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Description

The Journal of Business and Digital Innovation (JBDI) explores the dynamic interplay between digital technologies and business practices, focusing on how digital transformation influences innovation, entrepreneurship, organisational performance, leadership and management capabilities. The journal seeks interdisciplinary research articles with quantitative, qualitative, mixed methods approaches and systematic literature review that contribute to the discourse on the implications of the prevailing industrial revolution for businesses and society. Currently, JBDI is published both online and through print media.

Aims and Scope

The Journal aims to advance the understanding of interaction between digital innovation and business management practices. The journal is inclined to publish insightful articles, and its scope encompasses a wide range of topics but not exhaustive of the following: *Digital Innovation in Leading and Managing Business; Human Resource Management and Digital Innovation; Business and Management of Digital Innovation; Strategic Marketing and Digital Innovation; Digital Innovation in Hospitality and Tourism Business; Trends in Business Analytics and Digital Marketing; Digital Innovation in Financial Management; Advancements of Digital Innovation in Entrepreneurship; Digital Innovation and Corporate Governance; Digital Innovation in International Project Management; Cyber Security for Business Performance and the Business of Cyber Security; Computing, Artificial Intelligence, and International Business; Ethical and Social Implications of Digital Innovation in Business; Digital Innovation and Sustainability Agenda; Digital Innovation in Global Logistics Operations and Supply Chain Management; Reviews on Theoretical Foundations of Digital Innovation in Business.*

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Editors' Note

It is with great enthusiasm and a deep sense of purpose that I welcome readers to the inaugural volume and first issue of the *Journal of Business and Digital Innovation (JBDI)*. The launch of this journal marks an important milestone in our collective effort to understand, interpret, and shape the rapidly evolving intersection between business practice and digital transformation. We are living in a period defined by unprecedented technological acceleration. Artificial intelligence, data analytics, digital platforms, automation, and new organisational models are reshaping industries, redefining competitive advantage, and challenging long-standing assumptions about how value is created and delivered. In this dynamic environment, scholarship must not only keep pace, but it must also lead with insight, clarity, and critical reflection. JBDI emerges as a response to this imperative with the mission is to provide a rigorous, interdisciplinary, and globally relevant platform for research that advances knowledge, explores the dynamic interplay between digital technologies and business practices in the digital age.

This issue brings together contributions that reflect the diversity and depth of contemporary inquiry in the field. The articles featured here explore themes ranging from digital strategy and innovation management to emerging technologies, organisational transformation, and the socio-economic implications of digitalisation. Each piece has undergone a robust peer-review process to ensure the highest academic standards. As we embark on this journey, we extend our sincere appreciation to the authors who entrusted us with their work, the reviewers whose expertise strengthened each manuscript, and the editorial board whose commitment has shaped the vision of this journal. We are equally grateful to our readers, scholars, practitioners, policymakers, and students, whose engagement will give life and relevance to this publication.

The emergence of JBDI is not merely the beginning of a journal; it is the beginning of a community. A community committed to intellectual curiosity, methodological rigour, and meaningful impact. We invite you to join us in this endeavour by reading, contributing, critiquing, and collaborating. With this first issue, we set the foundation for what we hope will become a leading voice in the global discourse on business and digital innovation. We look forward to the ideas, debates, and discoveries that will emerge in the volumes ahead.

From Ideation to Growth: The Impact of Generative AI on Entrepreneurial Processes in Qatar by **Maha AlNassr, Arshad Jamal & Rizwan Shahid Pirzada** is the first article. The study explores how Generative AI influences entrepreneurial processes in Qatar's start-up ecosystem using survey data from 106 founders. Perceived usefulness emerges as the strongest predictor of adoption, while ease of use is secondary, extending TAM with ethical legitimacy and institutional readiness. GenAI significantly boosts innovation, particularly idea generation, rapid prototyping, and creative problem-solving; yet its effect on growth is weaker due to contextual constraints. The study proposes an integrated adoption framework and offers practical guidance for entrepreneurs and policymakers on phased implementation, hybrid models, and regulatory refinement.

The second article is on *"Systematic and Unsystematic Drivers of Mergers and Acquisitions in the United Kingdom* by **Lamiaa Ezzaer, Dilesha Rathnayake & Ridma Rathnayaka** investigated systematic and unsystematic drivers of UK M&A activity from 1980–2022 using a mixed-methods design. OLS regression shows GDP growth, inflation, and exchange rates positively influence M&A volumes, whereas trade balance and stock prices exert negative effects. Qualitative analysis highlights the importance of cultural and managerial factors in shaping deal outcomes. Together, the findings deepen understanding of economic and organisational forces influencing M&A behaviour in the UK and provide valuable guidance for policymakers, investors, and corporate leaders seeking to navigate evolving transactional dynamics.

Tobi Nwulu & Omoseni O. Adepoju in the third article *"Tripartite Accountability in AI-Driven Workforce Displacement: A Stakeholder and Legal Perspective"* analysed how responsibilities for managing AI-driven workforce displacement should be allocated among employers, workers, and governments across the United States, Germany, Japan, and Singapore. Using Stakeholder and Human Capital theories and a narrative review of literature and policy documents (2020–2026), it argues that no single actor can address displacement alone. Findings show employers must act proactively beyond compliance, workers must continually adapt and engage collectively, and governments must close regulatory and policy gaps. The study proposes a structured tripartite accountability framework with practical implications for labour-market governance.

In the fourth article, *"Exploring How the Adoption of Artificial Intelligence in Human Resource Management Enhances Organizational Performance and Efficiency"*, **Olugbenga Adeyanju Akintola, Samson Onyeluka Chukwuedo, Imad Yasir Nawaz & Oluwole Shokunbi** examined how AI adoption in HRM enhances organizational performance and efficiency in IT-related firms in Lagos State, drawing on TAM, RBV, and Dynamic Capabilities Theory. Using a cross-sectional survey of 452 HR personnel and employees, path analysis supports three hypotheses showing that AI adoption positively influences performance and efficiency. HR process efficiency mediates these relationships,

indicating that streamlined HR processes are a key mechanism through which AI generates value. The study advances HRM and IS literature by clarifying how AI-enabled HRM strengthens day-to-day organizational operations.

“Manufacturing SMEs’ Decisions to Innovate and Transform in the Emerging Economy: Empirical Evidence from Nigeria” by **Julius Eziashi, Eustathios Sainidis, Bamituni Etomi Abamu & Uzo Anozie** is the fifth article. The study investigated how Nigerian manufacturing SMEs make decisions that shape innovation and transformation in the Fourth Industrial Revolution context. Using qualitative data from 17 SMEs, it identifies eight key decision domains: production control, human resource management, plant size and capacity, machinery, budgeting, plant location, technological know-how, and new product development. These domains reveal how resource scarcity and institutional limitations influence decision-making. The findings provide empirical insight into manufacturing transformation in emerging economies and offer implications for policymakers and practitioners supporting SME competitiveness in Nigeria.

In the sixth article, *“Management Strategies and Their Impact on Organisational Dependencies in the Middle Eastern Countries: A Case Study of IBM in Saudi Arabia”*, **Mihaela Melintescu & Imani Silver Kyaruzi** analysed how management strategies shape organisational dependencies within IBM Saudi Arabia, focusing on HRM and leadership influences on strategic implementation. Using secondary data and inductive thematic analysis, it identifies recurring managerial, organisational, and cultural challenges. Findings show that weak leadership, ineffective project management, cross-cultural misalignment, outdated HR practices, and limited training undermine strategic performance. These deficiencies disrupt organisational alignment and effectiveness in the Saudi context. The study contributes to strategic management and international HRM literature, recommending transformational leadership, enhanced training, cultural literacy, and 360-degree feedback to strengthen strategy execution.

Abdulaziz Hussain Al-Saadi, Arshad Jamal, & Syed Rizwan Shahid Pirzada in the seventh article *“Does Organizational Culture Drive Innovation in Non-Profit Organizations? Testing the Applicability of ICEF Model at Qatar Charity”* evaluated the applicability of the Innovative Culture Enhancement Framework within Qatar Charity, a large humanitarian non-profit organization. Using a quantitative survey grounded in the Competing Values Framework and a modified Community Innovation Survey, it examines culture–innovation linkages. Findings show Adhocracy Culture strongly predicts all innovation types, while Hierarchy Culture unexpectedly also positively influences innovation, reflecting structured innovation in compliance-intensive NPOs. Market and Clan cultures show selective effects. The study offers sector-specific insights for managers seeking to foster innovation through culturally aligned strategies that balance creativity, collaboration, and formalization.

The eighth article is on *“Internationalization Barriers of Nigerian Manufacturing SMEs”* by **Bamituni Etomi Abamu, Julius Eziashi, Eustathios Sainidis, & Uzo Anozie** explored barriers hindering the internationalization of Nigerian manufacturing SMEs, despite their major contribution to national GDP and employment. Using qualitative interviews with 10 SMEs and content analysis, the findings show that internal barriers—such as limited finance, restricted credit access, and poor product quality—and external barriers, including inadequate market knowledge and stringent export safety regulations, constrain export participation. SMEs often rely on export intermediaries to navigate these challenges. The study recommends intermediary partnerships, regional market entry, improved government financing, enhanced export information, and strengthened trade-related skills development.

“Public-Private Partnerships in Technical and Vocational Education and Training (TVET): Strengthening Skill Ecosystems and Labour Market Integration” by **Olaide David Adeleye, Joshua, Samson Salasi & Taiwo Grace Wale-Fadairo** is the ninth article. The study investigated how Public–Private Partnerships (PPPs) shape the relevance, quality, and labour-market performance of Nigeria’s TVET programmes using an explanatory sequential mixed-methods design. Survey data from 180 respondents across Lagos, Ogun, and Kaduna show PPP-supported institutions achieve stronger curriculum–industry alignment and higher graduate employment rates (65% vs. 47%). Logistic regression confirms PPP participation significantly predicts employment outcomes. Qualitative insights attribute these gains to curriculum co-design, structured workplace learning, and employer engagement, though constrained by policy fragmentation and weak financing. The study highlights PPPs’ potential to strengthen Nigeria’s TVET ecosystem through coordinated governance and funding reforms.

Welcome to Volume 1, Issue 2.

Welcome to the Journal of Business and Digital Innovation.

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From Ideation to Growth: The Impact of Generative AI on Entrepreneurial Processes in Qatar

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Abstract

This study investigated the impact of Generative Artificial Intelligence (GenAI) on entrepreneurial processes within Qatar's start-up ecosystem. Through a quantitative survey of 106 Qatari start-up leaders, the study examined the patterns of GenAI adoption, and its influence on innovation and growth, and the contextual barriers shaping these outcomes. The findings revealed that perceived usefulness is the strongest determinant of adoption, while ease of use plays a secondary role, extending Technology Acceptance Model (TAM) to incorporate ethical legitimacy and institutional readiness. Furthermore, regression results demonstrated a statistically significant and positive impact of GenAI adoption on innovation outcomes, especially in enhancing idea generation, rapid prototyping, and creative problem-solving. However, the relationship with growth performance is weaker, reflecting the impact of contextual factors such as market size, funding ecosystems, and regulatory frameworks. Theoretically, the study contributes to an integrated framework that synthesizes existing models in an attempt to provide a more holistic explanation in GenAI adoption in culturally embedded and state-led ecosystems. In terms of practical applications, the research carries implications for Qatari entrepreneurs modelled by strategies such as phased adoption and hybrid human-AI models and for policymakers with recommendations such as using data to better refine regulation, capacity-building and trust building measures.

Keywords: GenAI, Technology Adoption Model (TAM), Innovation, Start-up ecosystem, Qatar

Wordcount: 200

1. Introduction

The development of Generative Artificial Intelligence (GenAI) signals a significant transformation in organizational approaches to innovation, operation efficiency, and sustaining competitive edge. Whereas traditional automation systems are designed primarily to replace routine activities, GenAI augments human capability and supports strategic decision-making by generating novel content – including text, images, codes, and analytical insights – through the application of advanced pattern recognition techniques developed from extensive historical data (Mariani and Dwivedi, 2024). Kusetogullari et al. (2025) argue that the rise of GenAI positions technology as a creative partner, amplifying entrepreneurial potential rather than serving as a replacement for human labor. The unprecedented scale of the adoption of tools such as ChatGPT, Google Gemini, and Microsoft Copilot in content generation, idea validation, marketing automation, and customer engagement underscore GenAI's role within organizational processes (Dwivedi et al., 2023; Gartner, 2024). These developments have catalyzed a restructuring of entrepreneurial practices, prompting start-ups to reimagine their business models around AI-enabled innovation.

In Qatar, this transformation is aligned with national priorities of economic diversification under the Qatar National Vision 2030 (GSDP, 2008) in which digital innovation and AI are identified as key drivers of a knowledge-based economy (MCIT, 2024). Projections indicate that Qatar's AI industry is poised for significant growth, expanding from USD 9 million in 2020 to an estimated USD 730 million by 2031—a nearly 23-fold increase (Statista, 2025). Over the same period, the number of AI users in the country is expected to rise dramatically from around 16,000 to 270,000, representing a 17-fold surge by 2031. This rapid trajectory positions Qatar among the most dynamic emerging AI markets globally. GenAI has two implications for Qatari entrepreneurs. It offers scalable tools for ideation, prototyping, and customer engagement that can help lean start-ups compete in spite of their resource limitation. However, adoption depends on regulatory frameworks, cultural legitimacy and institutional support mechanisms, which requires a systematic empirical investigation.

Despite the global emergence and rapid growth of GenAI, its potential consequences on entrepreneurial processes in emerging markets like Qatar remain underexplored. Much of the existing research centers on developed economies and established corporations (Dwivedi et al., 2023; Singh et al., 2024), often neglecting state-driven, culturally embedded ecosystems where government intervention significantly shapes entrepreneurial outcomes (Chalmers et al., 2021). Three major gaps impede both theoretical development and practical implementation: First, there is a scarcity of quantitative studies examining patterns and outcomes of GenAI adoption within start-up ecosystems in emerging markets. Second, conventional technology adoption models—such as the Technology Acceptance Model and Diffusion of Innovation—fall short in addressing GenAI’s inherent uncertainty, rapid evolution, ethical complexities, and iterative learning processes (Gupta and Yang, 2024; Dwivedi et al., 2023). Third, entrepreneurs lack empirically tested models to assess the benefits and risks of GenAI adoption, especially in the context of Qatar’s evolving regulatory and socio-cultural environment. This research seeks to address these gaps by offering empirical insights into GenAI adoption among Qatari start-ups, analyzing the impact of GenAI on entrepreneurial processes and building contextualized theoretical models.

The primary research objective of this research is as follows: *“How does Generative AI influence the entrepreneurial process in start-ups in Qatar, and what factors contribute to its impact?”*. The study further examines the factors that affect GenAI adoption patterns among Qatari start-ups across different sectors and developmental stages. It examines the integration of GenAI technologies in the different stages of the entrepreneurial process and the opportunities, risks, and challenges faced by founders in the overall implementation process. Finally, it considers how the existing theoretical frameworks can be better adapted to explain GenAI adoption in the entrepreneurial ecosystem in Qatar. This research has four interrelated objectives. First, it seeks to investigate how start-ups in Qatar leverage GenAI in different business functions and entrepreneurial processes. Second, it aims to explore the role of GenAI in boosting entrepreneurial stages using the theoretical framework of Experiential Learning Theory by analyzing the role of repeated cycles of learning in the integration of technology and development of businesses. Third, it evaluates the economic and social benefits and hurdles entrepreneurs encounter by incorporating Generative AI in start-up operations. Fourth, it identifies practical paths forward for entrepreneurs, educators, and policymakers that may be used to maximize GenAI usage in Qatar's emerging entrepreneurial ecosystem.

From an academic standpoint, this study is an extension of the scarce research on GenAI adoption in emerging economies through testing and extending frameworks including the Technology Acceptance Model (TAM), the Resource-Based View (RBV), Dynamics Capabilities (Teece, 1997), and Experiential Learning Theory (Kolb, 1984). It illustrates that the outcomes of adoption are influenced by factors of perceived usefulness, ethic legitimacy, regulatory framework and institutional trust. Practically, the study offers evidence-based guidance to Qatari entrepreneurs such as phased adoption strategies, AI-readiness assessments, and hybrid human-AI operating models for innovation enhancement in countering the risks such as ideation, integration costs, skill shortages, and regulatory uncertainty (Albous et al., 2025). At the policy level, this research aligns with the objectives of Qatar National Vision 2030 and the National Artificial Intelligence Strategy (NAIS) 2031 (MCIT, 2024) by providing data-driven insights that can inform the refinement of regulatory frameworks and strengthen capacity-building initiatives. Ethical issues, including data privacy, fairness, and cultural sensitivity (Mittelstadt et al., 2016), are highlighted as central to responsible AI deployment.

This study is geographically restricted to the start-ups operating in Qatar. Organizationally, it is based on small to medium-sized start-ups at an early and growth stage. Technologically, it is limited to Generative AI applications and not the broader fields of AI (Dwivedi et al., 2023). Large corporations are excluded because of resource structure and decision-making differences. Methodologically, the study adopts a quantitative design for the research process, which allows for generalization across the Qatari start-up ecosystem, resulting in findings that are both empirically robust and practically applicable (Creswell and Creswell, 2017). Overall, the paper is arranged in the following manner. Following this is a section on relevant literature pertaining to GenAI. The third section presents the research philosophy guiding the study and data sources. The fourth section discusses the findings of the study. The final section concludes with policy recommendations and future areas of research.

2. Review of Literature

The overlapping of entrepreneurship and Generative Artificial Intelligence (GenAI) has emerged as one of the most disruptive elements transforming current business environments (Dwivedi et al., 2023). The phenomenal growth of GenAI tools since 2022 has revolutionized the entrepreneurial views about innovation and resource allocation. However, current academic discourse highlights substantial limitations in exploring the opportunities and risks associated with this shift (Dwivedi et al., 2023; Nambisan, 2017; Von Briel et al., 2018). These limitations

are especially evident in emerging economies like Qatar, where the adoption process is influenced by institutional and cultural factors (Al-Kwafi et al., 2020). Three major gaps emerge. First, studies focus on the positive implications of GenAI while under examining ethical concerns, regulatory ambiguities or skill loss (Mittelstadt et al., 2016; Binns, 2018). Second, context-specific research in GCC economies is still limited in spite of unique regulatory and socio-cultural environment (Al-Kwafi et al., 2020). Third, coherent frameworks explaining GenAI adoption in entrepreneurial settings are lacking. Entrepreneurship has moved away from the view of a static process driven by resource availability to the view of a dynamic process influenced by technological and institutional forces (Bygrave and Hofer, 1991; Shane and Venkataraman, 2000). In Qatar, this evolution is accelerated through state-driven digital transformation agendas through Qatar National Vision 2030 (GSDP, 2008). Entrepreneurship as innovation (Schumpeter, 1934), opportunities recognition (Shane and Venkataraman, 2000) and new venture creation (Gartner, 1985). However, the discovery-exploitation framework assumes that there are opportunities independent of entrepreneurs (Alvarez and Barney, 2007). In technology-driven situations, opportunities are created increasingly by interacting with the new tools (Nambisan, 2017).

GenAI strengthens this view of creation. Often, AI-driven opportunity formation processes go hand in hand with analytics and automation (Von Briel et al., 2018; Li et al., 2021). GenAI accelerates the processes of ideation, prototyping, and decision-making (Dwivedi et al., 2023), thereby challenging the traditional linear innovation model—particularly in volatile and uncertain environments (Bennett and Lemoine, 2014). Traditional stage models – opportunity recognition, resource marshaling and venture launch (Bygrave and Hofer, 1991) – fail to capture GenAI enabled entrepreneurship. Sarasvathy's (2001) effectuation theory suggests that entrepreneurs start with the available means instead of predetermined goals and create opportunities through iterative experimentation (Dwivedi et al., 2023). GenAI helps decrease the experiments and shrinks the development timelines (Von Briel et al., 2018), however, current models fail to understand the re-organizational impact AI and GenAI have on the “means” and “ends” equation. In the case of Qatar, policy pressures make this nonlinearity stronger, which adds to the need for context-sensitive analysis. A major debate is the conflict between planning and emergence of GenAI. GenAI improves predictive capabilities and at the same time also improves the experimentation speed (Nambisan, 2017; Dwivedi et al., 2023). While digital transformation literature emphasizes the reduced costs associated with iterative processes (Brynjolfsson and McAfee, 2014), it tends to under-theorize the risks introduced by GenAI, such as ethical, operational, and societal concerns (Mittelstadt et al., 2016; Binns, 2018).

In Qatar's relationship-orientated business culture, tensions between the fast development of AI and traditional norms remain underexplored (Al-Kwafi et al., 2020; Zahra, 2007). Unlike traditional AI, GenAI produces new content using transformer architectures and large language models (Haenlein and Kaplan, 2019; Bommasani et al., 2021). The 2022 breakthroughs meant that accessibility to under-resourced entrepreneurs is no longer limited. In Qatar, these technologies are in line with National AI Strategy 2031 (MCIT, 2024), but regulatory ambiguity is limiting adoption of GenAI. GenAI is applicable across all stages of entrepreneurship, spanning from idea generation to business scaling. It improves the creative synthesis and recognition of data-driven opportunities (Gans et al., 2019; Cockburn et al., 2018). Although this aligns with the Resource-Based View (RBV) (Barney, 1991), the widespread availability of GenAI technologies may diminish their rarity as a source of competitive advantage (Zhang et al., 2023). In Qatar, cultural and linguistic market requirements, local buy-in becomes imperative (Albous et al., 2025). In the market analysis, GenAI democratizes the advanced analytics (Cockburn et al., 2018) but is limited by regulatory and data fragmentation in Qatar (Villegas-Mateos, 2023; Albous et al., 2025). In product development, it lowers the technical barriers (Dwivedi et al., 2023; Li et al., 2021) that make the products more accessible but also more competitive. In terms of customer engagement, there is enabling of large-scale interactions (Haenlein and Kaplan, 2019) but trust is the key in the relational culture of Qatar (Zahra, 2007).

GenAI results in efficiency, reduces organizational operational costs and contributes to lean organizational models (Brynjolfsson and McAfee, 2014). Routine tasks can be automated that can allow the entrepreneurs to focus on strategic and relational capabilities (Barney, 1991; Ali et al., 2024). For Qatari start-ups that struggle to keep operations running due to high costs and a lack of skills, such resource reallocation is especially valuable. Technical challenges get in the way of effective integration (Amershi et al., 2019). Regulatory uncertainty in Qatar (MCIT, 2024) creates compliance risks (Mittelstadt et al., 2016). Deskilling concerns are also relevant, as overreliance on GenAI may erode strategic competencies (Barney, 1991; Alet, 2024). Cultural misalignment and algorithmic bias represent a further threat to legitimacy (Bender et al., 2021). GenAI helps in faster innovation cycles and shortens the time-to-market (Cockburn et al. 2018; Dwivedi et al. 2023). Automation enhances both scalability and the quality of customer interactions (Li et al., 2023). From a financial perspective, cost reductions and lean organizational structures contribute to stronger competitive positioning, supporting Qatar's economic

diversification agenda (MCIT, 2024). The adverse effects of automation include lack of human capital (Barney, 1991). Cultural misalignment poses the risk of damaging the reputation (Bender et al., 2021). Regulatory uncertainty creates more of an ambiguous policy-based environment (MCIT, 2024). Variation in sectors is significant with FinTech adoption are facilitated by regulatory-processing needs, healthcare has stricter oversights. These contextual differences emphasize the significance of institutional alignment in Qatar (Alnuaimi et al., 2022).

Table 1. Comparison of Theoretical Framework

Framework	Strengths	Limitations	Relevance to Qatari Context
Technology Acceptance Model (TAM) (Davis, 1989)	Explains adoption behavior through perceived usefulness and ease of use; widely applied in technology diffusion research	Overemphasizes rational decision-making; neglects institutional and cultural factors; weak in uncertain contexts	Predicts intention for GenAI adoption but underestimates regulatory ambiguity, reputational risks, and cultural norms that strongly shape actual adoption in Qatar.
Resource- Based View (RBV) (Barney, 1991)	Positions GenAI as a strategic asset; emphasizes value, rarity, inimitability, and non-substitutability of resources	Assumes static, ownable resources; less suited to cloud-based AI services; under theorizes institutional assets such as legitimacy and regulation	Captures the value of Arabic culture, legitimacy, and trusted networks. However, in Qatar competitive advantage depends heavily on compliance, state endorsement, and cultural alignment – factors RBV treats only marginally.
Dynamic Capabilities (Teece et al., 1997; Teece, 2018)	Explain how firms' sense, seize, and reconfigure resources in fast-changing environments; highlights adaptability.	Presumes organizational slack, process maturity, and absorptive capacity often lacking in SMEs; overemphasises large firms' capabilities.	Useful for explaining how Qatari start-ups reconfigure processes under AI adoption. Yet SMEs often rely on state-driven initiatives and external vendors, limiting their ability to enact DC independently.
Experiential Learning Theory (Kolb, 1984)	Describes learning as iterative cycles (experience, reflection, conceptualization, experimentation); supports navigation of uncertainty.	Can appear overly individual-centric; underplays organizational codification and scaling of knowledge; may conflict with slower cultural norms of decision-making.	Reflects how Qatari entrepreneurs adopt GenAI through trial-and-error learning. Yet, GenAI's rapid tempo outpaces traditional consensus-driven processes, creating friction between cultural pace and technological speed.
Effectuation (Sarasvathy, 2001; Fisher, 2012)	Explains entrepreneurial action under uncertainty; emphasizes experimentation; leveraging networks, and affordable loss.	Can downplay institutional constraints; assumes flexibility in experimentation that may not hold in culturally or regulation-sensitive contexts.	Fits Qatar's relationship-oriented ecosystem where networks are key. However, the principle of "affordable loss" is constrained by high reputational and compliance risks.

Source: Authors' Own Work

As Table 1 shows, there is currently no single framework that reflects the multidimensional impact of GenAI adequately. An integrated framework of TAM (behavioral intention) RBV (strategic resources), Dynamic Capabilities (adaption), ELT (iterative learning) and Effectuation (bounded experimentation) is therefore needed in order to reflect Qatar's policy-driven and cultural embedded entrepreneurial environment. Table 2 presents the gaps identified in literature: limited empirical evidence on negative effects, methodological reliance on conceptual studies (Nambisan, 2017), underrepresentation of emerging economics (Cockburn et al., 2018) and theoretical fragmentation.

Table 2. Research Gaps identified in literature

Type of Gap	Existing Research Focus	Key Limitations	Implications in the Qatar/GCC context	References
Empirical	Studies emphasize benefits of GenAI (efficiency, innovation, competitive advantage)	Downsides such as ethical controversies, skill erosion, data dependence, and weak governance remain underexplored	Qatari start-ups face heightened risks around data governance, ethics and talent gaps; despite recognition, these remain under-investigated.	Dwivedi et al. (2023); Mittelstadt et al. (2016); Binns (2018)
Methodological	Dominated by conceptual/exploratory and case-based studies	Lack of large-scale quantitative studies to test causal and moderating factors	Qatar's entrepreneurial ecosystem requires robust empirical data to guide policy and practice in AI adoption.	Nambisan (2017)
Contextual	Research concentrated in developed economies	Neglects emerging markets with distinct institutional, regulatory, and socio-cultural dynamics	Qatar's QNV 2030 and AI strategy 2031 offer a unique-state driven innovation context, yet systematic empirical work is limited.	Cockburn et al. (2018); von Briel et al. (2018); Al-Kwafi et al. (2020); Alhumaidi et al. (2022).
Theoretical	Heavy reliance on TAM or RBV.	TAM neglects institutional/cultural dynamics; RBV assumes static resources; limited integration of ELT and Dynamic Capabilities.	Capturing GenAI adoption in Qatar requires a multidimensional framework integrating intention, resources, legitimacy, and adaptive learning.	Venkatesh and Bala (2008); Marangunic and Granic (2015); Wade and Hulland (2004); Bharadwaj (2000); Corbett (2005); Pittaway and Cope (2007); Warner and Wager (2019); Karimi and Walter (2015)

Source: Authors' own work

Drawing from the identified gaps and theoretical underpinnings, four testable hypotheses are formulated:

H1: Perceived benefits of GenAI positively predict its adoption among Qatari start-ups (Davis, 1989; Barney, 1991).

H2: Perceived barriers to GenAI implementation negatively predict its adoption among Qatari start-ups (Rogers, 2003).

H3: Ethical concerns negatively predict GenAI adoption among Qatari start-ups (Mittelstadt et al., 2016).

H4: Ambiguity moderates the relationship between ethical concerns and GenAI adoption, such that the negative effect of ethical concerns is stronger under conditions of higher ambiguity (Kolb, 1984; Teece, 2018).

These hypotheses provide a structured agenda to examine the multidimensional impact of GenAI adoption within Qatar's entrepreneurial system. This study makes an empirical contribution in terms of quantitative testing in the context of Qatar's start-up ecosystem, contextually as a way of adapting within GCC institutional realities, and theoretically in the form of multiple frameworks.

3. Methodology and Data Sources

This study explores the impact of Generative Artificial Intelligence (GenAI) on the entrepreneurial processes in the Qatari start-up ecosystem. The study's design is informed by the Research Onion Framework (Saunders et al., 2019), as illustrated in Figure 1. Within this framework, elements such as research philosophy, approach, design, strategy, time horizon, and analysis techniques are systematically structured to ensure overall coherence. The study has a positivist philosophy, assuming an objective external reality, which can be observed, measured and generalized through empirical testing (Creswell and Creswell, 2017). This is appropriate in light of the hypothesis-driven analysis of the relationships between the adoption of GenAI and entrepreneurial outcomes of the start-up ecosystem in Qatar. By using positivist logic, the study investigates the causal relationship, for example, if perceived usefulness is predictive of adoption behaviour (TAM) or if dynamic capabilities mediate innovation outcomes in a systematic, replicable and statistically verifiable manner. Established measurement instruments and statistical techniques were used to ensure that bias was minimized, and reliability and generalizability were ensured in the

Qatari context (Park et al., 2020). Alternative paradigms were not considered because the study's emphasis on quantitative hypothesis testing.

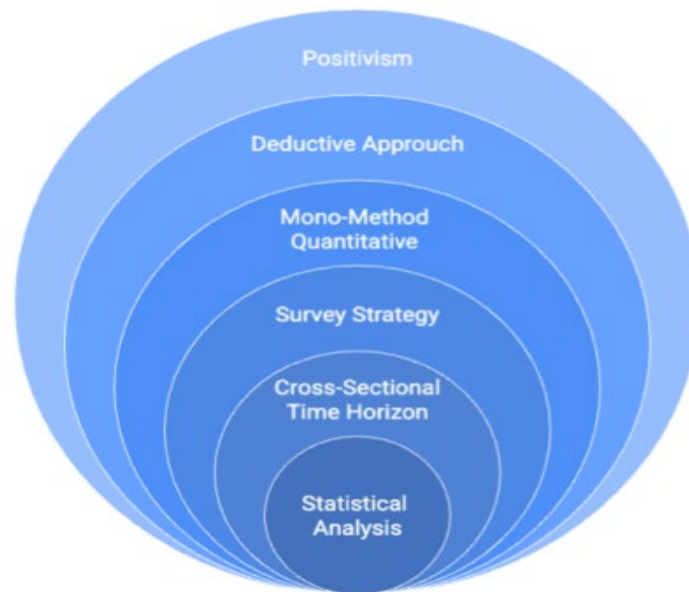


Figure 1. Research Methodology Structure

Drawing from perspectives such as TAM, RBV and Experiential Learning Theory, hypotheses were formulated and tested using survey data from Qatari start-ups. Deduction facilitates generalizable results and allows exploration of association between predefined variables (Bryman, 2016), beyond ensuring a theoretical foundation, to ensure situational relevance to Qatar Vision 2030 and National AI Strategy 2031. A mono-method quantitative design was adopted, using an online survey as the primary data collection instrument. This design enables the systematic comparison of organizations, industries, and stages of development and enables the use of multivariate statistical techniques, such as regression analysis and structural equation modeling (Hair et al., 2019; Lamm et al., 2020). The structured format enhances reliability and consistency, supporting hypothesis testing derived from TAM, RBV, and Enterprise Leadership Theory (ELT). The survey instrument was adapted from validated scales in the technology adoption and entrepreneurship literature to ensure validity and reliability. It consisted of 5 main sections: participants and start-up profile, GenAI adoption screening, usage and impact evaluation, barriers and challenges, and open feedback. Question types comprised of Likert scales and multiple-choice options to help conduct quantitative analysis.

Data was collected via Microsoft Forms. A multi-channel recruitment strategy was pursued in order to maximize reach and diversity while recruiting participants. Invitations were sent through LinkedIn posts, targeted e-mail campaigns, professional networks, co-working spaces, and industry event to maximize reach within Qatar's start-up ecosystem. Participation was voluntary, with informed consent obtained through mandatory digital confirmation. Data was analyzed using the statistical package software SPSS. Data screening, including handling missing values, outliers' identification, and checking of the assumptions of regression analysis (e.g., normality, linearity, homoscedasticity and multicollinearity) were carried out prior to the hypothesis testing in accordance with best practice (Field, 2018). Descriptive statistics and bivariate correlations were performed before regression analysis to investigate preliminary relationships between variables and check for possible multicollinearity. Multiple regression analysis was then used to test H1-H3 followed by moderation analysis for H4, which involved adding the interaction terms to determine the influence of the ethical concern and ambiguity on the strength and direction of the relationships. Five key theoretical constructs were operationalized using validated measurement scales adapted to the GenAI context. Table 3 presents the comprehensive mapping of constructs to survey items and theoretical foundations.

Table 3. Variable Operationalization

Construct/Variable	Survey Items (Q1 - Q19)	Theoretical Foundation	Measurement Scale	Linked Research Objectives	Linked Hypotheses
Participant and Start-Up Profile	Q1 - Q6 (role, sector, years in operation, firm size, employees)	Contextual/d emographics	Categorical	Provides contextual sample profile	N/A
GenAI adoption	Q7 - Q11 (presence of adoption, type, duration, frequency, business functions)	TAM, RBV	Likert + Categorical	RO1: Examine adoption patterns across functions	H1, H2, H3: Perceived benefits, barriers, and ethical concerns predict adoption.
Perceived Usefulness and Ease of Use	Q12 (business improvement, efficiency, usefulness)	TAM	5-point Likert	RO3: Test adoption drivers	H1: Perceived benefits predict adoption
Ethical and Contextual Barriers	Q14 - Q15 (data privacy, regulation, ethics, infrastructure)	Extended TAM; Ethics in AI; RBV; Institutional theory	5-point Likert	RO4: Assesses ethical and contextual barriers	H2, H3, H4: Barriers and ethical concerns predict adoption; ambiguity moderates the ethics– adoption link
Exploratory Feedback	Q16 - Q19 (future expectations, reflection, learning, open comments)	ELT	Structures multiple choice + open text	Supports all research objectives	N/A

The target group comprised of founders and senior managers of start-ups operating in Qatar, as primary decision-makers regarding GenAI adoption. A purposive sampling technique was employed to recruit participants with direct experience with GenAI implementation (Patton, 2015). Stratification ensured representation of different technology, retail and services sectors. The target sample size of 100 respondents was established to ensure sufficient statistical power for multiple regression analysis (Hair et al., 2019). Power calculations indicated that approximately 85-90 participants were required to detect medium effect sizes (Cohen $f^2 = 0.15$) at $\alpha = 0.0$ with 80% power. A target of 100 gave a margin of data quality consideration but was still feasible within the start-up ecosystem in Qatar. The study was approved by the Research Ethics Committee and adhered to the GDPR guidelines. Participation was voluntary and informed consent obtained digitally. Data was anonymized, aggregate findings only are reported. All data were stored in password-protected system with secure authentication and will be retained and destroyed in accordance with institutional policy.

4. Results and Discussions

This section presents the empirical findings in relation to the four research objectives and hypotheses (H1–H4). A total of 106 valid survey responses were obtained from decision-makers across multiple industries, ensuring robust representation of Qatar’s start-up ecosystem. Analyses were conducted using SPSS v29. Reliability and validity were established prior to hypothesis testing; Cronbach’s α values exceeded the 0.70 threshold (Nunnally, 1978) and KMO values surpassing adequacy benchmarks (Kaiser, 1974). Descriptive statistics, Pearson’s correlation, regression and moderation analyses were employed to test predictive and contextual effects. Technology-based firms constituted the largest group (n=43, 40.6%), followed by services (n=33, 31.1%) and retail (n=28, 26.4%). Health tech (n=1, 0.9%) and oil and gas construction (n=1, 0.9%). The distribution reflects a technology-dominant but diversified ecosystem, supporting cross-sectional analysis. Respondents occupied senior leadership roles: 47

leaders (44.3%), 31 founders/cofounders (29.2%), and 25 senior managers (23.6%). Employees, team leads, and directors constituted 2.8% (n=3), showing that findings reflect executive-level strategic perspective on GenAI implementation. Most firms had operated for 3-5 years (n=44, 41.5%), followed by 1-3 years (n=32, 30.2%). Firms operating more than 5 years accounted for 18.9% (n=20), while early-stage forms (<1 year) comprised 9.4% (n=10). The sample represents scaling-stage start-ups. Mid-sized start-ups dominated: 51-100 employees (n=47, 44.3%) and 21-50 employees (n=32, 30.2%). Smaller firms included 6-20 employees (n=12, 11.3%) and 1-5 employees (n=10, 9.4%), while 100+ employees represented 4.7% (n=5). The distribution indicates organizational capacity sufficient for technology integration. GenAI was mostly applied in idea generation (Mean = 3.46, SD = 0.615), customer engagement (Mean = 3.44, SD = 0.744), business planning (Mean = 3.29, SD = 0.766), scaling/growth (Mean = 3.23, SD = 0.763). Product development recorded the lowest mean (Mean = 3.14, SD=1.052), indicating greater variability. Adoption is strongest in the knowledge-intensive and strategic functions. Table 4 presents the summary statistics of the functional areas in which GenAI was applied.

Table 4. Summary statistics for functional areas

Functional Area	N	Mean	Standard deviation
Idea generation	80	3.46	0.615
Business planning	80	3.29	0.766
Scaling/growth	80	3.23	0.763
Product development	80	3.14	1.052
Customer Engagement	80	3.44	0.744

GenAI adoption was reported by 80 respondents (75.5%), while 26 (24.5%) were non-adopters. The high adoption rate reflects strong technological engagement within Qatar's start-up ecosystem. Among adopters (n=80), GenAI positively influenced idea generation (Mean = 3.49, SD = 0.729), competitive advantage (Mean = 3.39, SD = 0.771), decision-making (Mean = 3.38, SD = 0.753), business plan quality (Mean = 3.31, SD = 0.866), and scaling acceleration (Mean = 3.23, SD = 0.999). Cross-tabulation revealed no significant sectoral differences in adoption rates. These consistently positive innovation-related means address Research Objective 2, indicating that GenAI adoption is associated with improved innovation outputs, with idea generation and competitive advantage showing the strongest gains and scaling acceleration showing comparatively greater variability. These descriptive findings also address Research Objective 2 with respect to growth, indicating that GenAI adoption is associated with modest improvements in growth performance indicators, tempered by structural constraints reflected in the lower and more variable scaling mean. Cost emerged as the most significant barrier (Mean = 3.22, SD=0.768), followed by ethical concerns (Mean = 3.20, SD= 0.833). Internal resistance (Mean = 3.11, SD = 0.998), uncertain ROI (Mean = 3.10, SD =0.742), technical skills (Mean =3.05, SD= 0.695), data privacy (Mean = 3.03, SD= 0.762), and ambiguity (Mean =2.98, SD= 0.805) were moderate constraints. Overall, financial, ethical, and organizational factors represent primary implementation challenges.

The ANOVA test revealed significant sectoral differences for technical expertise requirements (F=2.972, p = 0.023), ethical concerns (F=2.761, p=0.032), and staff resistance (F=3.598, p = 0.009). Cost, data privacy, ROI, and ambiguity did not differ significantly across sectors. Findings suggest sector-specific variation in skills, governance pressures, and workforce adaptability. Table 5 presents the ANOVA test results.

Table 5. ANOVA Test results

	ANOVA	Sum of Squares	Degree of freedom	Mean Square	F-statistic
Technical Expertise	Between groups	5.346	4	1.336	2.972** (.023)
	Within groups	45.419	101	0.450	
	Total	50.764	105		
Cost	Between groups	3.469	4	0.867	1.496 (0.209)
	Within groups	58.540	101	0.580	
	Total	62.009	105		
Data Privacy	Between groups	1.873	4	0.468	0.801 (0.527)
	Within groups	59.042	101	0.585	
	Total	60.915	105		
Ethical Concerns	Between groups	7.179	4	1.795	2.761** (0.032)
	Within groups	65.660	101	0.650	
	Total	72.840	105		

ROI	Between groups	2.897	4	0.724	1.331 (0.264)
	Within groups	54.962	101	0.544	
	Total	57.858	105		
Ambiguity/Uncertainty	Between groups	2.881	4	0.720	1.118 (0.352)
	Within groups	65.081	101	0.644	
	Total	67.962	105		
Staff resistance	Between groups	13.050	4	3.263	3.598*** (0.009)
	Within groups	91.591	101	0.907	
	Total	104.642	105		

Note: The values in parenthesis are the p-values of the F-statistic. ** and *** denote 5% and 1% significance levels.

Cronbach's alpha demonstrated strong reliability: perceived benefits scale ($\alpha = .812$), and barriers scale reached ($\alpha = .805$). The KMO value (.575) exceeded the minimum threshold, and Bartlett's test of Sphericity was significant, $\chi^2(120) = 1078.33$, $p < .001$, confirming sampling adequacy and inter-item correlations. The measurement model is reliable and valid. Pearson correlations revealed a strong positive relationship between adoption and perceived benefit ($r = .72$, $p < 0.01$). Adoption showed weaker correlations with barriers ($r = .22$, $p < 0.01$) and ethical concerns ($r = -.066$, ns). Adoption correlated positively with competitive advantage ($r = .36$, $p < 0.01$). Perceived usefulness demonstrates the strongest association with adoption decisions. The correlation results are presented in Table 6.

Table 6. Correlation Matrix

	Adoption	Perceived benefits	Barriers	Ethical Concerns	Competitive Advantage
Adoption	1	0.721***	0.222**	-0.066	0.364***
Perceived benefits	0.721***	1	0.066	-0.018	0.607***
Barriers	0.222**	0.066	1	0.751***	-0.136
Ethical Concerns	-0.066	-0.018	0.751***	1	-0.087
Competitive Advantage	0.364***	0.607***	-0.136	-0.087	1

Note: The asterisks ** and *** denote 5% and 1% significance levels.

Regression and moderation analyses were performed to assess the predictive and contextual factors of GenAI adoption (RO4). A baseline multiple regression model was used to test the effects of perceived benefits, barriers and ethical concerns as predictors of adaptation. The model was statistically significant, $F(3, 102) = 40.64$, $p < .001$ with an explanatory power of $R\text{-squared} = .62$, which means that 62% of the variance in adoption was explained by the predictors. Perceived benefits were the best positive predictor ($\beta = .69$, $t = 8.42$, $p < .001$, 95% CI [.53, .85]), which is consistent with the Technology Acceptance Model (Davis, 1989), which suggests that the usefulness of an innovation is the most important factor in determining if it will be adopted. Barriers had a significant negative influence ($\beta = -.44$, $t = -5.13$, $p < .001$), which captures the constraints of resource limitations as well as complexity in the Diffusion of Innovation theory (Rogers, 2003). Ethical concerns also had a negative impact on adoption ($\beta = -.37$, $t = -4.76$, $p < .001$), which is consistent with Institutional Theory, which emphasizes the role of governance pressures and legitimacy considerations as inhibitors to entrepreneurial behaviour. In order to investigate conditional effects, a moderation effect analysis was conducted on the relationship between ethical concerns and ambiguity by using interaction terms. The extended model (Model 2) demonstrated greater explanatory power, $R^2 = .65$, $F(4, 101) = 34.77$, $p < .001$, highlighting the significance of contextual moderators. The interaction between ethical concerns and ambiguity was significant ($\beta = -.27$, $t = -2.65$, $p = .01$, $\eta^2 = 0.07$), meaning that in conditions of high ambiguity, ethical concerns have a greater negative effect on adoption. Although the effect of ambiguity was not direct ($\beta = .07$, $p > .05$), its moderating effect shows that adoption decisions are especially sensitive to issues of socio-ethical legitimacy when the level of uncertainty is high. The regression results are presented in Table 7.

Table 7. Regression Results

Model	R	R-squared	Adjusted R-squared	F-statistic
1	0.785	0.616	0.601	40.684***
2	0.806	0.650	0.631	34.769***

Note: *Dependent Variable: Adoption. Independent Variables (Model 1): Constant, Ethical concerns, Perceived benefits, Barriers. Independent Variables (Model 2): Constant, Ethical concerns, Perceived benefits, Barriers, Ambiguity. The asterisks ** and *** denote 5% and 1% significance levels.*

These findings provide strong empirical support for H1-H3, confirming that perceived benefits are the primary driver of adoption while barriers and ethical concerns significantly constrain it. The moderation analysis further supports H4, showing that ambiguity intensifies the negative effect of ethical concerns on adoption, underscoring the contextual importance of legitimacy in shaping GenAI adoption within Qatar's entrepreneurial ecosystem. Table 8 compiles the outcomes of the hypothesis testing and links each hypothesis to the statistical analyses carried out, the results obtained, and the associated interpretations.

Table 8. Summary of Hypothesis Testing

Hypotheses	Evidence	Verdict	Interpretation
H1: Perceived benefits positively predict adoption	$\beta = .69, t = 8.42, p < .001$	Supported	Perceived usefulness is the dominant driver of adoption, consistent with TAM.
H2: Barriers negatively predict adoption	$\beta = -.44, t = -5.13, p < .001$	Supported	Cost, technical skill gaps, and integration complexity significantly suppress adoption.
H3: Ethical concerns negatively predict adoption	$\beta = -.37, t = -4.76, p < .001$	Supported	Governance and legitimacy concerns act as a meaningful brake on adoption.
H4: Ambiguity moderates the ethics–adoption link	Interaction $\beta = -.27, t = -2.65, p = .01$; direct effect of ambiguity ns ($\beta = .07, p > .05$)	Supported	Ethical concerns matter more when uncertainty is high; ambiguity alone does not deter adoption.

The first research objective focused on examining the adoption of GenAI by start-ups in Qatar and its effects on innovation. Perceived usefulness was identified as a primary predictor of adoption and ease of use was the secondary predictor, which is consistent with TAM (Davis, 1989) and the evidence from around the globe (Dwivedi et al., 2023; Venkatesh & Davis, 2000). In Qatar, both institutional readiness and cultural legitimacy are key factors influencing adoption, reflecting the nation's policy-driven approach to digital transformation strategies. Sectoral differences were apparent: technology and professional services had higher adoption for innovation-intensive activities while resource constraint firms had cautious adoption. This is consistent with RBV where innovation requires mobilization and reconfiguration of limited resources (Barney, 1991). In Qatar however, adoption is highly encouraged by state lead support through incubators, government-backed accelerators, and strategic initiatives in line with the Qatar National Vision 2030 and the National AI Strategy 2031 (MCIT, 2024). This suggests an extension of RBV, where institutional resources supplement firm-level limitations. Ethical considerations moderated adoption, as concerns about data privacy, bias, and reputational risk tempered the enthusiasm of entrepreneurs—especially in the context of ambiguous regulations. This finding highlights the need to extend TAM by incorporating socio-ethical legitimacy as a determinant in resource-rich but regulation-sensitive contexts. Experiential Learning Theory (Kolb, 1984) explains this process, as entrepreneurs engage in adaptive experimentation to balance innovation potential with risk. Regression analysis provided evidence for positive relationship between GenAI adoption and innovation output which confirmed the validity of Hypothesis 1, showing increased idea generation, accelerated innovation cycles, and creativity.

The second objective examined GenAI's growth outcomes. While adoption had a strong positive association with innovation (H1), the association with growth was modest (H2). GenAI supported idea generation, prototyping, and experimentation, which supports the RBV view of technology as a strategic asset (Barney, 1991) and Dynamic Capabilities framework (Teece et al., 1997), which highlights the importance of sensing opportunities and reconfiguring resources. Translation of innovation into measurable growth was not as robust as in the developed economies (Nambisan, 2017; Zhang et al., 2023) because of constraints in the structure of the ecosystem, limited domestic market size, emerging funding ecosystem and cautious regulation (Villegas-Mateos, 2023; Albous et al.,

2025). Thus, although RBV predicts that GenAI should increase innovation and growth, institutional and market infrastructure mediates value realization, with innovation coming first. The third objective was to identify barriers and moderators. Key barriers included: high cost of integration, lack of technical expertise, regulatory ambiguity and ethical concerns. Talent, both in the area of AI and local market expertise was scarce, similar to broader challenges in the GCC area (Albous et al., 2025).

Moderation analysis showed ethical and regulatory uncertainty weakened adoption-outcomes links (H4). Concerns focused on data privacy, bias, AI-generated content and cultural fit especially in sensitive sectors (Mittelstadt et al., 2016; Binns, 2018). This is an extension of TAM, as it shows that adoption is affected by non-technical moderators. Experiential Learning Theory (ELT) contextualizes the cautious, trial-and-error adoption strategies observed, which contrast with the faster and bolder experimentation typical of Western ecosystems (Chalmers et al., 2021). Barriers therefore influence the speed and development of adoption as opposed to just blocking it. The fourth objective was to examine extant theories in explaining the adoption of GenAI in Qatar. Findings provide support for TAM's emphasis on usefulness (Davis, 1989) but show also that institutional trust and ethical legitimacy are important additions to the mix in the Qatari context. RBV (Barney, 1991) and Dynamic Capabilities (Teece et al., 1997) have provided an explanation for innovation and adaptability, but their explanatory capacity was limited by regulating and cultural dynamics. ELT (Kolb, 1984) elaborated incremental strategies of learning, tempered by a culture of consensus and the rapid change of GenAI (Pittaway and Cope, 2007).

