strategic capability that enables organizations to redesign business models, strengthen competitive advantage, and achieve sustainable entrepreneurial performance.

Entrepreneurial Sustainability

Entrepreneurial sustainability emphasizes the long-term ability of businesses to achieve economic viability while creating social and environmental value through innovation, resilience, and responsible resource management (Shepherd & Patzelt, 2011; George et al., 2021). Unlike traditional measures of success that focus on short-term profitability, sustainable entrepreneurship integrates financial performance with organizational adaptability, stakeholder value, and continuous innovation.

Artificial Intelligence (AI) has become a key enabler of entrepreneurial sustainability by improving forecasting, resource allocation, operational efficiency, and strategic decision-making. AI also enhances innovation, business resilience, and organizational learning through predictive analytics, risk assessment, and intelligent automation. These capabilities help SMEs and family-owned businesses improve productivity,

governance, customer service, and long-term competitiveness while supporting environmentally sustainable practices such as energy optimization and waste reduction.

Despite these advantages, AI adoption remains constrained by inadequate digital infrastructure, limited financial resources, cybersecurity concerns, shortages of skilled personnel, and regulatory uncertainty, particularly in emerging economies. Consequently, achieving entrepreneurial sustainability requires investments in digital infrastructure, workforce development, supportive policies, and responsible AI governance. Overall, AI is increasingly recognized as a strategic capability that strengthens resilience, innovation, and sustainable entrepreneurial growth.

Artificial Intelligence in Emerging Economies (Reduced)

Artificial Intelligence (AI) is increasingly driving entrepreneurship, business transformation, and sustainable economic growth in emerging economies despite challenges related to infrastructure, finance, and institutional capacity. Expanding digital markets, growing entrepreneurial ecosystems, and increased internet access provide opportunities for AI-enabled innovation, particularly among small and medium-sized enterprises (SMEs), which are major contributors to employment and economic development.

AI enables SMEs to improve operational efficiency, automate business processes, strengthen customer engagement, optimize supply chains, and enhance strategic decision-making through cloud-based platforms, predictive analytics, and intelligent automation. It also supports business model transformation by enabling firms to redesign value propositions, improve customer experiences, and develop innovative revenue models. Family-owned businesses similarly benefit from AI through improved governance, knowledge management, resilience, and long-term business continuity.

However, AI adoption remains uneven because of inadequate digital infrastructure, limited financial resources, shortages of skilled professionals, and evolving regulatory frameworks. Strengthening AI adoption therefore requires investments in digital infrastructure, education, human capital development, supportive public policies, and public–private partnerships. Overall, organizations that combine AI adoption with innovation, organizational learning, and business model transformation are better positioned to achieve sustainable competitive advantage in emerging economies.

Theoretical Framework (Reduced)

The relationship between Artificial Intelligence (AI), business model transformation, and entrepreneurial sustainability is best explained by four complementary theories: the Dynamic Capability View (DCV), Resource-Based View (RBV), Technology–Organization–Environment (TOE) Framework, and Diffusion of Innovation (DOI) Theory. Together, these theories explain how organizations adopt AI, transform their business models, and achieve sustainable competitive advantage.

Dynamic Capability View (DCV)

The Dynamic Capability View (Teece et al., 1997; Teece, 2018) argues that organizations sustain competitive advantage by sensing opportunities, seizing them through strategic investments, and continuously transforming their resources. AI strengthens these capabilities by improving market analysis, decision-making, innovation, and business model redesign. Consequently, firms with strong dynamic capabilities are more adaptable, resilient, and better positioned for sustainable entrepreneurial success.

Resource-Based View (RBV)

The Resource-Based View (Barney, 1991) explains that sustainable competitive advantage arises from valuable, rare, inimitable, and non-substitutable resources. AI capability, supported by organizational knowledge, skilled employees, digital leadership, and innovation culture, represents a strategic resource that enhances innovation, operational efficiency, and long-term business sustainability, particularly for SMEs and family businesses.

Technology–Organization–Environment (TOE) Framework

The TOE Framework (Tornatzky & Fleischer, 1990) explains AI adoption through technological, organizational, and environmental factors. AI implementation depends on technological readiness, leadership commitment, financial and human resources, organizational culture, competitive pressure, and supportive government policies. The framework is especially relevant in emerging economies, where institutional and infrastructural conditions strongly influence AI adoption.

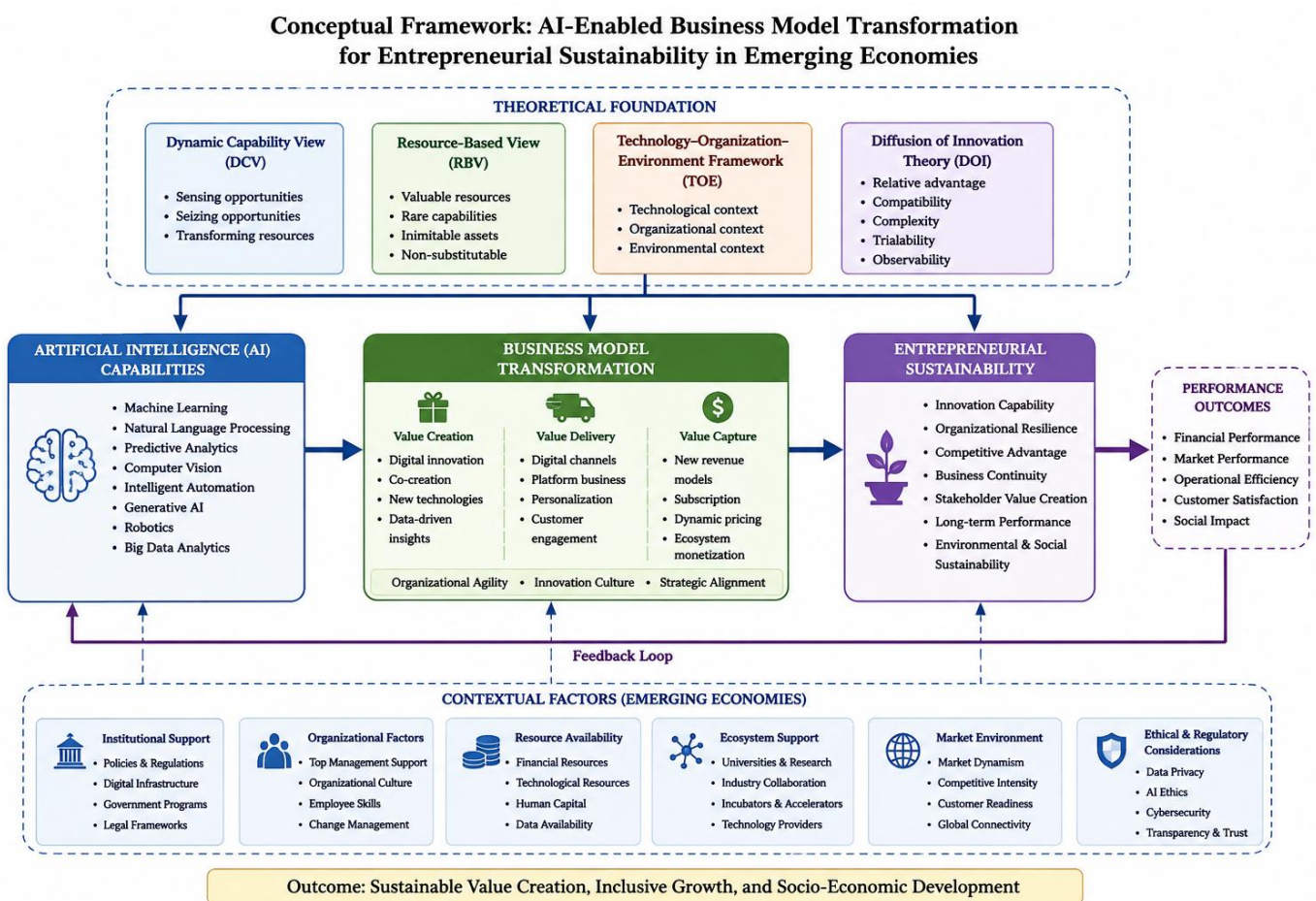
Diffusion of Innovation (DOI) Theory

The Diffusion of Innovation Theory (Rogers, 2003) explains how AI spreads across organizations based on its perceived advantages, compatibility, complexity, trialability, and observability. Organizations are more likely to adopt AI when its benefits are clear, implementation is manageable, and successful applications are observable. Government support, universities, and technology providers also accelerate AI diffusion through training, demonstration projects, and innovation support.

Integration of the Theoretical Framework

The four theories provide complementary explanations of AI-enabled entrepreneurship. DCV explains organizational adaptation, RBV highlights AI as a strategic resource, TOE identifies the determinants of AI adoption, and DOI explains the diffusion of AI technologies. Together, they provide a comprehensive framework for understanding how AI drives business model transformation and entrepreneurial sustainability in emerging economies.

Figure 1. Conceptual Framework



This conceptual framework illustrates the theoretical relationships synthesized in the review and can be redrawn as a professional figure for journal publication.

RESEARCH METHODOLOGY

Research Design

This study adopted a Systematic Literature Review (SLR) research design to synthesize and critically evaluate existing scholarly evidence on the relationships among Artificial Intelligence (AI), business model transformation, and entrepreneurial sustainability in emerging economies. A systematic literature review differs from a traditional narrative review because it follows a transparent, rigorous, and reproducible process for identifying, selecting, appraising, and synthesizing relevant studies. By minimizing selection bias and documenting each stage of the review process, the SLR provides a more reliable summary of current knowledge while identifying research gaps and future directions (Page et al., 2021; Snyder, 2019).

The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines developed by Page et al. (2021). Although PRISMA originated in health sciences, it is now widely applied in management, entrepreneurship, innovation, marketing, and information systems research because of its structured approach to literature identification, screening, eligibility assessment, and evidence synthesis (Donthu et al., 2021).