5. Conclusions and Recommendations

The study examined the role of GenAI in entrepreneurial processes in start-ups in Qatar and adopted a quantitative and positivist methodology to test hypotheses based on the Technology Acceptance Model (TAM), Resource-Based View (RBV), the Experiential Learning Theory (ELT), and the Dynamic Capabilities models. It probed hypotheses through a survey of 106 decision makers at start-ups, in order to offer insights on drivers of adoption, effects of innovation, barriers, and theoretical integration within a state-led ecosystem. The research focused on the scarcity of empirical research about the use of GenAI in emerging market start-ups. Four research objectives guided the investigation: mapping the patterns of adoption, assessing the effects of innovation and growth, determining the barriers and moderators, making significant contributions in three interrelated areas in the three domains, i.e., theoretical advancement, managerial practices, and policy development. By positioning GenAI in the context of QNV 2030, the findings fill important gaps in the academic literature and entrepreneurial practice in state-led ecosystem. Theoretically, integrating TAM, RBV, ELT, and Dynamic Capabilities demonstrates that perceived usefulness drives adoption, but ethical legitimacy and institutional trust are crucial moderators in emerging markets. The Resource-Based View (RBV) positions GenAI as a strategic resource (Barney, 1991), while Experiential Learning Theory (ELT) explains the role of iterative learning, and the Dynamic Capabilities framework (Teece et al., 1997) highlights adaptation through embedded routines.

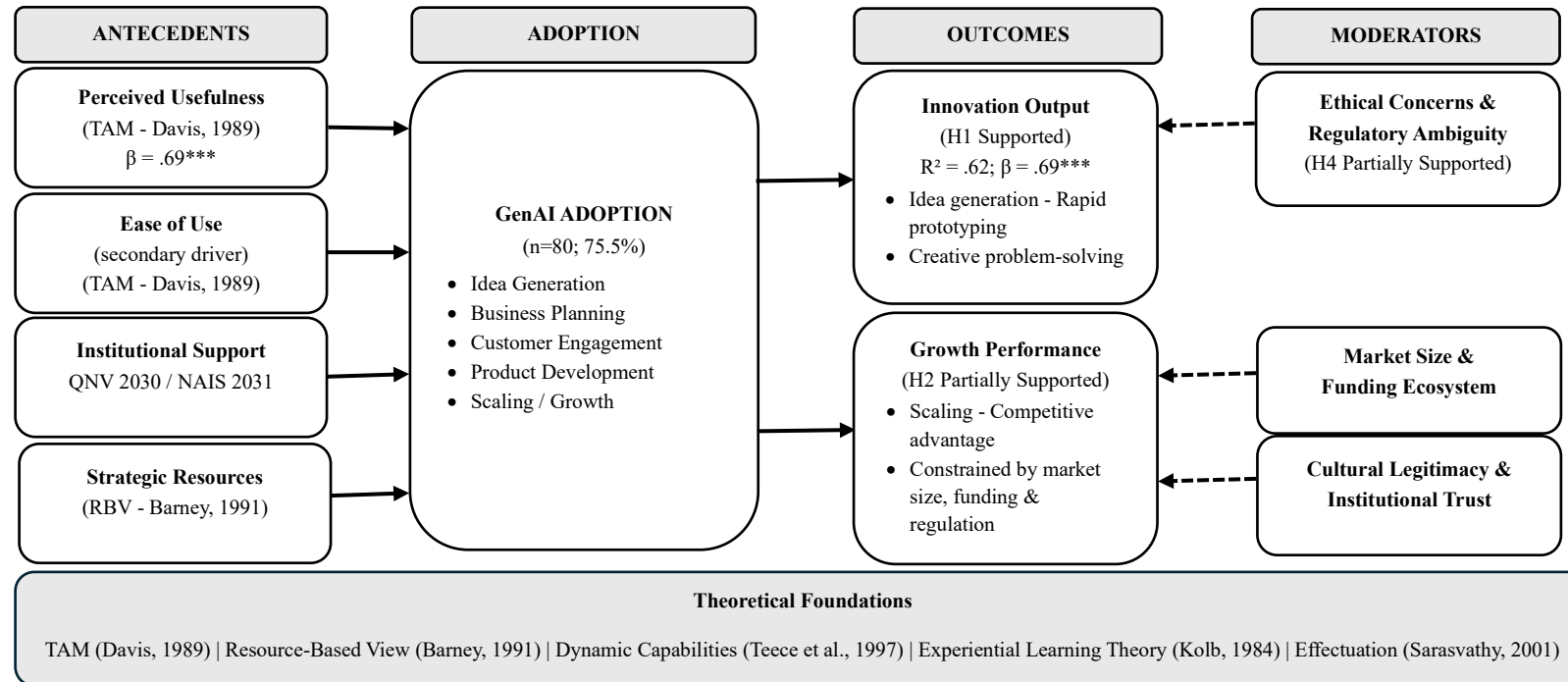
From a managerial standpoint, the findings highlight that start-up should prioritize value communication over concerns about ease of use. Demonstrating tangible benefits—such as reduced time to market, enhanced customer engagement, and accelerated product development—is essential for driving adoption. The findings also underscore the value of phased implementation strategies, including pilot testing and controlled trials, which help organizations mitigate risks while customizing GenAI tools to sector-specific needs. Additionally, managers should adopt human-AI hybrid models, leveraging GenAI to augment rather than replace human creativity, and implement ethical safeguards to foster trust. At the policy level, the research advocates for a balanced approach to governance and innovation that supports technological advancement while upholding ethical standards. Strengthening data protection, reducing compliance-related bureaucracy, and developing culturally relevant AI ethics guidelines would contribute to a more trustworthy environment for adoption. Policymakers are also encouraged to invest in capacity building, especially through local talent development and organized knowledge transfer from global multinationals to local start-ups. These measures accelerate adoption and ensure that GenAI contributes directly to the national digital transformation agenda while remaining aligned with societal norms and values.

Although this study makes significant contributions, several limitations must be acknowledged. The purposive sampling strategy, with its focus on decision-makers such as founders, CEOs and senior managers, ensured informed response but carries potential selection bias and a lack of representativeness for other stakeholders, such as employees and customers, whose views may be different. The relatively small size of the entrepreneurial ecosystem of Qatar also limited representation. The cross-sectional design has another limitation in that it limits causal inference. While the results of regression and moderation analyses showed significant associations between variables, it is not possible to determine chronological order with these methods and the way in which the adoption

behaviors develop over time. Additionally, the use of self-reported survey data opens the possibility of response bias, in particular optimism or social desirability, which may be heightened in Qatar's policy driven environment in which digital innovation is strongly endorsed. The geographic and institutional scope also contributes to the limitations in external validity: even though the research addresses a gap in understudied contexts of GCC, it may not be possible to directly apply findings to areas with different regulatory, cultural, or market conditions. Finally, the rapid evolution of GenAI means that there is a time limit to the results, as they are a snapshot and may easily become obsolete given the rate of technological development and policy creation.

Figure 2 presents an integrated framework synthesising the empirical findings of this study. The framework positions GenAI adoption as the central mechanism through which antecedent conditions translate into entrepreneurial outcomes within Qatar's start-up ecosystem. On the input side, perceived usefulness, operationalised in line with the Technology Acceptance Model (Davis, 1989) and confirmed as the dominant predictor ($\beta = .69$, $p < .001$), together with ease of use, institutional support through Qatar National Vision 2030 and the National AI Strategy 2031, and strategic firm-level resources consistent with the Resource-Based View (Barney, 1991), collectively drive the decision to adopt GenAI across five functional domains: idea generation, business planning, customer engagement, product development, and scaling. Adoption, in turn, exerts a strong and statistically significant positive effect on innovation output (H1 supported; $R^2 = .62$), including accelerated ideation, rapid prototyping, and creative problem-solving, while its relationship with growth performance is positive but more modest (H2 partially supported), reflecting structural constraints of the broader ecosystem such as limited market size, an emerging funding landscape, and evolving regulation. Three categories of contextual moderators, ethical concerns and regulatory ambiguity (H4 partially supported), market and funding conditions, and cultural legitimacy alongside institutional trust, attenuate the strength of the adoption-to-outcomes pathway, underscoring that GenAI's value realisation in an emerging, state-led economy is not automatic but is contingent on governance quality, socio-cultural alignment, and ecosystem maturity.

Figure 2. Integrated GenAI Adoption and Entrepreneurial Performance Framework



Source: Authors' own work

Theoretically, the framework integrates TAM, RBV, Dynamic Capabilities (Teece et al., 1997), Experiential Learning Theory (Kolb, 1984), and Effectuation (Sarasvathy, 2001), offering a holistic, context-sensitive lens that no single prior model provides alone. Practically, it signals that entrepreneurs should foreground the tangible strategic value of GenAI while simultaneously building ethical safeguards and adaptive routines, and that policymakers should address the moderating constraints, particularly regulatory clarity and trust-building infrastructure, to unlock the full growth potential that innovation-to-growth translation currently falls short of delivering.

This study opens a number of avenues for future research to further understanding GenAI adoption in entrepreneurial ecosystems. First, longitudinal research designs are recommended to trace the effects of GenAI adoption in terms of long-term impacts on innovation capacity, growth performance and organizational learning, especially as national policies and frameworks evolve. Second, cross-country comparative research that is conducted within the GCC itself, for instance, between Qatar, the UAE, and Saudi Arabia, could shed light on the impact of different regulatory and cultural contexts. Third, mixed methods approach that combine survey research with in-depth case studies would yield richer insights into the dynamics of decision-making processes, ethical dilemmas and the processes of organizational learning that are beyond the scope of what can be fully understood through quantitative data alone. Fourth, sector specific investigations are needed, especially for highly regulated and under researched sectors such as healthcare, finance and traditional services, where ethical issues and compliance pressures are most acute.

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Systematic and Unsystematic Drivers of Mergers and Acquisitions in the United Kingdom

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Abstract

Mergers and Acquisitions (M&A) play a crucial role in corporate growth and economic development; however, the factors driving M&A activity remain complex and not fully understood. This study examines the systematic and unsystematic drivers of M&A activity in the United Kingdom between 1980 and 2022. To achieve this objective, a mixed-methods approach was adopted. Systematic drivers were analysed quantitatively using Ordinary Least Squares (OLS) regression, with macroeconomic variables including GDP growth, inflation, exchange rates, trade balance as a percentage of GDP, and stock prices. Unsystematic drivers were explored qualitatively through thematic and content analysis of relevant literature and evidence. The findings reveal that several systematic factors significantly influence the number of announced M&A transactions. GDP growth, inflation, and exchange rates exhibit positive relationships with M&A activity, while trade balance as a percentage of GDP and stock prices are negatively associated with M&A transactions. The qualitative analysis further demonstrates that unsystematic factors, particularly cultural and managerial considerations, have an important bearing on the success and failure of M&A deals. These findings contribute to a broader understanding of the economic and organisational factors that shape M&A activity in the United Kingdom and offer valuable insights for policymakers, investors, and corporate decision-makers.

Keywords: Mergers and Acquisitions (M&A), Systematic factors, Unsystematic factors, UK.

Wordcount: 199

1. Introduction

The flow of goods and data, globalisation, the drive for higher profits and the rise of competition among industries have driven companies around the world to make a swift pivot in the way they operate. In response, several companies relocated their investments to different parts of the world, while others merged or acquired existing firms to achieve revenue synergies, value creation, and cost efficiency. Over the last few decades, studies have viewed Mergers and Acquisitions (M&A) as an effective response to restructure a more efficient and competitive organisation (Zollo & Meier, 2008). In the 19th century, the United Kingdom (UK) and the United States (USA) experienced a “great wave” in M&A activity due to financial stress and unprecedented economic challenges (Foster & Magdoff, 2009). The merger wave peaked in 2007 in both the USA and European markets, as many acquirers experienced significant losses due to the 2007-2008 recessions and the decline of injudicious takeovers driven by cost savings (Sudarsanam, 2010). Although M&As are often used interchangeably in common parlance, they occur in distinct settings. A merger occurs when two companies combine their assets, liabilities, and stock, or create a new entity, to reduce costs, adopt innovative practices, and expand into new markets and technologies (Sudarsanam, 2010). At the same time, an acquisition occurs when a small-sized entity is purchased by another company, which is usually an investor group or a private equity firm. Interestingly, several scholars have considered M&A a puzzling phenomenon due to its impact on a wide range of practices, including financial and strategic management, as well as other behavioural and cultural perspectives (Cartwright & Schoenberg, 2006; Sudarsanam, 2010). As a result, understanding M&A would entail a deep comprehension of macroeconomic variables, firm-specific factors, and the players and constituencies involved in the process.

M&As have long been a popular topic in finance literature and have attracted the interest of several practitioners who studied the complexity and mixed performance that the M&A. The complexity of the M&A phenomenon and the numerous disciplines involved in the transaction were the primary motivations for the study. This study will contribute to a more holistic and multidisciplinary understanding of M&As.

Furthermore, bridging the gap is important for directing future business experts, policy makers and investors toward an informed and holistic decision-making in the M&As. This study aims to study systematic and unsystematic factors that prompted M&A activities in the UK for the period of 1980 to 2022 by exploring the macroeconomic conditions, such as growth of Gross Domestic Product (GDP), inflation rate, exchange rate, trade balance as a percentage of GDP, stock prices and unsystematic factors with a focus on cultural and managerial considerations.

Mergers and Acquisitions (M&As) have become one of the most important strategic mechanisms through which firms pursue growth, market expansion, innovation, and competitive advantage in an increasingly globalised economy. Rapid technological advancements intensified international competition, financial market integration, and the liberalisation of trade and investment flows have encouraged organisations to seek external growth opportunities through mergers and acquisitions rather than relying solely on organic expansion. Consequently, M&As continue to play a significant role in reshaping industries, influencing market structures, and facilitating the transfer of resources, capabilities, and knowledge across firms and national boundaries.

The United Kingdom (UK) has consistently been one of the most active M&A markets globally, attracting both domestic and cross-border transactions due to its mature financial markets, strong regulatory institutions, international business environment, and strategic position within the global economy. Major transactions involving UK firms have highlighted the importance of M&As as a corporate restructuring tool. Examples include Vodafone's acquisition of Mannesmann in 2000, Kraft Foods' acquisition of Cadbury in 2010, SoftBank's acquisition of ARM Holdings in 2016, and the merger between Virgin Media and O2 in 2021. These transactions demonstrate how firms use M&As to gain access to new technologies, expand market share, improve operational efficiency, and strengthen competitive positioning.

The history of M&A activity in the UK reveals that transactions tend to occur in waves that correspond closely with changes in economic and financial conditions. During the 1980s, deregulation, privatisation programmes, and financial market expansion stimulated substantial merger activity. The 1990s witnessed further consolidation driven by globalisation and increasing cross-border investment. M&A activity accelerated significantly during the early 2000s and reached a peak before the global financial crisis of 2007–2008. Transaction volumes subsequently declined during the recessionary period before recovering gradually in the 2010s, supported by low interest rates, favourable financing conditions, and increased international investment. More recently, economic uncertainty arising from Brexit, the COVID-19 pandemic, inflationary pressures, and changes in monetary policy have continued to influence M&A activity in the UK. Such fluctuations suggest that broader economic forces play a crucial role in shaping merger and acquisition decisions over time.

The relationship between macroeconomic conditions and M&A activity can be understood through several economic and financial theories. Neoclassical theories of investment suggest that firms respond to favourable economic conditions by pursuing expansion opportunities when expected returns exceed costs. Market timing theory argues that firms undertake acquisitions when their valuations are relatively high, enabling them to use overvalued equity as acquisition currency. Transaction cost economics proposes that firms use acquisitions to internalise activities and achieve efficiencies that may not be attainable through market transactions. In addition, resource-based and synergy theories suggest that acquisitions provide access to strategic resources, capabilities, technologies, and managerial expertise that can enhance firm performance. Collectively, these theoretical perspectives indicate that both macroeconomic conditions and organisational factors influence merger and acquisition decisions.

Previous studies have identified several systematic determinants of M&A activity, including economic growth, stock market performance, inflation, exchange rate movements, interest rates, and trade openness. Periods of strong economic growth generally create favourable conditions for corporate expansion and investment, while buoyant stock markets increase firms' acquisition capacity and confidence. Exchange rate fluctuations may affect the attractiveness of cross-border acquisitions by altering relative asset valuations, whereas inflation and trade conditions can influence both firms' financing decisions and expectations regarding future profitability. However, empirical findings remain mixed across countries and time periods, suggesting that the influence of these factors is context-dependent and requires further investigation.

Beyond macroeconomic conditions, an extensive body of literature has demonstrated that many M&A transactions fail to achieve their intended outcomes because of unsystematic or firm-level factors. Cultural incompatibility, leadership conflicts, managerial overconfidence, poor communication, and ineffective integration processes frequently undermine post-acquisition performance. Scholars have increasingly recognised that financial and economic considerations alone cannot fully explain the success or failure of M&As. Instead, behavioural, organisational, and cultural dimensions must also be considered to obtain a comprehensive understanding of acquisition outcomes. This multidimensional perspective is particularly relevant given the growing complexity of domestic and cross-border transactions in modern business environments.

Despite the substantial body of M&A research, limited studies have combined macroeconomic drivers and organisational considerations within a single analytical framework, particularly in the context of the UK over a long historical period. Most existing studies tend to focus either on economic determinants of transaction activity or on post-merger organisational challenges. Consequently, there remains a need for a more integrated assessment that examines how external economic conditions influence the occurrence of M&A transactions while simultaneously recognising the importance of internal organisational factors in determining transaction outcomes.

Accordingly, this study investigates both systematic and unsystematic drivers of M&A activity in the United Kingdom between 1980 and 2022. The study adopts a mixed-methods approach. Systematic drivers are examined quantitatively through macroeconomic variables, namely GDP growth, inflation rate, exchange rate, trade balance as a percentage of GDP, and stock prices. Unsystematic drivers are explored qualitatively, with particular emphasis on cultural and managerial considerations that influence M&A success and failure. By integrating economic and organisational perspectives, this study seeks to provide a more holistic understanding of the factors shaping M&A activity in the UK and to offer valuable insights for academics, policymakers, investors, and corporate decision-makers.

2. Literature Review

Mergers and Acquisitions (M&As) represent one of the most important mechanisms through which firms achieve external growth, market expansion, technological acquisition, and strategic repositioning. While mergers involve the combination of two organisations into a single entity, acquisitions occur when one company gains control over another through the purchase of its assets or shares (Sudarsanam, 2010). Over the last four decades, M&A activity has evolved from being largely domestic to increasingly international, reflecting the growing integration of global capital markets and the pursuit of new competitive advantages.

The literature generally explains M&A activity through two broad categories of determinants. The first comprises systematic factors, which are macroeconomic conditions affecting all firms within an economy. These include economic growth, inflation, exchange rate movements, trade conditions, and stock market performance. The second consists of unsystematic factors, which are firm-specific and behavioural factors such as managerial capabilities, corporate culture, strategic fit, and post-merger integration. While systematic factors influence the occurrence and timing of M&A transactions, unsystematic factors often determine whether those transactions ultimately succeed or fail.

A significant limitation of the existing literature is that these two dimensions are frequently examined in isolation. Studies focusing on macroeconomic conditions often assume that firms behave rationally and respond primarily to economic incentives, whereas organisational studies emphasise managerial and cultural influences while overlooking the broader economic environment. Consequently, a holistic understanding of M&A activity requires integrating both perspectives.

The neoclassical theory argues that mergers arise as rational responses to economic, regulatory, or technological shocks that create opportunities for resource reallocation and efficiency improvement (Mariana, 2012; Sredojević et al., 2016). According to this perspective, changes in economic conditions encourage firms to reorganise resources through mergers and acquisitions in order to maximise value. The theory provides a useful foundation for examining GDP growth, inflation, and exchange rates because these variables influence firms' expectations regarding future profitability and investment opportunities. However, while neoclassical theory explains why merger waves often emerge during periods of economic

transformation, it does not adequately explain why many acquisitions fail despite favourable market conditions. This suggests that organisational and behavioural factors must also be considered.

Tobin's Q theory proposes that firms with high market valuations relative to the replacement cost of their assets are more likely to acquire firms with lower valuations (Sudarsanam, 2010). High-Q firms possess stronger acquisition currencies and can create value through the more efficient deployment of resources. Although Q theory provides an explanation for the relationship between stock prices and acquisition activity, it has important limitations. Empirical evidence shows that not all acquisitions involve high-Q firms purchasing low-Q firms, and the theory does not explain the timing of merger waves or the role of wider macroeconomic conditions. Therefore, stock prices alone cannot fully explain M&A activity.

Dunning's Eclectic Paradigm (OLI framework) suggests that firms engage in cross-border investments when ownership advantages, location advantages, and internalisation benefits exist (Dunning, 2009). In the context of M&A activity, location advantages include favourable economic growth, stable inflation, attractive exchange rates, and open trade regimes. This framework is particularly relevant to the present study because it explains how macroeconomic conditions affect the attractiveness of a country as a destination for investment. However, the theory primarily explains where firms invest rather than how organisational factors influence acquisition outcomes. Agency Theory provides an alternative perspective by focusing on managerial motives rather than economic efficiency. According to the theory, managers may pursue acquisitions to maximise personal benefits such as prestige, compensation, or organisational power rather than shareholder value (Cumming et al., 2023; Kayser & Zülch, 2024). This perspective is important because it challenges the assumption that M&A decisions are always economically rational. Agency theory helps explain why some acquisitions occur despite weak economic fundamentals and why managerial behaviour is a critical unsystematic determinant of M&A outcomes.

GDP growth is widely regarded as an indicator of economic health and market potential. Several studies have found a positive relationship between GDP growth and M&A activity (Boateng et al., 2011; Boateng et al., 2017; Kumar et al., 2023). Higher economic growth provides firms with greater financial resources and confidence to undertake strategic investments. However, the relationship is not universally positive. Bany-Ariffin et al. (2016) argued that strong economic growth may increase competition for acquisition targets, resulting in overvaluation and reducing potential gains for acquirers. Thus, while GDP growth is expected to encourage M&A activity, the literature suggests that its impact may depend on broader market conditions and managerial decision-making.

Traditional economic theory suggests that high inflation creates uncertainty and discourages long-term investment. Consequently, many scholars view inflation as a deterrent to M&A activity (Bany-Ariffin et al., 2016). However, the evidence is far from conclusive. Boateng et al. (2011) found that inflation significantly influenced M&A activity in the UK, while Yusnidah and Jimoh (2018) reported that inflation could stimulate outward expansion as firms seek opportunities outside inflationary environments. These conflicting findings indicate that inflation may have both positive and negative effects depending on the economic context.

Studies by Hu et al. (2016) and Shetty et al. (2019) suggested that exchange-rate movements play a significant role in cross-border acquisitions. However, the mechanism remains unclear. Some researchers argue that absolute exchange-rate levels matter most, while others suggest that exchange-rate volatility has a greater impact on acquisition decisions and post-merger returns. This inconsistency highlights the need for further evidence, particularly within the UK context.

Trade balance and trade openness influence the flow of international capital and investment. Economies that are highly integrated into global markets tend to attract greater foreign investment, including acquisitions (Didier et al., 2019). Nevertheless, the existing literature provides limited direct evidence regarding the relationship between trade balance and M&A activity. While Hijzen et al. (2008) found that trade costs affect foreign investment decisions, the precise effect of trade balance remains unclear. This lack of consensus makes trade balance an important variable for further investigation.

Stock market performance influences firms' acquisition capacity and investor confidence. Under market-timing theory, managers exploit favourable market valuations by using highly valued shares to finance

acquisitions (Sudarsanam & Sorwar, 2010). Several studies have identified a positive relationship between stock prices and M&A activity (Boateng et al., 2014; Adnan et al., 2016). However, rising stock prices may also generate speculative behaviour and encourage acquisitions that create limited value. Thus, although stock market performance is frequently associated with increased M&A activity, the quality and success of those acquisitions remain uncertain.

While macroeconomic conditions influence the volume and timing of M&A transactions, successful value creation often depends on organisational and behavioural factors. A growing body of research argues that many acquisitions fail not because of poor strategic rationale but because of ineffective integration processes and cultural incompatibility (Cartwright & Schoenberg, 2006). Weber et al. (2011) contended that cultural challenges emerge primarily during the post-acquisition integration stage rather than from national differences alone.

This observation challenges simplistic assumptions that cultural distance automatically leads to failure. Instead, managerial capability in handling integration appears to be more important than the degree of cultural difference itself. Similarly, Mariappan (2003) argued that cultural complementarity may be more valuable than cultural similarity. Organisations do not necessarily require identical cultures to succeed; rather, they require mechanisms that enable cooperation and adaptation. Agency theory further suggests that managerial incentives can significantly influence M&A outcomes. Managers may pursue acquisitions to increase organisational size or personal prestige, even when transactions are not aligned with shareholder interests (Cumming et al., 2023). Consequently, managerial behaviour and governance quality remain critical determinants of M&A success.

Drawing upon the theoretical and empirical literature, the following hypotheses are proposed:

H1: GDP growth has a significant positive relationship with M&A activity in the United Kingdom.

H2: Inflation rate has a significant relationship with M&A activity in the United Kingdom.

H3: Exchange rate movements have a significant relationship with M&A activity in the United Kingdom.

H4: Trade balance as a percentage of GDP has a significant relationship with M&A activity in the United Kingdom.

H5: Stock prices have a significant relationship with M&A activity in the United Kingdom.

3. Data and Methodology

This study adopts a mixed-methods research design, combining quantitative and qualitative approaches to provide a comprehensive understanding of the factors influencing mergers and acquisitions (M&As) in the United Kingdom. The use of a mixed-methods approach is appropriate because M&A activity is shaped not only by measurable macroeconomic conditions but also by organisational, cultural, and managerial factors that cannot be adequately captured through statistical analysis alone. The study investigates systematic drivers using a quantitative research method and unsystematic drivers using a qualitative research method.

In line with previous studies (Boateng et al., 2014; Boateng et al., 2011; Shetty et al., 2019), we have utilised annual data from 1980 to 2022 on GDP growth rate, inflation rate, exchange rate, trade balance as a percentage of GDP, and stock prices as macroeconomic factors from statistical sources, including the Office for National Statistics (ONS) and the International Monetary Fund (IMF). (Table 1). The research focused on the number of annual announced M&As rather than the effective number of M&A deals that have been completed. The purpose of this reasoning is to study the interests of countries and companies in M&A, rather than the actual M&A transactions that are often influenced by policymakers' and competition authorities' decisions (Hijzen et al., 2008).

Table 1:
Variables of study

Variable	Symbol	Measurement	Source of the data
Announced M&A (Dependent)	A-M&A	The annual number of M&A that have been publicly disclosed and reported by companies	Institute for Mergers, Acquisitions and Boston Consulting Group M&A report 2024
GDP Growth Rate	GDP-GR	The annual average rate of change of gross domestic product	Office for National Statistics (ONS), <i>Gross Domestic Product (GDP)</i> dataset; IMF World Economic Outlook (WEO) database.
Inflation Rate	IR	The annual rate of increase in prices	ONS Consumer Price Index (CPI) dataset; IMF Consumer Prices database/International Financial Statistics (IFS).
Exchange Rate	XRate	The annual average rate at which pounds are exchanged for a U.S. dollar.	IMF International Financial Statistics (IFS) Exchange Rate database
Trade Balance in % of GDP	TB-GDP%	The annual percentage of a country's trade surplus or deficit in relation to its Gross Domestic Product	ONS UK Trade Statistics and National Accounts; IMF Balance of Payments and National Economic Accounts databases.
Stock Price	STKP	The annual market value of shares in publicly traded companies	IMF International Financial Statistics

The study employed Ordinary Least Squares (OLS) regression to examine the systematic factors and their impact on M&A activity, following previous studies (Boateng et al., 2014). The suggested equation for the analysis of systematic factors is as follows:

$$A-M\&A = GDP-GR + IR + XRate + TB-GDP\% + STKP + \varepsilon (Equation\ 01)$$

Where *A-M&A* denotes Announced M&A, *GDP-GR* denotes Growth rate, *IR* denotes inflation, *XRate* denotes the exchange rate, *TB-GDP%* denotes Trade Balance in % of GDP, *STKP* denotes the share market stock price, and ε denotes the error term.

Considering the longitudinal nature of the study, a series of tests were appropriate to run the analysis and derive conclusions, including descriptive statistics, a correlation matrix, and a unit root test. The tests will help determine relationship between dependent and independent variables, to prove whether the number of announced M&A in the UK depends on GDP growth rate, inflation rate, exchange rate, trade balance and stock prices.

The qualitative component of the study employed secondary qualitative data obtained from peer-reviewed literature on mergers and acquisitions. A document analysis protocol was used to collect and review data from published studies focusing on cultural, managerial, and organisational aspects of M&A activity. Thematic and content analysis were conducted through an iterative process of coding, categorisation, and theme development. The trustworthiness of the findings was enhanced by using peer-reviewed sources, applying consistent coding procedures, and comparing evidence across multiple studies. Data triangulation was achieved through the integration of findings from different disciplines and independent authors, which enabled the validation of recurrent themes relating to cultural compatibility, leadership, integration management, and human resource practices as critical unsystematic factors influencing M&A outcomes (Antila, 2006; Sarala et al., 2019; Sudarsanam, 2010).

4. Empirical Results

4.1 Descriptive Statistics

Table 2 provides a summary of the considered variables for the period of 1980 to 2022. M&A activity risen dramatically, reflecting growing corporate establishment, with deal numbers rising from just 248 in 1980 to over 6,700 in 2021. GDP growth be an average of around 2%, but was highly volatile, sloping dramatically during the financial crisis and covid pandemic times. Inflation continued comparatively steady, though it

spiked in 1990 and again in 2022. The British currency gradually devaluated against the US dollar, with the exchange rate falling from 2.00 in 2007 to 1.24 in 2022. Trade balance amounts mostly exhibited a deficit, averaging -1.23% of GDP, with few surplus amounts during the sample period. Meanwhile, stock price indexes experienced an outstanding long-term increase, increasing from just over £1 in the mid-1980s to more than £32 by 2018, highlighting strong equity market growth in spite of rapid economic fluctuations.

Table 2:
Descriptive Statistics

Variable	Mean	Median	Std Dev	Min
<i>A-M&A</i>	3,508.84	3,484.50	1,446.84	248.00
<i>GDP-GR</i>	0.021	0.024	0.030	-0.110
<i>IR</i>	0.029	0.025	0.019	0.004
<i>XRate</i>	1.576	1.575	0.186	1.240
<i>TB-GDP%</i>	-0.012	-0.015	0.012	-0.035
<i>STKP</i>	16.702	18.890	9.955	1.074

Note. A-M&A denotes Announced M&A, GDP-GR denotes Growth rate, IR denotes inflation, XRate denotes the exchange rate, TB-GDP% denotes Trade Balance in % of GDP, and STKP denotes the share market stock price. Table 1 provides a comprehensive list of the variables included in the study, together with their corresponding measurements and definitions.

Source: Author's computations

4.2 Correlation Matrix

The Correlation Matrix (Table 3) displays the correlation coefficients between dependent and independent variables, describing the relationship between two variables and the extent to which they change together. The test results showed that there is no correlation between most of independent variables, except for stock prices and the exchange rate, which showed a value of 0.725, indicating a correlation greater than 70%. Consequently, it appears that both independent variables: stock prices and exchange are correlated and interrelated with a correlation significance at the 0.01 level.

Table 3:
Pearson Correlation Matrix results

	<i>A-M&A</i>	<i>GDP-GR</i>	<i>IR</i>	<i>XRate</i>	<i>TB-GDP%</i>	<i>STKP</i>
<i>A-M&A</i>	1	-.315**	0.232	-0.09	-.567**	-.277*
<i>GDP-GR</i>		1	0.100	-.591**	.691**	-.242*
<i>IR</i>			1	0.023	-0.061	0.097
<i>XRate</i>				1	-.507**	.725**
<i>TB-GDP%</i>					1	-0.02
<i>STKP</i>						1

Note. A-M&A denotes Announced M&A, GDP-GR denotes Growth rate, IR denotes inflation, XRate denotes the exchange rate, TB-GDP% denotes Trade Balance in % of GDP, and STKP denotes the share market stock price. Table 1 provides a comprehensive list of the variables included in the study, together with their corresponding measurements and definitions. The dependent variable the announced number of M&A was expressed in logarithmic values (log). ***, **, * denotes significance at the 1%, 5% and 10% level, respectively.

Source: Author's computations

4.3 Unit Root Test

The unit root test is used to model a time series and determine whether the time series variable is non-stationary (Macrobond, 2023). The results revealed a unit root problem in several variables, implying that these variables are stationary in first differences, as shown in Table 4. It appears that several variables within the data exhibit unit root problems. To address non-stationarity, the study will consider the first difference of the time series, which is equal to $Y_t - Y_{t-1}$ which will help remove non-stationary patterns from the original series.

Table 4:

Unit Root test results

Variables	Level- Individual intercept		1 st difference- Individual intercept	
	Statistic	Prob.**	Statistic	Prob.**
<i>A-M&A</i>	-1.821	0.034	-3.304	0.001
<i>GDP-GR</i>	-1.205	0.114	-3.050	0.001
<i>IR</i>	1.027	0.847	-5.133	0.000
<i>XRate</i>	-0.062	0.475	-3.682	0.001
<i>TB-GDP%</i>	-0.647	0.258	-3.449	0.003
<i>STKP</i>	0.976	0.835	-4.339	0.000

Note. *A-M&A* denotes Announced M&A, *GDP-GR* denotes Growth rate, *IR* denotes inflation, *XRate* denotes the exchange rate, *TB-GDP%* denotes Trade Balance in % of GDP, and *STKP* denotes the share market stock price. Table 1 provides a comprehensive list of the variables included in the study, together with their corresponding measurements and definitions. ** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Author's computations

4.4 Regression Results

The stepwise regression in Table 5 illustrates the impact of GDP growth rate, Inflation rate, exchange rate, trade balance, and stock prices on the announced number of M&A transactions in the UK.

Table 5:

Multiple Regression Analysis Results

Model	1	2	3	4
<i>Constant</i>	0.008	0.008	0.009	0.009
<i>GDP-GR</i>	0.002			
<i>IR</i>	0.006	0.006		
<i>XRate</i>	0.396***	0.384 **	0.419**	
<i>TB-GDP%</i>	-0.056***	-0.057***	-0.059***	-0.062***
<i>STKP</i>	-0.002	-0.002	-0.004	-0.004

Note. *A-M&A* denotes Announced M&A, *GDP-GR* denotes Growth rate, *IR* denotes inflation, *XRate* denotes the exchange rate, *TB-GDP%* denotes Trade Balance in % of GDP, and *STKP* denotes the share market stock price. The dependent variable the announced number of M&A was expressed in logarithmic values (log). Table 1 provides a comprehensive list of the variables included in the study, together with their corresponding measurements and definitions. ***, **, * denotes significance at the 1%, 5% and 10% level, respectively.

Source: Author's computations.

Based on the OLS regression analysis of model (1) in Table 5, the results indicate that the GDP growth rate and the inflation rate have a positive but insignificant relationship with the announced number of M&A in the UK. Simultaneously, the trade balance as a percentage of GDP is negatively related to the announced number of M&A transactions, exhibiting a significant relationship. Furthermore, stock prices also exhibited an insignificant negative relationship with the number of announced M&As. Considering the results of the multiple regression models (1), GDP, the inflation rate, and the exchange rate are positively related to the number of M&A transactions, which aligns with previous studies (Boateng et al., 2014). Several scholars (Uddin & Boateng, 2011; Bany-Arifin et al., 2016) considered GDP growth rate and inflation as one of the most important macroeconomic factors in explaining M&A trends and patterns. GDP and inflation reflect the market's size, demand, and profit of the target economy, which encourages FDI inflows (Stoian & Filippaios, 2008; Yusnidah & Jimoh, 2018; Uddin & Boateng, 2011). However, the trade balance exhibits a negative relationship with M&A, contrary to the findings of Didier et al. (2019).

Furthermore, the results revealed a negative relationship between the announced number of M&A transactions and stock prices, which is inconsistent with the findings of Boateng et al. (2014) regarding the

UK M&A market, where high share prices often reflect high economic growth. However, the test found a negative relationship between the announced number of M&A and stock prices (Boateng et al., 2011). Although previous studies (Boateng et al., 2014; Uddin & Boateng, 2011; Sudarsanam, 2010; Bany-Ariffin et al., 2016) have recorded a significant relationship between GDP, inflation rate, and stock prices, as well as M&A, the model (4) showed no significance between GDP, inflation, and stock prices and the announced number of M&A. Further, based on the empirical work of Didier et al. (2019), who proved that trade openness has a direct bearing on M&A decisions. Model (4) showed a significant negative relationship between the trade balance and the announced number of M&A transactions. The model (1-3) indicates that the exchange rate has a significant negative impact on M&As, suggesting that the exchange rate can influence FDI when a currency is depreciating, as it makes buying foreign assets appear more affordable (Boateng et al., 2011; Boateng et al., 2014).

Results indicated that the GDP growth rate, inflation rate, and stock prices have an insignificant relationship with M&A in the UK. Dunning (2009) and Uddin and Boateng (2011) found that GDP, exchange rate, interest rate and share prices influence the location-specific advantages of cross-border inflows and outflows. Uddin and Boateng (2011) emphasised the importance of examining macroeconomic factors, with a focus on M&A, and considering them when reviewing government policies due to their significant impact on the trajectory of CBM&A in the UK, as most of the UK FDI is mainly via CBM&A (Uddin & Boateng, 2011).

Based on the regression results in Table 5, H3 and H4 are accepted, while H1, H2, and H5 are rejected. Exchange rate exhibits a positive and significant coefficient, suggesting that favourable exchange rate movements are associated with higher levels of announced M&A activity. In contrast, trade balance as a percentage of GDP has a negative and highly significant relationship with M&A activity, indicating that increases in trade balance are associated with a decline in announced M&A transactions. However, although GDP-GR and IR show positive coefficients, they are not statistically significant, while STKP display a negative but insignificant relationship with M&A activity. Consequently, there is insufficient evidence to support H1, H2, and H5, and we do not accept these hypotheses.

4.5 Unsystematic factors

Behavioural, cultural, and managerial dimensions of M&As have received limited scholarly attention. Such unsystematic factors are difficult to measure, as they often require access to firm-specific and confidential information. This study employed thematic analysis to review prior research on cultural and managerial factors in M&As and to examine their influence on M&As. The studies presented in Table 6 were selected using a purposive sampling approach from the mergers and acquisitions (M&A) literature. To be included, studies had to focus on unsystematic aspects of M&As, such as culture, leadership, integration, organisational behaviour, employee retention, or human resource management. Furthermore, only peer-reviewed journal articles, academic books, and other reputable scholarly sources that made a clear contribution to understanding the non-financial determinants of M&A success or failure were considered. Preference was given to studies that are widely cited and recognised as influential within the M&A field.

Table 6:
Analysis on M&As' unsystematic factors

Authors	Paper Title	Focus	Contributions
Teerikangas et al. (2011)	Integration Managers' Value- capturing Roles and Acquisition Performance	Managerial Considerations : Integration managers	This study examined M&As from an actor-oriented perspective, emphasizing the central role of <i>integration managers</i> in value capture and in shaping post-acquisition performance. It identifies three key roles of integration managers: capturing value during the pre-acquisition phase, coordinating the acquiring organisation, and managing the integration of the acquired firm. Together, these roles provide a basis for identifying and developing future integration managers capable of leading value-creating M&A processes.
Kavanagh and Ashkanasy (2006)	The Impact of Leadership and Change Management Strategy on Organizational Culture and Individual Acceptance of Change During a Merger	Leadership and Change management strategies	Leadership plays a critical role in M&As, particularly through the way leaders manage organisational change and influence the outcomes of takeovers. Effective leaders act as skilled communicators and change facilitators, guiding employees through the transition and fostering acceptance of the new organisational structure and culture. By supporting individuals in adapting to change, leaders help mitigate resistance and enhance integration effectiveness.
Sarala, Vaara, and Junni (2019)	Beyond Merger Syndrome and Cultural Differences: New Avenues for Research on The "Human Side" Of Global M&As	The human side of M&A, particularly the use of managerial tools in M&As, including HRM practices	This study focused on "human side" of M&As as they consider the unsystematic side neglected and added a voice to the M&A literature around the importance of "transition teams" which help companies' individuals understand and accept the partner's culture positively. Further authors suggested avenues for further research that include studying the role of emotions in M&As, change agency, negative resistance to M&As and other HRM practices in relation with M&As.
Mariappan (2003)	Mergers and Acquisitions: The Human Issues and Strategies	Management of human relation issues throughout the M&A activities.	Managing cultural differences are a prevalent problem in the M&A discussion, before and after the integration, as most M&A failures stem from poor cultural fit. Thus, Mariappan (2003) stressed on the importance of diagnosing both cultures to evaluate their degree of compatibility. Similarly, job transfers throughout the M&A process which tends to create a level of anxiety and ambiguity between employees. Hence, an effective HR response is crucial to handling the human side of M&As with the help of communication and strategic planning.
Antila (2006)	The Role of Hr Managers In International Mergers and Acquisitions: A Multiple Case Study	HR management	HR management roles in M&As are not well defined and assumed that the latter need to simultaneously perform 2 roles: a strategic role that serves the M&A integration and a support role that is confined to the business unit (the roles of employee champion and change agent). In fact, HR managers are no longer required to be specialists, but rather generalists who are equipped with the expertise and authority to run M&A integration successfully.

Weber et al. (2011)	A Model of the Influence of Culture on <i>Integration</i> Approaches and International Mergers and Acquisitions Performance	Culture, integration level/approach	A theoretical multidisciplinary model to address the role of cultural differences in determining a suitable integration strategy for both companies by considering corporate and national culture make the analysis more complex when the focus should be toward the culture in association with the level of integration. That's because a poor culture fit throughout the integration process can be deleterious to the M&A performance. Findings suggested that each acquirer should focus on approximating both the level of integration and integration approach, based on cultural differences, to yield value creating M&As.
Weber et al. (1996)	National and Corporate Cultural Fit in Mergers/Acquisitions: An Exploratory Study	National and corporate cultural fit	The importance of acculturating both national and corporate culture in the post M&A integration are discussed. Poor national and corporate culture fit, add costs to the integration and hampers potential synergy premises and outcomes and national culture to be more salient and important in international takeovers, considering that it is more reluctant to change.
Legare (1998)	The Human Side of Mergers and Acquisitions.	Human resources development	This paper studied the M&A case of Hewlett-Packard which acquired Apollo Computer to picture the conflicts arising in both companies from not designing an integration plan which ultimately led to poor cultural fit and several interpersonal conflicts. HR development in developing an integration plan which bridges the gap between employees' competencies and the company's needs during M&As is essential.
Anh Dao & Bauer (2021)	Human Integration Following M&A: Synthesizing Different M&A Research Streams	Human integration	This study analysed M&As through 3 schools: 'the strategic management school', 'the organisational behaviour school' and 'the process school' for a more integrative understanding of the human integration in the M&A process.
Ahammad et al. (2016)	Knowledge Transfer and Cross-Border Acquisition Performance: The Impact of Cultural Distance and Employee Retention	Transfer of Knowledge in M&As	This study provided an empirical study of the transfer of knowledge in an CB M&A transaction taking in account the weight of culture and employee retention and suggested managers to retain their employees during an M&A and provide awareness workshops to bridge the cultural gap between the acquired and the acquiring firms.

Note. This table summarises the key contributions of ten research studies examining unsystematic factors in M&As. It presents influential academic work that approaches the topic from diverse perspectives, thereby minimising overlap and avoiding repetitive findings.

The findings indicate that unsystematic factors are as critical as systematic variables in determining M&A success. Neglecting the human dimension renders the M&A process incomplete, as successful takeovers emerge from the interaction between economic conditions and managerial and cultural dynamics (Sudarsanam, 2010). The unsystematic M&A literature consistently highlights the importance of managerial competence and cultural compatibility in shaping both pre- and post-integration outcomes (Legare, 1998; Weber et al., 2011; Dao & Bauer, 2021). Consequently, several scholars (Weber et al., 1996; Kavanagh & Ashkanasy, 2006) advocate conducting cultural diagnoses prior to deal execution to assess compatibility and identify potential sources of conflict between acquiring and target firms.

A growing body of research highlights the role of integration managers as change facilitators responsible for designing integration plans, retaining key talent, and managing interpersonal and organisational conflict (Teerikangas et al., 2011; Kavanagh & Ashkanasy, 2006). Similarly, the findings suggest that M&As increasingly depend on effective human resource management rather than financial management alone. HR and integration functions are expected to diagnose cultural differences, facilitate knowledge transfer, and implement structured integration processes that ensure continuity and stability during transition.

Overall, the study reinforces the view that managerial and cultural competence are central determinants of M&A success. From a cultural perspective, compatibility and complementarity between organisational cultures directly influence integration effectiveness. From a managerial standpoint, leadership capability, communication, and decision-making quality play a decisive role in aligning employees with the new organisational structure. These conclusions are consistent with Kavanagh and Ashkanasy (2006), who emphasise the influence of leadership behaviour on employee responses to post-merger change. As noted by Sudarsanam (2010), integration represents the true commencement of the deal, during which managerial actions shape employee attitudes and operational continuity.

Consequently, M&As that adopt structured, human-centred integration approaches and proactively address employee resistance and conflict are more likely to achieve value creation objectives (Sudarsanam, 2010). Effective integration requires collaborative managerial teams drawn from both acquiring and acquired firms that align strategic objectives with operational realities. In this context, organisational design, role clarity, and proactive conflict management particularly in situations involving power redistribution are essential (Sudarsanam, 2010).

In summary, evidence from both the literature and the thematic analysis attributes M&A success primarily to managerial and cultural factors. Many M&A failures arise not from flawed financial logic but from poor cultural fit and ineffective management (Legare, 1998). Consistent with Sudarsanam (2010), this study concludes that M&As represent complex processes of organisational integration rather than discrete transactional events, requiring carefully designed and human-centred integration strategies. While macroeconomic conditions such as GDP growth, inflation, and stock market performance continue to influence M&A activity, the findings reveal a significant gap in the empirical understanding of unsystematic factors, highlighting the need for further research to operationalise and measure the human side of M&As more comprehensively.

5. Conclusion

This study investigated the macroeconomic and organisational factors influencing merger and acquisition (M&A) activity in the United Kingdom over the period 1980–2022. The empirical findings indicate that GDP growth rate, inflation rate, and exchange rate are positively associated with the number of announced M&A transactions, while trade balance as a percentage of GDP and stock prices are negatively associated with M&A activity. These findings suggest that changes in economic growth, inflation, exchange rates, trade performance, and stock market conditions play an important role in shaping M&A activity in the UK. The results are broadly consistent with previous studies that have highlighted the significance of macroeconomic conditions in explaining M&A trends and patterns, including the work of Uddin and Boateng (2011), Boateng et al. (2014), and Globerman and Shapiro (1999). Unlike many studies that focus on completed transactions, this research examined announced M&A deals to better capture firms' intentions and interest in pursuing acquisitions. In addition to the macroeconomic analysis, the qualitative findings suggest that organisational factors such as cultural compatibility, leadership effectiveness, employee retention, and integration management are important considerations in determining M&A outcomes. Consistent with the findings of Weber et al. (1996; 2011), Kavanagh and Ashkanasy (2006), Teerikangas et al. (2011), and Sarala and Junni (2019), the study highlights the importance of effective integration planning and the management of cultural differences in supporting successful M&A transactions.

Based on these findings, policymakers seeking to encourage M&A activity should focus on maintaining economic conditions that support sustainable GDP growth and exchange rate stability, as these variables were found to be positively related to announced M&A activity. At the organisational level, firms considering M&A transactions should place greater emphasis on cultural compatibility, employee integration, and effective leadership throughout the merger process. Future research could extend the analysis by examining additional macroeconomic variables and undertaking case studies of successful and unsuccessful M&A transactions to provide a deeper understanding of the organisational factors that influence M&A performance.

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Tripartite Accountability in AI-Driven Workforce Displacement: A Stakeholder and Legal Perspective

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Abstract

Artificial intelligence is restructuring labour markets at a pace that outstrips institutions' capacity to respond, creating a responsibility vacuum in which displaced workers bear the greatest burden of change while retaining the least power to negotiate its terms. This paper examines the allocation of responsibilities for handling AI-driven workforce displacement among employers, workers, and governments, drawing on research from four economies: the United States, Germany, Japan, and Singapore. The Stakeholder and Human Capital Theories are utilised in this paper to analyse the allocation of responsibilities, thereby supporting the central argument that no single actor can adequately address AI-driven displacement alone. The most theoretically grounded and practically viable approach is a tripartite accountability framework in which employers, workers, and governments discharge coordinated, simultaneous obligations. The analysis utilised a narrative review of peer-reviewed literature, policy documents, and institutional reports published between 2020 and 2026. Findings show that employers bear proactive obligations that extend beyond legal compliance, as workers are responsible for adapting their skills and engaging in collective advocacy, and that governments must close the gap between the pace of AI adoption and the adequacy of regulatory and labour market policy responses. This paper contributes a structured tripartite accountability framework to the growing literature on AI governance and workforce management, with practical implications for employers, policymakers, and worker organisations that are navigating AI-driven labour market transitions.

Keywords: AI displacement, tripartite accountability, workforce governance, stakeholder theory, reskilling

Wordcount: 224

1.0 Introduction

Artificial Intelligence (AI) has made significant progress in the Fourth Industrial Revolution, driven by vast amounts of data, improved computing power, and more efficient learning algorithms. Although the development of AI dates to the middle of the 20th century, its applications have accelerated significantly in recent years. AI is described as a sub-discipline of computer science dedicated to developing data-processing systems and executing functions that mimic human intelligence, such as learning, reasoning, and self-improvement (Peres et al., 2020). Historically, technological advancements have often led to shifts in employment patterns, with certain job roles becoming automated or obsolete and new opportunities emerging, and generative AI is foreseen to lead to similar fundamental shifts in the labour market, displacing or augmenting exposed roles and creating new skill demands (Karangutkar, 2023; Ledingham, 2025; Chin et al., 2025; Budhwar et al., 2022; Chen et al., 2024).

It is important to explain what 'workforce displacement' means in this paper, since the term is used loosely across the literature. Acemoglu and Restrepo (2019) differentiate displacement, in which AI directly substitutes for tasks previously performed by workers, from reinstatement, in which new tasks and job categories are created for human workers as a result of the same technology. Displacement is therefore not the same as net job loss: an occupation can lose specific tasks to AI while the underlying job survives in altered form, and an economy can experience heavy task-level displacement alongside net employment growth, as the evidence in Section 4 shows. What differentiates AI-driven displacement from earlier waves of automation is its reach into cognitive and administrative tasks previously seen as resistant to substitution,

and the pace of task-level change relative to the institutional capacity to manage it. This paper is concerned specifically with that governance gap, rather than forecasting the effect of AI-Driven Workforce Displacement on employment. Workers are responsible for adapting their skills and workflows to leverage these new AI capabilities, and new technologies create new needs, industries, and complex tasks that need human skills (WEF, 2025). Conversely, it is crucial to assess the potential consequences of AI-driven job displacement on workers, businesses, and society (Karangutkar, 2023).

Despite the scale and pace of AI-driven labour market transformation, there is no clear, empirically validated framework for allocating responsibilities among employers, workers, and governments when AI displaces workers. The absence of this framework is not happenstance. A recent review of 245 global AI ethics guidelines determined that where labour-related disruptions appeared in those frameworks, there was no enforceable standards or institutional mechanisms for allocating responsibilities and subsequent implementation and monitoring (Cabiddu et al., 2025). The acceleration of AI adoption has consistently outpaced the institutional frameworks, generating what this paper terms a responsibility vacuum. Recent guidance directed at corporate boards argues that workforce impact has, in practice, been left as everybody's responsibility, which means nobody's in particular (Renieris et al., 2026). This responsibility vacuum has been left unaddressed, consequently producing avoidable suffering, wasted human capital, since the earnings losses associated with job displacement are large and persist for years, and growing social inequality, since the benefits of AI adoption accrue disproportionately to already high-income groups and the outcomes are neither economically efficient nor ethically justifiable (Davis and von Wachter, 2011; Cazzaniga et al., 2024).

This paper aims to establish how responsibility for managing AI-driven workforce displacement should be allocated among employers, workers, and governments, and to propose a framework to guide that allocation in practice. Three questions are asked: first, what obligations does each of the three actor groups hold toward managing AI-driven displacement, and on what theoretical basis; second, how do these obligations differ in practice across contrasting institutional contexts; and third, what conditions make coordinated tripartite governance more durable than voluntary, employer-led, or state-led alternatives. These questions are pertinent to addressing the consequences of the responsibility vacuum described above, which is already producing consequences such as: workers left without transition support, employers facing reputational and regulatory exposure, and governments improvising policy after the fact. A clearer allocation of obligations could help prevent the consequences of the responsibility vacuum rather than waiting for more complete empirical data.

The remaining sections of this paper are as follows: Section 2 discusses the theoretical framework; Section 3 describes the methodological approach adopted in the paper; and Section 4 analyses the level and nature of AI-driven displacement globally, and particularly in the four focal economies. Section 5 presents the findings across the four thematic areas: employer responsibilities, worker obligations, government interventions, and the tripartite accountability framework. Section 6 interprets the findings against the theoretical framework and the existing literature, while Section 7 concludes, offers practical recommendations, and provides suggestions for future research.

2.0 Theoretical Framework

The analytical approach adopted in this paper is informed by two complementary theoretical frameworks: Stakeholder Theory and Human Capital Theory. These two frameworks provide the conceptual building blocks for the tripartite accountability model established in Section 5.4.

2.1 Stakeholder Theory

The Stakeholder Theory, first formulated by Freeman (1984) and extensively elaborated in management literature, suggests that organisations are responsible not only to shareholders but also to all parties who are interested in or affected by organisational decisions. According to Parmar et al. (2010), effective stakeholder management requires firms to identify and address the legitimate concerns of all stakeholders, rather than focusing solely on those with formal contractual relationships with the organisation. Stakeholder Theory offers a normative ground for allocating responsibility among employers, workers, and the state in the context of AI-driven workforce displacement. Employers, as the primary agents determining AI adoption, bear an obligation towards their worker-stakeholders not only to avoid harm but to actively engage workers throughout the transitions that AI integration introduces. This is supported by De Stefano

and Doellgast (2023), who demonstrate that worker representatives, as intermediaries between employees and employers during AI adoption, must be recognised as legitimate stakeholders.

Workers as stakeholders also carry their own responsibilities, including meaningful participation in retraining programmes, engagement in collective advocacy, and proactive adaptation of their skills in response to technological change. Within a stakeholder model, De Stefano and Taes (2023) document that workers should be active participants capable of exercising rights to education, transition assistance, and collective voice. The third group of stakeholders, governments, must establish enabling environments comprising social safety nets, active labour market policies, and regulatory frameworks that ensure fairness and transparency in AI-driven employment decisions (Eurofound, 2025). This tripartite model of AI displacement management is fundamentally aligned with Stakeholder Theory: it recognises that all three groups are mutually interdependent, with interests that must be balanced and responsibilities that must be discharged simultaneously (De Stefano and Doellgast, 2023).

2.2 Human Capital Theory

The Human Capital Theory, rooted in the foundational work of Becker (1964) and developed further by economists including Mincer (1974) and Schultz (1961), holds that investment in human resources, education, training, and skills development yields returns to individuals, organisations, and society. This theory provides an accessible and analytically powerful framework for understanding AI-driven workforce displacement. As AI alters skill requirements, the capacity to sustain effective education and retraining programmes becomes the central mechanism enabling the workforce to respond. Poghosyan et al. (2026) confirm that effective reskilling strategies reflect the premise of Human Capital Theory, which emphasises that skill development is a long-term, progressive process requiring sustained investment.

For employers, Human Capital Theory implies a direct organisational interest in reskilling. Morandini et al. (2023) reinforce this, arguing that organisations must adopt a proactive approach that maps the transversal skills needed to address current skill gaps and implement targeted training processes to support effective AI adoption. For employees, Human Capital Theory emphasises personal responsibility in continuous learning and skill acquisition. Ersanli et al. (2025) argue that most workers will need foundational AI literacy and the ability to communicate with and work alongside AI systems. For governments, Human Capital Theory provides the strongest justification for active labour market policies. Because private markets systematically under-invest in general training, employers fear losing retrained workers to competitors. Government co-investment is the only mechanism capable of achieving socially optimal levels of human capital formation (Becker, 1964; Schultz, 1961).

2.3 Towards a Tripartite Accountability Framework

The Stakeholder Theory and the Human Capital Theory each address different aspects of AI-driven workforce displacement. Stakeholder Theory focuses on distributed responsibility: employers, workers, and governments each hold genuine claims to the governance of AI adoption, and each has obligations that cannot be reduced to those of the others. Human Capital Theory discusses coordinated investment and argues that displacement is a market failure in human capital formation that private actors alone cannot structurally correct.

Read together, the two frameworks reach the same conclusion. Responsible AI governance entails synchronised and harmonised action across all three actor groups, and this harmonisation is what the paper terms tripartite accountability. This is a framework that ensures employers invest proactively in workforce transition, workers take action through reskilling and collective advocacy, and governments create enabling regulatory and policy. It is a concept with deep institutional roots in the International Labour Organization (ILO) governance model, which has structured relations between governments, employers, and workers in international labour standard-setting since 1919 (ILO, 2024).

3.0 Methodology

This paper addresses the research questions set out in Section 1 through a theoretically driven narrative review methodology (Snyder, 2019). A narrative review was chosen rather than a systematic or scoping review, because the objective of the paper is to construct a theoretical argument from a defined body of literature and test that argument against institutional evidence from four countries. Grant and Booth (2009) identify this as a distinct and legitimate review type which is suited to research questions that are conceptual

and explanatory rather than purely descriptive. As discussed further in Section 7.2, a narrative review does not offer the exhaustive coverage or transparent inclusion and exclusion protocol of a systematic approach.

The review is structured into four steps. First, a scoping search used the terms 'artificial intelligence', 'workforce displacement', 'job automation', 'employer responsibility', 'reskilling', 'labour market policy', and 'tripartite governance', in combination, across Google Scholar, ScienceDirect, and the institutional repositories of the OECD, IMF, World Economic Forum, and Eurofound. Second, records were screened for relevance to the three research questions and for direct engagement with a focal economy or with employer, worker, or government responsibilities specifically; general AI-adoption studies without a labour market or governance dimension were excluded. Third, retained sources were appraised for credibility, prioritising peer-reviewed articles and reports from established international institutions over grey literature. Grey literature was kept where it offered the most current evidence, since institutional reports in this field frequently preceded peer-reviewed publication by a year or more. Fourth, sources were synthesised thematically around the four results areas in Section 5, cross-referenced against the theoretical categories in Section 2.

Sources were drawn predominantly from material published between 2020 and 2026, showing the period in which generative AI moved from the research phase to widespread workplace deployment. Foundational theoretical works (Freeman, 1984; Becker, 1964; Mincer, 1974; Schultz, 1961) were included irrespective of publication date, given their continuing relevance to the theoretical framework in Section 2. Table 1 gives an indicative breakdown of the reference base by source type and period. Table 2 gives indicative examples of the material retrieved from the main institutional repositories consulted.

Table 1.

Indicative composition of the reference base by source type and publication period (n = 56 cited sources).

Source type	Pre-2020	2020-2022	2023-2024	2025-2026	Total
Peer-reviewed journal articles		5	8	11	24
Institutional reports (OECD, IMF, WEF, Eurofound, ILO, IISD, and similar)		3	9	11	23
Policy briefs, think-tank publications, and preprints		3	0	2	5
Foundational theoretical works (pre-2020)	4	-	-	-	4
Total		11	17	24	56

Table 2.

Indicative examples of material retrieved from each institutional repository consulted.

Repository	Example sources retrieved and used in this paper
OECD	OECD (2023) Employment Outlook: AI and the labour market; OECD (2024) Employment Outlook; OECD (2025a) Bridging the AI skills gap; OECD (2025b) AI and the labour market in Japan
IMF	Cazzaniga et al. (2024) Gen-AI: Artificial Intelligence and the Future of Work; Jaumotte et al. (2026) Bridging skill gaps for the future
World Economic Forum	WEF (2025) Future of Jobs Report 2025; WEF (2026) Four Futures for Jobs in the New Economy
Eurofound	Eurofound (2025) Collective bargaining on artificial intelligence at work

Priority was given throughout to cross-national comparative studies and to empirical analyses specific to the four focal economies, which are consistent with the paper's comparative institutional design.

4.0 AI-Driven workplace displacement: Scale and context

The scale and pace of AI-driven workforce displacement cannot be adequately understood through theoretical argument alone. Empirical evidence from global labour market studies, sector-specific analyses, and cross-national comparisons is necessary to establish the context within which the tripartite accountability framework operates. Evidence for this section was compiled from the same source pool described in Section 3.0. Priority is given to the most recent global institutional reports for cross-national comparability, augmented with the peer-reviewed sectoral and country-specific studies identified through the same database searches. This section documents the global evidence of displacement, examines sectoral

vulnerability across manufacturing, healthcare, and transportation, and situates these trends within the four focal economies.

4.1 Global evidence of displacement

Whilst there is no consensus on the scale of AI-driven displacement in numerical terms, there is broad agreement that net employment effects are not as far-reaching as expected. Around 40% of global employment is exposed to AI (Cazzaniga et al., 2024), with clerical, legal, and engineering tasks facing the highest disruption (Goldman Sachs, 2023). The effect operates mainly at the task level rather than across entire occupations, and the IMF estimates that 85 million jobs will be displaced globally, compared with 97 million newly created, a modest net gain that masks substantial occupational restructuring (Cazzaniga et al., 2024). Higher AI exposure is nonetheless associated with reduced employment and shorter working hours (Dominski and Lee, 2025), and roughly a quarter of jobs sit in the highest-risk automation category, with three in five workers worrying about losing their jobs within a decade (OECD, 2024). 63% of workers, however, report that AI has improved their enjoyment of work by removing tedious tasks (OECD, 2024), emphasizing that the governance challenge is managing an uneven transition rather than reversing an unavoidable decline.

4.2 Sectoral Vulnerability

4.2.1. Job displacement in the manufacturing sector

In manufacturing, the question of whether AI leads to machine replacement or job creation remains one of the most pressing concerns in contemporary labour economics (Huo et al., 2024). AI is applied across many production processes, including product development, production and packaging, quality control, and logistics and distribution. Displacement operates through two mechanisms: the direct substitution effect, manifested in automated production-line robots replacing traditional, manual labour, and the indirect substitution effect, whereby the introduction of intelligent equipment increases the unit productivity of the product while reducing labour demand (Huo et al., 2024). Vulnerability to displacement is deeply stratified by skill: low-skilled labour is more likely to be replaced, and the employment quality of low-skilled migrant workers is more severely affected by industrial intelligence (Huo et al., 2024). Temporally, the substitution effect dominates in the short term, and the current development of AI in China remains dominated by the substitution effect on manufacturing labour employment (Huo et al., 2024).

4.2.2 Job displacement in the health sector

Healthcare is undergoing a significant transformation driven by the rapid advancement of AI. This has raised numerous concerns among the healthcare workforce, including job security, ethical considerations, and its impact on the patient-provider relationship, as workers fear losing their jobs to AI taking over routine tasks (Rony et al., 2024). The fear of unemployment, coupled with the anxiety of acquiring new skills, can be profoundly distressing for those who have dedicated their lives to the medical profession, further compounded by concerns about accountability and responsibility associated with AI errors (Rony et al., 2024).

4.2.3. Job displacement in the transportation Sector

The transportation industry will be among the first to experience the aftermath of autonomous vehicles, as these can eliminate driving professions and create new layers of employability-related social exclusion (Nikitas et al., 2021). The scale of this threat is substantial, with Frey and Osborne (2017) estimating that around 47% of total US employment will be in the high-risk category over the next two decades due to computerisation, including jobs in the transport and logistics industry (Nikitas et al., 2021). Vulnerability is concentrated among drivers of buses, taxis, and trucks, who earn above the minimum wage and require no college degree; motor vehicle operators also tend to be older and less educated, with more limited transferable skills than other employees (Nikitas et al., 2021).

4.3 Displacement Across Four Economies

The next subsections will examine the four focal economies that will be used throughout this paper. These focal economies were selected because they represent different institutional contexts within the varieties-of-capitalism framework (Hall and Soskice, 2001): the USA is a Liberal Market Economy in which labour market coordination is largely left to firms and markets; Germany is a Coordinated Market Economy, structured through statutory works councils and sectoral bargaining; Japan combines enterprise-based employment security with limited external labour market coordination; and Singapore operates a state-

directed tripartite structure involving government, employers, and trade unions. This selection is not representative of the full range of national responses to AI-driven displacement, but it provides meaningful institutional contrast for examining how governance architecture shapes tripartite outcomes. The limitation is further discussed in Section 7.2.

4.3.1 United States of America

A study by the OECD (2023) reveals that approximately 27% of jobs across OECD countries face a high risk of significant transformation due to artificial intelligence automation within the next five years. The OECD (2023) further highlights that highly skilled occupations in finance, medicine, and the legal sector, which traditionally require extensive education and accumulated experience, now face a substantial risk of automation. Across law firms, financial institutions, and healthcare facilities, AI tools produce outputs virtually, which cannot be distinguished from human work, placing these professionals squarely within AI's reach for potential transformation.

4.3.2 Germany

In Germany, AI dominates debates on the digitalisation of work, with significant focus on its role in job substitution (Giering and Kirchner, 2025). Approximately 38% of workers used at least one AI-based system, with 28% using AI to recognise and interpret data and 21% for text recognition and processing. Adoption of AI is heavily skewed by skill level: 56% of higher-grade managers and professionals reported using AI compared to only 18% of unskilled and semi-skilled workers. The effects are particularly strong for unskilled and semi-skilled workers at -22.4 %, agricultural labourers at -25.3 %, and lower-grade routine non-manual workers at -15.3 %, confirming that digitalisation benefits those with higher skills and autonomy while automating low-skilled and routine tasks, a pattern echoed across the EU more broadly, where occupational polarisation is more prevalent among workers without university degrees and varies sharply by geography (Brekelmans and Petropoulos, 2020). With AI technology continuing to evolve, future displacement is expected to worsen as an increasing number of tasks are performed by AI (Giering and Kirchner, 2025).

4.3.3 Japan

Japan has the lowest AI adoption rate among countries surveyed. Only 8.4% of employees use AI at work in Japan, and 6.4% use generative AI, representing a 35.7 percentage-point difference from the United States in finance and insurance and a 34.1 percentage-point difference from Ireland in manufacturing (OECD, 2025b). Currently, only 4.3% of workers report knowing someone who has lost their job due to AI, with 12.9% in finance and insurance and 15.0% in manufacturing reporting this. However, concerns about future displacement are significantly greater: 73.8% of Japanese AI users in finance and insurance worry about job loss over the next ten years compared to 68.0% in other countries, while in manufacturing the equivalent shares are 71.3% in Japan versus 65.8% in other countries (OECD, 2025b). Displacement risk is highly unequal across occupational groups. Among low-income groups and non-regular employment, worries about job loss outweigh expectations for job creation. With 89.4% of AI users expecting the skills required in their current job to change over the next ten years, and a 13.5 %-point difference between occupations with the highest and lowest AI use, even as outright displacement remains currently limited due to Japan's unique long-term employment system and chronic labour shortages (OECD, 2025b).

4.3.4 Singapore

According to Cazzaniga et al. (2024), about 77% of Singapore's employed workers are highly exposed to AI, surpassing the average high-exposure rates of 40% for emerging market economies, 26% for low-income countries, and even exceeding the 60% estimated for advanced economies. Within this highly exposed group, about half are in occupations with high AI complementarity (38.9%), while the other half are in occupations with low AI complementarity (38.6%). Gender and age disparities are stark: 49% of female workers are in occupations with high exposure and low complementarity, compared to 29% of male workers, while half of younger workers face high AI exposure and low complementarity, with only one-fifth in high-exposure, high-complementarity occupations. Singapore's robotic intensity further compounds displacement risk, with 730 industrial robots per 10,000 employees and an average annual increase of 27% since 2015. The vulnerability of lower-skilled workers is evidenced by pandemic-era data: 181,500 foreigners lost their jobs, far exceeding the number of job losses during prior financial crises, with low-skilled workers accounting for 76% of those job losses.

5.0 Results

The narrative review identified four interconnected thematic findings concerning the allocation of responsibilities for AI-driven workforce displacement among employers, workers, and governments. Each theme is examined in turn, with reference to the theoretical frameworks established in Section 2 and the contextual evidence presented in Section 4.

5.1 Employer Responsibilities in Managing AI-Driven Workforce Displacement

The implementation of AI by employers has completely changed the face of the modern-day workplace in terms of its organisation. In companies that incorporate AI technologies, employer reactions range from actively investing in worker retraining to transition assistance. Acemoglu and Restrepo (2020), in research on US labour markets, found that AI-driven institutions are more likely to reduce total staffing, meaning that AI-driven productivity gains are not necessarily converted into net employment gains.

There are three general strategic responses that employers have sought when adopting AI. Investment in upskilling and reskilling to retrain current employees, as the National Academies of Sciences, Engineering, and Medicine (NASEM, 2025) describe retooled jobs that retain job title but change in internal skills as a result of AI. NASEM (2025) finds that AI has the potential to augment human labour and create new forms of valuable work, but only if institutional actors, especially employers, adopt it responsibly.

Secondly, employers undergo workforce restructuring without any transition assistance. Based on a survey of more than 1,000 employees representing 14 million employees across 55 economies, the report finds that 41% of employers expect their workforce to downsize by 2030 as AI automates some of their functions (WEF, 2025). This highlights the dominance of displacement-based responses, even in large, internationally advanced companies. Third, there is a more subtle reaction: partial automation, in which only some tasks are automated, and workers are reallocated to other jobs that complement their original roles. In the WEF (2025) report, nearly half of the employers surveyed anticipate shifting employees experiencing the effects of AI disruption into other areas of their operations, indicating that jobs will not be lost but will be redefined as entirely different.

Sharfuddin (2025) claims that, in response to AI-induced job displacement, upskilling offered by companies will allow employees to move to less automated positions, thereby sustaining their employment and further enhancing their earnings. Employer upskilling intervention does not only serve as a social responsibility but also as an economic rationale consistent with Human Capital Theory.

In Germany, the employer's roles are institutionalised by the Works Constitution Act, which requires consultation with works councils when introducing major technological change. The EU AI Act, which became effective in August 2024, categorises human resource management as a high-risk domain and establishes transparency and accountability requirements for AI systems used in employment decision-making. Malin et al. (2025) indicate that regulation has increased the responsibilities of employers, finding that worker representatives require regulations and well-defined responsibilities as conditions for accepting AI in the workplace. Historically, in Japan, technological adoption has been handled through robust enterprise-level investment in lifetime employment and internal redeployment, but with the increasing automation of AI in manufacturing industries.

Employers in Singapore operate within a system of shared responsibility through the Skills Future programme adopted by the government. According to the OECD (2025a) analysis of AI skills training across Australia, Germany, Singapore, and the United States, Singapore has one of the most practical workforce transformation policy responses to AI, and companies can obtain significant government co-financing to train their workforce. The OECD (2025a) cross-national analysis further notes that most AI-related training is currently focused on professionals with advanced qualifications to ensure wide workforce participation in AI literacy.

Employer-related requirements in the context of workforce reduction are increasingly being scrutinised in the US through the lens of AI transparency. Employees can also use collective bargaining to control the conditions under which AI is implemented in their jobs, as was the case with the Writers Guild of America and SAG-AFTRA agreements in 2023, which established contractual rights regulating the use of AI and explicitly moved the burden of negotiating proper transitioning conditions to employers (Kelley, 2024).

Moreover Eurofound (2025) posits that employers operating within European frameworks are being increasingly expected to negotiate AI governance terms, including requirements of transparency, guarantees of job security, and commitments to retraining as conditions of AI implementation. Overall, the role of the employer in AI-driven workforce displacement goes far beyond legal requirements but includes investment in upskilling and accountability at the governance level for the human impact of AI implementation.

From a legal point of view, the obligations identified are grey areas that fall between ethical expectation and legal requirements. Majority of employer responsibilities that are identified in this review are in the domain of soft law, that is, voluntary codes, negotiated agreements, and executive guidance that individual employers may observe selectively and governments may reverse without legislative process. The legal framework regulating employer conduct in AI-driven displacement does not reflect the scale of the problem, and closing this gap will entail legislative intervention beyond collective bargaining (Kelley, 2024; Malin et al., 2025).

5.2 Worker Obligations and Agency

5.2.1 Effects of Displacement on Workers: Economic, Psychological, and Social Dimensions

Economically, displaced workers lose income, face extended periods of unemployment, and struggle to re-enter similar roles, particularly older and low-skilled workers. Cazzaniga et al. (2024) provide strong evidence of age-related vulnerability: older workers are less likely to re-employ in the same type of occupation after displacement than prime-age workers. This observation aligns with World Economic Forum (2025), showing that by 2030, 92 million jobs will be eliminated, starting with workers in routine administrative and clerical functions, categories where women and older people are over-represented.

Acemoglu and Restrepo (2020) provide empirical data on US labour markets, showing that every additional robot per thousand workers lowers the employment-to-population ratio by 0.2 percentage points and wages by 0.42%, with impacts concentrated in local labour markets greatly affected by automation. Cazzaniga et al. (2024) further claims that AI will simultaneously alter the career patterns of more skilled employees, strengthening trends of economic inequality across skill levels. Specifically, the IMF analysis states that labour income inequality can rise where the complementarity between AI and high-income employees is high, and that capital rewards will widen wealth inequality.

The psychological implications of AI-induced displacement are no less significant. Sharma et al. (2025) identified six specific psychological themes among AI-displaced workers, including emotional shock, loss of professional identity, persistent anxiety and anticipatory rumination, social withdrawal, and adaptive and maladaptive coping. They found that job displacement caused by technology produces greater psychological distress than displacement caused by traditional layoffs.

It is worth noting that the picture is not entirely negative. In a longitudinal study based on the German Socio-Economic Panel data between 2000 and 2020, Giuntella, Konig, and Stella (2025) did not find evidence of large negative effects of AI on workers' well-being and mental health in the German context and identified indications of improved health satisfaction. The authors attribute this to the institutional environment in Germany, characterised by high labour protection standards, the presence of unions, and broad employment laws that make AI more likely to complement rather than substitute worker skills. The comparison between the German and Indian IT sector findings underscores the significance of national frameworks and specific employer practices in shaping worker outcomes.

5.2.2 Worker Obligations in the Context of AI-Driven Displacement

Although much of the literature on displacement focuses on what employers and governments must do, a growing body of evidence identifies a range of responsibilities that workers themselves must undertake in managing the changes introduced by AI. According to the UC Berkeley Labor Center (2024), employees have both a right and a duty to organise and negotiate regarding the application of AI technologies by employers. The centre promotes the right of workers to receive education and training to expand their skills when tasks are automated, the right to be offered job opportunities ahead of external candidates in the event of redeployment, and protection against job loss due to technology adoption in the event of a layoff. The IndustriAll Europe (2023) further argues that employees and trade union representatives are best positioned to understand the actual impacts of AI technologies at work. In this respect, employees have a

proactive role in engaging in social discourse, bargain for satisfactory training opportunities, revise health and safety standards, and provide feedback on technologies that are not operating fairly.

At the individual level, the Center for American Progress (2024) insists that employees should make efforts to build their own adaptability. The OECD (2025a) policy brief on bridging the AI skills gap concludes that the majority of workers who will be interacting with AI will not need to possess specialised AI skills, but rather a general AI literacy, an awareness of how to communicate and cooperate with AI systems, making self-directed learning a realistic and necessary worker requirement. This finding holds across the four countries examined, Australia, Germany, Singapore, and the United States, and supports the view that worker agency in managing AI displacement can be exercised through modular upskilling accessible within employer-led training programmes.

5.2.3 Heterogeneity in Worker Vulnerability and Agency

The obligations described in 5.2.1 and 5.2.2 assume that a worker has the time, resources, and institutional support needed to reskill. However, that assumption does not hold equally across the workforce. The evidence already presented in this paper shows that being vulnerable to displacement and the capacity to respond to it, is tied to age, gender, skill level, and employment status and is not distributed evenly. For instance, older workers are less likely to re-employ in their original occupation after displacement than prime-age workers (Cazzaniga et al., 2024). In Singapore, women are more likely than men to be in the low-complementarity segment of the labour market where AI is most likely to substitute rather than augment their work (Cazzaniga et al., 2024). Low-skilled workers accounted for most pandemic-era job losses among the country's foreign workforce (Cazzaniga et al., 2024). In Germany, the same skill gradient appears in reverse: AI use is concentrated among higher-grade managers and professionals, while unskilled and semi-skilled workers face the steepest negative employment effects (Giering and Kirchner, 2025).

These patterns are important to understanding how the worker obligations set out in Section 5.2.2 should be read. Structural constraints facing displaced workers, such as limited transferable skills, caring responsibilities, and reduced geographic mobility, cannot be ascribed to the failures of individual agency, and proactive reskilling is not equally available to a 55-year-old routine clerical worker and a 30-year-old professional whose employer already funds AI training. This is exactly where the obligations of employers and governments described in Sections 5.1 and 5.3 become necessary under Human Capital Theory: private markets under-invest in training for exactly the workers least able to self-fund it, which is why government co-investment and employer-led modular training matter most for older, lower-skilled, and non-regular workers rather than the workforce as a whole.

5.3 Government Interventions and Policy Frameworks

Governments play a central role in addressing the labour market impacts of AI-driven displacement. Their tools include regulatory frameworks, active labour market policies, social protection systems, and the coordination of multi-stakeholder responses. Among the most urgent regulatory issues is the lack of disclosure requirements regarding whether workforce reductions or recruitment freezes are connected to AI implementation, a gap that only governmental involvement can adequately resolve (Kelley, 2024). The 2023 Executive Order on the Safe, Secure, and Trustworthy Development and Use of AI represented a regulatory intervention in the US, instructing the US Department of Labour to assess the capacity of agencies to assist workers who lose their jobs due to AI, and identifying workplace surveillance, bias, and job elimination as dangers to be mitigated (Center for American Progress, 2024). In May 2024, one of the mandates published by the Department of Labour prohibited the use of AI systems to undermine workers' rights to organise.

Eurofound (2025) records that the adoption of the EU AI Act prompted government and social partner initiatives across various EU member states to formulate sectoral-level agreements governing the use of AI in employment, including in Germany where a national cross-industry agreement in 2024 modified previous collective agreements to add AI governance roles. The government response to AI-based displacement in Japan has been conditioned by its past reliance on enterprise-based employment security. Japan has implemented AI-related upskilling incentives and digital literacy programmes as part of its Society 5.0 agenda, but their effectiveness appears less broad than the Singapore model. The government of Singapore has developed what the OECD (2025a) considers one of the most coordinated responses to AI-based

workforce transformation, integrating government funding, employer engagement, and modular, worker-accessible training through its SkillsFuture programme.

5.3.1 Active Labour Market Policies, Retraining, and Regulatory Frameworks

The most immediate tools that governments can use to reemploy displaced workers are active labour market policies, encompassing public retraining programmes, wage subsidies, employment counselling, and job placement services. Jacobs (2025) records that the United States is among the OECD countries with the lowest level of active labour market policy spending, at around 0.1% of GDP, a ratio of investment in human capital that is fundamentally inconsistent with the scale of AI-induced displacement documented by the OECD (2025a) and IMF (Cazzaniga et al., 2024). Rather than the generalised support currently offered under the Workforce Innovation and Opportunity Act, the Urban Institute (2025) suggests a more specific policy response in the form of an AI Adjustment Assistance programme, modelled on the Trade Adjustment Assistance paradigm, that includes retraining, income support, job search assistance, and relocation support for workers displaced by AI.

The establishment of regulatory frameworks covering algorithmic transparency in employment decisions is also a major area of government intervention. Eurofound (2025) records how collective bargaining agreements across European nations are being applied to safeguard workers against arbitrary algorithmic decision-making and to guarantee disclosure of AI-influenced staffing decisions. The Corporation for a Skilled Workforce (2025) argues that workforce systems should focus on implementation, integrating AI skills development into existing WIOA and community college systems to better track labour market performance. To meet growing demand for general AI literacy across all four countries, OECD (2025a) policy brief recommends that governments increase non-financial levels, including career guidance, public-corporate partnerships, and train-the-trainer programmes, to deliver AI training to increasingly diverse populations.

Furthermore, a review of the government interventions across the four economies shows a clear difference between binding instruments and policy-based responses. For instance, the EU AI Act and Germany's Works Constitution Act are examples of hard law which are binding, imposing enforceable obligations, and carry penalties for non-compliance. On the other hand, the provisions of the US executive orders on AI cannot be enforced and are reversible by succeeding administrations, revealing the limitations of policy-based responses as against binding instruments (Kelley, 2024; UC Berkeley Labor Center, 2024). Similarly, Japan's Society 5.0 agenda, which relies on government-sponsored upskilling incentives and digital literacy programmes and the Singapore's SkillsFuture framework, reveals the limitations of policy-based responses lacking the statutory grounding that characterises the European approach (OECD, 2025a).

5.4 Towards a Tripartite Accountability Framework

None of the employers, workers, or governments can handle the challenge of AI-driven workforce displacement singlehandedly. An increasing number of researchers support the concept of tripartite and multi-stakeholder models, in which all three stakeholders are given coordinated responsibilities that are performed simultaneously. The World Economic Forum (2025) specifically encourages organisations to align their talent and AI approaches and to engage employees, governments, and other industry players in AI governance, warning that without such approaches, a winner-takes-all dynamic will emerge and negate the democratic regulation of autonomous AI systems. This aligns with the findings of Malin et al. (2025), who record that the role of workers requires not merely technical protection but real involvement in the process of AI implementation in human resource management.

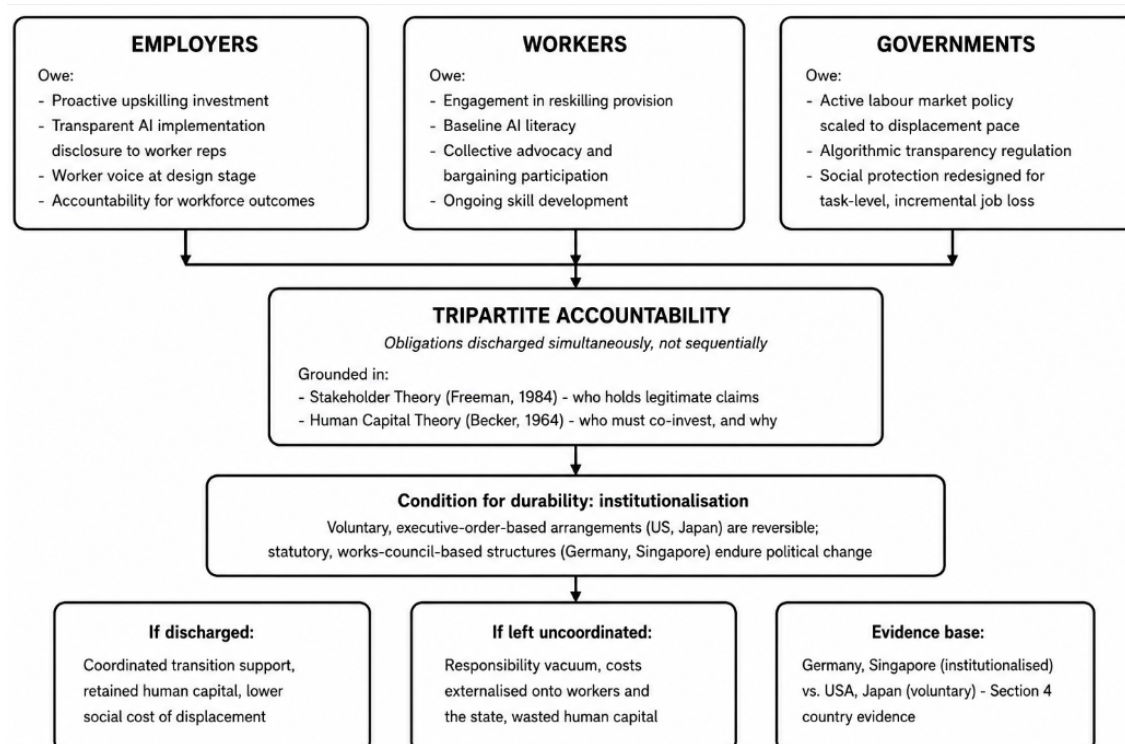


Figure 1. The tripartite accountability framework

Figure 1 sets out the framework's structure, discussed in this section. Employers, workers, and governments each have distinct obligations, by virtue of: their capacity to shape AI deployment, their exposure to its consequences, and their capacity to co-invest in human capital formation that private markets underprovide. These obligations must be discharged simultaneously rather than sequentially, and the evidence below shows that the condition determining whether that coordination holds over time is institutionalisation. The tripartite model has certain institutional manifestations across the four focal economies. In Germany, the Works Constitution Act and institutional social partnerships formally provide opportunities for tripartite consultation on technological change, and collective agreements on AI-related matters (Eurofound, 2025). Eurofound (2025) records that when the EU AI Act came into force in August 2024, government and social partner actions across various European member states, including Germany, saw a 2024 cross-industry agreement revised to establish AI governance functions such as senior AI coordination officers and AI ethics experts.

In Singapore, the tripartite model is institutionalised through the National Trades Union Congress, the Singapore Business Federation, and the government have made it possible to develop policies quickly in a co-design format, including the SkillsFuture programme and sector-based workforce transformation plans. The OECD (2025a) analysis of Singapore's AI training landscape concludes that it is the most systematically financed of the four countries examined, with the government integrating public funding, employer involvement, and modular training trajectories to avoid the social exclusion of displaced employees over the long term. Multi-stakeholder governmental coordination in the United States is less institutionally formalised, yet it is developing through a mix of federal executive action, union collective bargaining, and employer-driven efforts. Kelley (2024) reports that the WGA and SAG-AFTRA agreement of 2023 have served as a template for contractual AI regulation that continues to be replicated in other areas of the labour force. The UC Berkeley Labor Center (2024) also records how the 2023 and 2024 executive orders on AI included provisions encouraging federal agencies to consult with employee unions on the design, development, and use of AI systems, though most of these provisions have since been reversed by successive administrations, reflecting the vulnerability of voluntary multi-stakeholder arrangements to political change and the need to protect them through more durable institutional structures.

Baker McKenzie (2025) records that in 2023, one of the largest technology firms in the world entered into a ground-breaking agreement with a trade union to discuss the effects of AI on employees, including training union members on AI fundamentals, obtaining worker input to inform AI development, and

engaging in lobbying related to AI workforce training policies. The multi-stakeholder imperative is not merely a statement of intention but a structural necessity: none of the actors individually possesses the resources, legitimacy, and reaches to handle AI displacement at the scale and pace at which it is occurring (IISD, 2022; WEF, 2025).

6.0 Discussion

The findings presented in Section 5 demonstrate that AI-driven workforce displacement is neither a purely technological phenomenon nor one that can be adequately governed by any single actor. Examined through Stakeholder Theory, the evidence confirms that employers, workers, and governments each hold legitimate claims on the governance of AI adoption and each bears obligations that are distinct, non-transferable, and mutually reinforcing. Across all four economies, employer responses to AI-driven displacement have been uneven. Some organisations have invested in upskilling and internal redeployment, recognising that retaining human capital generates competitive advantage over the long term. Others have pursued workforce reduction without transition assistance, effectively externalising displacement costs onto workers and the state. The WEF (2025) finds that 41% of employers expect to downsize their workforce by 2030 as AI automates some functions. This is sobering, and it underscores the gap between what employers are currently doing and what Stakeholder Theory would require of them.

This study finding supports the Human Capital Theory argument that active skill investment acts as a protective factor in environments of technological disruption. Also, older workers, low-skilled workers, women, and workers in non-regular employment face compounding disadvantages that proactive reskilling alone cannot address, and this is where government intervention becomes not merely desirable but, in theory, necessary. Section 5.2.3 sets out this heterogeneity in more detail. The findings also point to a sectoral dimension that the tripartite framework must accommodate. Manufacturing displacement operates mainly through direct and indirect substitution of routine physical tasks and affects low-skilled and migrant labour the most (Huo et al., 2024); healthcare displacement is more concentrated in diagnostic and data-processing tasks and is complicated by the accountability questions that arise when AI contributes to clinical decisions (Rony et al., 2024); and transportation displacement is unusually prevalent among older, less-educated workers with limited transferable skills and an unusual reluctance to reskill even where it is offered according to Nikitas et al. (2021). A single, undifferentiated tripartite framework is unlikely to work equally well across these three sectors because manufacturing and transportation displacement call for the redeployment and income-support instruments emphasised in Section 5.3, while healthcare displacement calls for the accountability and governance mechanisms emphasised in Section 5.1, since the central concern there is less job loss than the terms on which AI is allowed to participate in professional judgement. Section 7.1 develops this sectoral distinction into specific recommendations.

The government evidence across the four economies reveals a consistent and troubling pattern. Policy responses have lagged the pace of AI adoption in all four contexts, though to varying degrees. The United States, where active labour market policy spending remains around 0.1% of GDP, is the weakest performer of the four. Singapore's SkillsFuture programme remains the most systematically financed response among the four, reflecting the Human Capital Theory prescription for government co-investment. Germany's institutional social partnership model provides meaningful protection, though it is under increasing stress as AI penetrates higher-skilled occupations. Japan's response remains the most constrained, with Society 5.0 upskilling incentives yet to achieve Singapore's scale and coverage.

The tripartite accountability framework that emerges from this analysis is not simply a descriptive account of what these three actor groups do. It is a normative argument about what they owe. Employers owe proactive investment in workforce transition, transparent communication with affected workers, and accountability for the human consequences of AI implementation decisions. Workers owe meaningful participation in reskilling programmes, engagement in collective advocacy, and a commitment to ongoing skill development, rather than passively receiving employer and government decisions. Governments owe regulatory frameworks that govern algorithmic transparency, active labour market policies scaled to the actual pace of displacement, and social protection systems redesigned for the incremental and task-level nature of AI-driven job loss.

What distinguishes this framework from existing accounts is its insistence on simultaneity. The evidence from Eurofound (2025) on European collective bargaining and from the IISD (2022) on tripartite dialogue

both confirm that the most effective AI governance practices are those in which all three actor groups are engaged in organised and continuous governance processes. Voluntary arrangements are vulnerable to political change, as the partial reversal of the 2023 and 2024 US executive orders on AI illustrates. Institutionalised tripartite structures, of the kind more deeply embedded in Germany and Singapore than in the United States or Japan, appear more durable and more capable of generating the coordinated responses that AI-driven displacement demands.

7.0 Conclusion

This paper sets out to examine how responsibilities for managing AI-driven workforce displacement should be allocated among employers, workers, and governments. Drawing on Stakeholder Theory and Human Capital Theory, and on evidence from the United States, Germany, Japan, and Singapore, the analysis supports a clear conclusion: the responsibility vacuum that currently characterizes AI governance in labour markets is not an inevitable feature of technological change. It is a product of institutional failure, and it is correctable. Correcting this institutional failure will require a deliberate shift from the soft-law instruments currently prevalent in AI governance toward statutory frameworks capable of enforcing tripartite obligations with the same binding force as existing employment and labour law. The tripartite accountability framework proposed in this paper allocates distinct and coordinated obligations to each actor group.

The comparative evidence from the four focal economies is instructive on this point. Singapore's SkillsFuture programme and Germany's institutionalised social partnership model demonstrate that tripartite accountability is not merely theoretically desirable but practically achievable. The comparatively weaker institutional frameworks in the United States and Japan suggest that voluntary arrangements, while valuable, are insufficient substitutes for the kind of structured tripartite governance that makes employer, worker, and government obligations mutually reinforcing rather than sequentially dependent.

7.1 Recommendations

The recommendations given below are organised by sector, by country, for employers, and by government.

- (1) For employers in manufacturing, where displacement operates through direct substitution of routine physical tasks, the priority is redeployment of workers on automated lines into machine-monitoring or quality-assurance roles, supported by upskilling.
- (2) For employers in healthcare, where the central concern is accountability rather than job volume, the priority is governance: clear protocols make AI-assisted diagnosis subject to clinician sign-off, and frontline clinical staff are involved in AI procurement decisions.
- (3) For transportation and logistics, where the workforce is older, less educated, and reluctant to retrain, the priority is transition design, with AI adoption plans communicated to worker representatives before implementation.
- (4) For workers and worker organisations, AI literacy should be treated as a baseline skill, and collective bargaining used to secure enforceable AI governance rights of the kind negotiated by the WGA and SAG-AFTRA in 2023. Given the diversity of workers noted earlier, organisations should treat securing employer- and government-funded training access as priority, rather than assuming workers can self-fund it.
- (5) For governments, the evidence supports action tailored to each country's institutional starting point rather than a single template.
 - (i) For the United States, which faces the lowest active labour market policy spending relative to the scale of displacement among the four economies, priority should be given to scaling that investment, coupled with statutory protections that survive changes in administration.
 - (ii) For Germany, where Works Constitution Act consultation rights do not yet extend to AI-related technological change, priority should be given to extending them.
 - (iii) For Japan where Society 5.0 upskilling incentives have yet to reach Singapore's scale and coverage, priority should be given to expanding the agenda, modelling Singapore's SkillsFuture approach.

- (iv) For Singapore, which is the strongest performer among the four, priority should be given to extending SkillsFuture's co-financing model to its lower-skilled and foreign-worker segments.

7.2 Limitations and Future Research

This paper is subject to the limitations of narrative review methodology, discussed in Section 3.0. The selection of sources, while systematic in intent, is not exhaustive. The four focal economies, though chosen for their contrasting institutional contexts, are not representative of the full range of national responses to AI-driven displacement. However, for future research, studies can be extended to middle- and lower-income countries where AI adoption patterns and institutional capacity differ substantially. The tripartite accountability framework proposed here is theoretically grounded and supported by qualitative, cross-national evidence, but it has not been quantitatively validated. Consequently, future research that combines the institutional and theoretical account developed in this research with quantitative validation and country-level investment modelling is being recommended to strengthen the practical case for tripartite accountability made in this paper.

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Exploring How the Adoption of Artificial Intelligence in Human Resource Management Enhances Organizational Performance and Efficiency

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Abstract

In the era of the Fourth Industrial Revolution, the use of artificial intelligence (AI) in human resource management (HRM) is increasingly recognized as a powerful tool for improving organizational performance and efficiency. However, despite growing interest in this area, there is still limited and fragmented evidence explaining exactly how AI adoption leads to these improvements. Guided by the Technology Acceptance Model (TAM), the Resource-Based View (RBV), and Dynamic Capabilities Theory (DCT), this study investigates how AI adoption in HRM contributes to organizational performance and efficiency through improvements in HR process efficiency. A cross-sectional survey was conducted among 452 HR personnel and employees working in information technology (IT)-related organizations in Lagos State, South-West Nigeria. Three hypotheses were tested using path analysis. The findings reveal that AI adoption in HRM is positively associated with both organizational performance and organizational efficiency. In addition, HR process efficiency was found to play a mediating role in these relationships, indicating that improvements in HR processes are a key pathway through which AI generates organizational benefits. Overall, this study contributes to the HRM and information systems literature by providing deeper insight into AI-enhanced HRM and offering evidence to support the integration of AI into organizations' day-to-day operations.

Keywords: Artificial intelligence, Human resource management, Organizational performance, Organizational efficiency, technology acceptance, resource-based view.

Wordcount: 200

1.0 Introduction

The rapid development of Artificial Intelligence (AI) has significantly changed the way organizations operate across different industries. AI is reshaping how businesses manage information, make decisions, and improve their processes. In the field of Human Resource Management (HRM), technologies such as machine learning, predictive analytics, natural language processing, and intelligent automation are increasingly being used in key HR activities, including recruitment, employee development, performance management, workforce planning, and talent retention. As organizations strive to remain competitive in fast-changing business environments (Gong, Fan and Bartram, 2025; Vrontis et al., 2022), AI-driven HRM systems have become important strategic tools that help improve operational effectiveness and support organizational goals (Malik, Budhwar and Kazmi, 2023). This growing adoption of AI reflects a broader transition from traditional administrative personnel management to data-driven and strategically aligned HR practices that contribute directly to organizational success.

Recent studies indicate that AI-enabled HRM can improve organizational outcomes in several ways. By automating routine tasks, reducing processing time, improving decision accuracy, and supporting evidence-based workforce management, AI helps organizations operate more efficiently (Zahrani, 2025). AI applications can quickly screen job candidates, provide personalized employee training, monitor performance, and generate predictive workforce insights, making HR functions more responsive and efficient (Yusuf et al., 2025). As a result, organizations are increasingly using AI to streamline HR processes and allow HR professionals to focus on higher-value strategic responsibilities. Previous research has also

shown that digital HR systems and AI-supported HRM practices can enhance productivity, workforce agility, and overall organizational effectiveness (Cheng and Zou, 2021; Khudhaire and Fzaea, 2026).

Although the strategic value of AI is widely acknowledged, there is still limited empirical evidence explaining how AI adoption leads to improved organizational performance. Most existing studies have concentrated on the direct relationship between AI implementation and organizational outcomes, while giving less attention to the role of human resource process efficiency as a potential mechanism through which these outcomes are achieved (Malik, Budhwar and Kazmi, 2023). Human resource process efficiency refers to the ability of HR functions to carry out activities with minimal time, cost, and operational errors while maintaining high service quality and responsiveness to employees. From the perspective of the Resource-Based View (RBV), AI can be considered a valuable organizational resource that strengthens capabilities by improving the efficiency and effectiveness of HR processes, which in turn enhances organizational performance (Al-Ayed, 2025).

Emerging research further suggests that HR process efficiency may be a key pathway through which AI-generated capabilities produce measurable organizational benefits. For example, AI-powered recruitment systems, automated performance evaluation tools, and intelligent workforce planning platforms have been found to improve HR process efficiency, which subsequently enhances overall HRM effectiveness and organizational outcomes (Zahrani, 2025). Similarly, studies on electronic and digital HRM systems have identified process optimization and operational efficiency as important mechanisms connecting technology adoption with improved organizational performance (Cheng and Zou, 2021). Despite these findings, the existing literature remains fragmented, and there is still a limited understanding of how HR process efficiency mediates the relationship between AI adoption and organizational performance.

Given the growing investment in AI technologies and the strategic importance of managing human capital effectively, examining the mediating role of human resource process efficiency is both timely and important especially in developing countries like Nigeria where studies about the adoption of AI in HRM are scarcely available. This study therefore addresses population gap (the Nigerian information technology context) and adds to existing literature by investigating how AI adoption in HRM improves organizational performance and efficiency through enhanced HR process efficiency. This study also provides practical guidance for organizations seeking to maximize the value of their AI investments in human resource functions. By bringing together insights from the literature on AI-enabled HRM, process efficiency, and organizational performance, this study contributes to the expansion of extant body of knowledge on digital transformation and strategic HRM (e.g., Margherita, 2023; McCartney and Fu, 2022). Comparatively, to our knowledge, one novelty of this study is that it explored HR process efficiency as a mediator in AI adoption and organizational performance and efficiency links. From extant literature, the study of Chowdhury et al. (2026) explored AI-empowered decision-making as a mediator in the AI adoption in HRM and organizational process level HR outcomes model, while the study of Jangbahadur et al. (2025) examined the mediating role of employee engagement in the relationship between AI adoption in HRM and sustainable organizational performance. Additionally, organizational learning capability and technological trust have been studied as mediators in AI adoption in HRM and organizational effectiveness (Choudhary et al., 2026), while organizational agility was explored as a mediator in the relationship between AI adoption and organizational performance (Aldossary, Ayad and Moustafa, 2026). Thus, this study tends to add to literature by exploring HR process efficiency as a mediator in the AI adoption in HRM and organizational performance and efficiency model.

2.0 Literature Review

Artificial Intelligence (AI) is commonly defined as the study of intelligent agents that perceive their environment and take actions that influence that environment, with the goal of creating rational agents capable of acting autonomously to achieve specific objectives (Russell and Norvig, 2020). Within the context of this study, AI adoption in Human Resource Management (HRM) refers to the organizational use of technologies such as machine learning, natural language processing, robotic process automation, and other intelligent systems to perform or support HR-related activities (Chowdhury et al., 2023; Tambe, Cappelli and Yakubovich, 2019). These technologies are increasingly being applied across a wide range of HR functions, including: (a) recruitment, through resume screening, candidate matching, and chatbot-assisted interviews; (b) onboarding, through automated document processing and personalized training

recommendations; (c) performance management, through continuous feedback analytics and productivity prediction; (d) learning and development, through skill-gap analysis and content recommendations; and (e) retention analytics, through employee turnover prediction and engagement sentiment analysis (Malik et al., 2022; Zhou et al., 2021).