Unlike empirical studies that collect primary data through surveys or experiments, this review relied exclusively on published peer-reviewed literature. Consequently, no human participants were involved, and ethical approval was not required because the study synthesized publicly available academic evidence.

PRISMA 2020 Review Protocol

The review followed the four principal stages recommended by the PRISMA 2020 Statement: Identification, Screening, Eligibility Assessment, Final Inclusion

Each stage was documented to ensure transparency and replicability.

Identification

Relevant literature was identified through systematic electronic database searches using predefined keywords relating to Artificial Intelligence, entrepreneurship, business model transformation, digital transformation, sustainability, SMEs, and emerging economies.

Screening

Following the removal of duplicate records, titles and abstracts were independently examined to determine their relevance to the objectives of the review. Publications clearly unrelated to AI, entrepreneurship, or business model transformation were excluded at this stage.

Eligibility

The full texts of potentially relevant articles were subsequently reviewed against predefined inclusion and exclusion criteria to determine their suitability for inclusion in the final synthesis.

Inclusion

Studies satisfying all eligibility criteria were included in the qualitative synthesis and organized into major thematic categories for analysis.

Search Strategy

A comprehensive search strategy was developed to identify contemporary literature published between **January 2020 and June 2026**. The search focused on multidisciplinary databases widely recognized for

indexing high-quality peer-reviewed research in business, management, entrepreneurship, information systems, and innovation studies.

The databases included: Scopus, Web of Science Core Collection, ScienceDirect, Emerald Insight, SpringerLink, Wiley Online Library, Taylor & Francis Online, IEEE Xplore, Google Scholar (for supplementary searches)

The search strategy combined Boolean operators ("AND", "OR") with controlled keywords to maximize retrieval while maintaining relevance.

Examples of search strings included: "Artificial Intelligence" AND Entrepreneurship, "Artificial Intelligence" AND "Business Model Transformation", "AI adoption" AND SMEs, "Artificial Intelligence" AND Sustainability, "Digital Transformation" AND Entrepreneurship, "Artificial Intelligence" AND Emerging Economies, "AI capabilities" AND Innovation, "Artificial Intelligence" AND Family Business and "Business Model Innovation" AND AI

Additional manual searches were conducted by examining the reference lists of highly cited review articles and recent empirical studies to identify relevant publications not captured through electronic database searches.

Inclusion Criteria

To ensure methodological consistency and relevance, studies were included if they satisfied the following criteria: Published between **2020 and 2026**. Published in peer-reviewed academic journals. Written in English. Focused on Artificial Intelligence within business, entrepreneurship, management, innovation, or sustainability contexts. Examined one or more of the following constructs: AI adoption, AI capabilities, Business model transformation, Digital transformation, Entrepreneurial sustainability, SMEs, Family businesses, emerging economies. Presented conceptual, empirical, systematic review, or theoretical contributions relevant to the objectives of the review.

Exclusion Criteria

Studies were excluded where they: Were published before 2020 (except foundational theoretical works such as Barney (1991), Rogers (2003), and Teece (2018), which were retained to explain theoretical foundations). Were conference abstracts without full papers. Were editorials, book reviews, opinion articles, or magazine publications. Focused exclusively on highly technical AI algorithm development without organizational or entrepreneurial implications. Were unavailable in full text. Were duplicated across multiple databases.

Study Selection Procedure

The study selection process followed the PRISMA 2020 recommendations. Database searches initially generated a broad collection of potentially relevant publications. Duplicate records were removed before title and abstract screening. Articles passing the screening stage underwent full-text assessment to determine their relevance to the review objectives.

The retained studies were categorized into thematic areas including:

- Artificial Intelligence adoption
- Entrepreneurship
- Digital entrepreneurship
- Business model transformation
- Entrepreneurial sustainability
- Family business
- SMEs
- Emerging economies

- Digital transformation
- Innovation capability

The final collection of studies formed the basis for the thematic synthesis presented in the subsequent sections of this review.

Quality Assessment

To enhance the credibility of the review, the methodological quality of included studies was evaluated using the following criteria: Clarity of research objectives,, Appropriateness of research design, Adequacy of data collection procedures, Transparency of analytical methods, Validity and reliability (where applicable), Contribution to AI and entrepreneurship literature, Relevance to business model transformation and sustainability

Higher-quality studies published in internationally recognized journals received greater emphasis during thematic synthesis.

Data Extraction

Relevant information was extracted systematically from each eligible study using a structured extraction framework.

The following information was recorded: Author(s), Year of publication, Country of study, Research objective, Research design, Sample characteristics (where applicable), Industry or sector, AI construct examined, Major findings, Practical implications, Research limitations

The extracted information facilitated comparison across studies while enabling identification of recurring themes, methodological trends, and research gaps.

Data Synthesis

Given the diversity of research designs represented in the literature—including conceptual papers, empirical surveys, case studies, and systematic reviews—a thematic synthesis approach was adopted.