Organizational performance refers to the extent to which an organization achieves its strategic and financial goals, including profitability, market share, innovation, and customer satisfaction (Richard et al., 2009). Organizational efficiency, on the other hand, focuses more specifically on the relationship between outputs and inputs—that is, doing things right by maximizing results while minimizing resources. Examples include reducing the cost per hire, shortening the time required to fill vacancies, and minimizing administrative errors (Neely, Gregory and Platts, 2005). Although performance and efficiency are distinct concepts, they are closely interconnected. Improvements in efficiency often enable organizations to redirect resources toward strategic initiatives, which can ultimately enhance overall organizational performance (Di Vaio et al., 2020).

Human resource process efficiency refers to the speed, accuracy, and cost-effectiveness with which core HR activities, such as recruitment, payroll administration, and performance appraisal, are carried out. The adoption of AI has the potential to streamline these processes by automating routine tasks, reducing errors, and accelerating decision-making. As a result, HR professionals can devote more time and effort to strategic responsibilities such as talent development, succession planning, and organizational culture building, all of which contribute to improved organizational performance (Pereira et al., 2021; Chowdhury et al., 2023). Based on this reasoning, we propose that improvements in HR process efficiency serve as a partial mediating mechanism through which AI adoption influences organizational outcomes.

The Fourth Industrial Revolution has positioned Artificial Intelligence (AI) as a key driver of organizational transformation (Di Vaio et al., 2020; Vrontis et al., 2022). In the field of Human Resource Management (HRM), AI applications—ranging from resume screening and candidate matching to performance analytics and personalized learning systems—are increasingly taking over routine administrative tasks (Budhwar et al., 2022; Malik et al., 2022). Advocates of AI argue that by automating these routine functions, HR professionals can dedicate more time to strategic responsibilities, ultimately improving organizational performance and operational efficiency (Chowdhury et al., 2023; Pereira et al., 2021).

Despite its growing adoption, the academic evidence on the benefits of AI in HRM remains mixed. Some studies have reported positive outcomes, including increased productivity and higher employee satisfaction resulting from AI-enabled HRM practices (Priksht et al., 2023; Zhou et al., 2021). In contrast, other researchers have highlighted challenges associated with AI implementation, such as algorithmic bias, ethical concerns, and the absence of complementary organizational capabilities needed to fully realize AI's potential (Tambe, Cappelli and Yakubovich, 2019; Raghavan et al., 2020). More importantly, much of the existing literature has treated AI as a single, uniform technology and has paid limited attention to the underlying mechanisms (i.e., the “how”) through which AI adoption generates improvements in organizational performance (Budhwar et al., 2022; Johnson et al., 2021). This limitation restricts both theoretical advancement and the development of practical guidance for organizations seeking to implement AI effectively.

To address this gap, the present study seeks to answer the following research question: *How and under what conditions does AI adoption in HRM enhance organizational performance and efficiency?* We propose a dual-mechanism model to explain this relationship. First, AI improves HR process efficiency by enabling faster recruitment processes, reducing administrative errors, and streamlining routine HR activities. Second, AI enhances data-driven decision-making through capabilities such as predictive analytics for employee turnover and the identification of workforce skill gaps. We argue that these two pathways serve as important mechanisms through which AI adoption influences organizational outcomes.

The study is grounded in three complementary theoretical perspectives: the Technology Acceptance Model (TAM) (Davis, 1989), the Resource-Based View (RBV) theory (Barney, 1991), and Dynamic Capabilities Theory (Teece, Pisano and Shuen, 1997). From this perspective, AI in HRM is viewed not simply as a technological tool but as a strategic organizational resource that can generate sustainable competitive advantage when combined with complementary human capabilities and skills (Mikalef and Gupta, 2021; Mikalef et al., 2020). Furthermore, Dynamic Capabilities Theory provides a process-oriented lens for

understanding how AI contributes to organizational success. Specifically, organizations must develop capabilities for sensing HR-related opportunities and challenges, seizing opportunities through the implementation of AI solutions, and transforming existing HR processes to maximize value creation (Warner and Wäger, 2019). Through these capabilities, AI adoption can lead to enhanced organizational performance and efficiency.

The findings of this study contribute to both theory and practice in two important ways. First, they demonstrate how AI-enhanced HRM environments can improve organizational performance and operational efficiency. Second, the study identifies HR process efficiency as a key mediating mechanism, thereby responding to growing calls for more process-oriented research in the field of AI-enabled HRM (Benabou and Touhami, 2025; Budhwar et al., 2022).

3.0 Theories Underpinning the Study

Three theories shed light to the understanding of this study and the interrelation between the variables, and these are the Technology Acceptance Model (TAM), the Resource-Based View (RBV), and the Dynamic Capabilities Theory (DCT)

Technology Acceptance Model

The Technology Acceptance Model (TAM) was developed by Fred Davis in 1989 to explain how individuals come to accept and use new technologies. In this study, this model specifically explains the variable – AI adoption in HRM since it focuses on how individuals use new technology. According to the model, a person's intention to use a technology is mainly influenced by two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which an individual believes that a particular technology will enhance job performance, while perceived ease of use describes how effortless the technology is perceived to be. These perceptions shape users' attitudes and behavioural intentions, which in turn influence their actual use of the technology.

Over the years, TAM has been widely used to study the adoption of emerging technologies, including artificial intelligence (AI), across different organizational functions. Within the field of Human Resource Management (HRM), the model provides a valuable framework for understanding how HR professionals and employees accept and use AI-powered tools such as automated recruitment systems, predictive analytics, and employee self-service platforms. Studies have shown that when users perceive AI technologies as both useful and easy to use, they are more likely to adopt them, resulting in improved organizational efficiency and better decision-making processes (Venkatesh and Davis, 2000).

The model has also been expanded over time to strengthen its explanatory power. These extensions include additional factors such as social influence and facilitating conditions, which help provide a more comprehensive understanding of technology adoption (Venkatesh and Bala, 2008). Although TAM has been criticized for being relatively simple, it continues to be regarded as one of the most reliable and widely accepted frameworks for studying technology acceptance. As a result, it offers a strong theoretical basis for examining how AI adoption in HRM can enhance organizational performance and operational efficiency.

In the context of this study, TAM is particularly relevant because this study explored AI adoption, which aligns with the tenet of TAM about how people accept and use new technologies. Similarly, TAM is relevant in this study explored AI applications in HRM such as recruitment automation, employee performance analytics, workforce planning, and chatbot-assisted employee services can only deliver their intended benefits when HR personnel are willing to accept and use them effectively. Therefore, the model helps to explain how the adoption of AI in HRM contributes to improved organizational performance and greater operational efficiency.

Resource-Based View (RBV)

The Resource-Based View (RBV) argues that organizations achieve sustained competitive advantage by possessing resources that are valuable, rare, inimitable, and non-substitutable - VRIN (Barney, 1991). Hence, RBV asks: what resources does organizations have? In other words, RBV framework says that an organization gets competitive advantage not just from what it does in the market, but also from the unique resources it owns and how it uses them. This theory presents AI as a resource that helps an organization to get competitive advantage and perform better. This suggests that RBV specifically applies to

organizational performance as a variable measured in this study. In the context of AI-enhanced Human Resource Management (HRM), AI technology itself may not be a unique resource since competing organizations can acquire similar software and tools. However, the way an organization integrates AI into its existing HR processes, combines it with human expertise, and aligns it with its strategic objectives can create the VRIN characteristics necessary for competitive advantage (Mikalef et al., 2020; Wamba-Taguimdje et al., 2020).

For instance, AI applications that are embedded within unique organizational workflows, such as proprietary algorithms trained using company-specific data, become more difficult for competitors to imitate (Shet et al., 2021). This uniqueness enables organizations to derive greater value from AI technologies than competitors who merely adopt similar tools without effectively integrating them into their operations.

Recent developments in RBV further emphasize that technology alone is not enough to create a sustainable advantage. Instead, competitive advantage emerges from the complementary relationship between technology and human capital (Pereira et al., 2021; Prikshat et al., 2023). For example, an AI-powered recruitment system may reduce candidate screening time by as much as 70 percent, but its full value is realized only when HR professionals interpret and apply its recommendations in line with the organization's culture, strategic priorities, and workforce needs (Budhwar et al., 2022).

As applied to this study, the RBV therefore provides a useful framework for understanding how AI-enabled HR systems can become strategic organizational assets or resources. When organizations successfully integrate AI into their HR functions, they can develop unique capabilities that are difficult for competitors to replicate. These capabilities can enhance operational efficiency, strengthen organizational performance, and contribute to long-term competitive advantage.

Dynamic Capabilities Theory

The Dynamic Capabilities Theory (DCT) extends the RBV by explaining how organizations continuously adapt and reconfigure their resources in response to changing environmental conditions (Teece, Pisano and Shuen, 1997). In this study, DCT explains how fast an organization adopts AI in HRM for organizational efficiency. Hence, DCT specifically applies to organizational efficiency as a variable measured in this study. According to Teece (2018), dynamic capabilities are built around three core micro-foundations: sensing, seizing, and transforming. Sensing involves identifying new opportunities and potential threats within the business environment. Seizing refers to mobilizing and deploying resources to take advantage of those opportunities, while transforming focuses on the ongoing renewal and reconfiguration of organizational processes, structures, and capabilities to remain competitive.

In the context of AI-driven Human Resource Management (HRM), sensing may involve using data analytics to identify skill gaps, workforce trends, or operational inefficiencies. Seizing occurs when organizations acquire and implement AI technologies to address these challenges, while transforming involves redesigning HR processes, workflows, and job roles to fully leverage the benefits of AI (Warner and Wäger, 2019; Mikalef and Gupta, 2021).

Empirical studies indicate that organizations with stronger dynamic capabilities tend to achieve greater returns from their AI investments (Mikalef et al., 2020). This is largely because dynamic capabilities help organizations overcome what researchers describe as the “AI implementation gap,” which refers to the delay between adopting AI technologies and realizing measurable improvements in organizational performance (Ransbotham et al., 2017; Vrontis et al., 2022). By effectively sensing opportunities, seizing technological advancements, and continuously transforming their operations, organizations are better positioned to maximize the value of AI and achieve sustained performance improvements.

4.0 Conceptual Framework and Hypothesis Development

The interrelation between the variables of this study is shown in figure 1.

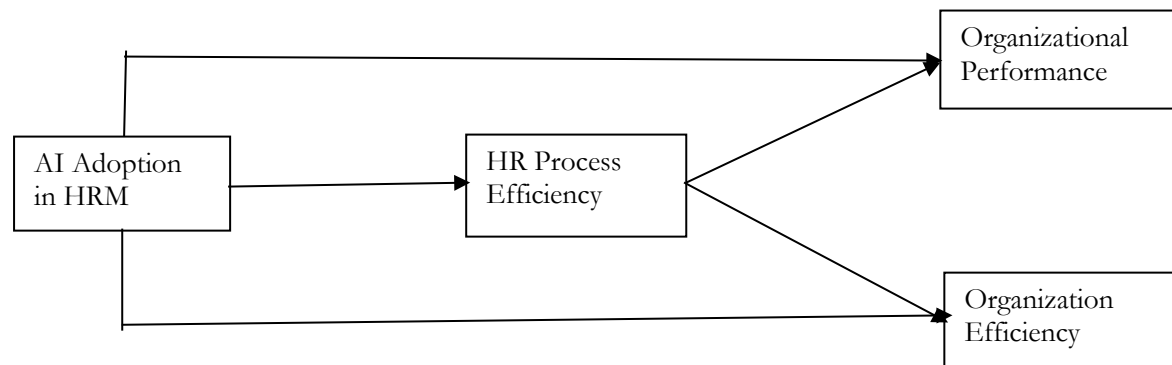


Figure 1. Conceptual Framework: A Simple mediation Model

4.1. Effect of AI Adoption on Organizational Performance

AI-enabled HR systems play an important role in improving organizational effectiveness by supporting data-driven decision-making, automating routine administrative activities, and enhancing the quality and speed of talent management processes. Through advanced analytics and predictive capabilities, these systems enable organizations to optimize key HR functions such as recruitment, employee development, performance management, and workforce planning. As a result, organizations can achieve better resource allocation, increased employee productivity, and more efficient operational processes. As the adoption of AI technologies within HR functions continues to grow, organizations are increasingly positioned to improve both operational efficiency and overall organizational performance. Existing research suggests that digital HR technologies create organizational value by strengthening HR capabilities and aligning HR practices with broader strategic objectives (Marler and Boudreau, 2017). Based on this perspective, the present study proposes that AI adoption in Human Resource Management (HRM) has a positive influence on organizational performance.

Furthermore, AI can enhance organizational performance in several ways. For example, it can improve the quality of talent acquisition through more accurate candidate matching, reduce employee turnover through predictive retention models, and support strategic workforce planning by providing valuable insights into future workforce needs (Budhwar et al., 2022; Prikshat et al., 2023). Evidence from large-scale studies also indicates that organizations that utilize AI in HR functions tend to report higher levels of profitability and productivity compared to those that do not (Budhwar et al., 2022; Zhou et al., 2021).

Hypothesis 1 (H1): AI adoption in HRM is positively related to organizational performance.

4.2 Effect of AI Adoption on Organizational Efficiency

AI technologies have significantly transformed HR operations by automating repetitive and time-consuming tasks, reducing administrative workloads, and enabling faster processing of workforce-related information. Through advanced analytics and intelligent data processing, organizations can make more accurate decisions in areas such as recruitment, performance management, employee scheduling, and workforce planning. The integration of AI into HR processes helps minimize human errors, shorten response times, and optimize the use of organizational resources.

In addition, AI-driven systems support real-time monitoring and evidence-based decision-making, allowing organizations to respond more effectively to operational challenges as they arise. These capabilities help streamline workflows, improve coordination across different functional areas, and enhance the overall efficiency of organizational processes. Consequently, organizations that successfully adopt AI in Human Resource Management (HRM) are more likely to achieve higher levels of operational efficiency and resource productivity.

Previous studies have demonstrated that digital HR technologies can improve both the effectiveness and efficiency of HR functions by promoting data-driven management practices (Strohmeier, 2020). AI systems are particularly effective at handling routine and repetitive HR activities that would otherwise require substantial time and effort from HR personnel. For example, AI-powered chatbots can respond to up to 80 percent of common employee inquiries without human intervention, while AI-driven résumé screening systems can reduce time-to-fill recruitment vacancies by between 40 and 60 percent (Malik et al., 2022; Wamba-Taguimdje et al., 2020). By reducing processing times and minimizing errors, these technologies directly contribute to improved operational efficiency and enhanced organizational performance (Johnson et al., 2021).

Thus: **Hypothesis 2 (H2):** AI adoption in HRM is positively related to organizational efficiency.

4.3. Mediating Role of HR Process Efficiency

Building on the Resource-Based View (RBV) and perspectives on technology-enabled organizational capabilities, this study argues that HR process efficiency plays a mediating role in the relationship between AI adoption and both organizational performance and operational efficiency. In this context, adopting AI in Human Resource Management (HRM) supports the automation of routine administrative tasks, improves the accuracy of workforce analytics, and enhances both the speed and quality of HR decision-making processes (Marler and Boudreau, 2017).

By streamlining essential HR functions such as recruitment, employee performance management, and workforce planning, AI technologies can significantly increase HR process efficiency. This improvement is reflected in reduced processing times, lower operational costs, and more consistent decision-making outcomes (Strohmeier, 2020). In turn, greater HR process efficiency enables better utilization of organizational resources and improves responsiveness, both of which are essential drivers of overall organizational performance (Becker and Huselid, 2006).

However, research also suggests that the benefits of AI investments are not automatically translated into superior organizational outcomes. Instead, these benefits are realized only when such technologies enhance internal processes and strengthen organizational capabilities that align with strategic objectives (Brynjolfsson and Hitt, 2000).

As a result, HR process efficiency emerges as a crucial mechanism through which AI adoption generates organizational value. This means that organizations that implement AI-enabled HR systems are more likely to experience improved performance and operational efficiency because these technologies strengthen the effectiveness and efficiency of HR processes. Based on this reasoning, it is hypothesized that:

Hypothesis 3 (H3): HR process efficiency positively mediates the relationship between AI adoption and (a) organizational performance (b) organizational efficiency.

5.0 Method

5.1 Sample and Procedure

The participants ($N = 452$) were HR personnels and employees in Information technology (IT) related organizations in Lagos State, South-West Nigeria who were selected using purposive sampling technique since they are particularly involved with IT and HR activities. Lagos State hosts a large and vibrant ecosystem of recruitment and HR agencies alongside one of Africa's most active software and technology sectors, making it Nigeria's leading hub for digital talent and innovation. (Clutch, 2026; Startup Genome, 2024). Among the IT recruitment and HR agencies in Lagos State are DevsData Tech Talent LLC, Andela, BetterWay Devss, Insight Global, Jobbeman Recruitment, DelonApps, Proten International, Winged IT, Remote Team Solution, and Workforce Africa (Clutch, 2026). The IT enterprises are often hired or involved by several organizations (public and privates) to conduct recruitment and other organizational functions that involves the use of technology-enhanced applications. These IT organizations are therefore capable of adopting AI for organizational purposes.

Overall, this study adopted a cross-sectional correlational survey design because it sought to establish the relationship between two or more variables by collecting data from respondents at a single point in time without manipulating the variables (Creswell and Creswell, 2018; Fraenkel, Wallen and Hyun, 2019).

Specifically, the study employed an explanatory correlational survey research design. This is a non-experimental quantitative research design that examines the relationship between two or more variables without manipulating them. The design is appropriate for determining the strength and direction of relationships among variables and for establishing whether one or more independent variables explain or predict variations in a dependent variable (Cohen, Manion and Morrison, 2018; Creswell and Creswell, 2018; Fraenkel, Wallen and Hyun, 2019).

5.2. Measures

To measure all the items of each scale, we used 5-point Likert anchors (1 = strongly disagree, 5 = strongly agree). We also estimated the reliability coefficients of each scale using Cronbach's alpha method. The construct composite reliability of each scale was also established using MacDonald's omega (ω) reliability (Hayes and Coutts, 2020). Further, we conducted confirmatory factor analysis for measurement model to determine construct validity of each scale which was based on the following criteria for data fit: CFI = TLI $\geq$.950; SRMR $\leq$.060; RMSEA $\leq$.080 (e.g., Bryn, 2012). The reports are presented as follows:

- AI Adoption in HRM was measure with 6 items - samples: "Our organization uses AI/ML algorithms to screen job applicants" and "We use predictive analytics to forecast employee turnover" - adapted from Mikalef et al., (2020). Reliability coefficients are reported as $\alpha = 0.88$, $\omega = .91$. The one-factor model yielded satisfactory data fit: $\chi^2 = 34.382$, CFI = .972, TLI = .961, SRMR = .052; RMSEA = .077.
- HR Process Efficiency scale (adapted from Johnson et al., 2021) was a self-report scale and contained 4 items - samples: "Our HR processes are completed faster than industry average" and "The cost per HR transaction has decreased over the past year". Test of reliability yielded coefficients as $\alpha = 0.86$, $\omega = .88$. for validity, the one-factor model yielded satisfactory data fit: $\chi^2 = 29.262$, CFI = .979, TLI = .976, SRMR = .039; RMSEA = .062.
- Organizational Performance scale (adapted from Richard et al., 2009) has 5 items - samples: "Overall profitability relative to competitors" and "Market share growth". Reliability coefficients are reported as $\alpha = 0.88$, $\omega = .91$. Supporting validity, the one-factor model yielded satisfactory data fit: $\chi^2 = 33.641$, CFI = .964, TLI = .955, SRMR = .050; RMSEA = .069.
- Organizational Efficiency scale was partly developed by the researchers, but insights drawn from extant literature (e.g., Neely, Gregory and Platts, 2005). It has 4 items with sample as: "We consider recruitment timeline for essential positions" and "HR administrative error rate". Reliability coefficients are reported as $\alpha = 0.90$, $\omega = .93$. The one-factor model yielded satisfactory data fit: $\chi^2 = 31.211$, CFI = .969, TLI = .963, SRMR = .046; RMSEA = .067.

5.3 Data Collection and Common Method Bias

In this study, data were collected between November 2025 and March 2026. We collected the data from 11 different IT organizations at different times but ensured that no one organization is affiliated to the other to avoid bias and repetition of administration. Although, majority of the survey were administered manually via a research assistant for at least three organizations, a few of the survey was administered online because of the participants who were either on work assignment to other parts of the region or outside the country for that period of time.

To minimize potential common method bias because of self-report measures, we implemented procedural remedies during the design and administration of the survey, following the recommendations of Podsakoff et al. (2003). First, participants were made to understand that participation was voluntary, and respondents were informed that there were no right or wrong answers. This helped to encourage honest responses. Second, we assured the respondents that their responses would remain anonymous and confidential. This approach helped to reduce evaluation apprehension and therefore minimize their tendency to provide socially desirable responses. Third, we used already validated measurement scales for data collection, which were carefully designed using simple, concise, and unambiguous wording to reduce item ambiguity. The use of established and validated scales also helped to enhance construct validity and reliability. Finally, the questionnaire, containing the different scales, was organized logically, with clear instructions and distinct sections separating the measurement of different constructs to reduce respondents' tendency to infer relationships among variables.

5.4. Data Analytical Procedure

To analyse the data, the various items of each measure were aggregated into composite data sets to represent each of the study constructs or variables. Then, the PROCESS Macro for SPSS was employed as a statistical package for data analysis (Hayes, 2013). By adopting the path analysis, we specifically employed the bias-corrected bootstrapping (5,000 resamples) of *Model 4* because it is capable of testing simple mediation effects in the model. Hence, we tested two separate simple mediation models such that one model tested the path containing AI-adoption to HR process to organizational performance, while the other part contains AI-adoption to HR process to organizational effectiveness.

6.0 Results

Table 1

Mean, Standard Deviation and Bivariate Correlation of Variables

Variables	Mean	SD	1	2	3	4
1. AI adoption	3.75	0.65	1			
2. HR process efficiency	4.29	0.58	.234**	1		
3. Organizational performance	3.82	0.55	.327**	.194**	1	
4. Organizational efficiency	4.33	0.61	.422**	.218**	.812**	1

Note. ** $p < .01$, SD = standard deviation

Table 1 presents mean, standard deviations, and correlations. AI adoption correlated positively with organizational performance ($r = 0.327, p < 0.01$) and efficiency ($r = 0.422, p < 0.01$), providing preliminary support for H1 and H2. Additionally, HR process efficiency also correlates with organizational performance ($r = 0.194, p < 0.01$) and efficiency ($r = 0.218, p < 0.01$); which provides preliminary support for H3.

Table 2

Regression of AI Adoption in HRM on Organizational Performance and Efficiency

Paths	R ²	F(1, 450)	β (SE)	T	LLCI	ULCI
AI Adoption $\rightarrow$ Performance	.107	53.913***	.271(.037)	7.343	.199	.344
AI Adoption $\rightarrow$ Efficiency	.178	97.126***	.348(.035)	9.865	.279	.418

Note. *** $p < .001$, LLCI = lower limit confidence interval, ULCI = upper limit confidence interval

As presented in Table 2, the hypothesized unmediated model reveals significant effects of AI adoption in HRM on organizational performance and efficiency. Table 2 shows that AI adoption has positive significant relationship with organizational performance: $F = 53.913, \beta = .271, p < .001$, and organizational efficiency: $F = 97.126, \beta = .348, p < .001$. These results indicate that H1 and H2 are supported.

Table 3

Mediation Analysis of HR Process Efficiency

Mediation Pathways	Direct Effect Model			Indirect Effect Model			
	β (SE)	t	LLCI	ULCI	β (SE)	LLCI	ULCI
AI Adopt. $\rightarrow$ HR Process $\rightarrow$ Perf.	.256(.038)	6.738***	.181	.330	.019(.022)	.009	.036
AI Adopt. $\rightarrow$ HR Process $\rightarrow$ Effic.	.324(.036)	8.990***	.254	.395	.025(.009)	.009	.045

Note. *** $p < .001$, LLCI = lower limit confidence interval, ULCI = upper limit confidence interval

Results presented in Table 3 reveals the indirect effects of AI adoption in HRM on organizational performance and efficiency via HR process efficiency. The table reveals significant indirect effects on performance: $\beta = 0.019, 95\% \text{ CI } [0.009, 0.036]$ and efficiency: $\beta = 0.025, 95\% \text{ CI } [0.009, 0.045]$. Both indirect effects are significant; hence, H3a and H3b are supported. However, the direct effects remain significant for performance ($\beta = 0.256, p < 0.001$) and efficiency ($\beta = 0.324, p < 0.001$), indicating partial mediation.

7.0 Discussion

This study was set out to examine how the adoption of artificial intelligence (AI) in Human Resource Management (HRM) contributes to improved organizational performance and efficiency. Drawing on the Technology Acceptance Model (TAM), the Resource-Based View (RBV), and Dynamic Capabilities Theory (DCT), the study proposed and tested two simple mediation models. The findings provide several important insights.

First, the results show that AI adoption has a significant and positive direct effect on both organizational performance and efficiency (H1 and H2). This suggests that when AI is integrated into organizational routines, it enhances both outcomes simultaneously. Interestingly, the results indicate that the effect on efficiency is stronger than the effect on performance, as reflected in the higher regression estimate for efficiency ($\beta = 0.348$). This suggests that the immediate cost-saving and process-related benefits of AI are more easily realized than longer-term strategic performance gains. From an organizational behavior perspective, these findings reinforce the idea that a technology-enhanced work environment contributes positively to organizational productivity. These findings support previous findings which demonstrated that AI-enabled HRM has positive influence on organizational performance (Aldossary, Ayad and Moustafa, 2026), effectiveness (Choudhary et al., 2026), and employee engagement (Jangbahadur et al. (2025). Overall, these results align with recent meta-analytic evidence (Vrontis et al., 2022; Budhwar et al., 2022) while extending it by focusing specifically on AI applications within HR functions rather than AI adoption in general.

Second, the findings show that HR process efficiency partially mediates the relationship between AI adoption and organizational performance (H3a) as well as between AI adoption and efficiency (H3b). These results extend earlier studies that have often treated efficiency as an outcome rather than as a mechanism through which value is created (e.g., Johnson et al., 2021; Malik et al., 2022). The presence of significant indirect effects suggests that a substantial portion of AI's overall impact on both performance and efficiency operates through improved HR process efficiency. At the same time, the persistence of significant direct effects implies that other, unmeasured mechanisms may also be influencing these relationships. For example, AI adoption may also enhance employee experience, strengthen collaboration, or foster a more innovative organizational climate (Chowdhury et al., 2023). Although the results on mediation are our novel contributions, the findings concur with previous studies (e.g., Choudhary et al., 2026) which found organizational learning capability and technological trust as mediators between AI adoption in HRM and organizational effectiveness. These results also complement the findings of Chowdhury et al. (2026) which showed that AI-empowered decision-making is a mediator in the relationship between AI adoption in HRM and organizational process level HR outcomes.

7.1 Theoretical Implications

First, this study extends and reinforces the Technology Acceptance Model (TAM) by showing that when technology is perceived as useful and easy to use within organizational settings, it is more likely to lead to improvements in both performance and efficiency. In other words, positive user perceptions of technology play an important role in translating adoption into tangible organizational benefits.

Second, the study contributes to the Resource-Based View (RBV) by clarifying how AI in Human Resource Management (HRM) can become a source of inimitable competitive advantage. The mediation results indicate that this advantage does not stem from the AI technology itself, since similar systems are widely available to organizations. Instead, it arises from the reconfiguration of organizational processes—particularly improvements in efficiency—that AI enables. This finding extends Barney's (1991) original RBV logic to modern digital and AI-driven organizational contexts.

Third, the study extends Dynamic Capabilities Theory into the domain of HR operations by demonstrating that organizational performance and efficiency are driven through distinct mediating pathways. This highlights how different capability-building mechanisms operate within AI-enabled HR systems to produce separate but related outcomes.

Finally, this research responds to growing scholarly calls for more process-oriented investigations of AI in organizations by moving beyond traditional main-effect studies. In doing so, it aligns with and contributes to recent work emphasizing the need to understand the underlying mechanisms through which AI generates value (Budhwar et al., 2022; Di Vaio et al., 2020).

7.2 Practical Implications

For HR leaders, the findings of this study suggest a sequenced and structured approach to AI implementation. First, organizations should automate routine tasks in order to realize immediate gains in performance. Second, the same automation of routine tasks can also generate short-term improvements in efficiency. Third, and most importantly, organizations should invest significantly in improving HR process

efficiency to fully maximize the benefits of an AI-enhanced work environment and achieve higher levels of productivity.

However, simply purchasing and deploying AI software without redesigning existing workflows is unlikely to produce optimal results and may lead to underperformance. In addition, organizations need to systematically measure efficiency-related indicators—such as cost per hire and time to fill positions—in order to accurately capture the full impact of AI adoption in HR processes.

7.3 Limitations and Future Research

We acknowledge some limitations in this study. First, in cross-sectional survey, causality cannot be definitively inferred. We therefore recommend time-lagged study or randomized controlled trials to strengthen causal claims. Second, though partially validated, the use of self-reported performance may inflate relationships. Future research should use alternate measures such as actual recruitment velocity, voluntary turnover rates. Third, our sample was limited to organizations in southwest Nigeria. Hence, we recommend the use of wider sample from different locations.

8.0 Conclusion

This study provides evidence that AI adoption in HRM is positively associated with organizational performance and efficiency. The study also identifies HR process efficiency a mediating mechanism in the relation. Thus, as organizations continue to adopt AI in their day-to-day activities, AI will continue to permeate HR functions. Hence, our findings provide fundamental evidence to understand how AI adoption in HRM could bring future challenge to researchers and practitioners in this perspective.

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Manufacturing SMEs' Decisions to innovate and transform in the emerging economy: Empirical Evidence from Nigeria

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Abstract

Presently, manufacturing SMEs are seeking to improve their competitiveness through the integration of innovative technologies to guarantee an additional transformational mechanism for their production. The recognition of manufacturing decision-making as integral to the ability of small and medium-sized enterprises to transform and innovate is established. However, the specific processes that influence manufacturing decision-making among Nigerian SMEs remain not understood. Existing frameworks offers limited explanations to the unique Nigerian situation burdened by scarce resources and limited institutions. The purpose of this research is to investigate how Nigerian manufacturing SMEs decisions are considered and made in their manufacturing related actions for innovation and transformation. Drawing from the qualitative data analysis of 17 SMEs, we identified eight decision domains that play an important role in Nigerian SMEs, which include production control, human resource management, plant size and capacity, machinery, budgeting and financial resource allocation, plant location, technological knowhow and new product development. The findings present empirical evidence in understanding manufacturing SMEs decisions, innovation, and transformation of their manufacturing process and practices. The findings have implications for government policy and will assist professional practitioners in understanding manufacturing SMEs decision, to innovate and transform in the emerging economy in the perspective of Nigeria.

Keywords: Manufacturing SMEs, Nigeria, Emerging Economy, Innovation, Transformation

Wordcount: 198

1.0 Introduction

The growing global competitiveness of the world economy over the last decade has compelled Nigeria manufacturing SMEs (MSMEs) to implement innovative and transformative strategic decision-making measures aimed at increasing their productivity and market share (Le et al., 2025). The fundamental shift in global competition for market share, means manufactured products from Nigeria must compete with manufactured goods from other emerging economies such as the Brazil, Russia, India, China, South Africa (BRICS), Singapore Indonesia and Malaysia (Le et al, 2025; Dodd, et al, 2019; UNIDO, 2013). These global competitive manufacturing dynamic environments have made Nigerian MSMEs to make innovative and transformative manufacturing decision to enable them to remain productive, efficient and competitive. The Nigerian MSMEs operational decisions are considered akin to that of most Sub-Saharan Africa countries and emerging economies (UNIDO, 2013). Therefore, the research findings and contribution made on manufacturing decision of Nigerian MSMEs is considered useful to other Sub-Saharan Africa countries and emerging economies. The need then arises for making manufacturing decision to mitigate on operational inefficiency and improve production efficiency (Eziash and Sainidis,2023; Ehie and Muogboh, 2016). The operational inefficiencies of Nigerian MSMEs are comparable to that of most developing economies (Africa Development Bank, 2023).

1.1 Research Purpose and Objectives

The purpose of this research is to investigate how Nigerian manufacturing SMEs decisions are considered and made in their manufacturing related actions for innovation and transformation. The specific objectives are:

1. To examine the manufacturing decisions that are made by Nigerian SMEs.
2. To identify the factors influencing the decisions of manufacturing SMEs in Nigeria

Based on our research objectives, and further development of the research, we have formulated the research question: *How do Nigerian Manufacturing SMEs make strategic manufacturing decisions in their goal to innovate and transform?*

1.2 Research Gap and Contribution

Our research bridges the gap between innovation theory and the operational reality of manufacturing SMEs in Nigeria. Existing theories of innovation including dynamic capabilities (Teece, Pisano and Shuen, 1997), technological accumulation (Bell and Pavitt, 1993), and absorptive capacity (Cohen and Levinthal, 1990), have provided conceptual tools for understanding firm level innovation. However, these tools have been rarely operationalized at the level of manufacturing decisions within the context of Nigerian SMEs. Secondly, studies such as Nwosu (2019) have relied on quantitative aggregate-level which does not provide insight into the microlevel decision processes through firms achieve their innovation objectives. This paper presents a constructive discussion and insight for managers and policy makers developing competent ways to improve production, and deal with operational inefficiencies. The contribution of our study includes identifying manufacturing SMEs operational flaws and production inefficiencies that challenge managers and provide theoretical and practice-led knowledge that are both relevant to academic scholars and management practitioners. The discussion provides a framework to understand how manufacturing SMEs innovate and transform in the emerging economy.

In terms of structure, the first section is the review of literature where we discuss the characterization of SMEs, our central unit of analysis, and then the innovation models of manufacturing SMEs in emerging economies. The second section contains our research methodology, which includes our research approach, data collection methods, population sample, and analysis technique. The third section is the data analysis where we analysed our data and presented our findings. In section four, we discussed the findings in relation to previous studies and literature. Finally, we concluded in section five and highlighted the implication of study.

2.0. Literature Review

2.1 The Characterisations of SMEs

The socio-economic advancement of several countries in the emerging economies of the world is attributed to the role of SMEs in the national development and creation of jobs (Africa Development Bank, 2023). In recent years the definition of SMEs has become even more problematic as the definition differs from one country to another due to different government of nations setting their own parameters that defined businesses as SMEs (Eziashi and Sainidis, 2024). Empirically, many academics have demonstrated that there is no generally acclaimed definition for SMEs as some of the given descriptions are country specific and based on their measure to economic development and growth (Aruwa and Gugong, 2007). The characterisation of SMEs is distinct from one country to another, this has repeatedly been defined according to the total number of employees and the assets of their enterprise (Jutla et al., 2002). Several SMEs are identified based on their business formation, location, size, and their total profits (Rahman, 2001). Nevertheless, BERR (2009) stated that micro firms are fewer than 10 employees, small firms are less than 50 employees' medium firms are more than 50 employees, but less than 250 employees and large firms are above 250 employees. The European Union characterised SMEs in the same way to BERR's definition, nevertheless they incorporated their yearly business generated revenues. The dimension of micro firms as being less than 10 employees with annual revenue not above €2 million, small firms as having not more than 50 employees and yearly revenue not exceeding €10 million, medium firms less than 250 employees with yearly revenue not exceeding €43 million (European Commission 2003). The Nigeria manufacturing SMEs are engaged in the transformation of raw materials into processed goods (Onugu, 2005). The main government institution that governs SMEs in Nigeria SMEDAN defined SMEs as small firms employing less than 50 and total asset less than \$3200, medium firms between 50-199 employees with asset less than \$3.200000 (SMEDAN, 2013; Apulu et al., 2011).

2.2 Innovation Models of Manufacturing SMEs in Emerging Economies

One of the main catalysts for the economic transformation in emerging markets is the innovation of SMEs. According to Ghobakhloo (2018) and Mamman et al (2019), their impact is well documented through the increased volume in production, investment level, and operational efficiencies. Innovation in SMEs have been historically defined as simply the automation of plants (Bouri et al., 2011). However, this neglects the

important role internal management strategy in the process (Hitt et al., 2007). Today, this concept has been reframed in contemporary research with innovation now regarded as process which is both complex and multifaceted. According to Theresa and Hidayah (2022), the growth of manufacturing SMEs in emerging economies is now linked to a combination of product design, technological integration, and the strategic management of intellectual property, which are all internal decision-making capabilities. Moreover, Kang et al (2016) and Ghobakhloo (2020) argue that the ability of SMEs to quickly improve product designs and optimize plant efficiency has become a competitive differentiator.

Innovation is not just an upgrade for SMEs in emerging economies; it has become a necessary strategy for survival. As a strategy, it represents the ability to transform in reaction to the competitive international environment. However, Okpara (2009) claims that despite this necessity, the failure rate among SMEs remains high. Eventually, innovation must be seen as a necessity for manufacturing SMEs if they are keen to not only operationally transform but also survive and thrive. A comprehensive innovation process will not only require financial investment, but good decision-making that integrates internal resources with the changing requirements of customers, to achieve operational success (Adam and Alarifi, 2021; O'Regan et al, 2006).

The role of SME owners and managers is well acknowledged in steering manufacturing decisions that decrease production costs, facilitate the hiring of skilled labor, and reduces material waste (Mamman et al., 2019). The justification of innovation in the manufacturing SMEs decision literature is well acknowledged (O'Sullivan et al., 2011). It has been described as multifaceted, encompassing modifications to existing products, as well as advancing the processes and service delivery (Fagerberg et al., 2013; O'Sullivan, 2002; O'Sullivan et al., 2011). These innovations range from the gradual improvements, mostly accomplished through models in Total Quality Management (TQM), Six Sigma, and Lean Manufacturing, to transformational shifts that radically modify business operations (Adam and Alarifi, 2021; O'Sullivan et al., 2011; Tidd, 2006). Studies from O'Sullivan (2002), and O'Sullivan et al (2011) argue that the main function of innovation in the manufacturing process is to transform raw materials and customer needs into high-value goods, and at the same time, maintaining a competitive position. This is accomplished by integrating specialized concepts in management, and advanced process technologies such as

- Agile Manufacturing, to main flexibility during unstable market environments, reduced product lifecycles, and risks of technological obsolescence (Hill, 2009; Hill and Hill, 2009; Schroeder et al., 2011), and
- Lean and Just-in-Time (JIT) Systems, to ensure that operational wastes are eliminated, and quality management is integrated in the production cycle (Dubey and Gunasekaran, 2015).

Eventually, adopting advanced technologies stimulates growth and helps manufacturing firms improve their operational excellence, and overall profitability by extension (Chatha and Butt, 2015).

2.3 Manufacturing Innovation and Process Improvement

Extreme competitiveness and rapid technological evolution are defining the contemporary manufacturing landscape, exposing firms to underperformance, inefficiencies, and a negligible margin of error (Juran, 2016). Manufacturers cannot afford to make financial losses or interruptions in their service delivery caused by unreliable production process, especially in an era shaped by continuous innovation and the expectation of high quality, rapidly delivered goods from customers (Srivastava and Jena, 2011). It is imperative for firms to adopt comprehensive manufacturing strategies to improve their processes if they are to navigate these challenges. These strategies are not also necessary for ensuring product quality and delivering services on time, but also for optimizing manufacturing performance and maintaining a sustained competitive advantage (Jevgeni et al., 2015).

More importantly, manufacturing management must recognize process failures and their systematic impact, as they are primarily the main drivers of poor organizational performance (Srivastava and Jena, 2011). Studies on this issue have consistently identified dependence on obsolete machinery equipment, and outdated technologies as the cause of operational inefficiencies which ultimately results in the inability of firms to meet market and customer demands (Srivastava and Jena, 2011; Jevgeni et al., 2015). As a result, improvement in the manufacturing process is no longer an option, but a primary requirement for firms seeking to remain competitive in the global market.

2.4 Manufacturing Decision Process and Transformation

The decision-making processes of SMEs over the past several decades have undergone significant change. This change or evolution has been driven by the rapid advancements in manufacturing technology, strategic management frameworks, and information systems which are all aimed at cutting costs, enhancing product quality, and optimizing the overall efficiency and output (Lassen et al., 2024; Lassen and Wæhrens, 2021). The manufacturing process at its core, comprises both physical infrastructures, such as plant facilities and machinery, and the organizational systems needed for production planning. The broader objective for this transformation is to equip plants with the capacity to be operationally flexible, and efficient (Moller et al., 2022; Liao et al., 2017; Kagermann et al., 2013).

However, there is empirical evidence that suggests a persistent gap in execution despite the widespread availability of innovative technologies, and a clear strategic for this process. According to several research studies (Ghobakhloo and Iranmanesh, 2021; Larsen et al., 2023; Lassen and Wæhrens, 2021), only a limited number of SMEs have achieved a comprehensive transformation in their production processes, indicating the difficulty in moving from technology adoption to real organizational change.

3.0. Research Methodology

The study presented in this paper incorporated a qualitative research approach considering its usefulness and exceptional features that are used to address the what, why and how questions in research (Easterby-Smith et al; 2012) to understand from a diverse viewpoint the Nigeria manufacturing SMEs decision and innovation. The research technique is developed in understanding useful evidence in analysis (Zikmund, 2003). This exploratory study presents empirical evidence, with a qualitative research method, where theoretical advancement is determined (Easterby-Smith et al., 2012).

3.1 Data Collection

Data was collected from the responses manufacturing managers via semi-structured interviews, as the study empirically presents an understanding of the manufacturing SMEs decision process and practice in the emerging economy within the context of Nigeria manufacturing SMEs, identifying their business decisions and operational transformation, through their experiences, buttressed in the explanatory epistemology, where interpretation of the study is from within the research participants (Creswell, 2009; Denzin and Lincoln, 2011; Bryman, 2012).

3.2 Population sample

For this study, we selected a purposive sample of 17 SMEs, which we believe are representative of the population (Williams et al, 2006), possessed the specific qualities we were seeking in a population sample (Denscombe, 2007). These SMEs were selected from across 8 states in the country where SMEs are mostly concentrated (Eziashi and Sainidis, 2023; SMEDAN, 2013).

SME	State/Location	Position of Respondent	Years of Operation
McA	Lagos	Operations Manager	10
McB	Lagos	Operations Manager	15
McC	Lagos	Operations Manager	7
McD	Abia	Manager	3
McE	Abia	Managing Director	20
McF	Abia	Manager	11
McG	Abia	Operations Manager	7
McH	Rivers	Manager	11
McI	Rivers	Managing Director	10
McJ	Anambra	Supervising Manager	5
McK	Anambra	Assistant Manager	30
McL	Anambra	Manager	10
McM	Kano	Manager	15
McN	Ogun	Manager	5
McO	Ogun	Manager	13
McP	Delta	Manager	7
McQ	Edo	Manager	7

3.3 Data Evaluation

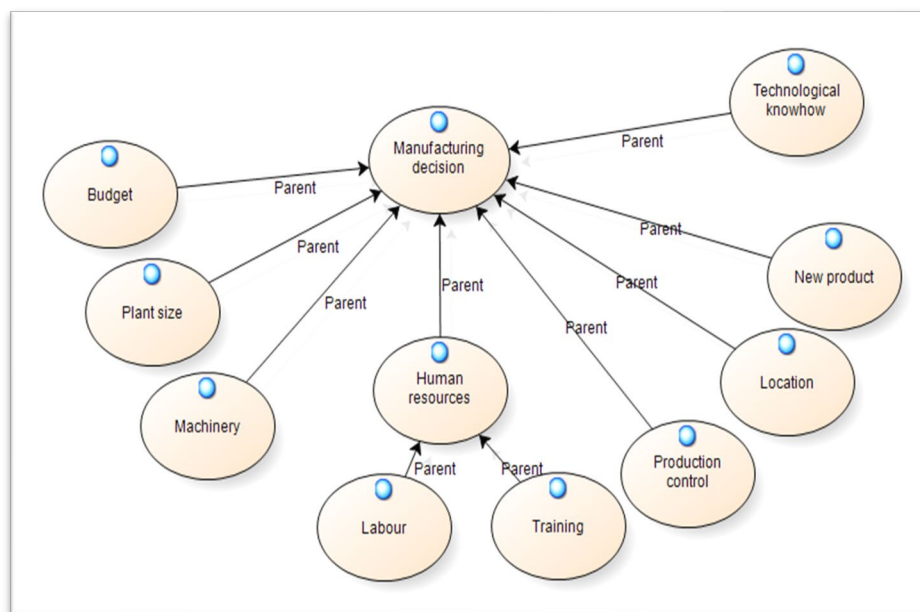
The paper is based on an empirical study which was designed to give insight in the knowledge and experiences of manufacturing SMEs senior managers and owners in identifying their decision models, business innovation and manufacturing transformation in Nigeria. The Semi-structured interviews were used as the data collection instrument. Seventeen (17) senior managers and owners of SMEs were interviewed, corresponding to 17 Nigeria manufacturing SMEs businesses in the six geopolitical zones across Nigeria. The interview approach provided an understanding of the manufacturing SMEs decision in the emerging economies within the context of Nigeria. The data analysis was conducted by building textual data from the interview transcriptions, using the template analysis (King, 2009) to code the emerging themes from the transcribed interview data to explain the experiences of SMEs owners and senior managers in understanding the manufacturing decision process and practice of Nigeria manufacturing SMEs. Nvivo was used as QUAL data analysis software tool which works well with template analysis to construct theoretical conclusions grounded in the data.

The Template analysis offers flexibility in its approach in qualitative data analysis (King, 2009) and offers insightful interpretations on the study participant's understandings that are repeatedly overlooked in other data analysis. Template analysis is considered useful where the textual data is obtained from where the research instrument includes interview (Goldschmidt et al. 2006; Thompson et al., 2012; Lockett et al., 2012; Brooks, 2014; King et al., 2015). In addition, thematic template data analysis offers structure to the study and showcases the fullness of the textual data as they emerge from the themes unit to be coded for an easy analysis of the data (Crabtree and Miller, 1999). The thematic template analysis employed in the study applied the hierarchical coding procedure to adaptably analyse the textual data to the requirement of the study (King et al., 2015). The development of a priori code is necessary in breaking down the chunk of data. Priori codes are common classifications of the extracted data from the objectives and aims of the data explored to form a simple framework on which to commence the investigation of the data (Gibson and Brown, 2009).

4.0. Analysis

Our findings reveal a picture of manufacturing decision-making among Nigerian SMEs that is multi-dimensional and complex. We identified several factors within the manufacturing decision domain that are relevant for SMEs in their ability to innovate and transform in the emerging economy. They include production control, human resources, plant size, machinery, budget, location, technological know-how, and new products. While the documented processes through which decisions are made, the responding participating SMEs provide clear decision criteria, rationales and orientation.

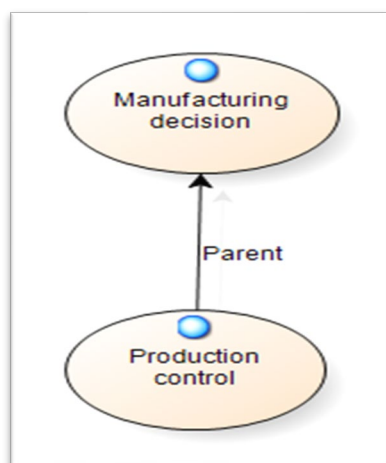
Figure 1: Emerging themes of manufacturing decision with the Nigerian SMEs sector



To understand the manufacturing SMEs decision, senior managers and owners were asked the question: *What manufacturing decision do you make and how do you make your manufacturing decision?* Their responses were analysed presented in figure 1. Further analysis provided the manufacturing decisions made by Nigerian MSMEs are analysed and discussed separately for better understanding. The managers of MSMEs McC, McQ, McN, and McM have made manufacturing decisions on” *production control, plant size, and location*”. Likewise, the managers of McN, McD, and McG have made manufacturing decision on” *human resources, technological knowhow, budget, and new product*”. The manufacturing decisions are made towards the manufacturing needs of Nigerian MSMEs. The interview responses from the SMEs senior managers and owners as stated earlier will be presented to capture their experiences and insights.

4.1 Production control

Figure 2: Coding for production control

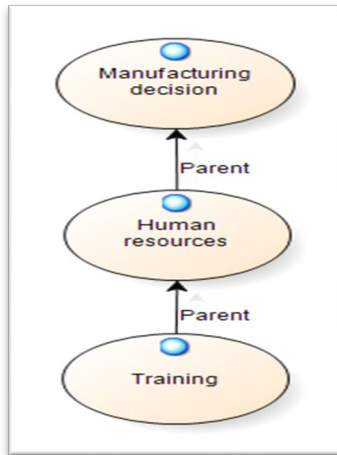


The theme manufacturing decision was coded and generated a high code production control. Nigerian MSMEs are continually having difficulties in meeting up with high production to enable them to remain competitive. The response from McM focuses on the impact of production decision-making, and not the process itself, which can be observed from the SMEs direct statement *There are many decisions we make daily in the production process to enable us to have an excellent production performance. Making wrong production decisions can be fatal and often times lead to a poor delivery performance. We make sure that the orders are right, and we stick to the agreed delivery dates in order to reduce waiting for the time to other customers* (McM). The SME’s claim that wrong decisions "can be fatal" and lead to "poor delivery performance," describes manufacturing decisions as a risk-management issue. The response from McM places emphasis on the cost of wrong decision-making.

McC’s response on the other hand provides more disclosure as it reveals the cause of delivery failure which are attributed to internal and human factors, rather than external factors such as consumer demand or market conditions. McC states that *“sometimes it can be very difficult to meet the delivery dates of customers due to some workers altering their order priorities. This was a time that we have to take drastic decisions on the training of all our workforce on the production line to enable them to understand the product quality and design and also ensure that all these standards are continually maintained* (McC). The SME admits that the process of production has not been followed as a result of the workers inability to follow instructions. The decision made on having the right trained workforce on the production line has been very useful to Nigerian MSMEs, who took to that strategic option.