The synthesis involved:

- Organizing studies into conceptual categories.
- Identifying recurring themes across publications.
- Comparing empirical findings.
- Examining theoretical perspectives.
- Identifying methodological similarities and differences.
- Highlighting emerging research trends.
- Developing an integrated conceptual understanding of AI-enabled business model transformation and entrepreneurial sustainability.

Rather than statistically combining findings, the review synthesized evidence narratively to explain how AI contributes to organizational transformation, innovation capability, business resilience, and sustainable entrepreneurial development.

Eliability and Trustworthiness of the Review

Several strategies enhanced the reliability of the review: Adoption of the internationally recognized PRISMA 2020 reporting framework. Use of multiple academic databases to broaden literature coverage. Clearly defined inclusion and exclusion criteria. Transparent documentation of the review methodology. Critical evaluation

of methodological quality. Integration of both conceptual and empirical evidence. Emphasis on recent peer-reviewed publications while retaining seminal theoretical works where necessary.

Collectively, these procedures improve the transparency, reproducibility, and scholarly rigor of the review while reducing selection bias.

RESULTS AND THEMATIC SYNTHESIS

Overview of the Reviewed Literature

The systematic review revealed a substantial increase in scholarly publications examining Artificial Intelligence (AI), entrepreneurship, business model transformation, and organizational sustainability between 2020 and 2026. This upward trend reflects the growing recognition of AI as a strategic resource capable of transforming organizational processes, enhancing entrepreneurial competitiveness, and supporting sustainable economic development. The literature reviewed encompassed conceptual papers, empirical investigations, systematic reviews, bibliometric analyses, and theoretical studies published in high-impact journals across the fields of strategic management, entrepreneurship, innovation management, information systems, and marketing.

The reviewed studies indicate that AI research has evolved from a predominantly technological perspective to a multidisciplinary field integrating strategic management, organizational behavior, innovation, entrepreneurship, sustainability, and public policy. Earlier studies focused primarily on algorithm development and technical applications, whereas more recent research emphasizes organizational capabilities, business model innovation, strategic leadership, digital transformation, and sustainable value creation (Dwivedi et al., 2023; Verhoef et al., 2021). This transition demonstrates that AI is increasingly regarded as a strategic organizational capability rather than merely an operational technology.

The literature also reveals growing interest in AI adoption within emerging economies. While developed countries continue to dominate AI research output, scholars increasingly investigate how AI supports entrepreneurship, SME development, digital innovation, and sustainable economic growth in developing countries. This growing body of evidence reflects the expanding importance of digital transformation within Africa, Asia, Latin America, and other emerging regions where entrepreneurship remains a primary driver of employment creation and economic diversification (OECD, 2023; World Bank, 2024).

Major Themes Emerging from the Literature

The thematic analysis identified five dominant research themes that consistently appeared across the reviewed studies.

Theme One: Artificial Intelligence as a Strategic Organizational Capability

The first major theme concerns the recognition of AI as a strategic organizational capability. Earlier management literature frequently treated technology as an operational support system designed primarily to improve efficiency. Contemporary studies, however, increasingly conceptualize AI as a strategic capability that enables organizations to sense environmental changes, identify emerging opportunities, strengthen innovation, and improve long-term competitiveness.

Several studies emphasize that AI enhances managerial decision-making through predictive analytics, machine learning, and intelligent automation. These technologies enable organizations to process large datasets, forecast market trends, optimize resource allocation, improve customer relationship management, and reduce uncertainty associated with strategic planning. Rather than replacing managerial judgment, AI complements human expertise by providing timely, evidence-based insights that improve organizational performance (Dwivedi et al., 2023).

The review also indicates that organizations possessing advanced AI capabilities demonstrate stronger organizational agility, faster innovation cycles, and improved adaptability during periods of environmental turbulence. These findings support the Dynamic Capability View by demonstrating that AI strengthens firms' abilities to sense opportunities, seize technological innovations, and continuously transform organizational resources.

Theme Two: AI-Enabled Business Model Transformation

Business model transformation emerged as one of the most extensively investigated themes within the reviewed literature. Scholars consistently argue that AI influences organizational performance not only through operational automation but also by fundamentally redesigning how firms create, deliver, and capture value.

AI enables organizations to personalize products and services, automate customer interactions, optimize logistics, develop digital platforms, and establish subscription-based revenue models. These capabilities contribute to organizational flexibility while improving customer satisfaction and operational efficiency. Rather than simply digitizing existing business activities, AI encourages firms to rethink their entire business architecture, resulting in more innovative and sustainable organizational models (Verhoef et al., 2021).

The uploaded empirical study similarly demonstrates that AI capabilities significantly enhance entrepreneurial quality through business model transformation, highlighting the mediating role of organizational redesign in converting technological capability into entrepreneurial outcomes.

Theme Three: Artificial Intelligence and Entrepreneurial Sustainability

A third dominant theme concerns the contribution of AI to entrepreneurial sustainability. The reviewed studies consistently indicate that AI improves organizational resilience, innovation capability, operational efficiency, and strategic flexibility, all of which contribute to long-term business sustainability.

Organizations employing AI technologies demonstrate improved capacity to anticipate environmental changes, respond to customer expectations, optimize resource utilization, and recover from external disruptions. AI also facilitates continuous organizational learning by generating actionable insights from operational data, thereby supporting strategic adaptation and long-term competitiveness.

Family-owned businesses constitute a particularly important context for entrepreneurial sustainability. Recent literature suggests that AI enhances governance quality, knowledge management, succession planning, and organizational continuity while strengthening resilience during periods of technological and economic change. These findings are consistent with the uploaded review emphasizing AI's role in supporting the sustainability of family-owned enterprises in emerging economies.

Theme Four: AI Adoption within SMEs and Emerging Economies

Another recurring theme concerns the growing adoption of AI among SMEs operating within emerging economies. SMEs frequently encounter resource constraints, financial limitations, technological infrastructure deficiencies, and shortages of skilled personnel. Despite these challenges, AI adoption has expanded through cloud computing, software-as-a-service platforms, and affordable digital applications that reduce implementation costs.

The literature indicates that AI improves SME competitiveness by enhancing customer relationship management, financial forecasting, inventory optimization, digital marketing, and strategic planning. Organizations capable of integrating AI into business operations demonstrate stronger innovation capability and improved responsiveness to changing market conditions.

Nevertheless, several barriers continue to constrain AI adoption in emerging economies. These include inadequate digital infrastructure, cybersecurity concerns, limited digital literacy, insufficient government

support, and regulatory uncertainty. Addressing these barriers requires coordinated investments in digital infrastructure, education, workforce development, and innovation ecosystems.

Theme Five: Ethical and Governance Challenges

The final major theme concerns ethical, legal, and governance issues associated with AI implementation. As organizations increasingly rely on algorithmic decision-making, concerns regarding transparency, accountability, algorithmic bias, privacy protection, cybersecurity, and responsible AI governance have become more prominent.

The literature emphasizes that sustainable AI adoption requires robust governance frameworks capable of balancing technological innovation with ethical responsibility. Organizations are therefore encouraged to establish AI governance policies addressing fairness, explainability, accountability, data protection, and regulatory compliance.

Researchers further argue that successful AI implementation should remain human-centered, ensuring that intelligent technologies complement rather than replace human creativity, managerial judgment, and ethical decision-making.

Emerging Research Trends

The thematic synthesis reveals several emerging trends likely to influence future scholarship.

First, research increasingly integrates AI with sustainability, environmental responsibility, and the Sustainable Development Goals (SDGs), reflecting broader societal concerns regarding responsible technological innovation.

Second, growing attention is being devoted to generative AI and its implications for entrepreneurship, digital marketing, organizational learning, innovation, and strategic management.

Third, interdisciplinary collaboration between entrepreneurship, information systems, strategic management, and marketing scholars continues to expand, producing more comprehensive conceptual frameworks capable of explaining AI-enabled organizational transformation.

Finally, there is increasing recognition that AI adoption depends not solely on technological capability but also on organizational culture, leadership, institutional quality, and supportive public policy. These factors collectively determine whether organizations successfully convert AI investments into sustainable competitive advantage.

DISCUSSION

The findings of this systematic literature review demonstrate that Artificial Intelligence (AI) has become a strategic driver of business model transformation and entrepreneurial sustainability, particularly in the context of emerging economies. By synthesizing evidence from contemporary conceptual and empirical studies, the review highlights the multidimensional role of AI in enhancing organizational innovation, strategic agility, operational efficiency, and long-term competitiveness. The discussion interprets these findings in relation to the objectives of the study and the theoretical perspectives underpinning AI-enabled organizational transformation.

Artificial Intelligence as a Strategic Resource for Entrepreneurial Development

One of the most consistent findings across the reviewed literature is that AI has evolved beyond its traditional role as an operational support technology to become a strategic organizational capability. Organizations increasingly integrate AI into strategic planning, customer relationship management, innovation processes, financial forecasting, and supply-chain optimization to improve competitiveness and create sustainable value. This finding supports the Resource-Based View (RBV), which argues that organizations achieve sustainable

competitive advantage by developing valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). AI capability represents such a strategic resource because its value depends not merely on technological acquisition but on its effective integration with organizational knowledge, leadership capability, and innovation culture.

The review also demonstrates that AI strengthens entrepreneurial decision-making by enabling firms to process large volumes of data, anticipate market trends, identify customer preferences, and improve strategic responsiveness. Rather than replacing entrepreneurs, AI complements managerial judgment by reducing uncertainty and enhancing evidence-based decision-making. This finding aligns with the conclusions of recent studies that identify AI as a catalyst for opportunity recognition, innovation, and entrepreneurial performance.

Business Model Transformation as the Mechanism Linking AI and Entrepreneurial Performance

The review further indicates that business model transformation represents the principal mechanism through which AI influences entrepreneurial success. Across the reviewed studies, AI adoption consistently supported changes in value creation, value delivery, and value capture rather than simply improving operational efficiency. Organizations adopting AI redesigned customer engagement strategies, introduced digital platforms, expanded subscription-based revenue models, and improved service personalization through predictive analytics and intelligent automation.