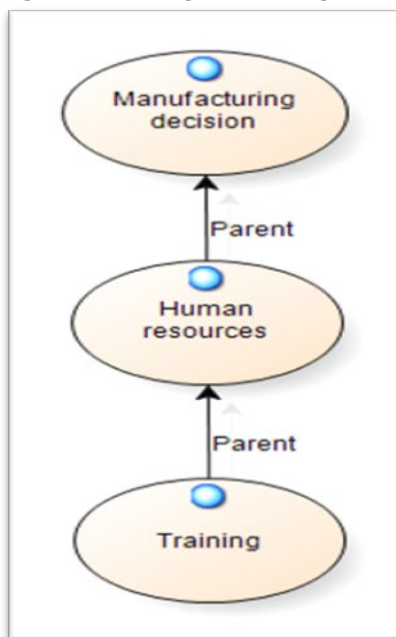
4.2 Human resources

Figure 3: Coding Human resources



The theme manufacturing decision was coded and generated a high code human resources and low code training. Insights from SMEs McD and McD illustrates how they approach the management of human resources. McD in their response explain that *"in our business we focus on talents, so our human resources decision is to recruit and train our employees on manufacturing skills"* (McD). Similarly, the manager of manufacturing SME McG expressed that *'we need talent and highly knowledgeable employees who can perform their required manufacturing responsibilities, our manufacturing human resources decision is made to employ the people with the right talent'* (McG).

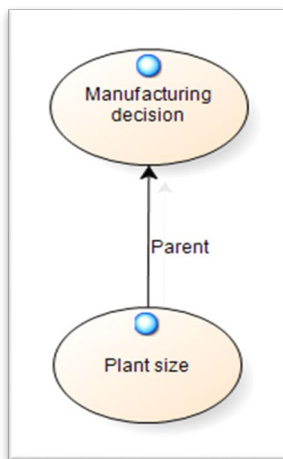
Figure 4: Coding for training



Despite the agreement of talent being central to their operational capabilities, we observed that they differ subtly in their approach, as McD's strategy leans towards "building", and McG's strategy focuses on "buying". A two-stage strategy was identified in McD's response: "recruit and train our employees on manufacturing skills.", which suggests that the company not only recruits, but treats in-house training as a key part in building manufacturing capabilities. On the other hand, McG's chooses selection over development. Their emphasis on "talent," "highly knowledgeable employees," and people who "can perform their required manufacturing responsibilities" indicates an approach that is competence-based and recruitment-led.

4.3 Plant size

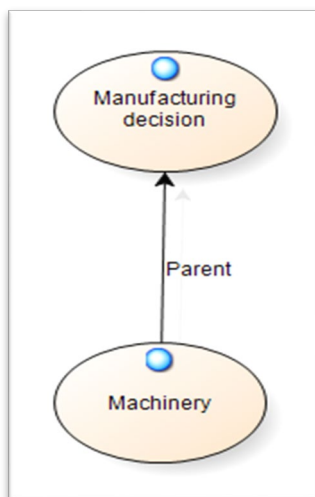
Figure 5: Coding for Plant size



The theme manufacturing decision was coded, and it generated a high code plant size. Plant size is a factor considered by SMEs in their decision making, and our findings reveal that the plant size in manufacturing decisions is determined by the capital or resources available. According to the manager of McQ suggest that their company's decisions are determined by financial resources and not totally influenced by market growth or opportunity. In their response, they state that *"the plant size manufacturing decisions are made to be very much consistent with the resources made available. The significant part of the plant size decisions includes, how we address frequent product demands. Another reason for plant size manufacturing decisions is to increase the production and manufacturing activities. The plant size decision is useful when there is an increase in the product demand as a result of the market push. The manufacturing plant size decision is made to also help deal with the production cost, as a bigger manufacturing plant allow the manufacturing of a variety of products"*(McQ). The decision that is made on the plant size is to increase manufacturing activities which are dependent on the available resources and market demands.

4.4 Machinery

Figure 6: Coding for machinery.



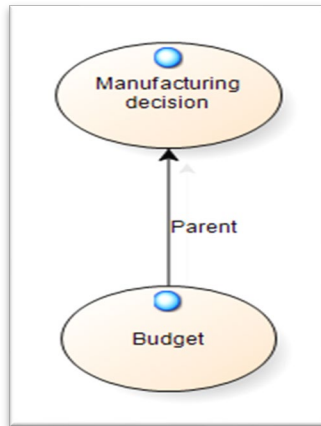
The theme manufacturing decision was coded, and it generated high code machinery. The manager of manufacturing SME McH states that *"the inadequate equipment and machinery needed for improved manufacturing production process has been a major concern to most Nigerian MSMEs. As a manufacturing manager innovation also requires that we have the required equipment, laboratories, and tools, to build and test new products. Nevertheless, several Nigerian companies have not sufficiently invested in these identified issues"* (McH).

By framing *"inadequate equipment and machinery"* as *"a major concern to most Nigerian SMEs"*, McH suggests that while it is a challenge for them, it is not an isolated one. They claim it's an issue that is systemic, sector-wide across other SMEs. Another interesting observation from McH's response is the innovation framing.

The statement on "build and test new products", directly links manufacturing infrastructure to innovation capability. Machinery decision is vital as it allowed manufacturing managers to make the necessary manufacturing improvements needed to maximise the production

4.5 Budget

Figure 7: Coding for budget



The theme manufacturing decision was coded, and it generated a high code budget. Budget is a recognized factor in the decision of manufacturing SMEs. While it has been implicitly mentioned in previous analysis regarding resource-constrained decisions on plant size, and the under-funding of machinery, SMEs McE, McB, McG, and McK directly identify budgeting and resource allocation as a manufacturing decision domain. Based on the responses, the manager of McE directly acknowledges the financial reality of Nigerian SMEs by admitting *"money is always a limited resource to most Nigerian MSMEs."* However, the company does not view a budget only in monetary terms but expands its definition to include raw materials usage, labour and our production output, as they explicitly stated that the *"Manufacturing decisions we make in the budget is not always about the monetary terms alone, we consider a lot of issues, raw materials usage, labour and our production output"* (McE). This reveals that a manufacturing budget is understood to be a multi-dimensional resource plan covering all types of resources, and not only finance.

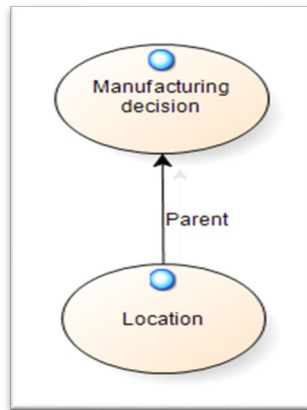
The manager of manufacturing SME McB states that *"the decisions made on budgets enable us to project our manufacturing needs and the means to accomplish it. We have to consider every aspect of the business is it for short-term or long-term purposes. Budget decisions are very important, as it enables us to mirror all the ongoing manufacturing activities to make the needed adjustments that will move the business forward"* (McB). A unique observation of McB's response is in describing budgets as allowing them *"to mirror all the ongoing manufacturing activities to make the needed adjustments that will move the business forward."* This metaphorical use of "mirror" frames a budget as not just a forward-looking plan, but as monitoring and feedback mechanism (backward-looking).

Equally the manager of manufacturing SME McG said that *"budget decisions are made to enable us to know how we are doing business wisely. Our income in terms capital expenditure is set so that we can focus on our business targets. Sometimes we cut back on expenses if we are not getting the desired results"* (McG). For McG, their response *"budget decisions are made to enable us to know how we are doing business wise."*, seems to be performance-monitoring oriented. The budget is a means of assessing their business performance, making it a form of diagnostic tool. McG also responds to budgetary control by cutting back on expenses *"if we are not getting the desired results."* The company exhibits cost-control behaviour that is reactive and triggered by shortfalls in performance.

The manager of manufacturing SME McK states that *"making manufacturing decision on a budget requires us to look at the cost of production and the viability of the product that we want to include in our budget. If the cost of producing the products is higher than the profit projected, we have to think otherwise"* (McK). By stating *"if the cost of producing the products is higher than the profit projected, we have to think otherwise."*, they presented the most financial perspective that can be observed among all responses All four SMEs provide perspectives that are distinct but complementary, particularly on how manufacturing management and budget decisions function together. They collectively introduced resource allocation as a factor in manufacturing decision-making.

4.6 Location

Figure 8: Coding for location



The theme manufacturing decision was coded, and it generated a high code location.

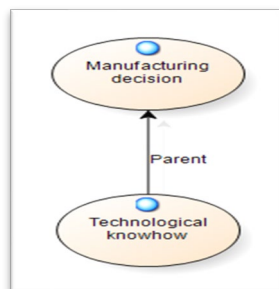
Plant location is not viewed by McN as an issue of logistics or operations, but as a critical element for participation in the global marketplace. In their response to manufacturing decisions, the manager of manufacturing SME McN noted that *“making the correct decisions about the location or site of the manufacturing plants and facilities is fundamental to our being able to participate in the global markets. I believe that if we make the right manufacturing choices it will give us some competitive edge”* (McN). " This decision frames the company as internationally oriented and external-looking, in contrast to being domestically focused. On the hand, SME McJ are more focused on proximity to infrastructure when it comes to plant location. Their manager state that *“having the right manufacturing plant location that is nearer to infrastructures such as good roads makes the delivery and distribution of products to the market easier than in a location where there are no good road infrastructures”*(McJ). In contrast to McN, this decision on plant location is based on efficiency in distribution and logistics.

The response of McP is that the *“Manufacturing decisions we make on plant locations is very strategic, and as such requires a detailed inquiry. The setup of a manufacturing plant in a wrong location usually impacts on the operational cost. For instance, the poor location of a manufacturing plant might continue to increase the cost of manufacturing and production operations. The cost of transportation and advertising are also impacted by the manufacturing plant location choices and decisions”* (McP). McP mentions the financial consequences of making the wrong location decisions when they claimed, "the setup of a manufacturing plant in a wrong location usually impacts on the operational cost." Additionally, they identify the cost factors to include manufacturing and production operating costs, transportation costs, and advertising costs.

McF provided an elaborate account of their plant location decision which is made at the firm level. While other SMEs identified, access to infrastructure, capacity to go international, operation cost as factors affecting their plant location decisions, McF is more concerned about their proximity to consumers. Their manager *“said when we make decisions on factory sites, we take the location of our factory into consideration, as the costs of transportation of finished goods and distribution of domestic products in Nigeria is very high, as a result our manufacturing is mainly done as nearly as possible to the consumers even when it sometimes appears inconvenient”* (McF). In summary, location decisions are influenced by several factors.

4.7 Technological knowhow

Figure 9: Coding for technological knowhow

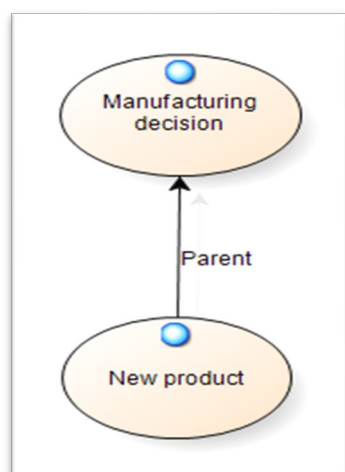


The theme manufacturing decision was coded, and it generated a high code technological knowhow. In response, the manager of manufacturing SME McD said *"manufacturing decisions nowadays is all about your technological knowhow. We make the manufacturing decision on technological knowhow to choose the right manufacturing equipment and technologies which will enable us to simplify the product designs and manufacturing process"* (McD). This is a bold claim that centers technological knowledge as the critical determinant of manufacturing decision, which contrasts factors like cost, human resource, budgeting, location, and plant size, as indicated by other SMEs. Regardless, McD frames manufacturing decisions with the connection to technology as a priority.

The response of McK on the hand, explicitly acknowledges a difficulty by saying *"making manufacturing decisions on technological knowhow is very complex especially in this present era off of technological advancement which requires that we have the ability to appropriately select the manufacturing process, the products designs, equipment, machinery, and material that will function with the chosen technology, be it the automation of the factory plant"* (McK). The framing of technological decisions as complex is first an admission of technology as difficult strategic issue, and secondly, recognising the rapidly changing technological environment, where technology changes faster than what managerial knowledge can keep up with.

4.8 New product

Figure 10 Coding for new product



The theme manufacturing decision was coded, and it generated a high code new product. MCAs response to new product decisions are framed primarily as a product-renewal and cost-minimizing strategy. They explain that *"we make manufacturing decision on new products, which we design and use to change some of our old product line that already exists in the market at a lesser price unit. These new products will still be at the same quality and performance level, but with a lower cost benefit to our product users and customers"* (McA). The main logic behind this is the development of a similar product with the same performance and quality, but at a lower cost.

The response from McH is more innovation oriented as the frame new product decisions as a mechanism for delivering "innovative product ideas" and strategies to remain competitive. They state that *"as a manufacturing manager our target is to make manufacturing decisions that bring about innovative product ideas and deliver competitive strategies that will enable us to develop new products to meet our company's market expectations and needs in order to grow the business"* (McH). This places new product decisions within the framework of growth and competitive strategy, where developing new products are the means through which SMEs differentiate, build market position, and generate revenue.

On the hand McJ is the SME with the most process awareness and market-oriented among the SMEs making new product decisions in manufacturing. They acknowledge the possibility of disruptions in operations from new product decisions, as well as market dynamics as a factor in new product decisions. In their response, they state *"our new product decisions are sometimes made from market expectations and customer demands. As a manager, new product decision is very difficult to make as it can sometimes alter the whole manufacturing and production plans. We study the behaviour of our products in the market to check if it is still attracting the right customers before making decision to replace the products with new products"* (McJ). This statement is relevant because it exposes the friction between the need to adapt product according to customer demand, against the need to remain efficient and consistent in the production process.

5.0. Discussion

5.1 Nigerian MSMEs manufacturing decisions to innovate and transform

In this paper we studied the manufacturing decisions of SMEs and their actions for innovation and transformation in an emerging economy, with Nigerian SMEs as a case study. We sought to examine their manufacturing decisions and identify the factors influencing these decisions. The concept of scholars and professionals who contributed to the innovation and transformation of manufacturing decision types and its associated policy area was first presented in the 1980s (Hayes and Wheelwright, 1984). Since then, the study of decision areas of SMEs in manufacturing decision process has received extensive consideration (Rusjan, 2005). Our findings from SMEs operating in Nigeria contributes towards understanding SMEs in emerging economies, and manufacturing decisions they make to ensure business continuity and remain competitive as well. Our findings reveal that Nigerian SMEs have made both structural and infrastructural manufacturing decisions which further builds on the works of Hayes and Wheelwright (1984), Díaz Garrido et al (2007) and Slack et al (2010) who have categorised manufacturing decisions in structural and infrastructural.

5.2 Production control and planning

Our findings reveal the production control dimension of manufacturing decision making by Nigerian SMEs, and their accounts exposes a basic sector-wide challenge in the inability to move production from planning to execution. The emphasis on order accuracy and adherence to schedule as the main objectives of production control. This claims directly aligns with the study of Vollmann et al (2004) who identified the activity of production control as a core function. The implications are that there must be conformity of actual production against planned schedule. In other words, missing the delivery date of one customer will create a waiting time for others.

5.3 Human Resource Management and Talent Development

Our findings reveal that human resources decisions are made based on policies regarding training, employee skills, performance appraisal and job expansion, which is in agreement with the work of Miltenburg (2005). However, we found two separate approaches to managing human resources, which has long been theorized in human resources literature, that talent management is a buy or build decision. According to Adenikinju (2005), the build or development approach to talent with the manufacturing sector in Nigeria, may be a matter of necessity and not strategy due to the deficit in specialized capabilities required by SMEs. The decision to buy talent is highly dependent on the talent market to supply ready-made skills. This choice has implications because within the Nigerian manufacturing context, it cannot be assumed that the availability of highly skilled employees will match demand.

In emerging economies, training and talent development have continued to lead in policy considerations (Cook and Nixon, 2000). According to Aremu and Adeyemi (2011), Training allows Nigerian SMEs workforce to acquire the necessary skills required to perform their job tasks, even though Apulu et al (2011) claims that training is not up to date among Nigerian SMEs. However, Nigerian SMEs understand the need for training of their employees to perform the required manufacturing tasks.

5.4 Plant Size, Location and Capacity

The size of a manufacturing plant and the number of employees can influence the decisions made by SMEs (Swamidass and Kotha, 1998; Cagliano and Spina, 2000; Spring and Dalrymple, 2000; Choudhari et al., 2012). The importance of location as indicated in our findings also agrees with the studies of Aremu and Adeyemi (2011), Ariyo (2005) and Malik et al (2002), who stated that SMEs located in the city have performed better in terms of job creation, earnings and manufacturing skills as they have more access to training facilities in the cities than in the rural area.

The plant size and location, which are structural manufacturing decisions, are choices with serious consequences, because they are both strategic and capital intensive (Hayes, Pisano, Upton and Wheelwright, 2005). We classify both decisions as consequential because, not only do they require significant capital, they are difficult to reverse once made. Our findings reveal that plant size can determine the volume of manufacturing, and decisions on size is driven by the availability of resources, and product demand, which agrees with Van Mieghem (2003) on how current demand influences capacity, instead of anticipated

demand. The response on location decisions reveals an environment that is influenced by the logistical and infrastructural situation in the Nigerian economy. The emphasis on proximity and road infrastructure, all reflect the challenges SMEs might face in an emerging economy like Nigeria (Khanna and Palepu, 2010).

5.5 Equipment, Technology, and Innovation Capability

Our analysis that addressed issues on machinery, equipment investment and technological knowhow, collectively describe the technology aspect of innovation capability in manufacturing. Nigerian SMEs have made manufacturing decisions on the purchase of machinery to enable them improve their manufacturing processes. The findings add to the studies of Tan et al (2006) and Hallgren (2007) who stated that for managers to achieve their manufacturing process objectives, decisions on new machines and equipment will have to be made within the manufacturing function, to enable managers to allocate the resources for the purchase of the needed machinery and equipment.

The rapid changes that technologies bring into products have made SME managers to urgently respond to their manufacturing technological requirements. Our findings have shown that the manufacturing decision made in technological knowhow has enabled Nigerian SMEs to appropriately select their manufacturing processes, products designs, equipment, machinery, and material that will function with their chosen technology, be it the automation of the factory plants. The research findings support the studies of Baines et al (1999) which states that although a technological decision has enabled manufacturing businesses to choose their process and product designs, it can be quite challenging sometimes to choose the right technology without having an expert knowledge. While the importance of technology in manufacturing decisions have been established, there is a challenge for Nigerian SMEs due to a harsh macroenvironment that includes, import costs for capital equipment, exchange rate volatility, and limited access to finance, all of which combined increases the cost of technology acquisition to meet innovation requirements (Obembe and Soetan, 2015).

5.6 Budgeting and Resource Allocation

Our findings on budgeting decisions among SMEs reveal a common absence of explicit budgeting relating to innovation investment, even though financial management orientation vary internally. However, excepting innovation, the findings are similar to the studies of Schlegel et al (2016) which show that manufacturing budget decisions are made to enable SMEs make investments and allocate resources to support their manufacturing operations. Budgeting decisions have enabled Nigerian SMEs to support their manufacturing operations and manage their expenditures.

The framing of budgeting as the rationing of resources during scarcity reflects the reality that plagues the development and operations of SMEs (Beck, Demirgüç-Kunt and Maksimovic, 2005). For instance, the cost-cutting decision in response to underperformance discourages innovation, which has been similarly argued by Hamel and Prahalad (1994) that those factors that are most vulnerable to cost-reduction measures, are those needed for maintaining competitive advantage, e.g., technologies, skills, innovation infrastructure. It is established that the allocation of resources in Nigerian manufacturing SMEs is dictated by the profitability of the current period. The implication is that there is a misalignment between the investment requirement that stimulates innovation and transformation, and the budget architecture of the SMEs.

5.7 New product Development

New products manufacturing decisions are very complex, as it can make or mar the manufacturing businesses. The making of manufacturing decisions to develop new products is strategic to Nigerian SMEs in both meeting their market demands and giving them the competitive edge. The research findings have shown that Nigerian SMEs make innovative manufacturing decisions to enable them to deliver new products to meet their market needs. The findings concur with O'Sullivan (2002) and O'Sullivan et al (2011) who stated that innovation is useful in improving the production process and in improving the competitive advantage of manufacturing firms. Innovation in the manufacturing process of SMEs has been linked to process technology and the manufacturing concept of lean manufacturing, agile manufacturing and just in time (JIT), which enabled manufacturing businesses to eliminate waste (Schroeder *et al.*, 2011).

Our findings identified three distinct positions of the development of new products that included a product renewal and cost-reduction strategy, a market-driven product development strategy, and a product

innovation-driven strategy. In the first strategy, old product designs are replaced with new products that has been developed. The new products still possess the same quality and performance level but developed at a lower cost. The second strategy is driven by market opportunities and customer demands. New products are developed based on the expectations of the market and will be adapted to meet changing taste of consumers. However, the third strategy is not driven by the need to lower costs or meet customer demand, but rather for differentiation and to build market position. New products are developed based on innovative ideas that will help SMEs remain competitive and generate revenue. Findings from our studies have been confirmed by other studies such as Yan et al (2017) who explained that new products are made from strategic decisions, by manufacturing organisations to meet their market demands and to create a competitive advantage. Our findings also identify with Porter's generic strategies (Porter, 1985). The focus on lower costs mirror cost leadership that uses efficiency and supply chain optimization to maintain strategic advantage. On the hand our innovation-driven strategy directly mirrors the differentiation strategy which focuses on building unique products through product design and quality.

6.0. Conclusion

The purpose of the paper and the empirical study presented here, was to gain an in-depth insight of the decision process and practice of Nigeria manufacturing SMEs in their ability to innovate and transform. Drawing on qualitative data from 17 SMEs, we identified eight decision domains that play an important role in Nigerian SMEs, which include production control, human resource management, plant size and capacity, machinery, budgeting and financial resource allocation, plant location, technological knowhow and new product development.

This study contributes at the level of innovation theory, as it provides a qualitative and operational evidence on how technological capability, absorptive capacity, and technological capability are managed in the specific context of manufacturing SMEs in Nigeria. Our finding that technology decision complexity, equipment deficits, and the absence of formal processes in developing new products are collectively responsible for the constraints observed in the development of innovation capability, contributes to a grounded understanding of technological learning and absorptive capacity in the sub-Saharan African emerging economy context, which is now an extension of the theories beyond the study of advanced economies, and large-firms that are the predominant case studies.

Empirical evidence in the findings have shown that manufacturing SMEs like most other organisations in the emerging economies have many operational inefficiencies that hinder their abilities to innovate, transform and compete. These operational and process inefficiencies have major effects on the manufacturing decision of productivity, innovation, and flexibility to compete with the products from other emerging nations. The findings presented in the paper have empirically increased the body of knowledge and practice in manufacturing SMEs in understanding decision to innovate and transform. This has possible implications for managers, policy maker and other business practitioners in the field of manufacturing operation and production management. Emerging economy government policies should be directed towards measures to address the technological challenges, to improve the innovative abilities of manufacturing SMEs.

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Management Strategies and Their Impact on Organisational Dependencies in the Middle Eastern Countries: A Case Study of IBM In Saudi Arabia

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Abstract

This paper examines how management strategies influence organisational dependencies within multinational corporations operating in the Middle East, focusing on International Business Machines Corporation (IBM) in Saudi Arabia. A particular focus is placed on the roles of human resource management (HRM) and managerial leadership in strategy initiatives and implementation. This research draws exclusively on secondary data, including prior empirical studies and academic literature. An inductive thematic analysis is employed to systematically identify and interpret recurring patterns related to managerial, organisational and cultural challenges affecting strategic performance. This allows for the integration of insights concerning future managerial decisions and organisational adjustments necessary to address existing operational deficiencies within the Saudi Arabian context. The findings indicate that the primary causes of strategic management failure include weak leadership capabilities, ineffective project management practices, deficiencies in cross-cultural management, and misalignment between organisational objectives and available resources. Additionally, limitations in training and development provision, reliance on outdated HR strategies and limited cultural inclusivity further exacerbate HRM-related failures. These issues undermine strategic alignment and organisational effectiveness within the Saudi Arabian business context. This study contributes to the strategic management and international HRM literature by highlighting the significance of culturally responsive leadership and adaptive HR practices in multinational organisations operating in emerging markets. The study recommends the implementation of transformational leadership approaches, enhanced training and development initiatives, strengthened cultural literacy, and the use of 360-degree feedback mechanisms to mitigate managerial shortcomings and support successful strategy execution.

Keywords: strategic management, organisational culture, Middle East leadership, workforce talent.

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1.0 Introduction

Management strategy is a series of techniques for directing and controlling businesses to achieve a set of predetermined goals. The management strategy influences the goal setting, business administration, leadership and operational activities in the organisation (Rafiki, 2020). According to Ebad (2018), an effective management strategy promotes objectives of the organisation and establishes a timeline to achieve short, medium and long-term accomplishment. Conversely, the absence of a well-formulated strategy leads to the ineffective achievement of goals with unclear direction in the company (Alsayat and Alenezi, 2018). In this context, this paper discusses the failure of management strategies in the Middle Eastern countries and identifies their effect on the businesses' interdependencies based on the organisational behaviour of IBM in Saudi Arabia. It is found that a lack of empowerment and accountability is the main cause of such failures and consequently, undermines leadership effectiveness in the IT sector and prevents organisations from achieving their desired goals (Hamlin et al., 2024). Moreover, miscommunication in a different national culture and lack of clarity in the action of the strategy fail to meet the alignment with the organisation. All these misalignments pose significant risks to the business and can act as a domino effect on the business' interdependencies (Zheng et al., 2025). It is important to identify factors contributing to management strategy shortcomings for future businesses and developments, to assess and eliminate such risks prior to implementation of the management strategy in this region. Such measures can further prevent business losses and protect customer loyalty. To provide greater depth to the analysis, a solid theoretical background is considered such as Taylor's Scientific Management theory (1911), Hofstede's cultural theory

(2011) and Schwartz's theory of Basic Human Values (2006). This is a cross-sectional case study with an interpretative research approach, using qualitative secondary data followed by an inductive thematic analysis. Recommendations and future research opportunities are provided, along with a possible model to follow.

The aim of this paper is to investigate the reasons for failures in management strategies in the Middle Eastern country of Saudi Arabia and the impact on the business operations of IBM with a strong emphasis on businesses' interdependencies. The paper has four key objectives. First, to investigate the reasons for failure in management strategies in the IT sector of IBM in Saudi Arabia. Second, the paper seeks to identify the challenges faced by management and HR professionals at IBM while implementing a new strategy. Third, it evaluates the barriers faced by the employees in the training and development program provided by the organisation. Fourth, suitable practices to meet the challenges faced by management and HR professionals in implementing new strategy are provided.

2. Literature Review

2.1. Organisational Profile of IBM

IBM is a global technology and consulting organisation that delivers hybrid cloud, artificial intelligence, and enterprise services to clients worldwide. The corporation operates within the Information Technology services industry, generating revenue across four key segments: software solutions, consulting services, infrastructure offerings, and financing activities (IBM, 2020a). Their business model centres on innovation, digital transformation, and strategic partnerships to drive organisational value through data-driven and cloud-based solutions (IBM, 2020a). The company's organisational culture is characterised by a pronounced commitment to innovation, client-centred service delivery, and continuous professional development. It emphasises ethical conduct, respect for individual employees, and a broader organisational purpose that extends beyond profit generation to creating sustainable global impact (IBM, 2020b).

In Saudi Arabia, IBM maintained a long-standing operational presence with activities primarily delivered through collaborative arrangements with local partners, most notably Saudi Business Machines (SBM), which functions as a key distributor and service representative. This partnership enables IBM to align with local regulatory frameworks and market conditions but also introduces a high level of inter-organisational dependency that can complicate strategic coordination and accountability (SBM, 2020). While IBM's global strategy emphasises innovation, agility, and decentralised decision-making, the implementation of these practices within the Saudi context is influenced by hierarchical organisational structures and culturally embedded leadership norms (Aseri, 2015; Alkandi and Helmi, 2024). Consequently, this misalignment between IBM's global strategic orientation and the local operational context in Saudi Arabia causes strategic implementation gaps, challenges within HR practices, employment of a skilled expatriate workforce, retention of local Saudi nationals, adapting leadership approaches, and aligning management practices with local cultural demands, thereby heightening risks to organisational effectiveness and business interdependencies (Khan and Varshney, 2013; Alghazi et al., 2017; Basahal et al., 2020; Mahmoud et al., 2024).

2.2. Factors Influencing Strategic Management Failure in the Saudi IT Sector

To explore the failure of management strategy in Saudi Arabia based on the business perspective of IBM, several studies, although limited in number, have been reviewed. The IT sector in Saudi Arabia faces challenges and uncertainty which create unstable and evolving business requirements. Bradshaw et al. (2019) argue that effective budget management is critical for the successful delivery of high-profile IT projects and electronic services. However, these objectives may not be achieved when project managers and implementation teams lack the authority, autonomy, and organisational support to make timely decisions and respond to changing requirements. Consequently, strategic management processes become less effective in defining and maintaining clear project requirements. On the other hand, Ghardallou et al. (2020) indicate that ineffective organisational leadership is a major contributor to the failure of management strategies within IT organisations operating in Middle Eastern countries, including Saudi Arabia. When organisational leaders fail to provide strategic direction and effective decision-making, IT projects are more likely to experience unclear objectives, poor coordination, and unsuccessful implementation.

Furthermore, mismanagement of different cultures, as commented by Omer et al. (2020) is yet another factor that triggers failure in management strategies in global organisations such as IBM. Cultural diversity

itself is not a barrier to effective management; rather, challenges arise when organisational leaders fail to manage cultural differences through effective communication, coordination, and employee engagement. As a result, misunderstandings and inconsistent interpretations of strategic objectives may occur, weakening collaboration and reducing the effectiveness of strategy implementation. Consequently, decision-making becomes less effective, as communication among team members is hindered, thereby affecting the successful execution of management strategies (Liu et al., 2018; AlSaied et al., 2025).

2.3. Organisational and Workforce Management Challenges in Saudi Arabia

Samarin and Al-Asfour (2023) indicate that from the managerial perspective, the issue in the businesses of Middle East is the urgent need to reinvent the HR function and affiliate it as the radical part for the businesses. The challenge of reinventing the HR function has progressed in Saudi Arabia since 2015, and it is considered as one of the most important factors which signals less satisfactory HR output in the IT industry.

Although leadership development is commonly supported through HR initiatives, leadership capability extends beyond the HR function because it directly influences strategic decision-making and organisational performance. Karali (2020) argues that ineffective leadership limits managers' ability to communicate a clear vision, motivate employees, and implement organisational change successfully. Consequently, organisations may experience lower employee commitment, higher staff turnover, and reputational challenges. In response, leading organisations are investing in leadership development programmes that strengthen strategic capability, improve employee engagement, and support long-term organisational objectives.

Furthermore, Alghazi et al. (2017) highlight another aspect, the conflict of interest in the organisational culture versus the national culture. It is found that 83.12% of the employees working IT firm including IBM do not have a clear, complete and stable requirement in the workforce and conflicts seldom arise with their colleagues. In addition, 80.19% perform poor planning according to (2012). Moreover, Tlaiss and Elamin (2016) add that the generational transition and demographic changes have a major impact on the workforce of Saudi Arabian organisations. Younger employees increasingly value flexible working arrangements, career development opportunities, participation in decision-making, and a better work-life balance than previous generations. Organisations that fail to adapt their management practices to these changing workforce expectations may experience reduced employee engagement, lower retention, and greater difficulty implementing organisational change. Consequently, flexible work practices and adaptive management approaches have become increasingly important within Saudi organisations (Siddique et al., 2016; Alotaibi, 2023).

2.4. Effects on the businesses' interdependencies

Alrubaishi et al. (2020) declare that in organisations of Saudi Arabia, the lack of alignment with the business strategy and the unavailability of human resources are some of the main reasons for failure in IT projects and their management. For example, Aldossari and Chaudhry (2024) suggest that workforce instability in Saudi Arabia is partly influenced by the continued reliance on a predominantly male labour force, limiting organisations' access to the full range of available talent. In the IT sector, this may create skills shortages and place additional pressure on recruitment and workforce planning. As a result, organisations may face difficulties in securing the human capital required to implement strategic initiatives effectively, thereby reducing the likelihood of successful strategy implementation. Syed et al. (2018) conducted a survey with the participation of 300 HR professionals from different IT organisations of Saudi Arabia to identify the challenges faced when implementing new strategies and demand for accelerated leadership requirements. It is found that the human resource management stands at the centre of the changes for the organisations, and achieving the transformation in work practices to create innovative responses is related to the cultural element, as derived from the survey conducted. Qureshi (2018) further explains that long-standing practices and cultural habits of the employees create a demand for transformation to achieve successful business.

2.5. Barriers faced by the employees in training and development programmes

According to Kumar et al. (2019) one of the major barriers faced by the employees of IBM operating in Saudi Arabia is the lack of expertise within the talent pool to provide training and development programs. The organisations in Saudi Arabia face strategic failure due to the complex and sophisticated demand of premium grade employees in the companies. The workforce of Saudi Arabia comprises approximately 11 million employees, compared to the overall population of the country which is over 32 million people

(Gastat, 2025). Yet circa 35% of the workforce are women and the rest men (Gastat, 2025). The root learning credential of the labour force are non-cognitive skills on which the employers consider them (Statista, 2020). Despite the pressure that the Saudi Arabian government faces to employ internationally experienced talent with a stronghold on innovation to deliver effective training and development programmes to the employees, the Saudi organisations are reluctant to this aspect, most prefer and require male Arabic national speakers (Alhaider et al., 2025). This means that for the experienced expatriate employees the job market is not as accessible, and similarly, for expatriate females it seems relatively impossible because the national culture of Saudi Arabia has legal and cultural constraints to hinder their growth in employability options (Alasmrai, 2016; Eger et al., 2022). On the other hand, Kumar et al. (2019) show that the employees face problems in time management due to the involvement of new training and development programs simultaneously along with the working schedule. Other barriers are the national restriction in the workforce and discrimination against candidates according to gender and age. The official national policy of replacement of foreign workers along with the national members of Saudi Arabia have developed their Saudi labour law where the expected retirement age was set at 60 years old (Leeth and Leeth, 2015; Asfahani et al., 2023).

Saudi Arabia remains a controversial business environment with potential development yet not debated deeply by researchers. It can be noted that issues related to the lack of empowerment, lack of leadership, involvement of different cultures and mismanagement with the national culture, the flexibility demand to create innovative work practices, lack of internationally experienced talents to deliver effective training and development programmes can be the main reasons for strategy failures in Saudi Arabia.

3. Theoretical background

3.1. Management strategy reviewed through Scientific Management Theory, Leadership and HR practices

Scientific Management Theory, developed by Taylor (1911), emphasises the optimisation of organisational efficiency through systematic task analysis, standardisation of work processes, and close managerial control over employee performance. Waring (2016) explains that the theory applies scientific and engineering principles to workplace operations, particularly in structured and process-driven environments. Similarly, Paramboor and Ibrahim (2018) highlight core principles such as the separation of planning from execution, task specialisation, scientific selection of employees, structured training, and performance measurement based on output efficiency.

From a leadership perspective, Scientific Management assumes a directive and hierarchical leadership style, where senior management is responsible for designing workflows and setting performance expectations, while employees are expected to execute predefined tasks (Tompkins, 2023). This reflects a top-down leadership approach in which decision-making authority is concentrated at higher organisational levels, and compliance with standardised procedures is prioritised over individual autonomy. In relation to HR practices, Taylorism is closely associated with structured recruitment, skills-based selection, and formalised training programmes designed to ensure employees can perform clearly defined tasks efficiently. HR functions under this model are primarily administrative and operational, focusing on workforce optimisation, performance monitoring, and compliance with organisational standards rather than employee empowerment or participatory decision-making (Ludwikowska, 2023).

In the context of IBM operations in Saudi Arabia, elements of Scientific Management can be observed in the organisation's reliance on standardised global delivery frameworks, performance monitoring systems, and structured IT service processes designed to ensure consistency and efficiency across regional operations. Such systems reflect HR practices centred on measurable performance outcomes and controlled task execution, as well as leadership practices that emphasise process adherence and operational efficiency.

However, when applied in a multicultural and rapidly evolving IT environment such as Saudi Arabia, this approach may create tension between efficiency-driven structures and the need for flexibility. A highly standardised management system can limit employee autonomy and reduce responsiveness to local client requirements, particularly when teams are culturally diverse and operate across different expectations of communication and decision-making (Senyapar, 2025). This also links directly to leadership effectiveness within IBM Saudi Arabia. Where leadership is highly directive and process-driven, there may be limited scope for adaptive decision-making at team level, which can affect employee engagement and

responsiveness. Similarly, HR systems focused primarily on control and standardisation may not fully support the development of cross-cultural competencies, employee empowerment, or flexible working practices, which are increasingly required in contemporary IT service environments. Therefore, while Scientific Management Theory provides a useful lens for understanding efficiency-oriented structures within IBM, its application also highlights the need for more adaptive leadership approaches and more strategically oriented HR practices to balance operational control with organisational flexibility in the Saudi Arabian IT context.

3.2. Hofstede's cultural dimensions for Saudi Arabia

Unsuccessful management strategy could be related to the national culture of Saudi Arabia as explained with the help of Hofstede's cultural model (2011). It is important to acknowledge that the author analysed the influence of national culture on management practices by conducting an empirical study at the large multinational IBM across 66 national subsidiaries (Hofstede and Minkov, 2010). This model shows the value of a workplace improved by the culture of the nation. The theory collectively programs the mind and distinguishes the members of the group to categorise people from the others (Sabri et al., 2020). Based on the six dimensions of national culture of this model, the application for Saudi Arabia compared with the USA highlights that the power distance of Saudi Arabia has a high score (90) which indicates that the extent of the power is distributed unequally in the local environment. The hierarchy in the local organisation is considered to reflect the inherent inequality, and the leader is a benevolent autocrat which influences the working conditions as indicated by the high score in this dimension. It also expresses the attitude of the culture towards inequality among the people. As such, by Hofstede's model (2011), there can be cultural reasons for failure in practicing the Taylorism management theory (1911), at the IBM's operational level. The model shows that despite gaining a positive return, IBM may fail due to the cultural imbalance in the organisation in accordance with the national culture of Saudi Arabia. Additionally, the high uncertainty avoidance score (69) shows that Saudi Arabia requires rigid codes of behaviour and beliefs. There may easily be intolerance of unorthodox behaviours and ideas, which is opposite a diverse culture that IBM encourages (Global Data, 2022).

3.3. Management strategy reviewed through Schwartz's Theory of Basic Values

Schwartz's Theory of Basic Values (2006) provides a useful perspective for understanding how individual values influence workplace behaviour and managerial decision-making. The theory identifies ten universal human values recognised across cultures, organised within a circular motivational structure that reflects the compatibility and conflict between different values. According to Sagiv et al. (2017) these values represent beliefs that guide individuals' attitudes, behaviours, and priorities across different situations, influencing both personal and organisational decision-making.

Unlike Hofstede's Cultural Dimensions (2011), which explains cultural characteristics at the national level, Schwartz's theory focuses on the values held by individuals. Consequently, the theory is particularly relevant to organisations such as IBM operating in Saudi Arabia, where employees from different national and cultural backgrounds work within the same organisational environment. While Hofstede explains the broader cultural context in which organisations operate, Schwartz's framework provides insight into how the individual value preferences influence employee behaviour, collaboration, and responses to organisational change.

Within the IBM Saudi Arabia case study, this theory helps explain why employees may respond differently to strategic initiatives despite operating under the same organisational policies. Employees whose values emphasise openness to change, self-direction, and achievement may be more willing to adopt new technologies, innovative working methods, and organisational transformation. Conversely, employees who place greater importance on security, conformity, and tradition may prefer established procedures and demonstrate greater caution towards organisational change (Claxton et al., 2022). These differences do not imply resistance to strategy implementation; rather, they illustrate how individual value priorities shape employees' willingness to engage with change.

The theory also provides insight into leadership and HR practices within IBM Saudi Arabia by showing that effective leaders' practices recognise that employees can be motivated by different value orientations and therefore require different approaches to communication, participation, and performance management.

Similarly, HR policies relating to recruitment, employee development, performance, or rewards should accommodate diverse motivational values to encourage employee engagement and organisational commitment. Failure to recognise these differences may reduce collaboration, limit employee participation, and weaken the implementation of organisational strategies.

Nevertheless, Schwartz's theory contributes to understanding the interaction between organisational and national culture in Saudi Arabia. Although Saudi society is often characterised by relatively conservative cultural values, multinational organisations such as IBM operate within a global organisational culture that encourages innovation, collaboration, and continuous improvement (IBM, 2020). The challenge for management is therefore not the existence of conservative cultural values themselves, but the ability to balance local cultural expectations with IBM's global organisational values. The successful alignment of these values is more likely to facilitate effective communication, employee engagement, and successful strategy implementation across culturally diverse teams.

4. Methodologies.

This study applied the realism philosophy where the interpretivism research approach was adopted because interpreting the relevant information has provided justifiable and beneficial solutions to the real issue of failure in strategic management in the Middle Eastern countries (Saunders, 2016). An exploratory research design was employed to allow flexibility in identifying the effect of failure in strategic management and business dependency. The secondary qualitative data were collected from local articles and journals to identify the reasons behind strategic management failure in the business aspect of IBM operation in Saudi Arabia. The data were analysed using the inductive thematic analysis, and from the grounded theory perspective, this qualitative study is a narrative analysis element, based on ontological assumptions.

4.1 Research approach:

An inductive approach was used for this study to collect data from secondary sources such as local articles, journals and online materials. This is an advantage that has offered flexibility in selecting and interpreting the qualitative data relevant for this study (Ciesielska and Jemielniak, 2018). The collected data were used to examine and refine existing theoretical perspectives identified in the literature. The deductive research approach was not considered because this emergence and interpretation of theories is required, rather than hypothesis testing, which was not aligned with the objectives of this study (Fife and Grossner, 2024).

4.2. Research philosophy:

Several types of research philosophies including positivism, realism, pragmatism and interpretivism were reviewed. For this study, interpretivism was selected because it relies on the idea of interdependence of reality from the human mind while recognising the role of interpretation in knowledge development. The philosophical stance was based on the assumption and development of the knowledge derived from secondary data sources (Zangirolami et al., 2018). This approach allows for the identification of themes related to leadership, human resource practices, and cultural dynamics within the IBM Saudi Arabia context. The study does not test any predefined hypothesis.

4.3. Research design:

An interpretivist research design was adopted in this study to support flexibility of the secondary data collected. This design enabled the exploration of multiple dimensions related to strategic management failure in IBM's operations in Saudi Arabia. On the other hand, a conclusive research design was not used because it focuses on the extent of certainty and quantification, rather than in-depth understanding of underlying issues (Yadav, 2022).

4.4. Data collection:

For this qualitative research, all the data were collected from secondary sources of data, based on the content of the discussion (see Table 1 below). They are different types of sources, with different target audiences to form clearer opinions by comparing information from previous research, and from actual local news. As noted by Bingham (2023) this is an advantage because it has further supported the interpretation of a certain action or behaviour to a broader evaluation and picture of the research interpretation, wherein the focus is on strategies failure in the particular business context of Saudi Arabia. This approach has contributed to producing practically applicable insights suitable to answer the questions raised in this study.

Table 1.

Secondary Data Sources

Journals
Alfaadel, F. (2012) Success and Failure of IT Projects: A Study in Saudi Arabia. Available at: https://www.researchgate.net/publication/262295440_Success_and_failure_of_IT_projects_a_study_in_Saudi_Arabia
Ebad, S.A. (2018) Influencing Factors for IT Software Project Failures in Developing Countries-A Critical Literature Survey. JSW, 11(11), pp.1145-1153.
Ghardallou, W. et al. (2020) CEO Characteristics and Firm Performance: A Study of Saudi Arabia Listed Firms. The Journal of Asian Finance, Economics, and Business, 7(11), pp.291-301.
Qureshi, M. (2018) Interdisciplinary Journal of Contemporary Research in Business. A Study of the Contemporary Issues of Human Resource Management in the Retail Sector of Saudi Arabia. Vol. 4, NO. 9.
Magazine Articles
Leeth, J. and Leeth, J. (2015) Workforce Planning Policies Challenge HR in Saudi Arabia, SHRM. Available at: https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/workforce-hr-saudi-arabia.aspx
Newspapers
Arab News - Worldwide Latest Breaking News & Updates. Established in 1975, the Saudi-based Arab News is the Middle East's newspaper of record and the biggest English language daily in the Kingdom.
Saudi Gazette - Global News Website, it covers the latest and breaking news of Saudi Arabia and the world all the time, with politics, business, technology, life, opinion and sport.

Source: (Author)

4.5. Access, ethics and limitations

Challenges were encountered in conducting this research in obtaining and maintaining the security of the data regarding the cultural aspect of Saudi Arabia and failure of IT companies. Therefore, the collected data from secondary sources were protected following the GDPR 2018 regulation. According to the GDPR 2018, the data collected regarding a company need to be protected from third party access (ICO, 2018). Accordingly, this regulation was followed to maintain the authenticity and access the data with valid procedure.

Some limitations were identified during the process of collection of data from secondary sources. The Kingdom of Saudi Arabia has received comparatively limited attention in Western research, so appropriate information takes time to be found. It is noted that Saudi Arabia has one of the world's lowest rankings on press freedom, with a ranking of 170 out of 180 countries on Reporters Without Borders' 2020 World Press Freedom Index (UK Parliament, 2020). Lately, the country is found in high national development and future projects, compared to other Middle Eastern countries that show advancement towards implementing changes to the social and cultural lifestyle, such as Bahrain, UAE or Kuwait. The paper is also limited by the research particularity that is focused on the case study of IBM in Saudi Arabia and does not intend to debate other areas or business sectors. There is also limitation by the interpretivism research approach that, along with an inductive analysis design, target to produce a description and perception of the research answers.

5. Data Analysis

5.1. Method: Inductive thematic analysis

As this research is based on qualitative data, the suggested suitable method of analysis is *thematic analysis*. This method offers flexibility (Braun and Clarke, 2006). Critiques of this method argue that it is this flexibility that is the weakness of this method because it can lead to untrustworthiness and inconsistency (Finlay, 2021). However, the objective of this approach is to produce a description and perception of answers as derived from secondary data, and so the risks are mitigated. With this method the data is further generated into patterns and themes.

For this case study, the inductive thematic analysis is approached. Morgan and Nica (2020) state that compared to the deductive thematic analysis, where the data is analysed using a predetermined plan, the inductive thematic method develops the structure of the analysis using the actual data itself. This is a

strength that intensifies the study. Proudfoot (2022), explains that in the inductive approach the themes are vigorously connected to the data since they emerge from it, thus eliminating any potential bias or knowledge from the researcher's side. This results in a balanced approach maintained between the Western perspective and the actual data itself. This way the paper is strengthened by consistency and trustworthiness. Additionally, according to Kiger and Varpio (2020), the effectiveness of this method increases with the themes being further related to the specific questions raised by the research. As this paper explores the reasons behind the failures of the management strategies and the possible effects on the business' interdependencies in the Middle East, with a realism interpretative approach focused on IBM in Saudi Arabia, the inductive thematic analysis method provides the researcher with an all-encompassing analysis that integrates and tailors all the diverse points of view that have been discussed in the previous sections of the study: the literature review and theoretical background. Therefore, it supports the presentation of a holistic point of view with relevant supportive thematic discussions on the major findings. The inductive thematic analysis comprises six stages: data settling, coding, searching and reviewing themes, defining and naming themes and presenting the report (Braun and Clarke, 2006) as presented in the following sections.

5.2. Thematic analysis

After careful consideration and strictness to collect only the relevant and updated secondary data, the researcher is strongly familiarised with the material to be analysed.

Coding

This stage identifies and extracts raw data from the literature review and theoretical background presented previously, with reference to the research questions:

- *What are the reasons for failure in management strategies in Saudi Arabia?*
- *What is the impact on the business interdependencies in Saudi Arabia?*
- *What challenges does HR face when a new strategy is implemented in Saudi Arabia?*
- *What are the barriers faced by the employees in training and development programme?*
- *What can be an effective solution to manage the failures in IT sector in Saudi Arabia?*

This is performed by determining the words frequently used, sentences, phrases, texts, patterns, as detailed in the below sections.

Code 1: Management strategies failure

The lack of leadership is one of the delimiting factors restricting and affecting the perpetuation of a resilient, convenient, and unidirectional leadership to guide and supervise the workforce of IBM. Added to this, the lack of coherence in the managerial tactics to lead the organisation, disorients the scopes of accomplishing all the organisational tasks, as well as managing the human resources efficiently. It is also observed that the leadership is driven and illustrated with a strong mission and purpose in the Saudi Arabian organisation (Ghardallou et al., 2020). Furthermore, the actual implementation of the leadership with the strategic moves, determined will-power, resiliency and patience to navigate across the challenges and internal organisational crises, as well as the flexibility to adapt to the evolving needs of the customers, markets, within the company itself, seem to lack in IBM Saudi Arabia. In addition to this, the lack of effective managerial procedure in facilitating tailored and coordinated functionalities that encompass outsourcing of raw materials to the delivery of the end products to the desired customers is also eluding the scopes of driving effective managerial procedures across the organisation (Ebad, 2018).

Code 2: Non-alignment of strategies

The non-alignment of the organisational objectives with the resources available in the organisation ranging from human resources, financial resources, other intangible and tangible resources result in significant failures in IBM management. Often the discrepancies between the goals and the efforts towards the accomplishment of the organisational goals suffocate the management resulting in a lack of the strategic direction of the organisational decision-making system (Alrubaishi et al., 2020).

Code 3: IBM Leadership strategy

The leaders do not designate their responsibilities clearly, nor allocate proper and convenient resources to the employees, a lack of sound guidance and direction of the employees, teams and across all the levels of the organisation. This inadequacy on the part of the organisational leaders to ensure a good direction to the employees and failure to imbue workplace satisfaction to the employees significantly deteriorates the employee morale and imprints a poor and dissatisfying organisational impression on their mind (Samarin and Al-Asfour, 2023).

Code 4: Failed Human Resources Strategies

The need to reinvent the HR strategies in the IT sector of the Saudi Arabian organisations implies the existing faults in the operational dynamics and functional capabilities of the people management strategies. Although Tlaiss and Elamin (2016), observe that the IT companies have been endeavouring to refurbish the HR processes to retain the employees' motivation, they lack those strategic, structured, contingent, and decisive managerial tactics to induce a fully capable and competent workforce functioning. To continue, the failure of the HR-oriented management strategy discourages the employees from functioning and take responsibility effectively because they are not positively influenced either motivated by the leaders or the managers on the organisation side. This inevitably deteriorates the morale and the interest of the employees. Al-Asfour et al. (2019) argue that the employees are not encouraged to develop their professional efficiencies and capacity to accentuate their working proficiency according to the contemporary demands and organisational needs. The authors further note that the skills gap heightened by the lack of qualified labour capital often challenges the businesses in Saudi Arabia in fulfilling the organisational projects and other commercial commitments. Alalshiekh (2018) confirms that this not only strands the companies in terms of success and reliability in the international front but also deteriorates the internal efficiencies and capabilities of the organisation. Therefore, it is evident that the outdated functional strategies and long-standing practices of the HR and incompetent measures to deal with the human capital of the IT sector in Saudi Arabia are restricting proficient nurturing and retaining of talents.