This finding reinforces the Dynamic Capability View (DCV), which emphasizes organizational adaptation through the continuous sensing of opportunities, seizing technological innovations, and transforming organizational resources (Teece, 2018). AI strengthens each of these dynamic capabilities by enabling organizations to respond more effectively to changing market conditions and technological disruption. The uploaded empirical study similarly demonstrates that business model transformation mediates the relationship between AI capability and entrepreneurial quality, indicating that technology alone is insufficient without corresponding organizational redesign.

The implication is that organizations should avoid viewing AI merely as a technological investment. Instead, AI initiatives should be embedded within broader organizational transformation strategies that redesign business processes, strengthen customer relationships, and support continuous innovation.

Artificial Intelligence and Entrepreneurial Sustainability

Another important finding concerns the contribution of AI to entrepreneurial sustainability. The reviewed literature consistently suggests that sustainable entrepreneurship depends increasingly on organizational resilience, innovation capability, strategic flexibility, and adaptive learning. AI enhances these capabilities by improving forecasting accuracy, optimizing resource utilization, supporting intelligent decision-making, and enabling organizations to anticipate environmental changes before they become crises.

For SMEs and family-owned businesses, AI contributes to long-term sustainability by strengthening operational efficiency, improving governance, facilitating knowledge management, and supporting succession planning. These findings are particularly significant for emerging economies, where family enterprises often dominate national business sectors and contribute substantially to employment and economic growth. The uploaded review on family-owned businesses similarly concludes that AI enhances organizational continuity, resilience, and long-term competitiveness when integrated into strategic management practices.

The review therefore suggests that entrepreneurial sustainability should be understood not simply as business survival but as an organization's capacity to innovate continuously, adapt to environmental change, and maintain long-term stakeholder value through effective use of digital technologies.

Challenges Affecting AI Adoption

Despite the substantial benefits identified throughout the reviewed literature, AI adoption remains uneven across organizations and countries. Financial constraints, inadequate digital infrastructure, shortages of skilled

personnel, cybersecurity concerns, organizational resistance to change, and regulatory uncertainty continue to limit AI implementation, particularly among SMEs operating in developing economies.

The Technology–Organization–Environment (TOE) Framework provides a useful explanation for these differences by emphasizing that successful technology adoption depends simultaneously on technological readiness, organizational capability, and environmental support. Organizations possessing strong leadership, adequate financial resources, skilled employees, and supportive institutional environments consistently demonstrate higher AI adoption rates than organizations lacking these complementary capabilities.

The review further highlights the importance of ethical AI governance. Increasing reliance on algorithmic decision-making has generated concerns regarding privacy, transparency, accountability, fairness, and cybersecurity. Organizations therefore require governance structures that ensure responsible AI deployment while maintaining public trust and regulatory compliance. Sustainable AI implementation should remain human-centered, combining technological innovation with ethical leadership and effective organizational governance.

Implications for Theory

From a theoretical perspective, this review contributes to the growing literature by integrating four complementary theoretical perspectives—the Dynamic Capability View, Resource-Based View, Technology–Organization–Environment Framework, and Diffusion of Innovation Theory—into a unified explanation of AI-enabled entrepreneurial transformation.

The findings indicate that no single theory adequately explains AI adoption. Rather, AI implementation results from interactions among organizational resources, dynamic capabilities, technological readiness, institutional conditions, and innovation diffusion processes. Consequently, future research should adopt multidisciplinary theoretical approaches capable of capturing the complexity of digital transformation within contemporary entrepreneurial ecosystems.

The review also contributes conceptually by positioning business model transformation as the critical link connecting AI capability with entrepreneurial sustainability. This integrated perspective extends previous research by demonstrating that technological adoption creates sustainable value primarily through organizational transformation rather than technological implementation alone.

Synthesis of the Review

Overall, the reviewed literature demonstrates that AI has become an indispensable component of contemporary entrepreneurship and organizational strategy. AI contributes to sustainable competitive advantage by improving opportunity recognition, organizational agility, innovation capability, customer value creation, and strategic decision-making. Nevertheless, successful AI implementation requires complementary investments in leadership development, organizational learning, employee capability, digital infrastructure, and supportive institutional environments. The findings further indicate that emerging economies possess significant opportunities to leverage AI for sustainable economic development. However, realizing these opportunities depends on coordinated action among governments, universities, technology providers, financial institutions, and business organizations to strengthen digital ecosystems, improve technological readiness, and promote responsible AI governance.

Practical and Policy Implications

The findings of this systematic literature review provide important implications for entrepreneurs, business managers, policymakers, educational institutions, technology providers, and researchers. The synthesis demonstrates that Artificial Intelligence (AI) is no longer merely an operational technology but a strategic capability capable of transforming business models, improving entrepreneurial performance, and promoting sustainable organizational growth. However, realizing these benefits requires coordinated investments in digital capabilities, organizational transformation, supportive institutional frameworks, and responsible AI governance.

Implications for Entrepreneurs

The review demonstrates that entrepreneurs should consider AI as a strategic resource rather than simply a technological innovation. AI applications such as predictive analytics, machine learning, natural language processing, and intelligent automation can significantly improve opportunity recognition, customer engagement, product innovation, operational efficiency, and strategic decision-making. Entrepreneurs who successfully integrate AI into their business strategies are more likely to identify emerging market opportunities, respond rapidly to changing customer preferences, and achieve sustainable competitive advantage (Dwivedi et al., 2023; Verhoef et al., 2021).

Entrepreneurs should also recognize that successful AI adoption extends beyond purchasing technological tools. Organizational transformation requires continuous learning, employee capability development, effective leadership, and the redesign of business processes. Investment in digital competencies should therefore accompany technological investment to maximize organizational benefits.

Digital entrepreneurship presents particularly significant opportunities for start-ups operating in emerging economies. Cloud computing, software-as-a-service (SaaS) applications, AI-powered digital marketing platforms, and e-commerce technologies enable entrepreneurs to establish scalable business models with relatively limited financial resources. Consequently, entrepreneurs should prioritize digital innovation, continuous organizational learning, and customer-centered business model development.

Implications for Small and Medium-Sized Enterprises (SMEs)

Small and medium-sized enterprises represent the foundation of most emerging economies but frequently encounter financial, technological, and managerial constraints. The review indicates that AI can substantially improve SME competitiveness through enhanced customer relationship management, demand forecasting, inventory optimization, financial planning, and operational efficiency.

SME managers should adopt phased AI implementation strategies that begin with affordable cloud-based applications before progressing toward more advanced AI capabilities. This incremental approach reduces implementation risks while allowing organizations to develop internal digital competencies gradually.

Managers should also cultivate organizational cultures that encourage innovation, experimentation, and technological learning. Resistance to organizational change remains one of the principal barriers to AI implementation; therefore, employee participation, continuous training, and effective communication become essential components of successful digital transformation.

Implications for Family-Owned Businesses

Family-owned enterprises constitute a substantial proportion of businesses in many emerging economies and contribute significantly to employment generation, wealth creation, and regional development. The review indicates that AI adoption can strengthen family business sustainability by improving governance, succession planning, knowledge management, strategic planning, and organizational resilience.

Family business leaders should integrate AI into long-term strategic planning while preserving organizational values and intergenerational continuity. Rather than viewing technological innovation as a threat to traditional business practices, family enterprises should recognize AI as a complementary capability capable of strengthening organizational continuity and long-term competitiveness. The uploaded review similarly emphasizes AI's contribution to operational resilience and sustainability in family-owned businesses.

Implications for Business Managers

Business managers should approach AI implementation as an enterprise-wide transformation initiative rather than an isolated information technology project. The review demonstrates that AI generates the greatest organizational value when integrated with business model transformation, organizational learning, innovation management, and strategic leadership.

Managers should establish multidisciplinary implementation teams involving information technology specialists, marketing professionals, operations managers, human resource practitioners, and senior executives. Cross-functional collaboration enhances organizational readiness while ensuring that AI initiatives align with strategic objectives.

Furthermore, managers should continuously monitor AI performance through measurable organizational indicators such as operational efficiency, customer satisfaction, innovation output, employee productivity, and financial performance. Continuous evaluation enables organizations to refine AI implementation strategies while maximizing long-term returns on technological investment.

Policy Implications

Governments play an essential role in creating institutional environments that facilitate responsible AI adoption. The review indicates that AI implementation within emerging economies depends heavily on digital infrastructure, education systems, regulatory frameworks, innovation ecosystems, and public investment.

Policymakers should prioritize: Expansion of broadband and digital infrastructure. National AI strategies aligned with sustainable development objectives. Financial incentives supporting SME digital transformation. AI research funding. Digital innovation hubs and technology incubation centres. Public-private partnerships promoting technological innovation. Regulatory frameworks addressing data privacy, cybersecurity, intellectual property, and ethical AI governance.

Governments should also strengthen collaboration among universities, research institutions, technology companies, and entrepreneurial support organizations to accelerate knowledge transfer and innovation commercialization.

Implications for Higher Education Institutions

Universities have a critical responsibility in preparing graduates capable of succeeding within AI-driven economies. Entrepreneurship education should increasingly incorporate Artificial Intelligence, data analytics, digital innovation, machine learning applications, business intelligence, and digital strategy into undergraduate and postgraduate curricula.

Higher education institutions should strengthen interdisciplinary collaboration among business, computer science, engineering, economics, and information systems departments to develop graduates possessing both technological competence and entrepreneurial capability.

Universities should further establish AI innovation laboratories, entrepreneurship incubation centres, and industry partnerships that provide students with practical experience in applying intelligent technologies to real organizational challenges.

Implications for Technology Providers

Technology firms developing AI solutions should recognize the unique constraints confronting SMEs operating within emerging economies. Affordable, user-friendly, cloud-based AI applications capable of functioning within resource-constrained environments will likely experience greater adoption than complex enterprise systems requiring extensive technical expertise.