Code 5: Recruitment strategy issues

Budhwar et al. (2019) suggest that the IT sector in the Middle East is increasingly recruiting home country employees who speak Arabic language but consciously neglecting the aspiring candidates who could not speak Arabic. Therefore, these recruitment strategies are supporting inequality in the organisation as well as delimiting the scope of employment for international employees. As such, the IBM organisational culture is underpinned by limiting attitudes on the professional competencies and illustrates one of the reasons for the management failure coupled with the failures in the endeavours of the HR (Siddique et al., 2016; Alotaibi, 2023). This can be because the national culture of Saudi Arabia illustrates a culture of legal constraints that impede the growth and development of the employability options. The internal culture dynamics of the organisation that fails to integrate own culture can create potential conflicts within the organisation (Alasmrai, 2016; Eger et al., 2022). This can be one of the major constituents for the failure of the HR management with respect to the workforce in the organisations in Saudi Arabia.

Code 6: Lack of talent pool

The main barrier that IBM in Saudi Arabia faces is the lack of a sufficiently skilled talent pool and this has created a major issue in offering effective training and development program. The organisation is found to face strategic issue because they have shortage of skilled people in the IT sector. As commented by Stachová et al. (2019) an organisation with lack of talent pool suffers from hiring of best candidate which further hampers the creativity and innovation system of the business. The company faces pressure due to the complicated rules of Saudi Arabian government in employing internationally experienced employees, and an uneven access to jobs and opportunity faced by potential applicants.

Code 7: Inefficient Training and development

Kumar et al. (2019) explain that the IBM employees in Saudi Arabia have been facing challenges to perceive effective training and developing programs due to the rigid and complicated HR-oriented processes, which are mostly outdated or not convenient in addressing the needs, demands, and issues of the workforce. Moreover, the fact that the gender inequality is rampant in the Saudi Arabian organisation also implicates a major gap in fostering a diversified and gender-inclusive workforce in the organisation. The training sessions become costly since they need to be organised multiple times in repeated sessions, minding the mixture of men and women employees, and trainers' and coaches' availability (AlDossari, 2016; Aldossari and Chaudhry, 2024).

Code 8: Poor cross-cultural management

According to Qureshi (2018) the leaders of the organisation practice culturally insensitive management when dealing with the cross-cultural workforce, substantially contributing towards management failures. This is because the interactions with the employees, exchange of organisational information, mutual trust,

and dependencies, as well as the inculcation of respect amongst each other for the differences that the employees must have due to the different personal orientation, are not administered proficiently in the organisation. This disparity within the internal ambience of the organisation also disrupts the IT organisations especially IBM to implement and foster adequate management techniques. In addition to this, their cultural affiliations and values along with no efforts on the part of the organisational authorities to alleviate the cultural differences or induce measures to foster cultural literacy surfaced another source of internal disharmony, which ultimately led to failure in the management strategies. Alghazi et al. (2017) discussed in the literature review, state that due to the communication confusedly conditioned by the diverse cultural background of the workforce, the HR-related functional dynamics have been failing repeatedly. Furthermore, the difference in the organisational and national culture of the IT sector including the IBM is creating conflicts in the views, opinions, thinking and cultural perceptions between the employees and management.

Code 9: Taylor Scientific Management theory

The Taylor Scientific Management theory (1911) is used for analysing and improving the workflow in organisations. The main objective of this theory is to improve economic efficiency and manage labour productivity (Paramboor and Ibrahim, 2018). Based on this theoretical perspective, in Saudi Arabia, organisations such as IBM can improve the management functions by implementing a structural system that would help in developing various groups and departments and further organising and prioritising each task and activity for each team and each team member. Furthermore, this theory can guide the management team to focus on the performance of the employees and helps in performing efficiently in their role (Rickaby et al., 2020). The focus of the theory is to organise and adjust the daily activities of the business, whereas IBM's focus is to integrate their working procedures and meet the business' objectives properly, which are suitable and practised in the US or Europe. Yet, this may not be suitable in an environment such as Saudi Arabia, especially at the beginning of the strategy implementation.

Code 10: Cultural differences

The Islamic and Arabic culture and their underlying principles that are predominant in the national culture of Saudi Arabia seem to restrict the perpetuation of the modern and upgraded HR functionalities that cater to the demands and needs of the employees. Therefore, the socio-cultural differences in the organisation lead to the unstable cultural value orientation between the cross-cultural employees and the managers (Leeth and Leeth, 2015; Asfahani et al., 2023).

According to **Hofstede's model** (2011) Saudi Arabia's high score on the Power Distance dimension suggests that the society welcomes a hierarchical structure where all the people have a place, and it does not require further explanation. A hierarchical organisation is ideally led by a benevolent autocrat, centralisation is common, reflecting internal inequalities and subordinates expect to be told what to do. Saudi Arabia is considered a collectivistic society and loyalty in a collectivist culture is paramount, therefore, it over-rides most other societal rules and regulations. In collectivist societies offence leads to shame (Karandashev, 2020). Moreover, it is argued that management encompasses the coordination and oversight of groups, with employer–employee interactions and communication grounded in ethical principles. Saudi Arabian society exhibits a strong normative orientation, wherein individuals emphasize the demonstration of absolute truth. This orientation is accompanied by a deep respect for tradition and a pronounced focus on the rapid attainment of success (Abdulrahman et al., 2018).

Schwartz's model- Schwartz's theory (2006) identifies ten values that are presented in a circular structure such as achievement, power, conformity, tradition, self-direction, stimulation, and others. As mentioned by Sagiv et al. (2017) this theory is regarding basic human ideologies, so, it can be said that managers of organisations in Saudi Arabia including IBM can implement this theory for using these values to solve the discussed challenges faced in both management and HR functions of the company. These human values can provide important direction to the managerial approaches of IBM, which can encourage employees to perform their work without facing barriers. Schwartz's model (2006) indicates a conservative, traditional environment, with conformity and security dominants (Sabri et al., 2020).

5.3. Deriving themes

The codes generated are summarised in the Table 2 below to derive the themes for further analysis that can answer the research questions raised in this paper.

Table 2.

Inductive thematic data analysis and themes formulation

Codes	Themes	Summary of the theme	Content	Research Question
Management strategies failure Poor Cross-cultural Management Cultural differences (Hofstede, Schwartz) Non-alignment of strategies	Theme 1: The probable reasons behind the incompetency and ineffective management strategies leading to management failures in the IT sector operating in Saudi Arabia especially in the IBM.	This theme focuses on management failures such as lack of leadership, cultural issues, cross-cultural issues in context of IBM of Saudi Arabia which has created barriers in developing new strategy.	-reasons for failure in management strategies; -impact on the business interdependencies in the Saudi Arabia	What are the reasons for failure in management strategies? What is the impact on the business interdependencies in Saudi Arabia?
Codes Failed Human resource strategies IBM Leadership strategy Recruitment strategy Issues Poor cross-cultural management	Themes Theme 2: The reasons behind the HR-oriented failures in the management strategies in the IT sector in IBM Saudi Arabia.	Summary of the theme This theme captures the reasons of failures of HR professionals such as ineffective management, demoralising staff, lack of motivational factors and others.	Content -challenges faced by HR when a new strategy is implemented in Saudi Arabia	Research Question What challenges does HR face when a new strategy is implemented in Saudi Arabia?
Codes Lack of talent pool Inefficient Training and development	Themes Theme 3: Challenges faced by the employees during training and development program in the IT sector of Saudi Arabia in the context of IBM Saudi Arabia.	Summary of the theme This theme encompasses the challenges faced by employees during the training periods such as lack of support, unsolved doubts, due to ineffective strategy in recruitment.	Content -barriers faced by the employees in training and development programs.	Research Question What are the barriers faced by the employees in training and development program?
Codes Scientific Management theory – Taylorism	Themes Theme 4: Ways of meeting challenges of management and HR professionals in IBM, Saudi Arabia	Summary of the theme This theme suggests solutions for mitigating the issues faced due to national culture of Saudi Arabia in IBM using proper performance management and other strategies.	Content -An effective solution to manage the failures in IT sector in Saudi Arabia	Research question What can be an effective solution to manage the failures in IT sector in Saudi Arabia?

5.4 Themes summary

Using the above coding, the data can be thematised into four major themes. The structure model is formulated and shown in *Figure 1* below.

- 1) The first theme formulated is *“The reasons behind the incompetency and ineffective management strategies leading to management failures in the IT sector operating in Saudi Arabia.”*
- 2) The second theme is *“The reasons behind the HR-oriented failures in the management strategies in the IT sector in Saudi Arabia.”*

These two themes ascertain that the failure of management in the organisation, as well as the failure of the HR-oriented functionalities in the Saudi Arabia organisations, are recognised and unfolded in diverse ways that work behind the reasons of failing functional capabilities and adequate strategic measures. The reasons for the management failures, as stated by Rafiki (2020) which is derived from the literature review, in the IT sector operating in Saudi Arabia include: lack of efficient leadership, lack of coherency in the managerial tactics, lack of flexibility and adaptability to cope with the emerging trends of the contemporary IT management. Moreover, Tlaiss and Elamin (2016) sustain that the inefficacy and incompetency on the part of the IBM managers to drive tailored and coordinated functionalities worked against the success of the management in the organisations. In addition to this, Kumar et al. (2019) confirm that ineffective and insensitive management to deal the cross-cultural workforce, no proper prioritisation of the tasks, conflicts in opinions of the employees due to differing cultural affiliations, the non-alignment of the organisational objectives with the resources available in the organisation also form the reasons of management and HR-

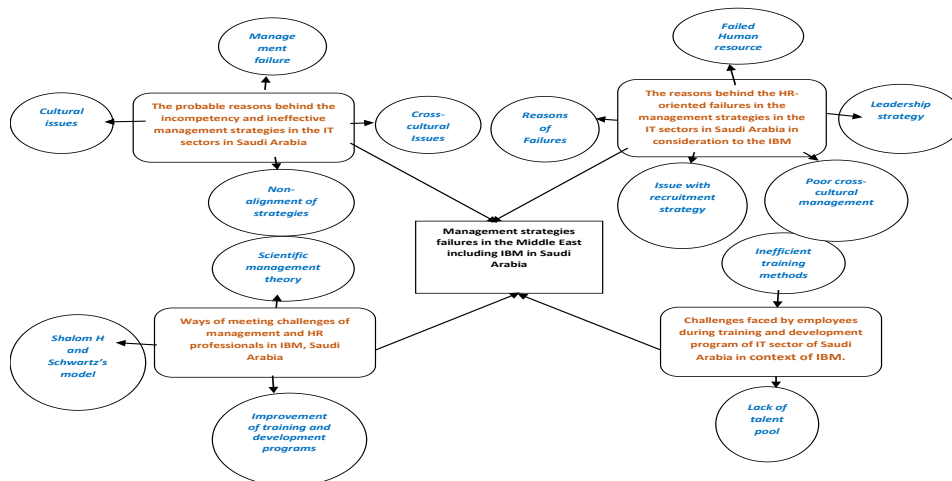
oriented failures in the organisation. On the other hand, the secondary data reveals that the failures of the management strategies in the HR and other managers in IBM in Saudi Arabia showcase the conflicts and hierarchical bureaucracy in the organisation emerging out of formal communication and orthodox discriminatory attitudes to the employees who are not inclined towards Islam or could not speak Arabic (Alasmrai, 2016; Eger et al., 2022).

3) The third theme is “*Challenges faced by employees during training and development program of the IT sector in Saudi Arabia in the context of IBM*”; and

4) The fourth theme is “*Ways of meeting challenges of management and HR professionals in IBM, Saudi Arabia*”

have been formed to further probe deep into the specific issues of the employees in the Saudi Arabian organisation and devise strategies for the same. The reasons for these HR-oriented failures include loopholes in the operational dynamics and functional capabilities in the HR strategies, ineffectiveness and inaccessibility of the training and development programs for the employees to develop their professional competencies and employability skills, as well as outdated functional strategies and long-standing practices of the HR in the IT sector of the Saudi Arabian organisation (Leeth and Leeth, 2015; Asfahani et al., 2023).

Figure 1. Themes structure model



Sources: (Authors)

6.0. Discussion of the Key Findings

This study discusses the failure of management strategies in the Middle Eastern countries and identifies its effects on the businesses' interdependencies based on the organisational behaviour of IBM in Saudi Arabia targeting the objectives of this paper. Based on the inductive thematic analysis, it can be revealed that the key findings are:

I. Strategic Management Failure Factors

The probable reasons behind the management failures unveil in the form of various factors that counteract the achievement of organisational success, as well as the commercial success. This research finds that the management failures are caused by the lack of leadership, cross-cultural management issues in the context of IBM in Saudi Arabia which have created barriers in developing new strategies. Alfaadel et al. (2012) find in the paper “Success and Failure of IT Projects: A Study in Saudi Arabia” that the management failures in the organisation arise from the lack of definite and proper project goals resulting in the organisational missions being affected through unavailability and inaccessibility of adequate and timely resources to facilitate initiation and completion of the projects undertaken by Saudi Arabia. The authors also emphasise the fact that the incompetent, uncoordinated, and inexperienced leadership in leading the organisational projects, coupled with poor planning and execution form major factors behind the management failures in the organisation. Additionally, Alghazi et al. (2017) in the paper “Aligning business strategy with IT strategy

from business model to enterprise in Saudi Arabia public sector”, confirm that the inadequate cross-cultural management also surfaces greater differences amongst the organisational members that delimit the perpetuation of the effective exchange of information and facts across all organisational members.

The fact that less emphasis is placed on project management implies impoverished prioritisation of the tasks, which nonetheless is challenging while implementing a management strategy, further responsible for incompleteness of IT projects on time, and thereby project failures on the part of the organisations in Saudi Arabia including IBM. Budhwar et al. (2019) observe in the research “The state of HRM in the Middle East: Challenges and future research agenda” that the HR managers of the organisations could not align strategies well with the functional dimensions of the business. This mostly happens as the HR managers induce people management techniques through the narrow administrative strategies, which results in a fragmented and incoherent operative mechanism, which is why the functional mechanisms remain loosely connected to one another.

Similar findings are revealed by Alsabban (2019) in his study “A Study on Analysing Mega-Project Failures In Saudi Arabia By Using Agency Theory”, where the employees are facing problems in procuring effective and reliable training and development program which is restricting them to foster their utmost professional competencies and capabilities to fulfil their designated roles and responsibilities. This is because they are not trained with the skills requirements to develop their career path skills nor are they given on-the-job training, which is delimiting them to exhibit their responsibilities adequately. Therefore, the entire internal capabilities of the organisation that are mainly driven by the employees suffer from substantial backlog and low confidence of the employees to engage and work passionately and dedicatedly towards completion of the IT projects of the IBM.

II. Theoretical Factors of failure

Schwartz’s Basic Value theory (2006) reveals basic human ideologies under several distinct values such as achievement, power, conformity, tradition, self-direction, stimulation, and others. This theory provides insights into the ways that values vary between and across cultures and describes potential patterns of conflict between values (Sagiv et al., 2017). In this context, Saudi Arabia fails under a conservation society value which prioritises loyalty and obedience through conformity, self-control and security which are against openness to change value, as found in the study “How Culture Shapes Our Moral Identity: A Cross-Cultural Investigation in Saudi Arabia and Britain”, by AlSheddi (2017). Since culture influences people’s moral identity, this variation of values and morale can lead to failure for IBM in Saudi Arabia.

Equally, Hofstede’s cultural model (2011) shows that Saudi Arabia’s culture and society are much based on tradition, beliefs and masculinity, with a high-power distance dimension. The notion of poor cross-cultural management is relevant across the organisational culture of giant IBM, compared to the national Saudi Arabian environment because the national culture of the countries that foster the Islamic culture attempt to enhance their corporate and national culture. In detail, religious values may influence the moral acumen, understanding, and moral conduct and Islam rigorously impacts social and moral course in Saudi Arabia (Almalki, 2023). Morality in Islam, based on the Middle East local law – Islamic law, is seen as a series of statutes, obligations, and trustworthiness, while benevolence, piety, justice, honesty, awareness of sound conducts such as manners and gratitude, politeness, courtesy, are among the values they learn. These can be interpreted as ethics or moral concepts.

Akbar (2018) further explains that the western concept of morality as right or wrong does not cover the whole concepts of morality in Islam. In comparing morality in Islam and western culture, all categories are found in western cultures but, there are some differences: some Islamic moral values are not considered moral values in the west. For instance, Saudi business is relationship oriented, their preference is those who they know prior to doing business, - in respect to honesty, loyalty and gratitude- compared to western orientation where this can be seen as nepotism and facilitating this aspect can further classify the business as corrupted (Leeth and Leeth, 2015; Asfahani et al., 2023). This creates negative impact on businesses operating in Saudi Arabia and generally in the Middle East countries, such as IBM.

Taylor Scientific Management theory (1911)

IBM’s focus on operational processes together with a strong organisational culture were influenced by the Saudi Arabian national culture. Due to the working cultural difference between women and men the human

resource department could not develop a junction between the machines and human performance in their routine tasks. Consequently, due to the failure of the organisation in providing an efficient training and development program to all the employees, the adoption of the scientific management theory fails in its operations. Kaur et al. (2020) suggest that the focus of the theory is to perform the daily activities by dividing individual work in the production floor. So, the attention of IBM to impose standardised working methods by adopting this management strategy theory could not emphasize this aspect.

III. Saudi business environment factors

On a realistic perspective, the researcher's findings further reveal that the Saudi business culture has a unique etiquette and learning the characteristics and how to approach things in the Kingdom's environment is crucial to perform in business successfully (Boshers, 2020). Their local business culture is based on trust, consensus, hospitality, transparency and ethics, and the country offers distinctive opportunities for those willing to decipher the local business ethos and rationale. In this context, AlDossry (2020) explains that the Saudi business culture is not created out of economic necessity: the focus of their work is not about productivity, it is achieving it and establishing good relations. Concurrently, AlEmam (2020) in the article "Saudi women rising up in business in line with Vision 2030" highlights the evolving role of women in the Saudi business landscape because of recent institutional reforms. Increased female participation in the workforce reflects broader socio-economic transformation aligned with Vision 2030, yet cultural expectations and organisational practices continue to shape professional advancement. These dynamics suggest that while the Saudi business environment is undergoing progressive change, traditional values remain influential, requiring multinational organisations to adopt culturally responsive leadership and management strategies to ensure effective engagement, inclusion, and sustainable performance.

Saudi Arabia has been doing business for decades with the outside world, yet the most successful sectors are the oil industry, petrochemicals, engineering, real estate, private education, healthcare, building materials, luxury goods and agriculture. The majority of these are state-owned – approximately 180 companies, including ministries (Amico, 2017). The rest of them are owned by family groups and private sector. Majid (2017) explains that most of the investors or private businesses go for a joint venture based on a contract agreement, because, based on the local Middle East law- Foreign Ownership Restrictions, one of the partners must be local/ national and own at least 51% of the share. As of this point, since their power, interest, mission and values are different, most businesses fail. Bereta (2018) explores another option, the franchise. McDonalds and Burger King are an example, but these adapted to the specification of the area in respect to customers' tastes, market behaviour and consumer trends. The food and beverage sectors experience a market growth in the region. Overall, the researcher's findings from the Saudi business perspective can be interpreted and accounted for as major importance, they may be generalised into practice and treated as successful triggering factors for businesses to succeed, reduce or eliminate the risk of failure and affect the businesses' interdependencies.

7.0. Linking Theory to Practice – Key Recommendations

I. Strategic and HRM

From the above discussions, several recommendations are drawn, from both the strategic and operational perspectives. These include short-, medium and long-term strategies used as HR-oriented techniques in the Saudi Arabian organisation. Others include a need to introduce a greater scope of upgrading and fostering employee-centred HRM practices aimed at retaining and sustaining a strong and dedicated workforce (see Table 3).

Short-Term: Feedback: Anonymous, culturally sensitive employee feedback channels should be introduced to mitigate discomfort associated with hierarchy and authority, foster transparency and employees' engagement (Mao and DeAndrea, 2018). This is essential in collectivist cultures where direct upward feedback is culturally constrained.

Medium-Term: Hybrid Leadership Model (Transformational–Paternalistic) - a hybrid leadership framework that combines Transformational elements (vision, empowerment, innovation) and Paternalistic leadership traits valued in Saudi Arabia (guidance, protection, moral authority) can balance future-focused change with cultural values enhancing employees' motivation, performance and quality of work life and organisational effectiveness (Abd El-Gawad et al., 2020; Altheeb, 2020; Mahmoud et al., 2024).

Strategic Workforce Localisation with Capability Transfer - IBM should shift from compliance-driven Saudisation to capability-based localisation, pairing expatriate experts with Saudi nationals through structured mentoring and project co-leadership. This reduces dependency risks while preserving technical expertise (Afriyie, 2019).

Table 3:
Key recommendations with examples

	Strategic	Operational
Short term	360 feedback can be an option that the business can use for improving their HR tactics implementation. The use of this model can allow the company not only to monitor the activities that are performed by the employees, but it also helps in determining the most efficient employees that further allows in retaining the capable employees that directly improve the performance of the firm (Garvey, 2019). Additionally, with the use of this feedback model, it becomes easier for the management to communicate with the employees. This, on the other hand, can enable the management to assess the issues that are faced by the workforce. Further, the senior management can develop the right policies and align them with the leadership pattern that is preferred by the employees. The 360-degree feedback makes it easier for the employees as well to express their views to the senior management, helping to build relations. The use of the feedback model helps in not only ensuring that the communication process is enhanced, but it also helps in determining the way the activities are performed.	HR could conduct a survey amongst its employees and obtain an insight into the recurrent demands and grievances of the employees across all levels of operations and put substantial efforts to cater to their problems. This would be mainly done to rebuild the confidence and motivation of the employees in the organisation.
Medium term	The IT organisations in Saudi Arabia could practice transformational leadership to encourage, inspire, and influence the workforce along with transforming the organisational culture with relevant changes in the HRM of the organisation to overcome the fissures that can disrupt the effective HRM management. Therefore, the transformational leadership must be aimed at mitigating all those loopholes and worn policies and procedures coupled with refurbishing worn traditional HRM. This would help the companies in renewing and reinforcing the HR-oriented functionalities in the IT sector of Saudi Arabia and thereby help to facilitate contingent and adequate leadership and managerial strategies to guide and direct, as well as motivate and encourage the employees to accomplish the organisational objectives cooperatively (Li et al., 2019). For example, one of the leading retail organisation, Marks and Spencer has incorporated transformational leadership style to refurbish and induce dynamic changes in an all-encompassing manner and instill a renewed growth and development (Marksandspencer.com, 2019).	Training is an essential part of employee enhancement and management. The use of different training processes develops different skills of employees, which not only allows a business to improve their performance but it develops the employees' performance, which further strengthens the relationship with the senior management (Nassazi, 2013). The risk of HR tactics failure minimises with adequate training. The use of training sessions can convey the mission and vision of the firm amongst the employees, which further guides them in determining the way they must act or perform and contribute towards the betterment of the process as a whole. The use of training activities also enables the leaders to identify whether the efforts that are made by the employees in meeting the business goals and at the same time, it facilitates the assessment of the actions performed to meet the HRM policies or not. For instance, Nestle considers training and developing the workforce to be important practice to equip the workforce with essential skills and competencies. Thereby, Nestle has successfully built a motivated, dedicated, and skilled workforce (Nestle-cwa.com, 2021).

Long term	The employees as well as the managers should approach openness to the essential cultural literacy. This is because by achieving the essential components of cultural literacy that empowers the person to recognise the cultural differences accept the differences through mutual understanding and respect is essential for the IT sector in Saudi Arabia. Moreover, with the help of cultural literacy the cultural sensitivity and outlook of the organisational members would be widened and would help the person to overcome the narrowed cultural perceptions, indoctrination, and preferences and adjust and adapt themselves in an organisational environment infused with multiculturalism (Gualandi, 2015).	Alongside continuous training, development programs must be initiated for the employees to ensure that they are all offered equal and consistent assistance and guidance from the higher management as well as encourage the employees to facilitate their personal and professional growth through organisational experiences. Therefore, heightened facilitation of convenient training and development programs for IT employees would help in enhancing and accentuating the internal competencies and capabilities of the company. This would ultimately drive successful people management and retention, thereby validating and upholding managerial proficiencies (Rogers, 2020).
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Sources: (Authors)

II. Organisation and Culture

An adoption of an organisational culture through analysing the Competing Values Framework (CVF) is necessary this is also suggested by Quinn and Cameron (1980). This can be obtained by conducting the Organizational Culture Assessment Instrument (OCAI) to assess the organisational culture of companies. Consequently, the CVF considers the scores obtained and provides the type of organisational culture from two dimensions: Internal-External and Stability-Flexibility. In the case of IBM, their organisational culture has been assessed by the researcher using OCAI. The highest scores obtained reveal that IBM's Now (actual) culture is a culture of Hierarchy (280) and Market types (190). In CVF, this means that this culture addresses a process-oriented culture that is structured and controlled with rigid frameworks of power, with underlying policies, procedures and formalised workplace, efficiency through routine work and precision of duties dictated by management– see figure 1 below.

NOW culture

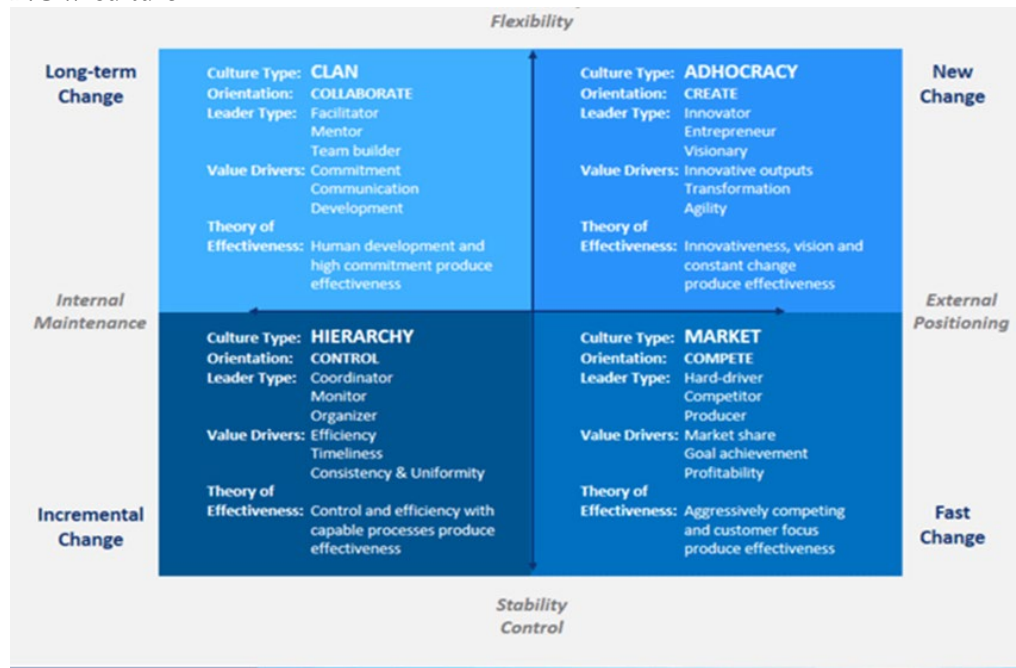


Figure 2. CVF IBM culture -NOW (Source: Authors)

On the contrary, the resulted Preferred (expected) culture is the Adhocracy (180) and Clan (175) types. Therefore, from the context of CVF, the preferred IBM organisational culture in the Saudi Arabian environment is the entrepreneurial culture that would reflect dynamism, innovativeness, and creativity at the workplace- see figure 2. So, this implies that this is a possibility to be considered by businesses when working with Saudi employees instead of a hierarchical organisational culture that provides little to no opportunities to develop professional competencies on the part of the employees. Henceforth, if the

organisational members are provided with the adequate resources that they need to procure to develop the professional edge and improve their performance, it would inevitably reduce the staff attrition rate and consequently the HR failures to retain the workforce (Allen, 2008). Further, this can result in the successful management strategy implementation and meet the business purposed objectives.

Preferred culture

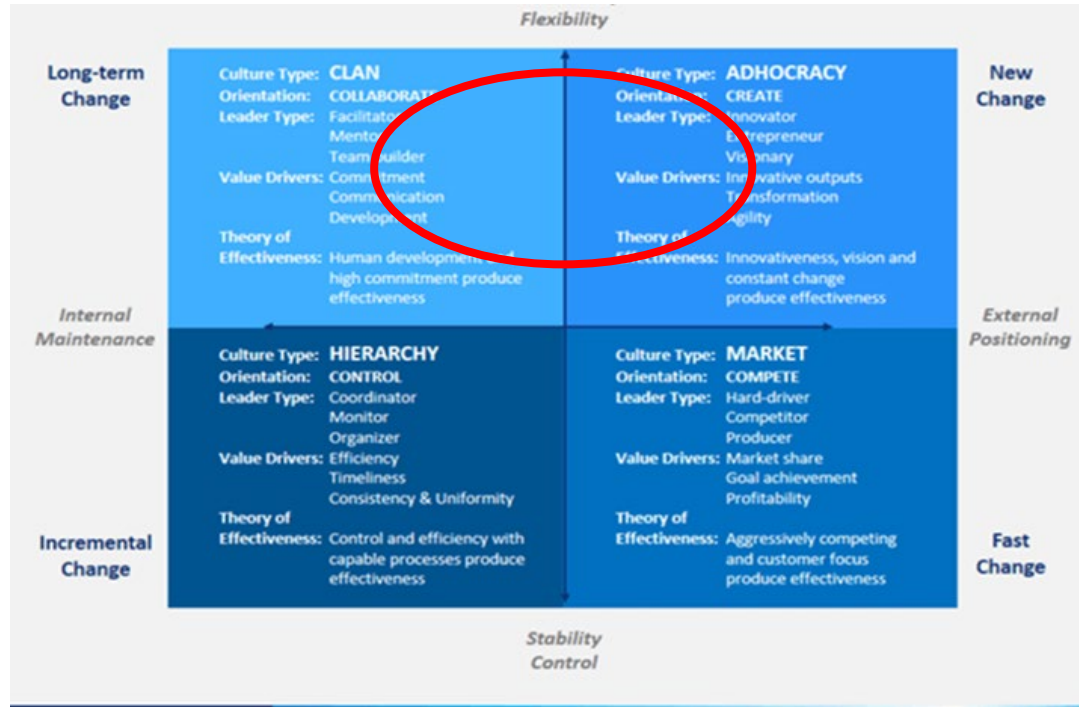


Figure 3: CVF IBM Preferred culture (Source- Authors)

This latter one is a suggested cultural model that can be applicable in practice for IBM and generally considered for other similar businesses prior to expand and to operate in an environment such as Saudi Arabia's or other countries in the Middle East. Possible implications for IBM when using this model include the following: first, this model would enable the organisation to balance innovation and flexibility (adhocracy) with stability and control (hierarchy), which could enhance strategic execution by encouraging innovation within clearly defined structures, thereby reducing resistance to change while maintaining accountability. Second, the model would support improved leadership effectiveness, cross-cultural integration, and employee engagement by aligning global corporate values with local cultural expectations, ultimately strengthening organisational performance and reducing the risk of strategic failure (Zeb et al., 2021).

8.0. Conclusion

It can be concluded from the preceding discussions that the research study on management strategy failures points towards the lack of effective leadership and guidance as well as a deficit of proper Human Resource Management as the result of major failures in the organisation. The fact that the convenient and unidirectional leadership devoid of effective managerial procedure in facilitating integrated and coordinated functionalities across the organisation, the inefficient prioritisation of the organisational activities attribute incompleteness of IT projects on time and thereby leading to project failures, as well as ineffective cross-cultural management (Alfaadel et al., 2012; Qureshi, 2018; Budhwar et al., 2019). The wide disparity that lies in the efforts towards integration of the different cultural affiliations result in internal disharmony which ultimately led to failure in the management strategies in Saudi Arabia (Alghazi et al., 2017). These reasons can answer to the research questions *What are the reasons for failure in management strategies?* and *What is the impact on the business interdependencies in the Saudi Arabia?* raised by this study.

Besides these, the other factors behind the failure of the management strategies and initiatives and implementation of the reliable and resilient HRM are the non-alignment of the organisational endeavours and organisational capabilities with the organisational resources (Alrubaishi et al., 2020). It is found that

aspects of the insufficient and ineffective HRM include outdated HR management and infrastructure, not enough motivation and encouragement provided to the employees to foster the utmost workplace dedication, inadequate leadership, cultural preferences and prevalence of orthodoxy in the organisation (Tlaiss and Elamin, 2016). Apart from this, conflicts arising due to the failure of integration of the westernised Human Resource managerial tactics and strategies with the overriding force of the Islamic and Arabian cultural tenets ingrained into the different levels of organisation structure and organisational culture along with the disoriented professional schedule for the employees, as well as ineffective cross-cultural management of the multicultural workforce (Leeth and Leeth, 2015; Al-Asfour et al., 2019; Alalshiekh, 2018; Siddique et al., 2016; Asfahani et al., 2023; Alotaibi, 2023).

All these reasons as stated necessitate the fact that indeed the organisational culture, as well as different facets of functional techniques especially that of the HR systems need an overhaul of the organisational systems. These overhauling and transforming of the dynamics of the different IT companies operating in Saudi Arabia encompasses for not only the development and sharpening of the managerial personnel but also calls for proactive dealing and catering to the employees interpersonally. Thus, this may answer the research question *What challenges does HR face when a new strategy is implemented in Saudi Arabia?*

The answer to the research question *What are the barriers faced by the employees in training and development program?* is that the lack of accessibility of proper training and development programmes on the part of the employees restricted opportunities of developing and fostering the professional competencies and efficacies to excel and attribute success to the IT projects in Saudi Arabian IT organisations, as evidenced by (AlDossari, 2016; Aldossari and Chaudhry, 2024).

Lastly, it is suggested that all the recommendations provided for the IT sector especially IBM would enable the company to overcome the shortcomings and faults persisting in the management strategies of the organisational functionalities and culture of the company. Henceforth, the research findings would empower the IT sector of the Saudi Arabian organisations to recognise its ingrained and major managerial issues and work diligently, skilfully, and responsibly in mitigation of those problems. This can clarify the answer to the research question *What can be an effective solution to manage the failures in IT sector in Saudi Arabia?* Finally, the research objectives are met, and this research can potentially address the research gap discussed in this study. The findings can be generalised, and businesses may apply these in practice. Since the paper applied the realism philosophy methodology, with the interpretivism research approach, all relevant data are interpreted to give justifiable and beneficial solutions to the real issues by highlighting reality from a different perspective and unfolding new perceptions.

8.1. Limitations and future research direction

Due to the limitations of this paper, other perspectives could not be debated, however, it would be beneficial to research and contrast other aspects and viewpoints from areas where rigorous national cultures and beliefs could either interfere or have an impact on the business operations in Saudi Arabia. Some of these distinctive contexts could be; APJ -Asia Pacific Japan or CIS - Commonwealth of Independent States, former Republics of Russia- Belarus, Uzbekistan, Armenia, Moldova, Kazakhstan, Azerbaijan and many others. Another avenue for future research involves replicating the present study across different sectors, such as education or hospitality, to examine potential similarities and differences in the findings. On a different note, another option for the future extent of this research could be unveiled further through examining in greater depth the different tenets and techniques of e-HRM and Artificial Intelligence that could be used to enhance and modernise the HRM processes in the Saudi Arabian organisations. Therefore, the research could be carried out to explore ways in which the varied dynamics and functional measures could be incorporated by the HR managers and strategy managers to improve the existing parameters of the HRM and management and foster greater employee development and engagement at IBM and other IT companies in Saudi Arabia.

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Figure 1. Themes structure model (created by the authors).

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Does Organizational Culture Drive Innovation in Non-profit Organizations? Testing the applicability of ICEF Model at Qatar Charity

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Abstract

Innovation is a critical factor in determining long-term success of organizations, including non-profit organizations. Unlike commercial organizations, non-profit organizations (NPOs) are mission-driven, compliance heavy, and operate in resource constrained environments. This study investigates the applicability of the Innovative Culture Enhancement Framework (ICEF) within a large humanitarian non-profit organization, Qatar Charity. Utilizing a quantitative cross-sectional survey, based on the Competing Values Framework (CVF), and a modified Community Innovation Survey (CIS), this study assessed culture-innovation linkages in Qatar Charity. The findings of the study revealed Adbocracy Culture as a powerful predictor for all innovation types. Surprisingly, Hierarchy Culture, typically seen as antithetical to innovation, emerged as a significant positive predictor for all innovation typologies, suggesting a sector-specific form of structured innovation in compliance-intensive NPO environments. Market and Clan cultures had selective effects on innovation. From a policy standpoint, this study offers actionable insights for non-profit managers who foster innovation through culturally targeted strategies, emphasizing the complementary roles of creativity, collaboration, and procedural formalization.

Keywords: Innovation, ICEF, Non-profit Organizations, Organizational Culture, Competing Values Framework

Wordcount: 161

1.0 Introduction

Innovation is increasingly recognized as a critical factor in determining long-term success of organizations, including non-profit organizations (NPOs), that operate in fast changing complex business environments (Bendak et al., 2020; Bessant & Tidd, 2011; Mulgan, 2006). Innovation, conceptualized as transitioning away from existing knowledge, practices, policies, strategies, and beliefs to new methods of conducting businesses, enables organizations in possessing competitive advantages over their competitors (Afuah, 2003). Innovation can either be internally generated (within an organization) or adopted from external environments (Bendak et al., 2020). The implementation of innovation may be either radical or incremental. Radical innovation involves considerable risk because of the uncertainty and is harder to implement, however, it might be more suitable for long-term growth. Incremental innovation is more appropriate for making gradual improvements (Bendak et al., 2020; Dewar & Dutton, 1986; Giannopoulou et al., 2019; Revilla and Rodriguez-Prado, 2018). Unlike commercial organizations that are driven by the pursuit of profit maximization, non-profit organizations are largely mission-driven (Anheier, 2014). NPOs face increasing pressure from their donors, regulatory agencies, and communities to deliver social impact in a transparent, responsive, and efficient manner (Lewis, 2003; Salamon, 2010; DiMaggio & Powell, 1983). Resultantly, NPOs continuously need to adopt innovative practices in their management, finances, and organizational structure to achieve their institutional mission.

Several studies (Fisher & Wilmoth, 2018; Jaskyte and Kisieliene, 2006; Hutchison et al., 2019; Martins and Terblanche, 2003; Schein, 2004; Tellis et al., 2009) emphasize the role of organizational culture in determining organizational innovation capability. Organizational culture is defined as the shared values, norms, assumptions and practices that shape behaviour. Using archival data from 759 firms across 17 countries, Tellis et al. (2009) assessed the influence of corporate culture on radical innovation. The findings of the study indicate significant role of corporate culture in driving innovation across firms. Similarly, scholars (Jaskyte & Kisieliene, 2006; Schein, 2004) report that organizational culture that encourages collaboration, experimentation and adaptability has a higher chance of fostering innovation (Denison &

Mishra, 1995) as compared to formalism, strict hierarchy and risk aversion, which may suppress innovation (Jaskyte & Dressler, 2005). Although there is growing acceptance of this culture-innovation association, empirical studies and theoretical models to operationalize this association have been largely developed in corporate and profit-driven contexts (Cameron & Quinn, 2011; Quinn & Rohrbaugh, 1983). This is in contrast with a humanitarian or non-profit organization, where performance indicators, motivation systems, and accountability systems have a mission-focused approach as opposed to market-based orientations (Ebrahim & Rangan, 2010). Consequently, models that have been tested in the private for-profit organizations might not be applicable in the non-profit setting (Kaplan, 2001).

Qatar Charity (2022), one of the largest humanitarian organizations in the Gulf region, operates across 70 countries and deals with matters on health, education, livelihoods, and disaster relief. The organization must continuously adapt to address complex challenges. This study examines the impact of organizational culture on innovation in the context of non-profit organizations, using Qatar Charity as a case study. The compliance-heavy governance structure of Qatar Charity and regional cultural norms may present unique barriers or enablers to innovation (Renko et al., 2015; UN OCHA, 2021), making the study of internal culture and innovation both theoretically and practically significant. In the present study, the Innovative Culture Enhancement Framework (ICEF) has been used to provide an empirical evaluation of its transferability and predictive validity in a non-profit setting. Innovative Culture Enhancement Framework (ICEF) formulated by Bendak et al. (2020) offers a data-oriented, systematic method of organizational culture diagnostics, innovation outcome measurement, and integration of the two with the help of specific intervention (Bendak et al., 2020). ICEF allows statistical modeling of culture innovation relationships, through the combination of the Competing Values Framework (CVF) (operationalized using the organizational Culture Assessment Instrument (OCAI) (Cameron & Quinn, 2011)) with innovation typologies obtained by the Community Innovation Survey (CIS) (OECD/Eurostat, 2018). ICEF has been proven to be highly predictive and strategic in the context of corporations, however, it has not been empirically tested in the context of non-profit or mission-driven organizations that are fundamentally distinct in terms of operational logic, motivation structures and innovation dynamics (Ebrahim, 2005; Moore, 2000;). The study addresses this gap by empirically evaluating the predictive logic of ICEF in a non-profit humanitarian organization to find out whether these relationships between culture and innovation, as found in corporate settings, hold (Tschirhart & AbouAssi, 2025).

The study seeks to: First, attempt to diagnose the organizational culture profile of Qatar Charity using the OCAI based on the Competing Values Framework (CVF). Second, use a modified version of the Community Innovation Survey and measure the current levels and types of innovation at Qatar Charity. Third, utilize multiple regression techniques to analyze the statistical relationship between organizational culture types and innovation (Aboajela, 2015). Fourth, evaluates the validity of ICEF's predictive logic in a humanitarian non-profit context. This study is significant across theoretical, practical, and policy-making levels. Theoretically, it examines the generalizability of the Innovative Culture Enhancement Framework (ICEF), initially developed for the private sector, to a non-profit humanitarian setting, advancing the knowledge of how organizational culture predetermines innovation success in mission-driven organizations (Bendak et al., 2020; Brown & Osborne, 2013).

Beyond testing transferability, this study makes a specific theoretical contribution to the Competing Values Framework (CVF) literature. The dominant CVF-based finding in corporate settings is that Hierarchy culture is neutral or negative for innovation, while Adhocracy and Clan cultures are positive enablers (Büschgens et al., 2013; Hartnell et al., 2011). If this pattern does not hold in a compliance-intensive, donor-accountable non-profit context, this would suggest that the hierarchy-innovation relationship is not a universal property of CVF but is instead moderated by sectoral accountability structures. In this sense, the present study uses the non-profit humanitarian setting not merely as a new application context for ICEF, but as a boundary-condition test of one of CVF's more established assumptions.

In practice, it gives humanitarian entities evidence of whether profit-driven innovation systems can be adapted or require contextual modifications to implement innovation with the assistance of cultural interventions. To policymakers, the study can be used in designing innovation policy in the non-profit sector, especially in the Gulf by revealing how strategic planning and capacity-building is informed by framework like ICEF. The remainder of the paper is organized as follows: Following this is a section on literature review. Next section presents the data sources and research methodology utilized in this study.

Fourth section presents the findings of the study. The final section concludes the paper with policy recommendations.

2.0 Review of Literature

Organizational culture has been described as a pattern of shared basic assumptions that evolve as a group learns to deal with internal integration and external adaptation issues and is passed down to new members as the way to think, feel, and perceive things (Schein, 2010). This perspective views organizational culture as multi-layered: on the most superficial level are artefacts, which include the physical component like the dressing style, office architecture or observable rites. Under these are espoused values which are the declared norms and strategies such as mission statements and strategic plans which direct behaviour in an organization. The deepest layer is the level of basic assumptions, deep, unconscious beliefs that cannot be seen but have a significant impact on behavior. This stratification is important to innovation since the results of innovation can be contingent on not what organizations claim to hold dear to them, but whether innovation-promoting practices are practiced in routines, symbols, and everyday practice. In non-profit organizations, beliefs about the sanctity or compliance of the mission that are strongly held may deter experimentation or risk-taking and prevent an organisation to innovate (Lewis, 2003). Studies on culture-innovation linkages demonstrate the channels through which organizational culture influences innovation. First, it affects the readiness to offer and explore ideas. Second, it determines how much failure and conflict are perceived to be expensive. Third, it determines the extent of knowledge sharing and cross-boundary linkages. And finally, it determines the presence of, and legitimacy of resources allocated to exploration. Martins and Terblanche (2003) combine this reasoning into a model of strategy, structural arrangements, support mechanisms, and communication patterns, which are cultural determinants and facilitate creativity and innovation. Another related tradition is componential theory of creativity and innovation which predicts motivational and work-environment factors. The work of Amabile et al. (1996) operationalized the climate for creativity in the form of perceived stimulants (e.g., organizational encouragement, challenging work, supervisory support, freedom) and barriers (e.g., organizational impediments, workload pressure), which offers an invaluable measurement bridge between culture/climate and innovation results.

The Competing Values Framework (CVF), developed by Quinn and Rohrbaugh (1983) and later modified by Cameron & Quinn (2011), is one of the most commonly used models of diagnosing organizational culture. It is a two-axis model that combines flexibility and control and internal and external focus to come up with four different cultural archetypes, namely, adhocracy culture (AC), clan culture (CC), market culture (MC), and hierarchy culture (HC) (Cameron & Quinn, 2011). The Clan culture is focused on a team, participative, and collaborative working environment building a sense of belonging and purpose. Adhocracy culture on the other hand is entrepreneurial and dynamic, whereby adaptability, creativity, and risk-taking are considered important. Market culture is competitive, result-oriented and goal oriented, and high achievement externality is focused. The hierarchical culture is one that is bureaucratic, is rule-oriented, focused on order and stability and has well-defined control and authority. The Organizational Culture Assessment Instrument (OCAI), developed by Cameron and Quinn (2011), operationalizes the CVF through a six-dimensional survey. The OCAI is ipsative in nature and is effective in bringing out relative cultural dominance. However, it does not allow generation of independent score of each type of culture, which impacts statistical analysis. Empirical evidence indicates that adhocracy and clan cultures are linked with the increased rates of innovation. On the other hand, hierarchy tends to have a neutral or negative correlation to innovation, especially in radical or exploratory type (Büschgens et al., 2013; Hartnell et al., 2011). These findings underpin ICEF's predictive logic (Bendak et al., 2020). A similar trait-based model by Denison & Mishra (1995) identifies four cultural traits; involvement, consistency, adaptability, and mission that are often identified as especially helpful in predicting innovation capacity.

Hogan and Coote (2014) assessed the applicability of Schein's (2010) three-layer model. The authors found that more proximal norms, artifacts, and innovative behaviors are the results of deeper cultural values and the innovation pathway is connected with performance in a professional environment. The findings reinforce the argument that value statements do not motivate innovation but instead the practice of those value statements in routines and behavior expectations do. Jaskyte & Dressler (2005) evaluated the role of organizational culture in influencing innovation within the context of non-profit organizations. The authors discovered the significant role of cultural consensus and organizational values in predicting the organizational innovativeness (controlling leadership and size), indicating that innovation-supportive

culture works in the setting of non-profit as it does in for-profit. Other areas of interest to non-profit innovation scholarship include the view that innovation is often mission-directed and contingent on the stakeholder. McDonald (2007) provided evidence in favor of mission serving as an intervening force in the innovation process, indicating that it is not a limiting concept, at least, but can be an enabler in legitimizing change. At the same time, non-profit organizations are subjected to greater demands of accountability and transparency which may exert risk aversion and increased focus on compliance and stakeholder signaling rather than experimentation. Yasmin and Ghafran (2021) underscored the centrality of accountability expectations to the maintenance of trust and legitimacy, the nature of managerial discretion and organizational priorities, which can have a significant influence on innovation investment and tolerance of failure. Moreover, the donor expectation taking regulatory restrictions tends to be one of the key factors that can balance the willingness or possibility of an organization to take risks (Banks et al., 2015). Table 1 presents the key studies on organizational culture-innovation linkages.

Table 1:
Key Studies on Organizational culture-innovation linkages

Paper	Methodology	Summary of findings
Martins and Terblanche (2003)	Conceptual review of literature	Proposes a culture - innovation model identifying determinants that stimulate creativity: strategy, structure, support mechanisms, and open communication.
Amabile et al. (1996)	Survey-based scale development	Work environments that allow autonomy, challenging work, resources, and support have higher creativity.
Hogan and Coote (2014)	Structural Equation Modeling testing Schein's (2010) model	Supports a layered pathway: norms, artifacts, and innovative behaviors partially mediate effects of innovation-supporting values on performance.
Hartnell et al. (2011)	Meta analysis of 84 empirical studies	Clan, adhocracy, and market cultures show differential positive associations with effectiveness criteria (including operational performance such as innovation/quality).
Büschgens et al. (2013)	Meta-analytic review of culture-innovation link	Reports systematic difference by culture orientation, with innovation fitting best in externally oriented, flexibility based developmental/ adhocracy-like cultures, control/ stability- oriented cultures are generally less favorable to innovation.
Jaskyte and Dressler (2005)	Survey study of non-profit human service organizations	Organizational innovativeness is inversely related to cultural consensus and negatively related to stability values.
McDonald (2007)	Two studies among U.S. non-profit hospitals; tests mission's role in innovation process.	A clear, motivating mission focuses attention on mission-supporting innovations and creates a climate where innovations receive a fair chance; organizations with clearer missions tend to be more innovative.

The Oslo manual defines innovation as the implementation of a new or significantly improved product (good or service), process, marketing method or organizational method. This definition encapsulates a multidimensional view of innovation, transcending beyond a narrow focus on technology or Research and Development (R&D) to include changes in strategy, governance, and service delivery (OECD/Eurostat, 2018). This extensiveness is particularly crucial to non-profit organizations, in which the unfolding of innovation is not in the form of physical goods but as a new model of service, an approach to outreach, or a more effective internal process (Mulgan, 2006; Phillips et al., 2008). The Oslo Manual also divides innovation into incremental and radical innovation. Non-profit organizations have more often incremental and end-focused innovation, which makes such innovation less disruptive to markets and paradigms (Osborne & Brown, 2011). Community Innovation Survey (CIS), designed by Eurostat, is a widely used instrument for national-level assessments of innovation activities. The CIS categorizes innovation into four types. Product innovation refers to introducing new or significantly improved goods or services. Process innovation entails the alteration of internal production or service delivery modes. Organizational Innovation refers to management structure, workflow or workplace innovation. Marketing innovation

refers to new methods of advertising, reaching out or branding strategy. Although the CIS was originally intended to be used for for-profit organizations, its typologies can be applied in any organizational context. Bendak et al. (2020) substituted numerous binary (yes/no) CIS items with a 10-point Likert scale to increase the accuracy of measurements, asking respondents to rate 12 items on a 1 (very weak) to 10 (very strong) scale.

The conceptual framework of this study is based on the multidimensional perspective on innovation as presented by the Oslo Manual (OECD/Eurostat, 2018) and the CIS (Arundel and Smith, 2013). Bendak et al. (2020) presented the Innovative Culture Enhancement Framework (ICEF) as a methodical model aimed at connecting organizational culture diagnostics (using the CVF/OCAI) with the outcomes of innovation (measured using a modified CIS). This study addresses four key gaps identified in the literature. First, the ICEF model has not been empirically investigated in non-profit or humanitarian settings even though it is useful in for-profit scenarios. Second, currently available culture-innovation literature is heavily corporate-centered, not paying much attention to the mission-driven dynamics imperatives of non-profit making organizations (Hartnell et al., 2011). Lastly, there is an apparent paucity of research that utilizes rigorous quantitative modelling as a tool to test the association between organizational culture and innovation in the non-profit context (Jaskyte & Dressler, 2005).

2.1. Hypothesis Development and Conceptual Framework

Building on the CVF-based evidence reviewed above and on ICEF's predictive logic (Bendak et al., 2020), the following hypotheses are proposed. Consistent with meta-analytic evidence that flexibility-oriented cultures are more conducive to innovation than control-oriented cultures (Büschgens et al., 2013; Hartnell et al., 2011), Adhocracy and Clan cultures are expected to be positive predictors of innovation outcomes, Market culture is expected to have a selective, efficiency-linked positive association, and Hierarchy culture, reflecting rule-orientation and control, is expected to be negatively associated with innovation. Formally:

H1: Adhocracy culture is positively associated with innovation outcomes (Program/Service, Process, Organizational, and Marketing innovation) in Qatar Charity.

H2: Clan culture is positively associated with innovation outcomes in Qatar Charity.

H3: Market culture is positively associated with innovation outcomes in Qatar Charity.

H4: Hierarchy culture is negatively associated with innovation outcomes in Qatar Charity.

Figure 1 summarizes these relationships as a conceptual framework, linking the four independent culture variables (Adhocracy, Clan, Market, and Hierarchy, operationalized via the OCAI) to the four dependent innovation variables (Program/Service, Process, Organizational, and Marketing innovation, operationalized via the modified CIS), with H1-H4 denoting the hypothesized direction of each relationship.

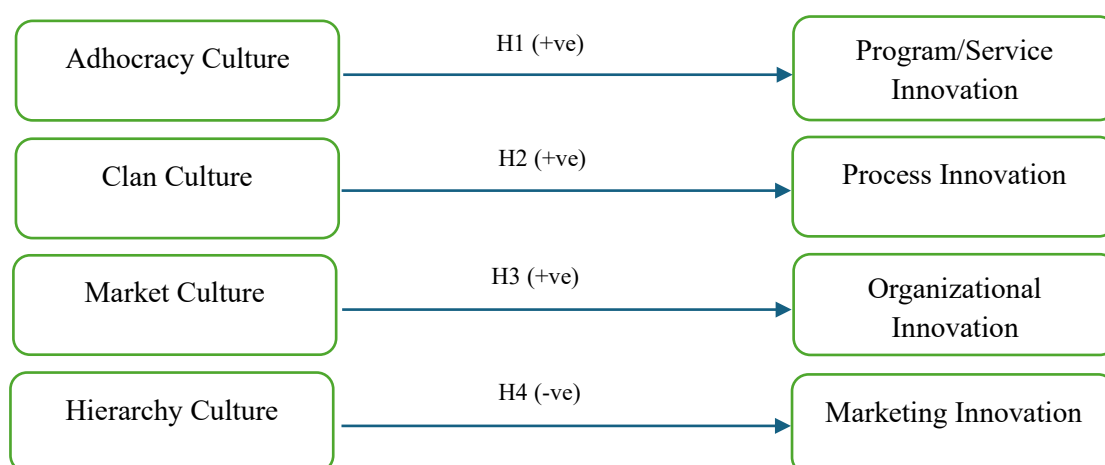


Figure 1. Conceptual Framework: Hypothesized relationships between organizational culture and innovation types. Source: Authors' construction, adapted from Bendak et al. (2020) and Cameron & Quinn (2011)

3.0 Data Sources and Research Methodology

3.1. Data Sources

This study employed a quantitative cross-sectional survey to understand employee's perceptions of organizational culture and innovation in Qatar Charity (Bryman, 2016; Saunders et al., 2019). Survey method is consistent with ICEF, which also employed cross-sectional surveys to estimate the statistical relationships between the cultural dimensions and innovation performances (Bendak et al., 2020) and can be used to test its predictive power within a non-profit context (Creswell & Creswell, 2018; Christensen et al., 2006). The diversification of Qatar Charity's operations, the institutional maturity and regional influence render it the appropriate context for testing the applicability of ICEF in structured non-profit organizational environment. A stratified convenience sampling method was used for data collection (Teddlie & Yu, 2007; Punch, 2013). The target population comprised the diversified workforce, employed across programmatic, administrative, financial, and logistics and support services, of Qatar Charity. Major departments, such as Programs, Finance, Human Resources, Logistics, and Communications are designated as strata, ensuring that the sample includes a proportional cross-section of functional perspectives. Convenience-based selection of the respondents within each stratum was done based on their availability and access, facilitated through the internal communication channels, coordinated with the Human Resources of Qatar Charity. Even though convenience sampling limits generalizability, stratification enhances the representation of functional units. The recommended sample size for model testing multiple predictors is determined by the formula: $N \geq 50 + 8m$, where 'm' is the number of independent variables (Cohen, 1992; Tabachnick & Fidell, 2013). With four explanatory variables, the minimum required sample size was 82. Hair et al. (2010) finds that a sample size of 100 or more enhances the statistical power and reduces the effects of non-response, incomplete data or bias. The sample size of the present study is 104. Table 2 presents the distribution of responses among the five sectors of Qatar Charity.

Table 2:

Distribution of responses among the five sectors of Qatar Charity

Name of Sector	Number of Responses	Relative Frequency
Support Services	20	19.2%
Resources Development and Communication	28	26.9%
International Operations	26	25%
Programs and Community Development	18	17.3%
Governance and External Relations	12	11.5%
Total	104	100%

To test the relevance of the instrument and its clarity in a context-specific situation, a pilot study was carried out (n=40) among staff members at Qatar Charity. It was revealed through feedback that certain terms and assumptions within the original OCAI and CIS schemes, which were effectively applicable to a private sector environment, did not entirely apply in a humanitarian non-profit context. Consequently, some major changes were done. The equivalent translation of the survey tools into Arabic was also done through expert review and back-translation. The face and content validity of the ultimate survey were improved by the pilot survey. The research plan and the execution were done according to the ethics provided by the institutional review boards (IRBs) of the sponsoring university and the institutional policy of Qatar Charity. The key aspects considered are informed consent, voluntary participation, anonymity and data security were highly adhered to. All the raw data gathered were stored safely in the encrypted cloud storage services, accessible to the primary researcher only, ensuring data security (Resnik, 2018).

3.2. Research Methodology

To begin with, the prevalent cultural types in Qatar Charity was diagnosed using the Organizational Cultural Assessment Instrument (OCAI). The OCAI systematically assesses organizational culture across six key dimensions: Dominant Characteristics, Organizational Leadership, Management of Employees, Organizational Glue, Strategic Emphases, and Criteria for Success. The respondents were to distribute 100 points among the four different culture types such as Clan, Adhocracy, Market, and Hierarchy, which disclosed each type of culture strength on the organizational level. Cameron & Quinn (2011) demonstrated the strength of OCAI, including its global validation, conciseness, and interpretability. However, the OCAI due to its ipsative design, inhibits the independent statistical treatment of the variables, that is, it does not

have any statistical significance of the classical correlational analysis of the variables themselves (Hartnell et al., 2011). The Market Culture dimension was specifically considered in the process of adapting the OCAI framework to the non-profit setting. Feedback from the pilot phase indicated that its emphasis on competitiveness and market share was misaligned with mission-driven realities. It was reworded so as to focus more on results-orientation, competition over donor funding and stakeholder accountability, thus making it easy to understand by respondents. Other types of cultures such as adhocracy (innovation), clan (collaboration) and hierarchy (structure) were generally harmonious to non-profit values and required minimal adjustment. The conceptual framework guiding this study, linking the four OCAI culture types to the four CIS innovation types via hypotheses H1–H4, is presented below in Figure 2.

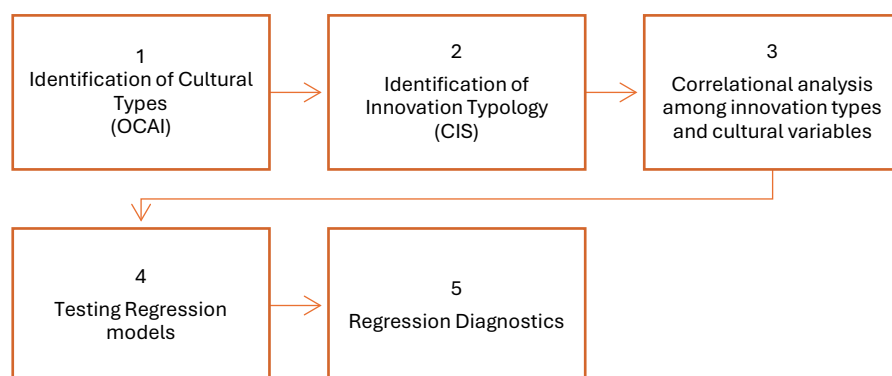


Figure 2. Research Schema used in this study

Source: Authors' construction, adapted from Bendak et al. (2020) and Cameron & Quinn (2011)

In this study, a self-adapted tool on the Community Innovation Survey (CIS) was applied to determine the outcome of innovation in Qatar Charity. The instrument is based on Bendak et al. (2020), the original yes/no items with the Likert scale. Feedback from pilot survey revealed that a 5-point scale was more understandable and less burdensome to respond to; therefore, it was applied. The content and terms of the survey were put into context concerning the humanitarian and non-profit field in a systematic way:

- Commercial language (e.g., “products”) to language appropriate for the humanitarian sector (e.g., “humanitarian Programs and services”).
- Stakeholder focus shifted from a “customer” to “donor and beneficiary.”
- NPO-specific goals, including public engagement and social impact were explicitly included.

The innovation domains had 4-6 items that were used to capture innovation practices in the last 12-36 months, which is in line with innovation survey best practices (Arundel & Smith, 2013). The content validity for Organizational Culture Assessment Instrument (OCAI) is based on the Competing Values Framework (Cameron & Quinn, 2011; Kennedy et al., 2020), and the Modified Community Innovation Survey (CIS) on the Oslo Manual (OECD/Eurostat, 2018). Both instruments are extensively researched, and their validity has been demonstrated in numerous studies (Büschgens et al., 2013). Construct validity of modified CIS measure was evaluated through the Exploratory Factor Analysis (EFA) with the help of SPSS (Pallant, 2020; Field, 2018). Items with factor loadings below 0.40 were flagged for elimination or revision (Fabrigar et al., 1999). The factor structure was investigated in terms of dimensional clarity, and the significant cross-loadings were evaluated in terms of whether they indicate redundancy or ambiguity. Internal consistency of the Modified CIS was evaluated on the basis of Cronbach alpha of each subscale of innovations with alpha values of 0.70 and above being acceptable (Nunnally and Bernstein, 1994). The ipsative nature of OCAI the respondents were required to generate a predetermined number of points and distribute them among the choices rendered Cronbach to be an inappropriate measure of internal reliability (Hartnell et al., 2011). The results of OCAI were treated descriptively, paying attention to the relative cultural dominance within the organization and not on the independent scales scores (Cameron & Quinn, 2011).

4.0 Results and Discussions

An initial descriptive analysis was conducted to establish a foundational understanding of Qatar Charity's internal environment by calculating the mean scores and distribution percentages for the organizational culture archetypes and innovation types. Table 3 presents a summary of descriptive statistics of variables used in this study.

Table 3.

Descriptive Statistics of variables used in this study

Variable	Number	Minimum	Maximum	Mean	Standard Deviation
Clan Culture Score	104	.00	43.06	23.1036	7.71496
Adhocracy Culture Score	104	.00	44.44	19.497	9.14741
Market Culture Score	104	.00	47.22	25.587	8.77278
Hierarchy Culture Score	104	.00	52.78	26.5224	7.81256
Program/Service Innovation	104	1.13	4.75	2.9222	.68956
Process Innovation	104	1.00	3.50	2.4523	.49598
Organizational Innovation	104	.71	3.40	2.2219	.64262
Marketing Innovation	104	1.00	5.00	3.4712	.97996

Source: Author's Calculation

The descriptive statistics for the study variables ($N = 104$) indicate that among the four types of organizational culture, Hierarchy culture had the highest mean score ($M = 26.52$, $SD = 7.81$), followed by Market ($M = 25.59$, $SD = 8.77$), Clan ($M = 23.10$, $SD = 7.71$) and Adhocracy ($M = 19.50$, $SD = 9.15$). This suggests Hierarchy and Market-oriented characteristics were relatively more dominant than Clan and Adhocracy elements. Marketing innovation showed the highest mean ($M = 3.47$, $SD = .98$), followed by program/service innovation ($M = 2.92$, $SD = .69$), process innovation ($M = 2.45$, $SD = .50$) and organizational innovation ($M = 2.22$, $SD = .64$). The cultural landscape of Qatar Charity was mapped using a framework identifying four archetypes: Clan, Adhocracy, Market, and Hierarchy. The distribution of these types, representing their perceived dominance within the organization, is presented below in Figure 3 and indicates a complex, composite culture rather than a single monolithic one.

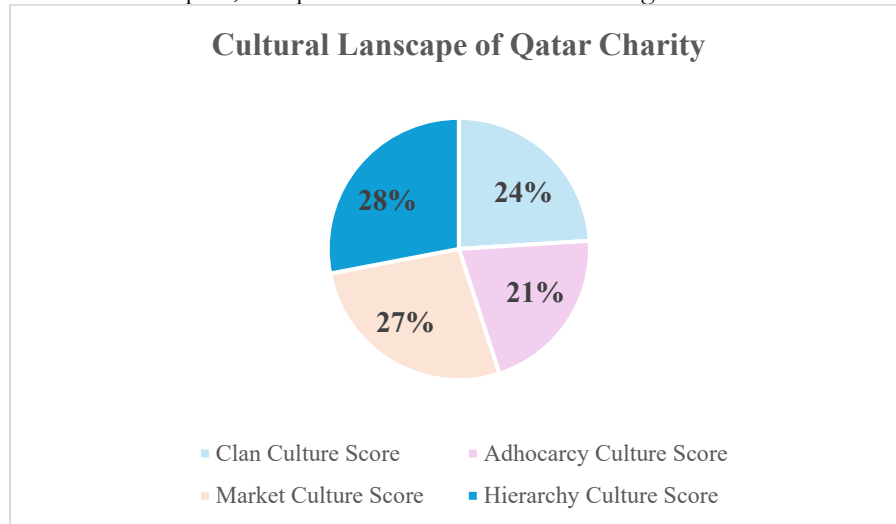


Figure 3. Cultural Landscape of Qatar Charity

Source: Survey response

The cultural profile indicates a composite structure, with Hierarchy Culture (28%) and Market (27%) cultures most dominant, followed by Clan (24%) and Adhocracy (21%). This reflects that Qatar Charity's cultural profile is not dominated by a single archetype but a balanced blend, with a discernible orientation towards Hierarchy and Market cultures. The organization's innovation activities were evenly distributed across four distinct categories. Organizational Innovation accounted for the largest share (25.98%), closely followed by Marketing (25.60%) and Program/Service Innovation (25.55%), indicating balanced efforts in internal restructuring, stakeholder engagement, and service development. Process Innovation (21.95%), the least emphasized area, is pertaining to improvements in service delivery methods and internal operational workflows. Figure 4 presents the innovation landscape of Qatar Charity.

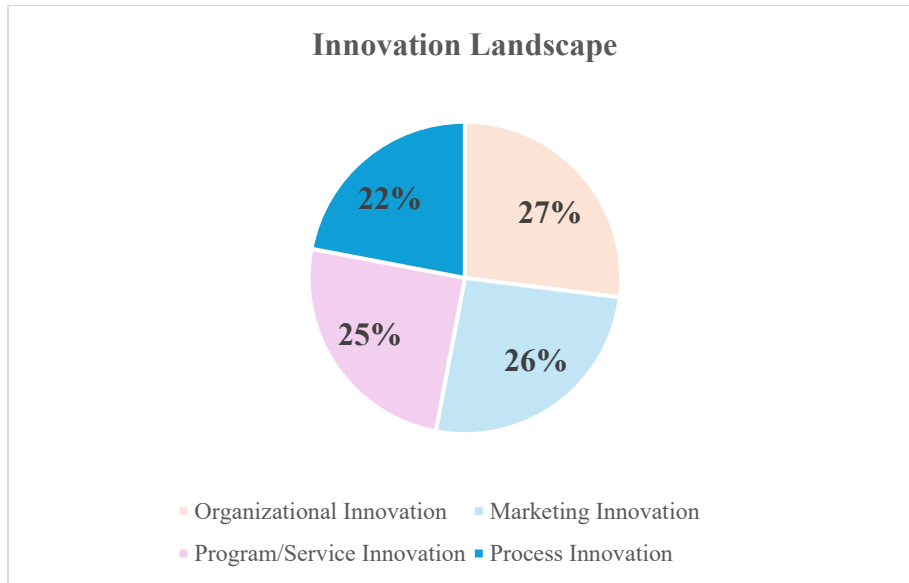


Figure 4. Innovation Landscape of Qatar Charity
Source: Survey response

The correlation analysis revealed several significant associations among organizational culture types and innovation dimensions. Adhocracy culture was negatively correlated with hierarchy culture ($r = .333$, $p = .001$), suggesting that organizations emphasizing adhocracy characteristics tend to report lower levels of hierarchical orientation. No other significant relationships were observed among the culture types. For culture-innovation links, clan culture was positively correlated with program/service innovation ($r = .213$, $p = .030$) and organizational innovation ($r = .244$, $p = .012$). Adhocracy culture was positively associated with marketing innovation ($r = .281$, $p = .004$). Hierarchy culture positively correlated with program/service innovation ($r = .252$, $p = .010$) and organizational innovation ($r = .196$, $p = .046$). Market culture exhibited a significant positive relationship with process innovation ($r = .220$, $p = .025$). Innovation dimensions were strongly intercorrelated among innovation types. Process innovation correlated highly with organizational innovation ($r = .754$, $p < .001$) and marketing innovation ($r = .622$, $p < .001$), while organizational innovation showed a strong relationship with marketing innovation ($r = .652$, $p < .001$). Table 4 presents the results of correlation analysis.

Table 4.

Pearson's correlation coefficients between culture and innovation types

	CC	AC	MC	HC	PSI	PROC	ORG	MKT
Clan Culture	---							
Adhocracy Culture	-0.044	---						
Market Culture	-0.153	.069						
Hierarchy Culture	.074	-0.333**	0.127	---				
Program/Service Innovation	0.213*	0.157	0.181	0.252**	---			
Process Innovation	0.15	0.19	0.22*	0.176	0.74**	---		
Organizational Innovation	0.24*	0.13	0.17	0.196*	0.75**	0.75**	---	
Marketing Innovation	0.07	0.28**	0.19	0.13	0.64**	0.62**	0.65**	---

Notes: The * and ** denote significance level at 5% and 1% respectively. CC, AC, MC, and HC are clan, adhocracy, market, and hierarchy cultures. PSI = Program/Service; PROC = Process; ORG = organizational; MKT = Marketing Innovation.

A series of multiple regression analyses were conducted to move beyond description and test the core hypotheses of this study (Cohen et al., 2003; Easterby-Smith et al., 2015). For each analysis, one of the four innovation types was set as the dependent variable, while the scores for the four cultural archetypes were used as the independent (predictor) variables. The standard alpha level of $p < 0.05$ was adopted as the criterion for statistical significance. Table 5 presents the regression models tested for the present study.

Table 5:
Regression Models

Model	Dependent Variable	Independent Variables
1	Program/Service Innovation	Clan, Adhocracy, Market, Hierarchy
2	Process Innovation	Clan, Adhocracy, Market, Hierarchy
3	Organizational Innovation	Clan, Adhocracy, Market, Hierarchy
4	Marketing Innovation	Clan, Adhocracy, Market, Hierarchy

The general regression model tested was:

$$\text{Innovation Score} = \beta_0 + \beta_1 (\text{Adhocracy Score}) + \beta_2 (\text{Clan Score}) + \beta_3 (\text{Market Score}) + \beta_4 (\text{Hierarchy Score}) + \varepsilon$$

where β_0 is the slope parameter and β_i are coefficient parameters. ε is white noise error term.

The results of the regression models are presented in Table 6.

Table 6.
Results of the regression models

Independent Variables	Model 1 Program Innovation	Model 2 Process Innovation	Model 3 Organizational Innovation	Model 4 Marketing Innovation
AC	0.255***	0.256**	0.203**	0.347***
CC	0.227**	0.176	0.262***	0.093
MC	0.159	0.201**	0.164	0.154
HC	0.300***	0.223**	0.223**	0.217**
R-squared	0.193	0.158	0.161	0.161
Adj. R-squared	0.160	0.124	0.127	0.127
F-statistic	5.909***	4.657***	4.754***	4.755***

Notes: The ** and *** denote significance level at 5% and 1% respectively. CC, AC, MC, and HC are clan, adhocracy, market, and hierarchy cultures.

Before interpreting the coefficients, two modelling issues merit discussion. First, the explanatory power of the four models is modest (R^2 ranging from 0.158 to 0.193; adjusted R^2 from 0.124 to 0.160), meaning that organizational culture alone accounts for roughly 12–16% of the variance in innovation outcomes after adjusting for the number of predictors. This is broadly consistent with the magnitude of culture-innovation associations reported in prior meta-analytic work (Büschgens et al., 2013), and should not be read as undermining the directional findings; rather, it indicates that culture is one of several drivers of innovation in Qatar Charity, alongside factors not modelled here, such as leadership style, resource availability, and donor or regulatory pressure, which the literature review identifies as relevant to non-profit innovation (Amabile et al., 1996; Banks et al., 2015; Yasmin and Ghafran, 2021). Second, because the OCAI is ipsative, the four culture scores are partly interdependent by construction, raising the possibility of multicollinearity among predictors. Variance Inflation Factors (VIFs) were therefore examined for each model; all VIF values remained below 1.2, indicating that multicollinearity did not materially distort the coefficient estimates. Residual diagnostics (visual inspection of Q-Q plots) were also conducted for each model to assess the normality assumption underlying OLS estimation; residuals showed minor deviations from normality, which is not uncommon in survey-based organizational research and was not judged to materially affect inference. These diagnostics support the validity of the regression estimates reported in Table 6.

The study investigated whether differential innovation results exist, as proposed by the culture-to-innovation mapping of ICEF, in Qatar Charity. The findings present clear positive evidence of these sorts of predictive relationships in a non-profit humanitarian organization: types of cultures do explain the variance in all areas of innovation. The trend of strong predictors was subtly similar to the CVF and the Oslo/CIS classifications of innovation (Salamon & Sokolowski, 2018). For Program/Service Innovation, the significant predictors were Clan, Adhocracy and Hierarchy: program development needs to be cross-functional (Clan), risk-taking (Adhocracy), and backed by procedural support (Hierarchy). Process Innovation was strongly associated with Adhocracy, Market, and Hierarchy, reflecting how improvement is guided by internal flexibility (Adhocracy) and external efficiency measures (Market), as well as the procedural underpinnings of innovation in donor-facing NGOs (Salamon & Sokolowski, 2018). The significant predictors of the organizational innovation were also Clan, Adhocracy and Hierarchy, which is

consistent with the literature where social glue (Clan), experimentation (Adhocracy) and formalization (Hierarchy) should be balanced (Del Giudice et al., 2023). Most powerful in driving marketing innovation was Adhocracy, and Hierarchy had another positive influence, which agree with the results that outreach innovation is a product of entrepreneurial thinking but relies on compliance systems. The positive impact of Adhocracy is consistent with an extensive coverage of CVF-based innovation literature (Aichouche et al., 2022). Subsequent to this, individuals' contribution to Clan is selected by discoveries that collaborative climates in particular, drive innovation in service-based, people-based settings. The main conclusion, though, is the departure of the traditional CVF reasoning. Hierarchy showed a serious positive impact, which is not usually identified with innovation. The role of structure in compliance-intensive NPOs is that of an innovation enabler, and numerous recent studies back this conclusion (Del Giudice et al., 2023). The fact that Market culture significantly predicts only Process innovation, and not Program/Service, Organisational, or Marketing innovation, implies that outside performance pressure affects efficiency gains but has less bearing on more strategic or creative areas of innovation (Salamon & Sokolowski, 2018).

In non-profit humanitarian, the outcomes validate this predictive utility and alter the theoretical position to Hierarchy. Unlike meta-analyses usually warning that hierarchy limits exploration in the corporate sector, the data appears to indicate that in a high-stakes NGO environment, hierarchical formalization can also co-produce the innovation process by providing procedural and compliance rails (Del Giudice et al., 2023). The combination of Adhocracy and Hierarchy in all models implies some sort of structure ambidexterity. Exploration, through new Programs or marketing ideas, thrives when paired with exploitation mechanisms such as SOPs and budget controls that codify and scale change.

This positive Hierarchy effect sits in direct tension with the corporate-sector meta-analytic consensus, in which control-oriented, stability-seeking cultures are consistently the weakest or negative predictors of innovation (Büschgens et al., 2013; Hartnell et al., 2011). Rather than treating this as an anomaly to be explained away, it is more productive to ask what is structurally different about a compliance-intensive humanitarian NPO that would reverse this relationship. Three explanations are plausible and merit future disentangling. First, in donor-funded humanitarian work, formal procedures may function less as bureaucratic inertia and more as a legitimacy mechanism: donors and regulators require auditable, standardized processes before they will fund or scale a new programme or service, meaning Hierarchy may be a precondition for innovation reaching implementation rather than an obstacle to its generation. Second, the CVF/OCAI's forced-choice, ipsative structure means Hierarchy is measured relative to the other three cultures rather than as an absolute score; a moderate Hierarchy orientation observed alongside a moderate Adhocracy orientation, as found in Qatar Charity's composite cultural profile, is conceptually distinct from the high-control, low-flexibility profile typically implicated in corporate studies of innovation suppression. Third, it is possible that respondents in a compliance-heavy environment interpret "structure" and "procedure" items on the OCAI and CIS instruments as descriptive of how legitimate change happens, rather than as a constraint on it, which would itself be a finding about how CVF constructs travel across sectors rather than a straightforward reversal of the CVF-innovation relationship. Distinguishing between these explanations is not possible with the present cross-sectional design, but the finding itself indicates that ICEF and CVF-based innovation models may need sector-specific recalibration when applied to accountability-bound organizations, rather than being assumed to generalize unmodified from the corporate contexts in which they were developed.

The study empirically demonstrates that ICEF's proposition, that culture types can predict innovation profiles, applies in a domain where it has not been tested yet (Aichouche et al., 2022; Del Giudice et al., 2023). ICEF is prescriptive. The cultural levers are available to organizations that strive to achieve particular innovation objectives, which is aligned with Step 5 of the framework: cultural adjustments. In order to improve Program/Service innovation, managers may toughen clan culture by using cross-functional teams, investing in adhocracy using innovation labs and institutionalizing success using hierarchy by having compliance toolkits. Increasing process innovation requires the creation of Adhocracy with continuous improvement events, mobilizing market pressures through KPIs, and codifying improvements through Hierarchy. In the case of organization innovation, it is advisable to use Clan to mobilize participation redesign and Adhocracy to mobilize design sprints with the results integrated through Hierarchy in the governance mechanisms. Finally, marketing innovation should be empowered by creating a creative freedom through adhocracy and scaling through brand governance which is achieved through hierarchy.

The intercorrelations between the types of innovation are high, which would imply that the success of innovation in one domain could be transferred to another, positively reinforcing the idea of the portfolio-based approach to innovation and the so-called innovation value chain model, which argues that the effective implementation of generated ideas into practice is achieved through the combination of the mentioned elements (Salamon & Sokolowski, 2018).

The study shows that formalization (Hierarchy) has the potential of facilitating innovation in non-profits in case it is properly structured. The policies of internal governance must evolve to be less formalistic in their procedures and move towards more flexible purposes of formalization. The findings support the idea of making funding policies of donor agencies and other external regulators more innovation-friendly. The existing compliance-intensive grant systems might be counterproductive towards risk-taking and innovation. The uniformity in the use of Adhocracy in all areas of innovation in this study is an indicator that policy mechanisms should be rewarding the adaptive experimentation. On the sectoral level, the results encourage change in evidence-based innovation policy in global humanitarian governance. The integration of such frameworks into policy toolkits (capacity development, performance benchmarking, organizational assessment) should be considered by policy makers in umbrella bodies (e.g. UN agencies, international NGO alliances).

5. Conclusions and Future Areas of Research

This paper investigated a central challenge in the non-profit sector: how organizational culture shapes the capacity for innovation in mission-driven, resource-constrained environments, focusing on Qatar Charity and testing the Innovative Culture Enhancement Framework (ICEF) within this context. The study was based on the Competing Values Framework (CVF), and innovation typologies presented within the Oslo Manual and Community Innovation Survey (CIS), to identify how four different cultural archetypes, namely Clan, Adhocracy, Market and Hierarchy, predict four different types of innovation, including Program/Service, Process, organizational and Marketing. The hypotheses of the study were that Adhocracy and Clan cultures would be positive innovation enablers. Market culture would assist in terms of competitiveness, whereas Hierarchy culture would restrict the outcome of innovation. The survey was conducted with the help of quantitative and cross-sectional survey as data were collected with the employees of various departments of Qatar Charity. Descriptive statistics, correlation analysis and multiple regression modelling were used in analysis of the data. The culture of adhocracy became the most predictable indicator of innovation. It was the core facilitator of innovation in the non-profit environment because of its focus on creativity, flexibility, and experimentation.

Hierarchy culture, unlike the traditional theory also exhibited a robust and consistently positive role in its prediction of innovation outcomes, predicting Program/Service, Process, organizational and marketing innovations which indicates that structure and formalization might not be drawbacks of innovation but rather facilitators of responsible and scalable innovation in highly regulated and donor-accountable non-profit settings. One of the few but important impacts exhibited by clan culture was on the program/service and organizational innovation. This implies that co-design and internal governance changes require collaboration and mutual values. The impact of market culture was small yet significant, with process innovation only being statistically significant. This implies that competitive forces and performance responsibility might be more effective in stimulating efficiency gains but not strategic or creative innovations in the non-profit setting. Qatar Charity reflects the features of an ambidextrous organization, where Adhocracy and Hierarchy cultures co-operate and complement each other. Adhocracy gives an opportunity to generate and experiment new solutions with the ideological flexibility required and Hierarchy gives the institutional scaffolding, which maintains accountability, regulatory compliance and scalability. It is the interactions between cultural dimensions that result in innovative capacity in non-profits. Increasing innovation will lead to innovation and innovativeness in the formal system that encourages integrity, transparency and operational excellence.

Despite its strengths, this study has some limitations. The stratified convenience sample limits extrinsic extrapolation to other non-profits of humanitarian nature. The use of perception-based survey tools can bring self-report bias, and the cross-sectional study can result in causal conclusions (Salamon & Sokolowski, 2018). The forced-choice format of the OCAI is ipsative, which restricts the independence of the dimensions of culture, and the low turnout of the field staff, which influences the understanding of the

phenomenon of decentralized innovation. The modification of CIS and OCAI instruments to be applied in the non-profit organizations was concerned with construct equivalence. Contextual fit also increased, but adaptations could have caused construct drift, which constrained cross cross-study comparability. Based on these findings, future studies need to employ longitudinal and mixed methods designs in order to triple data. The objective innovation measures, including the count of pilots launched or discontinued, could also be used by the researchers and the strength of results could be analyzed with the help of non-ipsative CVF tools. It is recommended to gather more data on the various types of NGOs using cross-organizational studies. Potential profitable lines involve application of multilevel modelling to characterize departmental subcultures, studies of intervention provided in line with ICEF, distinction between radical and incremental innovation and exploration on the boundary conditions of Market culture in non-profits.

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Internationalization barriers of Nigerian manufacturing SMEs

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Abstract

This study aims to identify the barriers facing Nigerian manufacturing SMEs during their internationalization. SMEs play a significant role in Nigeria, and their impact can be observed in the country's macroeconomic performance, making up 96.9% of all businesses in Nigeria, contributing almost half of the country's Gross Domestic Product (GDP), and accounts for 84% of employment. However, their contribution to exports remains low. This low participation in export activities affects Nigeria's ability to diversify its economy away from oil, reduce its exposure to external shocks. Adopting a qualitative approach for this study, data was collected from 10 SMEs through the conduct of semi-structured interviews, and we analysed our data through content analysis to identify important themes. Findings reveal that the internationalization barriers faced by Nigerian SMEs are both internal and external. Internal barriers include a lack of finance and access to credit, and poor product quality. External barriers included a lack of market knowledge, and export regulations bothering safety. Our findings also show that SMEs engage the services of export intermediaries to navigate the market and overcome export barriers. We recommend that SMEs should partner with export intermediaries and target regional internationalization. We also recommend that the government should provide access to finance for SMEs, support SMEs with export information through relevant agencies, and promote knowledge and skills development for international trade.

Keywords: Manufacturing SMEs, Nigeria, Internationalization, Barriers

Wordcount: 222

1.0 Introduction

Globalization is not only the territory for large multinational companies as research in SME internationalization has shown that business opportunities and growth have been found by smaller firms in the international marketplace (Winch and Bianchi, 2006). Johnson et al. (2014) identified the reduction in barriers to international trade, investment and migration as reasons for this success. On why SMEs decide to go international, Lesáková, (2005) and Hollensen (2008) identified small size and saturation of the home market as factors. Eziashi and Abamu (2023) found that foreign market opportunities, unsolicited foreign orders and the need for growth and profitability as strong motives for internationalization. However, SMEs have been found to face more barriers than larger firms (Acs et al., 1997; O'Farrell and Wood, 1998), as internationalization involves a high degree of risks by its nature, which SMEs usually have limited capability to deal with, due to a lack of resources (Buckley, 1989). SMEs are often more vulnerable to barriers linked to trade restrictions, difficulties in operations, as well as resource limitations (Katsikeas and Morgan, 1994; Leonidou, 2004).

SMEs are recognized as important contributors to economic development of countries, especially for the global south economies such as Nigeria, where they contribute significantly to job creation and poverty reduction. The need to diversify the Nigerian economy whose source of revenue and foreign exchange is dependent on oil sales, makes SMEs a crucial player in building a resilient economy. Oil accounts for almost 90% of Nigeria's exports revenue, thereby making the country's economy vulnerable to oil price volatility and external shocks. SMEs have been identified as potential contributors to non-oil exports; however, they continue to play a minor role in this area. The internationalization of Nigerian SMEs is crucial for economic diversification, but they are faced with challenges that slow their growth, including their ability to enter new foreign markets.

The purpose of this paper is to identify the challenges or barriers faced by Nigerian manufacturing SMEs in internationalization activities and provide recommendations for overcoming these barriers based on our findings. Based on the purpose of our study, the following research questions have been formulated:

RQ1: What are the main barriers SMEs face going abroad?

RQ2: How do SMEs overcome these barriers faced during internationalization?

2.0 Theoretical Development and Literature Review

2.1 Theories of internationalization

2.1.1 Uppsala model (U-model)

The Uppsala model of internationalization describes the firm's entry into a foreign market as a stage-by-stage process, where firms take incremental steps that can be referred to as "establishment chain" (Johanson and Wiedersheim-Paul (1975; Johansson and Vahlne, 1977). This gradual commitment to a market is done to overcome uncertainty and minimize risk that is influenced by the level of market knowledge. The model explains that as a firm's knowledge of the market increases, they increase their resource commitment as well. Four stages of entry were identified, where each stage represents a higher level of market involvement/commitment: i) No regular export activities (sporadic export), ii) Export via independent representatives (export modes), iii) Establishment of a foreign sales subsidiary, iv) Foreign production/manufacturing units.

2.1.1.1 Model revisited

Recognizing the role of globalization, relational structures and digitization in the internationalization of firms, Johanson & Vahlne (2009), reconceptualized the model from its focus on geographic location to a focus on networks and relationships.

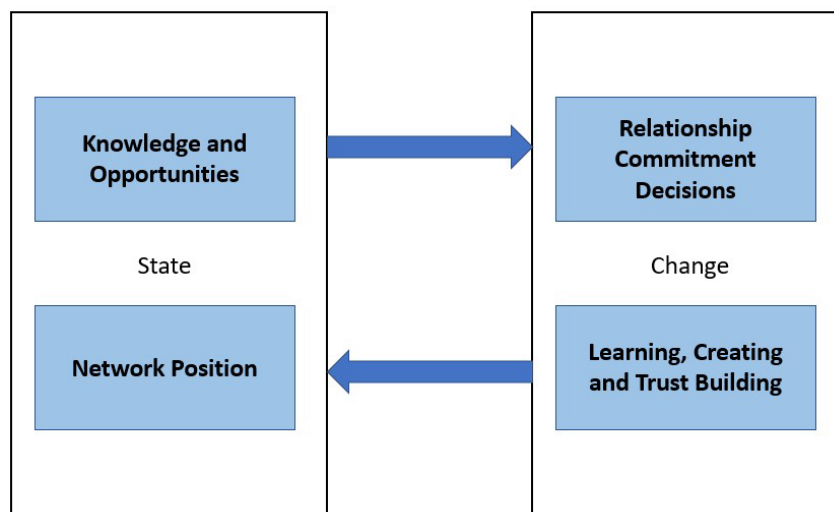


Figure 1: Uppsala Model (Johanson & Vahlne, 2009)

Identifying the internationalization process as a "liability of outsidership" and not a "liability of foreignness" issue, Johanson & Vahlne (2009) argue that the internationalization success of firms does not totally depend on country-level factors such as psychic distance and market commitment, but on network relationships. The revised model views internationalization as a process that is carried through business networks that provide an opportunity for building trust, commitment and learning (Schweizer, 2013).

2.1.2 Innovation related model (I-model)

The innovation-related model (I-model) of internationalization was adopted by several authors (Bilkey and Tesar, 1977; Cavusgil, 1980; Reid, 1981 and Czinkota, 1982) as a stage-model similar to Uppsala but was originally derived from Roger's "stages by adoption process" (Roger, 1962).

Table 1:

Classification of the I-Models

Stage	Bilkey & Tesar (1977)	Cavusgil (1980)	Czinkota (1982)	Reid (1981)
1	Management is uninterested in exporting	Domestic marketing: firm sells only to the home market	The completely uninterested firm	Export awareness: problem/opportunity recognition, arousal of need
2	Willing to fill unsolicited orders, but makes no effort to explore active exporting	Pre-export stage: firm searches for information and evaluates feasibility	The partially interested firm	Export intention: motivation, attitude, beliefs, expectancy about export
3	Management actively explores the feasibility of exporting	Experimental involvement: exports on an experimental basis to a psychologically close country	The exploring firm	Export trial: personal experience from limited exporting
4	Firm exports on an experimental basis to a psychologically close country	Active involvement: exporting to more new countries, direct exporting, rising sales volume	The experimental firm	Export evaluation: results from engaging in exporting
5	Firm is an experienced exporter; management continually allocates limited resources between domestic and foreign markets	Committed involvement: management continually allocates limited resources between domestic and foreign markets	The experienced small exporter	Export acceptance: adoption of exporting / rejection of exporting
6	Feasibility of exporting to more psychologically distant countries is explored by management	— (<i>model ends at stage 5</i>)	The experienced large exporter	— (<i>model ends at stage 5</i>)

Under the I-model, internationalization is considered as a process that is similar to the stages of product adoption. It suggests that each stage is viewed as an innovation for firms. The stages in the I-model differ and varies from five to six which makes it different from the Uppsala model. The different steps in the I-models are connected to the value of exports as a proportion to the turnover of the firm, and this relationship reveals the degree to which the firm exports (Gankema et al., 2000).

2.1.3 Born global/ International New Ventures (INV)

Researchers in the 1990s identified an increasing number of firms that shortly went international after being founded (Coviello and Munro, 1992; Oviatt & McDougall, 1994). These firms were described as born global firms (Knight and Cavusgil, 2004) and international new ventures (Oviatt and McDougall, 1994). These firms were found to have not undergone the traditional “stage by stage” pattern of internationalization. Rather, they entered foreign markets directly after creation (Hollensen, 2017). The rapid internationalization was aided technological advancements, globalization, management expertise and international network relationships (Madsen & Servais, 1997).

In born global and international new ventures, developing specific capabilities is crucial to identifying and creating opportunities (Buccieri et al., 2023). The role of digital technologies in driving rapid internationalization has been highlighted by recent research in international entrepreneurship (Knight et al, 2025). How firms approach internationalization has been reshaped by the internet, advanced communication tools and digital platforms. Firms are able scale up operations and accelerate their international expansion through digitalization. According to Coviello et al (2024), they can also expand their output at a rapid rate with less additional resources.

Research on digital born global firms have examined how they leverage artificial intelligence, e-commerce, social media blockchain and other similar technologies and other technologies in reaching international customers from creation (Brouthers et al., 2018; Monaghan et al., 2020). These digital advances are reducing costs and market entry barriers by increasing the fluidity of internationalization (Knight et al, 2025).

2.2 Modes of Internationalization

One of the key decisions on internationalization that needs to be made is the choice of entry mode (Andersen, 1997; Brouthers & Brouthers, 2001). There are several ways entry modes differ, which determines what grouping they belong to. This include the level of control, associated risks involved, and level of flexibility.

2.2.1 Exporting

Exporting is the most common way adopted by firms when entering an international market and is regarded by Esu and Awara (2010) as an indispensable part of international business whether a firm markets its goods in one country or in the global market. To expand their business internationally, firms can decide to sell their products in a foreign country through exporting. Baker (2013) explains that exporting is simply the process of sending products to a foreign market for the purpose of sales and trade. According to Rugman et al (2006), these products are either a good or a service and are produced by a firm in one country and sent to another country as exports. Exporting has been traditionally seen as the first step when entering international markets (Kogut & Chang, 1996). Exporting as an entry mode can be carried out through a direct or an indirect approach (Kotler and Keller, 2006). Direct exporting occurs when a firm carries out its exporting activities by itself, and indirect exporting occurs when a firm engages an independent intermediary to carry out its exporting activities rather than do itself.

2.2.2 Franchising

Franchising is an internationalization mode that involves the acquisition of firm's rights (franchisor) by another firm (franchisee) that allows them to conduct certain business activities under the name of the firm from whom they acquire the rights. The franchisor gives the franchisee the right to use, for example, its trademark, business system or processes, etc. in return for royalty payments (Hollensen, 2007). According to Ajami et al (2006) the franchisor also supports and assists the franchisee with materials supply or operations or both.

2.2.3 Licensing

Licensing is an agreement that involves the granting of rights to an intangible property by one firm (licensor) to another firm (licensee) to use for a specific period of time in return for a royalty fee (Hill, 2007). Under a licensing arrangement, the products are not sold by the licensor, but rather the licensee who now possess the right to the intellectual property that may come in the form of a patent, manufacturing process, trademark, expertise, copyright, etc. This form of market entry mode is mostly used in the pharmaceutical industry, where it is common for firms to deal with the issue of patents, research and development, innovations and formulas. As an entry mode, it allows a firm to enter a market with less risk (Kotler and Keller, 2006).

2.2.4 Joint venture

Joint ventures are business arrangements between two or more firms that come together to carry out a business operation. A company can decide to partner with another foreign company by sharing the ownership and control of the firm's operations and property rights. According to Kotler and Keller (2006), a firm can decide to participate in a joint venture when it has limited resources, investment and market knowledge to enter a foreign market. Through a joint venture, a foreign firm can leverage the knowledge of its local partner about the market, culture, political system, competitive conditions, and the general business environment (Hill, 2007; Collinson et al, 2020). Hollensen (2007) adds that partnership with local firms can help reduce barriers to entry in the target market. According to Collinson et al (2020), joint ventures help in cutting through red tapes, which can include a legal requirement of the host country for foreign firms to partner with local firms. Another reason for a joint venture can be due to the requirement of the host country to partner with a local firm (Kotler and Keller, 2006). Through encouragement and legislation, the host country government makes it attractive for foreign firms to get local partners involved (Collinson et al, 2020).

2.2.5 Foreign direct investment

Foreign direct investment (FDI) is the flow of funding provided by an investor or a lender (usually a firm) to establish or acquire a foreign company or to expand or finance an existing foreign company that the investor owns and controls' (Pugel, 2009). This definition is relevant as it identifies two ways in which FDI can be carried out-establishing a foreign company or acquiring an existing one. As a market entry mode, FDI always occurs either through greenfield investments and cross border mergers and acquisitions (M&As). Greenfield investments are investments where the subsidiary of foreign firm is built from the ground up in a foreign country. It involves the construction of new production facilities and the local purchase or building of real estate office buildings, distribution hubs and living quarters. In such FDI, employees are also recruited and trained using the management, know-how and technology of the investor. According to Harzing (1998), the subsidiary will be highly integrated with the global operations of the parent company. On the other hand, Mergers and Acquisitions (M&As), also called brownfield investments are investments where a foreign firm purchases or leases already existing production facilities. They involve a transfer of ownership of existing assets. Kogut and Singh (1988) refer to Acquisition to as the 'purchase of stock in an already existing company in an amount sufficient to confer control'. In this type of FDI, the new affiliate or subsidiary begins as a going concern that is already in possession of production facilities, sales force and market share (Estrin, 1999).

2.3 Barriers to Internationalization

The barriers and obstacles to internationalization is one of the most investigated issues in internationalization (Bell, 1997). Several barriers have been identified in the theories of internationalization (Leonidou, 2004; Morgan & Katsikeas, 1997). However, there is a variation in their intensity in how they are perceived (Morgan & Katsikeas, 1997). These barriers have been classified as either external or internal.

2.3.1 External barriers

External barriers or obstacles are barriers from the domestic or international markets (Fillis, 2001), that can be governmental, task, environmental and procedural in nature (Leonidou, 2004). As SMEs encounter culture differences, new regulations and financial market imperfections (Acs et al., 1997), the prospects for SMEs to enter new markets are perceived as risky (Masurel, 2001). As a result, they are more exposed to challenges than larger firms.

2.3.2 Internal barriers

Internal barriers are those difficulties related to organizational resources and capabilities (Leonidou, 2004). Several studies have determined internal barriers as more significant in restricting the internationalization of SMEs, given that going abroad is a decision made by owners of the firm (Cateora and Graham, 2001; Fillis, 2001). The seminal classification of internationalization barriers by Leonidou (2004) is one of the most widely used frameworks for analyzing the challenges faced by SMEs going abroad. However, the strict internal-external dichotomy might be debated as there can be deep interconnection of barriers. An internal constraint is mostly triggered by external factors. Furthermore, some external barriers can be bypassed. For instance, issues such as finding new markets or connecting with customers are external task barriers. But the adoption of digital technology platforms, trade expos or international business networks can help firms lower these barriers.

3.0 Overview of SMEs in Nigeria

3.1 SMEs classification in Nigeria

Defining SMEs is becoming complicated as every country and its government have their own measures used for classifying business as SMEs. Studies also reveal that there is no collective agreed definition of an SME, as such definition depended on the extent of the country's economic development (Mutula and Brakel, 2007; Aruwa and Gugong, 2007). While their definition varies from country to country, SMEs are defined based on the number of employees, their asset value, or the combination of both (Jutla et al., 2002). The definition of Small and Medium-Sized Enterprises (SMEs) in Nigeria is not uniformly applied across all government agencies and institutions. This lack of a harmonized definition poses significant challenges for policy formulation, data collection, and the effective targeting of support initiatives for the sector. Different bodies employ varying criteria and thresholds, leading to a fragmented understanding of the very entities they aim to support.

Table 2:

Definition of SMEs by different bodies

	Employment	Asset (=N= Million)
SMEDAN	1-199	Less than 500
National policy on MSME	1-199	Less than 1000
CBN	1-300	Less than 500

For this study, we will be adopting the definition from SMEDAN as it is the apex body for registered SMEs

Table 3:

SME classification in Nigeria by SMEDAN

	Employment	Asset (=N= Million)
Micro	Less than 10	Less than 5
Small	10-49	5 to less than 50
Medium	50-199	50 to less than 500

Source: SMEDAN (2014)

3.2 Contribution of SMEs to development

SMEs play a significant role in Nigeria, and their impact can be observed in the country's macroeconomic performance. SMEs comprises of 96.9% of all businesses in Nigeria, indicating their dominance in terms of business density. They are also the leading source of employment generation and account for almost half of the country's Gross Domestic Product (GDP). According to the Nigerian Bureau of Statistics, SMEs contributed 46.32% to GDP, and 84% of employment, making them and their immense contribution a critical part of Nigeria's economic present and future. The table below shows a comparative data of SME contributions in various countries against Nigeria.