Technology providers should also invest in customer education, technical support, and capacity-building initiatives that improve digital literacy among SME owners and managers. Such collaborative approaches strengthen customer relationships while improving successful technology implementation.

FUTURE RESEARCH AGENDA

Despite the rapid growth of AI research, the systematic review identified several conceptual, methodological, contextual, and theoretical gaps requiring further scholarly investigation.

Conceptual Gaps

Much of the existing literature examines AI adoption, business model transformation, or entrepreneurial sustainability independently. Future research should develop integrated conceptual models explaining the interactions among AI capability, organizational learning, digital transformation, business model innovation, entrepreneurial resilience, and long-term sustainability.

Researchers should also investigate emerging AI technologies such as generative AI, autonomous agents, explainable AI, and multimodal AI to understand their implications for entrepreneurship and strategic management.

Methodological Gaps

The literature remains dominated by cross-sectional survey designs. Future studies should employ: Longitudinal research designs. Mixed-method approaches. Comparative international studies. Multi-level analyses. Case study research. Experimental designs examining AI implementation.

These approaches would provide deeper insights into the long-term organizational effects of AI adoption.

Contextual Gaps

Most empirical studies originate from developed economies, particularly Europe, North America, and East Asia. Considerably fewer studies investigate AI adoption within Africa, Latin America, the Middle East, and other emerging regions.

Future research should therefore examine: AI adoption among African SMEs. Digital entrepreneurship within emerging economies. Family business digital transformation. AI and informal-sector entrepreneurship. Rural entrepreneurship. Women-owned enterprises. Social entrepreneurship.

Such contextual diversity would improve the global relevance of AI and entrepreneurship research.

Theoretical Gaps

The review indicates that researchers frequently rely on single theoretical perspectives. Future investigations should integrate complementary theories such as: Dynamic Capability View. Resource-Based View. Technology–Organization–Environment Framework. Diffusion of Innovation Theory. Institutional Theory. Knowledge-Based View. Stakeholder Theory.

Multi-theoretical approaches would provide more comprehensive explanations of AI-enabled organizational transformation.

Emerging Research Directions

Several emerging topics deserve increased scholarly attention: Generative AI and entrepreneurial creativity. AI governance and ethical entrepreneurship. AI-enabled sustainable business ecosystems. AI and green entrepreneurship. Human–AI collaboration in entrepreneurial decision-making. AI-enabled strategic leadership. AI and entrepreneurial resilience during crises. AI adoption in family-owned businesses. Responsible AI for sustainable development. AI and achievement of the Sustainable Development Goals (SDGs).

These topics represent promising avenues for advancing entrepreneurship and strategic management scholarship.

CONCLUSION

Artificial Intelligence (AI) has become a strategic driver of entrepreneurship, business model innovation, and sustainable organizational development. This systematic literature review, guided by the PRISMA 2020

framework, synthesized studies published between 2020 and 2026 to examine the relationship between AI adoption, business model transformation, and entrepreneurial sustainability, particularly in emerging economies.

The review shows that AI has evolved from an operational tool to a strategic capability that enhances innovation, organizational learning, decision-making, customer experience, and resilience. Technologies such as machine learning, predictive analytics, intelligent automation, natural language processing, and generative AI enable firms to improve efficiency while adapting to rapidly changing business environments.

A major finding is that business model transformation is the key pathway through which AI creates value. Rather than merely automating processes, AI enables organizations to redesign value propositions, optimize operations, strengthen customer relationships, and develop innovative revenue models. Firms that integrate AI into broader strategic transformation initiatives are therefore more likely to achieve sustainable competitive advantage than those using AI only for operational efficiency.

The review further indicates that AI supports entrepreneurial sustainability by improving forecasting, resource allocation, organizational adaptability, and innovation. These capabilities strengthen the resilience of SMEs and family-owned businesses, particularly in emerging economies, by enhancing governance, knowledge management, and long-term continuity.

Despite these benefits, AI adoption remains constrained by inadequate digital infrastructure, limited financial resources, shortages of skilled personnel, cybersecurity concerns, and regulatory uncertainty. Overcoming these barriers requires investments in digital infrastructure, workforce development, supportive policies, and responsible AI governance involving governments, educational institutions, and industry stakeholders.

From a theoretical perspective, the Dynamic Capability View, Resource-Based View, Technology–Organization–Environment (TOE) Framework, and Diffusion of Innovation Theory provide complementary explanations of how AI adoption drives business model transformation and entrepreneurial sustainability.

The review also highlights important research gaps. Future studies should employ longitudinal and mixed-method approaches, investigate AI adoption across diverse institutional settings, examine generative AI and ethical governance, and increase empirical research in Africa and other underrepresented emerging economies.

In conclusion, AI is more than a technological innovation; it is a strategic enabler of entrepreneurial transformation and sustainable value creation. Organizations that combine AI adoption with business model innovation, organizational learning, effective leadership, and supportive institutional environments are better positioned to achieve long-term competitiveness and sustainable entrepreneurial success in the digital economy.

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