Table 4:

A comparative analysis of SME contributions from selected countries

Countries	Share of Total Businesses (%)	Share of GDP (%)	Share of Employment (%)	Share of Exports (%)
Nigeria	96.9	46.3	84	6.21
Ghana	92	70	80	N/A
Kenya	98	40	96	N/A
UK	99.8	52	60	25.6
Germany	99	55	53	20
Turkey	99.7	72	73.5	15
China	99	60	80	60
Indonesia	99.9	60	97	15

Despite their significant contribution to GDP and employment, the contribution of Nigerian SMEs to export performance is very low. Share of exports stood at 6.21% as seen in Table 3, which indicates that SMEs in Nigeria rely on the domestic market. This also indicates that exports in Nigeria is dominated by large corporations, especially multinational corporations (MNCs) in the oil sector, as findings show that oil accounts for 86% of total export revenue. In comparison, SMEs in several countries contribute to exports more significantly than Nigeria. Share of exports are significantly lower than advanced economies such as the UK and Germany, where SMEs are crucial manufacturing exports, and lower than Indonesia and China, where the country's SMEs deeply integrated into global supply chains. The lack of export activities from SMEs severely affects Nigeria's ability to reduce its dependence on oil, which is usually affected by price volatility, and makes the country vulnerable to external shocks. Therefore, promoting exports from SMEs, and identifying whatever barriers they may face is crucial for enhancing their capacity, which in return motivated this study.

4.0 Methodology

This study adopts a qualitative approach to accomplishing our research aim, which is to identify the challenges facing Nigerian manufacturing SMEs during internationalization. We collected data through semi-structured interviews, as it allows a deeper examination of the problem (Creswell and Creswell, 2017), where we can further explore the context of how and why SMEs face challenges going abroad, and their

strategies for navigating these challenges. We used a multiple-case study approach and studied multiple SMEs involved in internationalization to predict similar or contrasting results (Yin, 2003).

4.1 Data collection

Multiple sources were used to gather information, but the source for primary data collection was semi-structured interviews whose design is informed by our review of literature. Due to the significance of this study, we chose to collect data via semi-structured interviews as it is more flexible and allows us to gain a more in-depth insight of the research phenomenon. As recommended by Coviello and Jones (2004), we selected participants with the most in-depth knowledge of their firm's international operations.

4.2 Data Sampling

For this study, we used purposive sampling and only SMEs with international experience or the ambition to internationalize were selected. They were selected because they are central to our research aim and are significant to the theme of our investigation. They also possessed the qualities we were seeking in a sample population (Denscombe, 2007), which is beneficial to understanding the internationalization barriers faced by SMEs and how they navigate these challenges. A purposive sample of 10 SMEs with experience in export activities were selected to participate in the study. Based on our judgement, we believe the selected samples are adequate for our research, and appropriate for a case study analysis (Stake, 2005). It is not a sample population of SMEs, but only SMEs connected with internationalization. Our aim is not to statistically generalize the total SME population in Nigeria, but to gain a deep insight and understanding into the particular barriers faced by SMEs engaged in, or attempting to participate in export activities. We judged a sample of 10 participants as sufficient to achieve saturation thematically. This is consistent with guidance on qualitative methodology for sample size adequacy. We observed the study of Guest et al (2006), who sought to interview 60 participants in a relatively purposeful and criterion-based homogenous sample set, but found more than half of thematic codes within their first 6 interviews, and the substantial majority by the 12th interview. Another case is the study from Hennink et al (2017) who observed 25 in-depth interviews, and reached code saturation at 9 interviews, where they identified the range of thematic issues. All interviews were coded and no new codes were found after the 7th interview. But our analysis coding of all 10 interviews reinforced the barriers we already identified from the previously coded data.

Table 5:
Profile of SMEs

SME	State/Location	Position of Respondent	Years of Operation
MF1	Lagos	Manager	17
MF2	Lagos	Manager	10
MF3	Lagos	Supervisor	2
MF4	Lagos	Export Manager	3
MF5	Rivers	Export Manager	1
MF6	Rivers	Managing Director	11
MF7	Anambra	CEO	5
MF8	Abia	Manager	1
MF9	Abia	Manager	5
MF10	Abia	CEO	7

4.3 Data analysis

To allow for the emergence of important patterns and themes in the data, the analysis of data and collection went hand in hand throughout the research duration (Ticehurst and Veal, 2000). Through a thematic content analysis on the interview and documented data, key themes were identified. This was characterized by a data reduction process, where we summarised and generated themes through coding. The data collected was verified for consistency (Patton, 2002) and was analysed independently by members of the research team (Carter et al. 2007). Our coding procedure began with the familiarization of the data and the independent open coding process. All coders independently studied the transcripts and generated initial codes without a reference to the shared codebook. We then moved on to review and compare our coding sets collectively at the second stage. At this point, differently labelled codes that were conceptually similar where merged. Our comparative process aligns with the view of O'Connor & Joffe (2020) on multi-coder qualitative reliability. In third stage we conducted a second round of independent coding on the transcripts with the codebook developed at the second stage. This was done to test the applicability of codebook and

to identify any excerpts or transcripts where the application of the codebook remained vague. Finally, through a process of conceptual clustering related codes, we grouped codes into proposed themes. We reviewed these themes against the complete dataset to confirm that each theme was distinct from other proposed themes, internally coherent, and supported by data provided by more than one single respondent.

To assess coding consistency, we cross-checked through a consensus where all coders agreed on the final code after a review, as well as the theme assignments for the excerpts used in the findings. To ensure validity and provide a credible theoretical analysis, we included direct verbatim quotations from the participants to build an understanding of the barriers facing the manufacturing SMEs they represent. We took several additional steps beyond independent coding to strengthen the trustworthiness of our research. Through our multi-coder approach involving all four coders, we ensure a strong triangulation and reduced the risk of allowing a single coder's perspective to influence our analysis and cause bias (Carter et al., 2014). All coders also retained verbatim excerpts which we reported alongside each theme to encourage an independent assessment of the fit between the claims made and the data (Shenton, 2004).

5.0 Findings

5.1 Barriers to internationalization

After the data analysis, several factors were identified as barriers facing Nigerian manufacturing SMEs in their internationalization, which our study classified as either internal or external barriers based on Leonidou's (2004) classification. We presented these factors below in a Fishbone diagram to summarize illustratively the various internationalization barriers.

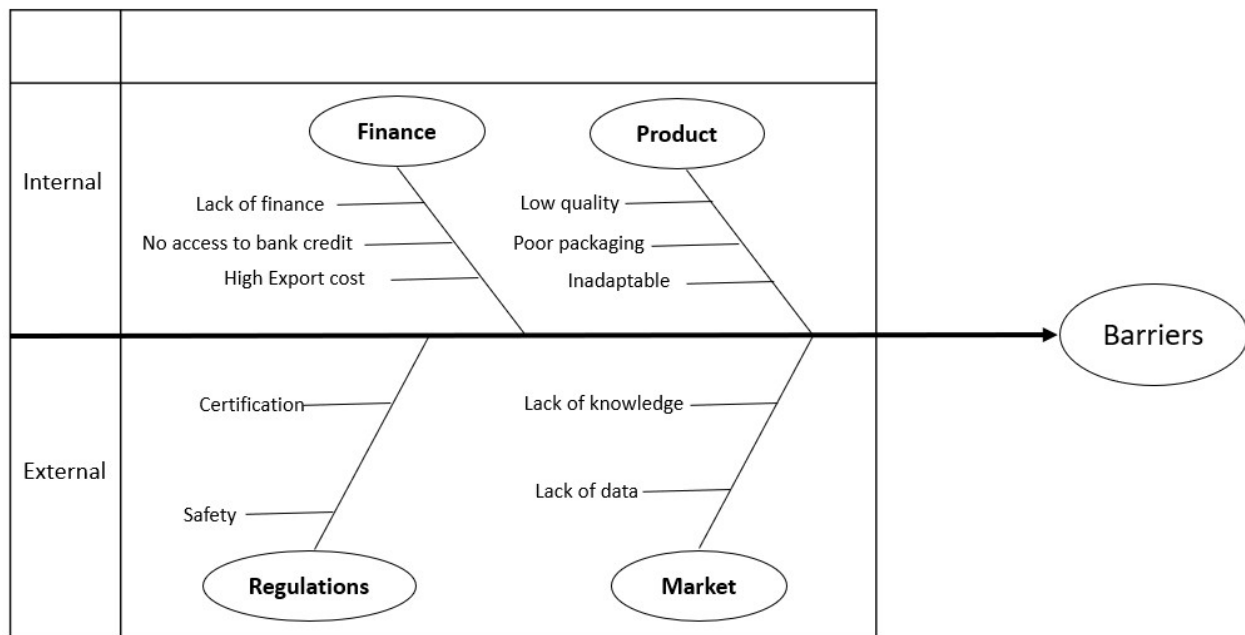


Figure 2: Internationalization barriers facing Nigeria SMEs

5.1.1 Finance

The lack of financial resources and access to credit facilities is a common challenge among manufacturing SMEs from Nigeria seeking to internationalize. Several SMEs admit that they do not have the financial resources to engage in internationalization and even struggle to access capital from lending institutions due to the stringent requirements. One SME says that *“Our biggest challenge so far is money. There is demand for what we have and so the opportunity is there. But we don’t have the financial resources to expand. It’s also hard to take loan from the bank and so we’re lacking support”* (MF2). Another SME claimed the *“Lack of funding is a problem for us. We tried getting a bank loan, but the requirements were too much”* (MF3). One SME with goals to internationalize said *“Exporting my goods abroad was always a dream of mine but I never had the financial resources. However, I still intend to pursue my international plans”* (MF6). Another SME which identified the lack of financial resources as a barrier, explained that *“For me the capital is my main problem. The banks and their requirements to get a loan are not encouraging. We need money to buy machinery, buy raw materials and even employ people. If we can’t have them, it will be difficult to go abroad”* (MF7)."

Export costs, which represent the cost of sending your goods also is high based on findings, and SMEs lack the funds to finance this process. One SME said *"Sending your goods from Nigeria to abroad is very expensive. Besides shipping costs, the exports tariffs by the Nigerian customs are expensive"*. Another one said *"I was discouraged from exporting due to the expensive custom duties, just to ship my goods. It affected my profit margins"*. A third SME explained that *"the freight costs are high and small businesses like mine will not export if we can no longer sustain it"*.

5.1.2 Product

Product barriers are a significant issue for SMEs, as the sale of products to customers in return for monetary value remains the main goal of Nigerian SMEs. Many SMEs encountered product issues and specifically faced problems with product quality and packaging, which did not satisfy the specifications of their target market. They also mentioned the problem of product adaptation. Quality standard requirements posed a challenge to some SMEs with little experience, as they were not aware of some of the expected quality requirements in their export market. One of the SMEs further added that one of its target export market had changed product requirements without its knowledge leading to its inability to export- *"We were not aware of the change in product requirements, and by the time we realized, it was too late recall our products which still failed either way"* Another SME with packaging issues stated that *"I had challenges exporting to Europe because of the strict laws regarding my product's packaging"*. Other SMEs exporting the same product to more than one country face the challenge of product adaptation and specification. One SME explained that there was a difference in the usage of their products in different markets. In their own words *"The purpose for the demand of our product in both markets were different. Therefore, the two markets had different requirements"*. Another SME with similar experience noted the difficulty in adapting their products to satisfy several markets at the same time. They stated *"We had to adapt our products for the markets we serve, but this issue of adaptation has limited our entry into other markets. It takes more money and time"*.

5.1.3 Market

SMEs who recognized market-related barriers identified a lack of knowledge about the market as well as the unavailability of data. The lack of knowledge about the international market is a fundamental barrier to the internationalization of Nigerian SMEs, and most of the SMEs interviewed admitted that they lacked information on export market, which includes understanding the international regulations, finding potential markets, and navigating customs requirements. On the lack of knowledge, one SME admitted that *"We did not understand the market or know much about"*. Another SME said *"When we first started, it was difficult because we had no knowledge of our export market. This caused a delay in our export ambitions, because we had to conduct our own research before starting."* Another SME explained that *"our biggest issue is the custom requirements in the foreign market. We have to do our research before exporting because our products have been rejected before for not meeting requirements. It's not easy"* Our findings also suggests that these barriers are the reason why Nigerian SMEs cannot engage in more complex market entry mode.

5.1.4 Regulation

Regulatory barriers were a significant hurdle for Nigerian SMEs seeking to export their products. This centred around the lack of certification and other documentations that guaranteed safety of their products. This comes down to a difference in country procedures as well as socio-cultural differences. One SME who initially faced regulatory challenges explained that *"When we first started, we faced difficulties because our products were rejected due to the lack of documentation on safety. We managed to overcome that later on as we learnt from it. However, new bureaucracies keep coming, and it is very costly to overcome them"*. Another SME simply stated that *"I was told my goods did not comply the advisory guidelines, but I have no idea of these guidelines or even how I can access them"*. A third SME stated *"My goods were rejected for a lack of safety assurance. I needed documentation to prove which I didn't have. There is no problem with the safety of my products here in Nigeria, and even in African countries where I export to"*.

5.2 The role of intermediaries

Our findings on how SMEs navigate the barriers of internationalization reveal that SMEs engaged the use of export intermediaries, where they mostly confirmed the importance of agents, middlemen or intermediaries in their export process. Several SMEs have identified the engagement of intermediaries as a strategy for navigating some of their internationalization problems, specifically the external barriers. The intermediaries performed almost the same roles for SME, which could be attributed to the same barriers. On their use of intermediaries, they claim that these agents have a familiarity with the market, better market network and advanced knowledge of internationalization procedures.

MF4's response to engaging intermediaries indicates an established and functioning relationship. They stated in their response that *"For our company, working with agents both in Nigeria and abroad has helped us"* (MF4). They describe the relationship as positive and a success, and we observed the relationship is mature with operations going on for a while. This is also similar to MF10 who also engages with intermediary. Although less descriptive but their recognition of the barrier that is removed by intermediaries is clear. They state that *"We hired an intermediary that understands our market and the custom laws over there"*. (MF10).

MF5 on the other hand has decided to engage intermediaries after experiencing less success on the international market. In their response, they said *"After two attempts at exporting and having issues with export regulations, we contacted an agent with experience in export business. He's responsible for sorting out the necessary documents we need for exporting."* (MF5). This represents a reactive adoption after previous failures, and we observed a causal sequence which first started with an export initiation, then two unsuccessful export attempts, next is the adoption of intermediary, and finally the delegation of a specific documentation function. For MF9, they seek intermediaries for market knowledge. They state that *"We are looking for reliable agents in those countries that can assist us with information about the current market situation"* (MF9). This recognizes the role of intermediaries or export agents in providing market intelligence.

6.0 Discussion

6.1 Barriers facing Nigerian manufacturing SMEs during internationalization

This study sought to identify the internationalization barriers facing manufacturing SMEs from Nigeria, with the findings corroborating findings from other studies. Findings reveal that manufacturing SMEs from Nigeria encounter both internal and external barriers going abroad. Our study resulted in similar findings from other studies on SME barriers and internationalization. Okpara and Koumbiadis (2010) in their study on the export orientation and internationalization barriers of Nigerian SMEs found resource constraints, knowledge barriers, lack of incentives to export, and lack of export assistance as important variables. Onjewu et al (2026), on their evaluation of export performance barriers found bureaucracy, complex regulation, high cost of capital and complex regulation as some of the biggest challenges facing Nigerian firms.

SMEs lack market knowledge despite the existence of an export promotion agency. However, this is not uncommon, as proven by studies. According to Francis and Collins-Dodd (2004), firms may be aware of the existence of export promotion agencies but lack awareness of the services it offers. The admission of one of the SMEs on their lack of awareness and eventual failure to comply with international guidelines does not indict export agencies who may or may not have published them. Rather, it reveals a disconnect between SMEs and the available institutional resources.

Nigerian SMEs are also faced with product barriers, particularly around quality and packaging, which is like other studies showing that product standard requirements affect the internationalization processes of SMEs, and their international development in general, as well (Martinovic & Matana, 2017; Kahiya, 2017; Revindo et al., 2019). According to Hollensen (2008), the differences in product specification and usage are risks facing SMEs, which we identified in our Nigeria case study. Bonga (2017) also explained that SMEs must recognize the uniqueness of each market, and ensure that their products, and services as well, are tailored according to their target markets.

Financial barriers are a major problem for SMEs in Nigeria, specifically a lack of funding to upgrade and expand their production capacity, and the difficulties to access credit facilities from lending institutions due to stringent conditions. Our study found financial constraints as the most immediate barrier limiting the internationalization of Nigerian manufacturing SMEs. The lack of financial resources has also been noted as a critical barrier facing SMEs by Alvarez (2004) who identified access to credit, payment delays and cash flow as factors dissuading SMEs. This is consistent with the resource-based perspective as the availability of financial capital is important for the acquisition of raw materials, labour, technology, and other tangible resources. This is also relevant for the case of one SME with plans for internationalization. They have acquired knowledge of the market, an important incremental step. However, they lack finance develop full export capacity. This has its own implications, as it shows that many SMEs have the international orientation to expand beyond their domestic boundary, a fact already backed by the findings of Eziashi and Abamu (2023) who identified SMEs with the managerial urge to internationalize based on their previous international business experience, possession of a unique product, and the knowledge of the target market.

6.2 Export Intermediaries

To overcome these barriers, SMEs engaged the services of intermediaries, who are mostly familiar with the foreign markets. Intermediaries play an important role in internationalization, specifically in helping SMEs overcome the barriers. Some Nigerian SMEs do not export directly to their target foreign markets, but engage the use of agents or middlemen, who are also referred to as “intermediaries” Kotler and Keller (2006). Intermediaries are economic agents that link buyers and suppliers or sometimes buy from suppliers for the purpose of reselling to buyers, and their existence can be theoretically explained by their role in facilitating international business activities.

The engagement of intermediaries clearly aligns with the Uppsala model’s liability of foreignness and liability of outsidership theories. While the earlier internationalization model links the barriers faced by firms to a liability of ownership (Johanson and Vahlne, 1977), Johanson and Vahlne (2009) in their revised Uppsala model, argue that outsidership is the true root of uncertainty in modern international business, and this supports our findings showing the development of business networks can help SMEs overcome internationalization barriers. The decision of one SME to engage export intermediaries after two unsuccessful attempts clearly demonstrates that the inability to develop relationships and networks is a barrier connected to the liability of outsidership.

It is assumed by intermediary models that export intermediaries or agents source products from firms with insufficient capability to export and cover the costs from exporting (Ahn et al., 2011; Mínguez and Minondo, 2026). The main function for intermediaries is the deployment of superior trade capabilities to promote and sell the products of other firms in foreign markets (Crozet et al., 2013; Akerman, 2018). Based on our findings, SMEs admit that intermediaries possess capabilities such as market intelligence and export regulation expertise to help them navigate internationalization barriers.

6.3 Cross-country comparison of SME internationalization barriers

We present a cross-country comparative analysis because the barriers we identified among SMEs in our study do not exist in isolation from the broader SME internationalization experience. This analysis clarifies which barriers are peculiar to the Nigerian experience, and those barriers that are broadly generic regardless of context.

Table 6:

Cross-country analysis of SME internationalization barriers

Country	Barriers	Author\Source
Nigeria	Product quality and packaging, lack of finance and limited access to financial credit, lack of market knowledge and data, certification and safety	Authors
United Kingdom	Custom procedure and documentation, geopolitical events, export documentation, regulation and standards	British chamber of commerce
Germany	Bureaucracy, high energy costs, environmental and climate regulations, and EU taxonomy application	Abel-Koch (2025)
Malaysia	Finance and resources, advanced technology and management skills, lack of market savviness, business culture and an understanding of the trade rules in new markets	ACCCIM

Nigeria faces both internal and external barriers, like Malaysia. In contrast, the internationalization barriers facing UK SMEs are mostly external barriers but there are similarities among SMEs and distinctions as well. Financial barriers are common among Nigerian and Malaysian SMEs and not the UK and Germany. This could indicate a unique distinction between emerging economy and advanced economy SMEs, especially in Nigeria where its financial challenges have been linked to the inability to access credit. Regulatory compliance and documentation is a barrier that is present across SMEs. While it appears as “certification and safety” among Nigerian SMEs, it appears as “understanding of the trade rules in new markets” in Malaysia (ACCCIM), “bureaucracy” and “EU taxonomy application” in Germany (Abel-Koch, 2025), and “custom procedure and documentation”, and “regulation and standards” in the UK (British Chamber of Commerce). The similarity among SMEs is established in the literature on export barriers, however Kahiya (2018) and Leonidou (2004) argue that smaller firms are more affected by the cost of such barriers. The barrier is framed as complex in the UK and Germany, as SMEs know the rules but find it time-consuming

and costly. On the other hand, Nigerian SMEs are burdened by the lack of awareness on those rules. Market knowledge as a barrier is mostly common among Nigerian and Malaysian SMEs but absent from the UK and German SMEs. This provides a distinction between SMEs in emerging and advanced economies. It indicates that gaps in experiential market knowledge among firms are dependent on how long SMEs have been involved in export activity, established buyer-networks, and strong institutional knowledge, which could be present in the UK and Germany.

On unique barriers, product quality and packaging are peculiar to Nigeria, with no similar equivalent among UK, German or Malaysian SMEs. This implies that Nigerian SMEs might be experiencing earlier in their manufacturing operations, compared to the others. On the other hand, barriers such as geopolitical events for the UK and high energy costs, environmental and climate regulations, and EU taxonomy application for Germany, are absent from Nigerian and Malaysian SMEs. These barriers are not direct market entry barriers but are barriers faced by firms already established or operating within a system. Brexit for example, represents a geopolitical issue that caused disruptions for SMEs already in operations.

7.0 Conclusion and Recommendation

This study set out to examine the complexities of SME internationalization, specifically the barriers faced by Nigerian manufacturing SMEs when internationalizing. Manufacturing SMEs in Nigeria are pivotal to the country's economic health through job creation, and their potential role in reducing the dependence on oil exports as the main source of foreign exchange. While SMEs are motivated to internationalize, they are faced with internal and external challenges that hinder this ambition. Studying 10 SMEs through a thematic analysis of their interviews, we identified five major barriers that border on finance, product, market and regulation. We found financial constraints critical among SMEs, as it limits their ability to acquire other resources. Product barriers stemmed from low quality, packaging issues and product inadaptability. SMEs were also affected by the lack of market knowledge and data, and finally the export regulations specifically on certification and safety.

However, most of the barriers were resolved through the adoption of intermediation. SMEs who engaged with export intermediaries resolved their challenges, specifically in the area of market knowledge and documentation. The practical implication from this decision is that Nigerian SMEs may be more efficient and internationalization-oriented if they have access not just to finance, but to reliable and affordable export intermediaries. Our findings did show that intermediation resolved some barriers, proving its effectiveness in facilitating SMEs internationalization.

Our study shows that no single internationalization theory describes the experiences of SMEs as they navigate the international market. The Uppsala and Innovation-related theoretical framework explain the regulation, knowledge and documentation-related barriers, since these models focus on staged confidence building and experiential learning. However, Born Global theory seemed to explain the international orientation needed by SMEs to skip steps found in other theories, but not enough to internationalize due to financial barriers. The revised Uppsala model also explains the adoption of intermediaries for exports, indicating that internationalization success of Nigerian SMEs is dependent on building business relationships and networks.

A cross-country comparison of Nigerian SMEs against those in Malaysia, the UK and Germany suggests that the barriers faced by Nigerian SMEs may determine the position of SME sector on the internationalization maturity curve, as Nigerian SMEs seemed to face market entry barriers such as product quality, market knowledge and certification, while those in Germany and UK face operational stage internationalization barriers such as climate regulation and geopolitical risks.

Based on our findings, we have made the following recommendations:

- Improve product quality standards: Nigerian manufacturing should focus on improving the quality of their product to meet international standards and obtain the required export and product certifications to gain access to international markets.
- Explore foreign collaborations: Nigerian manufacturing SMEs should seek collaborations or partnerships with foreign businesses to increase their international market presence of their products. This partnership can take the form of joint ventures or distribution agreements.

- Target regional internationalization: Regional internationalization presents a faster way for SMEs to enter foreign markets. The membership in existing regional trade blocks such as the African Continental Free Trade Area (AfCFTA), and the Economic Community of West African States (ECOWAS) allows access to the other African markets through reduced trade barriers and can facilitate SME expansion. Proximity from a market and cultural perspective also presents an advantage.

We also recognize the role of government in facilitating the internationalization of SMEs and have presented the following recommendations

- Promote knowledge and skills development for international trade: The Nigerian government should invest in initiatives that develops the human capital of SMEs in international trade including export knowledge, marketing skills other international business competences.
- Provide access to finance: The government should improve access to finance for SMEs by creating special financing opportunities for small businesses seeking to internationalize. Financing opportunities can take the form of low-interest loans and export credit guarantees.
- Information support on foreign markets: The government, through its agencies should support Nigerian manufacturing SMEs with international market knowledge. For instance, the Nigerian export promotion council (NEPC) should be empowered to assist SMEs with information on potential export markets, and the country's diplomatic missions should identify export opportunities for SMEs.
- Harmonization of SME definition: The government should adopt a unified and inclusive definition of SMEs to ensure SMEs are not excluded from support programs due to criteria issues.

Study Limitations

The SMEs selected for this study were purposively drawn from Southern region of Nigeria (South-East, South-West, and South-South), reflecting the high agglomeration or clusters of SMEs with export activities and relevant infrastructures, with the SMEs either located in commercial or manufacturing hubs, significant manufacturing activities or proximity to international trade infrastructure like seaports. We acknowledge that the sample is not reflective of the geographic composition of Nigeria, as all participants are located in the south of the country. Nevertheless, our findings provide insights into exporting issues SMEs need to take into consideration before internationalization. In consideration of this, we recommended further qualitative studies on internationalization that covers the broader geographic scope of the country.

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Public-Private Partnerships in Technical and Vocational Education and Training (TVET): Strengthening Skill Ecosystems and Labour Market Integration

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Abstract

This study empirically examines the role played by Public-Private Partnerships (PPPs) in the relevancy, quality and labour market performance of Technical and Vocational Education and Training (TVET) programmes in Nigeria. Quantitative data were gathered on the first stage using an explanatory sequential mixed methods design, where 180 respondents (graduates, employers and institutional administrators) in Lagos, Ogun and Kaduna States were surveyed. These data evaluated PPP typologies, curriculum alignment, and employment outcomes. The second stage involved the implementation of qualitative interviews and focus group discussions (n = 28) and the explanation and contextualisation of the quantitative results. It is shown in the quantitative data that the PPP supported institutions are more aligned to the needs of the industry in the curriculum and have higher rates of graduate employment 6 months (65 percent) in relation to traditional public TVET institutions (47 percent). The results of the logistic regression indicate that the participation in PPP strongly predicts employment results ($p < 0.05$). Qualitative results indicate that these better outcomes are attributed to curriculum co design, structured workplace learning, and employer engagement mechanisms, and are limited by policy fragmentation and weak financing frameworks. The study concludes that PPPs have the capacity to enhance TVET skill ecosystem in cases where institutional alignment and governance frameworks are well spelt out. The policy suggestions are regulatory harmonisation, a combination of funding, and a systematic approach to employer involvement in the process to enhance scalable and inclusive TVET provision.

Keywords: TVET, Public-Private Partnership, Skills development, Labour Market, Youth employability

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1.0 Introduction

The constant discrepancy in skills between education systems and labour market needs has been a significant limitation to the youth employment/productivity in Nigeria and in the greater part of Sub-Saharan Africa. Although there has been an increase in vocational and tertiary education enrolment, employers are still complaining of lack of technical and transferable skills which are mostly in the manufacturing, construction, information and communication technology (ICT) and agro-processing sectors. This lack of fit shows the structural issues within Technical and Vocational Education and Training (TVET) systems, such as lack of industry involvement, outdated curriculum, and lack of access to workplace-based learning.

PPPs have become another system of governance and delivery that should help overcome these issues and make government agencies, training institutions and industry actors collaborate. PPPs are usually characterized by collective responsibility in curriculum development, provision of training, funding, provision of infrastructure and placement of graduates in TVET. Instead of viewing PPPs as one or uniform intervention, this study conceptualises PPPs as a group of different yet interconnected mechanisms like curriculum co design, apprenticeships, co-investment of infrastructure and employer involvement in assessment in which labour market relevance can be optimized.

Although policy discourse propaganda is on the rise in advocating the use of PPPs as the solution to weaknesses of the TVET system in Nigeria, limited empirical evidence has been conducted on its effectiveness, typologies, and the sustainability of the institution. Prior literature tends to concentrate on the description of the programmes or enrolment results, paying less attention to the employment

consequences, the structure of governance, or explanatory phenomena. This research fills this gap by empirically analysing the impact of various PPP arrangements on TVET outcomes and why some partnering arrangements lead to better performance than others.

Statement of the Problem

There is a systemic problem in the delivery of training in Nigeria with regards to matching the training to the needs of the labour market. Despite the existence of different PPP initiatives, they tend to be adopted on an ad hoc basis, and there has been a lack of coordination between the different regulatory agencies and participation of the private sector. This has left most TVET graduates with formal qualifications without any practical experience, competencies relevant to the industry, and employment or self-employment opportunities. One of the issues is the lack of a unified system of organizing and assessing the PPPs in the TVET. In the absence of typologies, performance measures and input feedback systems, it would be hard to identify which partnership models work, are scalable, and sustainable. In addition, scanty empirical studies have explicitly related the PPP participation to quantifiable employment in addition to outlining the institutional and contextual dynamics causing the experimental results. This study aimed at answering the following research question: How and under what condition do Public- Private Partnerships help improve the relevance and labour market performance of TVET programmes in Nigeria?

Conceptual Framework and Hypotheses Development

The conceptual framework is the guiding idea in this study since it associates PPP mechanisms with TVET outcomes with the intermediary processes of curriculum relevance, workplace exposure, and employer engagement. PPPs are implemented at four dimensions which include: (i) curriculum co design, (ii) structured internships/apprenticeships, (iii) collective investment in training infrastructure and (iv) employer involvement in assessment and placement.

Based on the Human Capital Theory, PPPs will increase employability by increasing the quality and relevance of the acquisition of skills. Triple Helix model also places PPPs in the context of interactive relations between the government, industry, and training institutions, whereas Public Value Governance emphasizes accountability and social inclusion as some of the most important results of collaborative skills development.

Technical and Vocational Education and Training (TVET) is the informal, non-formal and formal processes of learning that are focused on acquiring knowledge, practical skills, and attitudes when dealing with the occupation in the different sectors of economic and social life. The UNESCO Revised Recommendation (2022) refers to TVET as education and training that supply knowledge and skills concerning employment and entrepreneurship and declares that it facilitates transitions between school and employment and inclusive economic growth and prosperity. TVET serves to extend beyond itself traditional crafts and covers all the new industrial and service-based skills, which in many cases are influenced by technological innovation and changing labour standards (UNESCO, 2022). Public-Private Partnerships (PPPs) within the educational development field refer to official forms of cooperation between state organizations and representatives of the business community to share the mechanisms of designing, financing, implementing, or assessing educational programmes. The World Bank (2022) asserts that the common elements of PPPs in TVET include co-investment in infrastructure, involvement of industry in the cognitive development of curriculum, work-based learning, and performance enforcement mechanisms. The partnerships seek to provide solutions to the state capacity constraints as well as establish training delivery in a manner that will be relevant, sustainable, and responsive to the needs of the industry or sectors.

Skills ecosystem has become significant as a more systemic way of thinking through which education, employment, and innovation connect. A skills ecosystem refers to a network of institutions, players, and policies that influence the process of workforce skills development and application within a regional or sectoral dimension (ILO, 2023). This is the case because a healthy skills ecosystem is reflected by sustained feedback loops between training supply and labour market demand that are enabled by consistent policy frameworks and institutional coordination. They are also dependent on the availability of training suppliers as well as on constructive employer participation, an assisted infrastructure and labour rules that help in mobility and recognition of credentials. Intertwined with this is that of labour-market alignment, the extent to which TVET programmes, especially in the education sector, are relevant and responsive to the skills needs of the economy at a given time and in the future. According to the recently conducted studies,

misalignment usually leads to a high rate of unemployed or underemployed graduates even as the enrolment rates in formal education increases (Afeti & Akoojee, 2021). Labour-market alignment is therefore a pragmatic gauge of how well the system of skills development in a country manages to match industry intelligence, forecasts and occupational specifications against curriculum information, instruction and testing. It is becoming a significant indicator of the relevance and economic efficiency of institutional systems in education of the countries (OECD, 2020).

Collectively, these concepts are building blocks that create the basis of understanding the role of PPPs in the formulation of effective TVET strategy that is in a position to meet the desires of individuals as well as those of the country's development agenda. They need to be brought together in a consistent way, to provide guidance to policy choices that increase the success of skills development and labour market transition in the dynamic Nigerian economy.

Qualitative Research Questions (Phase 1)

1. Which typologies as well as operative models of PPPs currently underway in the provision of Technical and Vocational Education and Training (TVET) applied in the country of Nigeria?
2. How do the PPP-served TVET programmes enhance the relevance, quality, and employability results of technical training according to the labour market needs?
3. Which are the major institutional, financial, and regulatory opportunities and limitations of sustainability and scale of PPPs within the TVET ecosystem of Nigeria?
4. What are the perceptions of the beneficiaries (e.g., students, employers, institutions) of the quality and usefulness of PPPs in assisting in developing technical skills and seamless transition into employment or becoming business owners?

Quantitative Hypothesis (Phase 2)

H0₁: The operational typologies of the PPP models do not show any statistically significant differences among the TVET institutions in Nigeria.

H0₂: TVET programs carried out using PPPs produce no significant enhancement of curriculum alignment to labour market demands.

H0₃: Institutional, financial and regulatory structures do not have a major impact on the successful implementation of PPP in TVET.

H0₄: The outcome of employability between people who graduated from PPP-supported TVET programmes and those who came through traditional public institutions does not differ significantly.

2.0. Theoretical Perspectives

The strategic implication of the public-private partnerships (PPPs) in Technical and Vocational Education and Training (TVET) must have a sound theoretical background to empirically bind the economic rationale, institutional cooperation, and the interests of the population. Three models are of explanatory leverage in this respect: Human Capital Theory, the Triple Helix Model and Public Value Governance in education.

Human Capital Theory (HCT) is perhaps one of the most popular paradigms behind the reasoning on why long-term investments should be made in education and skill development. Its assumption is that people and communities have an economic advantage in terms of knowledge, skills and competence accretion that boosts productivity and earning potential. Within this framework, education as a special form of capital investment paying off in terms of increased employability and economic productivity is enabled, mainly through vocational and technical training (Bentaouet Kattan & Burnett, 2021). In the context of Technical and Vocational Education and Training (TVET), Human Capital Theory provides the economic rationale for investing in training systems particularly those that equip individuals with the competencies required for specific occupations. Such training systems emphasize the development of occupation-related skills, with or without elements of transferability or entrepreneurial predisposition. The theory further offers a framework for understanding variations in income, employment, and labour market mobility as outcomes of unequal access to, or disparities in the quality of, vocational education (ILO, 2023).

Although the economic rationale of skills investment is reflected in Human Capital Theory, it lacks comprehensiveness in the institutional framework through which it has to be implemented in operational TVET systems. Triple Helix Model closes this gap because it focuses on dynamic relationships of government, industry, and academia to each other as co-creators of innovation and socioeconomic change.

Initially conceptualized as an explanation of the knowledge-making in high-technology sectors, the Triple Helix Model has later been expanded to the education policy framework where it describes the development of partnerships that are multi-actors, with the creation in curriculum design, research collaboration, internship opportunities, and innovation centers (Etzkowitz & Zhou, 2022). The model underscores synergy among institutions within the TVET landscape: the governments develop policy direction and regulation, the industries contribute to the form of market intelligence and applied knowledge, and the educational institutions can transmute the same into training contents and strategies. Successful PPPs in TVET are also those PPPs that manage to institutionalise this three-way relationship thereby facilitating demand-led training and free school-to-work moves.

To accompany the Triple Helix is the recently developed model of Public Value Governance (PVG) that emphasizes outcome-driven, collaborative processes of serving the society. PVG redirects the lens of analysis away to the more typical top-down bureaucracies or market-based models toward co-production with many stakeholders holding the duties of defining and delivering the public value (Bryson et al., 2014). This mode is especially pertinent to PPPs in the education sector as they establish much transparency, accountability and objectives regarding service delivery. Applying Public Value Governance to TVET, it can be argued that training systems should not only be optimized to be efficient and economically beneficial, but also accountable to social inclusion, the legitimacy of institutions and to the demands of citizens (OECD, 2022). It also recontextualises education as an investment in the ability and stability of the society rather than as commodity or discrete ownership.

All these three frameworks provide a combined view to analyze PPPs in TVET. The Human Capital Theory highlights the economic necessity of skills development; Triple Helix Model holds an emphasis on the institutional design of the stakeholder alliance; and Public Value Governance poses education as a coproduced social commodity that demands all-inclusive and accountable regimes. This triangulated theory plays an essential role in assessing the input of effectiveness, sustainability, and equity aspects of PPPs in the ecosystem of TVET in Nigeria.

Empirical Literature

The role of public-private partnerships (PPPs) in Technical and Vocational Education and Training (TVET) has been growing over the last ten years as an integrative strategy to be used in regions to enhance professional development of the workforce, embark on the innovation process and bridge the gap between education and employment. Although the models differ in different contexts, the future driving force has been anchored on synergy between the demands of inclusion in the provision of education by the government and the necessities of efficient labour interest by the private sector. The practical experience of Asia, Sub-Saharan Africa (SSA), and Latin America is characterized by certain encouraging innovations on one hand, and looking at it from another angle, because some structural problems remain unresolved.

Countries of Asia including India, Singapore, and Malaysia introduced institutionalisation of PPPs in the country in terms of national skills development programs. The National Skill Development Corporation (NSDC) is a public-private corporation in India to provide competency-based training based on sectoral demand that has connection with more than 600 privately owned training providers and industry associations. Jha and Sinha (2021) signify that NSDC enabled alliance led to the training of more than 11 million people in 2016-2020, but the effects of the training in the long-term employment are minimal. Instead, Singapore has implemented a highly synchronised approach where industry partners have collaborated in the development of training curriculum and placement of on-the-job training placements by statutory bodies such as Skills Future Singapore (Tan & Teo, 2022).

Brazil and Chile have moderately succeeded in Latin America using demand driven model of vocational education aligned with industrial belts. Brazil's vocational training system funded by PPPs has received praise in Brazil where the National Service for Industrial Training (SENAI) has been credited with bringing vocational training into harmony with the industry and increasing access to the low-income population. Another impact evaluation by Rojas and Carranza (2023) revealed that SENAI-trained graduates had an 18-percentage point's difference in labour market in the first year of graduation than their counterparts in traditional institutions. Nevertheless, the authors observed that in non-industrial centres, the scalability was still low, partly due to the limitations of the fiscal resources and uneven employer involvement.

African Sub-Saharan is more uneven. Most countries, including Kenya, Rwanda and Ghana, have begun a number of arrangements of the different types of public-private collaboration in the TVET space; however, systemic fragmentation and ineffectiveness of coordination have been keeping a lid on returns. In Kenya, skills training through PPPs has been facilitated by the creation of the Kenya Youth Employment and Opportunities Project (KYEOP), but according to monitoring reports, there is a poor integration between the training providers and the potential employers (Njuguna et al., 2022). Workforce Development Authority in Rwanda has collaborated with various privately-owned companies to modernize TVET facilities and the context of the curriculum but there are still issues with regard to access to limited placement and industry incentives (World Bank, 2022).

Nigeria has had a number of nationally backed TVET related PPP projects that have been in existence in the last ten years. The Industrial Training Fund (ITF) has in fact been the most lasting institutional setup between training requirements and the private employer. The ITF organizes placements of tertiary students through the Students Industrial Work Experience Scheme (SIWES), which has been successful but was later undermined by breakdown in the levels of supervision, delayed funding, and low absorption rates (Adeosun & Olawoyin, 2022). The N-Power programme is an initiative within the National Social Investment Programme that entails a mass employment programme driven by the government in collaboration with the private-sectors facilitators in delivering the training within the dimensions of agriculture, Information and Communications Technology, and construction. In as much as the programme has reach more than 500,000 Nigerian youths the empirical measures as per sustainability and alignment to the longer-term labour market remain in doubt (Okon & Akpan, 2021).

Also, skills academies that teach competency-based training models that are led by the private sector, like the Lagos State Employability Support Project and General Electric (GE) Lagos Garage, have emerged. Such programmes tend to focus on short course and modular training based on a co-development approach with employers and tend to be either employer funded or a donor funded project. Although the satisfaction of participants is rather high according to reports, and the entrepreneurs' orientations are high, there are few formal studies of whether participation affects the level of income or the sustainability of employment opportunities (GIZ, 2023).

There are some unresolved gaps that are apparent throughout the literature reviewed. To begin with, most of the PPPs in TVET are hardly ever held to high levels of impact evaluation. Whereas enrolment and graduation statistics are often quoted, little research provides lasting information on job maintenance, earnings advancement as well as business continuance among recipients. Second, financial sustainability models have not been developed sufficiently, particularly in the case of PPPs dependent on donor funds or other one-time private donations without any levels of integration into the budget. Lastly, there is little interaction with the micro, small, and medium enterprises (MSMEs) and the informal sector- which takes more than 80 percent of the employments in Nigeria. The majority of PPPs are created with an eye to working in the formal sector, leaving non-standard employers outside skills training discussions (ILO, 2023).

Such empirical discrepancies are notable in terms of their urgency of more qualitative, evidence-based research that not only questions the structure and organization of PPPs in TVET but their impact in the long term, their financial sustainability, and their ability to target populations that generally fall outside the economic mainstream.

3.0. Methodology

The paper used a mixed-methodology to study the structure, success, and obstacles of public-private collaborations in Technical and Vocational Education and Training (TVET) in Nigeria, that is, the explanatory sequential design. The proposed design is quantitative in the first phase of the study that involves structured surveys and then qualitative inquiry in the second phase of the study that involves interviews and focus group discussion to enhance and clarify the results of the quantitative and statistical data analysis. The methodology is characterized by ensuring methodological triangulation, which makes generalizability and situational understanding possible (Creswell & Hirose, 2021; Ivankova & Wingo, 2018).

3.1. Area of Study

The empirical study is located in Lagos, Ogun, and Kaduna States which were chosen to take part in the empirical study on purpose because they actively participated in the broadcasting of TVET-PPP investments. Lagos can be described as a trade centre that has deep investment (in terms of donor and the private sector) in the area of employability programmes. Ogun has industrial concentration, especially manufacturing, which has been the focus of dual training models pilots. The federally guided interventions in skills development have been conducted at Kaduna under the coordination of the National Board for Technical Education (NBTE). All these, but equally complimentary settings increase the possibility of the generalizations of the findings and ease the process of comparative interpretation across regional contexts (GIZ, 2023).

3.2. Population and Sampling

The four major groups of stakeholders are included in the target population: Administrators in the TVET institutions (both public and private) etc., agency officials of bodies such as the Industrial Training Fund (ITF), NBTE and the Ministry of Labour, of the second type to be considered are actors in the private sector who work in the design of curriculum, in the provision of training or job placement, and the outcomes of TVET programmes offered in the academic years of 2018-2023 carried out in a PPP framework. It used stratified purposive sampling method, so that those areas of different institutions, sectors, and regions are well represented. The form structure will include 3 survey instruments (approximately 180 survey respondents (120 graduates, 30 employers and 30 administrators)) and 2 qualitative respondents (key informants and focus groups (25 respondents)). The method is statistically acceptable (Teddlie & Yu, 2007).

3.3. Data collection

The research is based on a combination of both primary and secondary data. Primary data is done by development of structured questionnaires used for TVET graduates, employers, institutional administrators; Policy actor, private-sector partner, and programme managers. Key informant interviews; carried out focus group interviews with present students and instructors to obtain subtle information on training delivery and market assimilation. The secondary data are based on position papers and working or policy guiding documents issued by NBTE, ITF and other federal/state-based agencies; Project reports of donor coordinated initiatives like N-Power, World Bank AGILE and GIZ youth employability programmes; Institutional records covering enrolment, graduation rate, internship period and job placement. The multi-source approach improves the data robustness and bases the policy-relevant analysis on a more comprehensive approach.

3.4. Techniques of Analysis

The IBM SPSS (v26) was used to analyse quantitative data. The demographic characteristics, training participation, and outcome of employment will be summarized using descriptive statistics (means, percentages, standard deviations). The links between labour market outcomes and PPP-based TVET participation were closed using inferential tests, including t-tests and logistic regressions, to determine the mean scores in terms of labour market performance, including job placement within six months of TVET participation, income level, and startup. As an example, regression analysis was used in testing the predictive power of PPP involvement in influencing the placement of jobs taking into account other factors that include the duration of internship, type of institution, and employer involvement. In such a way, it was possible to confirm the major assumptions related to the study of the effectiveness of PPPs in enhancing employability.

Themes emerge after coding the data into nodes. Inductive and deductive coding of interview and focus group discussion transcripts was carried out to derive themes pertinent to issues of curriculum relevance, institutional coordination, and policy support, funding arrangements, as well as stakeholder perceptions. The theoretical assumptions under which this analysis was done, Human Capital Theory, Triple Helix Model, and Public Value Governance will ensure that the emerging findings are empirically and conceptually strong (Bazeley, 2021).

4.0. Qualitative Findings from the research Questions (Phase 1)

NVivo 14 was used to analyse the qualitative data obtained through the key stakeholders to support systematic coding, categorization, and theme development. The process of the analysis was an iterative one,

including open coding and the axial coding and refining the themes. NVivo has eased the process of data control, comparison of data between stakeholder clusters and the determination of recurring patterns. There were four general themes and sub-themes, which were related to the qualitative research questions of the study.

Theme 1: Typologies and Operative Model of PPPs in TVET Provision.

NVivo coding showed several typologies of PPP that are being utilized in Nigeria when it comes to the delivery of TVET. Some of the key sub-themes were industry-supported training centres, apprenticeship and dual-training, donor-government-industry and institution-enterprise collaboration. These models were different in terms of participation of the private sector as some of them were only in the curriculum development process, but they were not involved in the full training delivery nor supplying equipment. Operatively, NVivo node clustering revealed that the majority of PPPs operated under informal or semi-formal governance strategies which include Memoranda of Understanding as opposed to contractual structures that are fully institutionalized. Flexibility and rapid implementation were also mentioned as benefits of stakeholder references, whereas low formalization also led to poor accountability and the threats of unsustainability.

Theme 2: Relevance of Labour-Markets and Improvement in Quality of Training using PPPs.

The coded references that were analysed on the basis of the training outcomes revealed that there is a high level of convergence around the role of PPPs towards enhancing labour-market relevance and quality of training. Patterns of theme supported by NVivo showed that the participation of employers in designing the curriculum, setting competency standards and learning in the workplace was at the middle of the process of aligning training with the needs in the industry today. Sub-themes like access to modern equipment, involvement of industry practitioners and competency-based assessment were also very often co-coded with perceived quality improvements in instruction. These aspects were continuously linked to improved practical skills development and readiness of the learner to work. But NVivo comparison queries pointed to differences in perceived quality gains in the different sectors and in different institutional settings.

Theme 3: Institutional, Financial and Regulatory Conditions that influence Sustainability and Scale.

The sustainability and scalability of the PPPs in the TVET ecosystem in Nigeria were captured in a third NVivo-derived theme on the enabling and sub straining conditions of the sustainability and scalability of the same. The sub-themes in the case of institutional perspective were leadership commitment, coordination capacity, and organizational readiness. Financial code accentuated possibilities of cost sharing, investment in training infrastructure by individuals and optimization of resources, and issues such as instability in funding and recurrent high costs. The regulatory sub-themes were concerned with contradictions between national policy discourse of support and disjointed implementation structures. NVivo matrix coding of stakeholder groups identified where policymakers were focused on policy availability, institutional actors and the involvement of private partners were focused on regulatory ambiguity, extensive accreditation procedures, and unspecified PPP-specific guidelines as major barriers to the scaling of effective models.

Theme 4: Stakeholder perception of the quality of PPP, usefulness and employment opportunities.

The last theme derived through NVivo was the perception by the beneficiaries of the quality and utility of the PPP-based TVET programmes. Data coded focused on practical learning and exposure to the industry, and increased self-confidence in employment preparedness. The employer references were concentrated on better matching of skills, lower costs of recruitment and more confidence in graduate competence. PPPs were perceived by institutional stakeholders as instruments to support credibility and graduate outcomes of programmes, but NVivo coding also brought about issues of unequal access, unequal inspections and insufficient post-training provisions. The PPPs across all groups were mostly viewed to have made the movement towards employment/self-employment much easier especially where partnerships comprised of elements of structured workplace learning or business incubation.

Hence, the themes derived via NVivo were key to the specification of constructs, variables and the testing of hypotheses, which were to be conducted in the Phase 2, which ensured that the further quantitative or mixed-methods analysis could be based on the empirical-finding derived patterns in the Nigerian TVET-PPP setting.

5.0. Results and Interpretations of Quantitative Findings Phase 2 (Hypothesis)

This section provides an empirical view of the results obtained during the quantitative investigations of the research. The findings are categorised under three broad subsections: (i) descriptive of the types and structure of public-private partnerships (PPPs) in the delivery of TVET, (ii) effectiveness and outcome indicators and (iii) internal problems which hinder the performance of the partnership. The analysis triangulates the survey responses of 180 respondents carried out in Lagos, Ogun and Kaduna states.

5.1. PPPs Types and Structures used in Delivering TVET

Table 1:

T-Test Analysis Table on Public-Private Partnerships (PPPs) Types and Structures Used in Delivering TVET

PPP Types and Structures	Mean (%)	Standard Deviation	t-value	df	p-value
Co-development of Curriculum	54	10.24	3.18	179	0.002*
Placements in Internships/Apprenticeships	48	11.08	2.74	179	0.007*
Communal Investment in Infrastructure or Equipment	35	9.85	2.09	179	0.038*
Technical Personnel Training or Capacity-Building	27	8.67	1.49	179	0.138

Note. *Significant at $p < 0.05$.

The results of the t-test analysis presented in the above table reveal significant variations in the types and structures of Public-Private Partnerships (PPPs) used in delivering Technical and Vocational Education and Training (TVET) programmes among the 180 respondents. The analysis shows that the co-development of curriculum ($M = 54$, $SD = 10.24$, $t(179) = 3.18$, $p = 0.002$), placements in internships/apprenticeships ($M = 48$, $SD = 11.08$, $t(179) = 2.74$, $p = 0.007$), and communal investment on infrastructure or equipment ($M = 35$, $SD = 9.85$, $t(179) = 2.09$, $p = 0.038$) were statistically significant at $p < 0.05$. This implies that schools are more actively engaged in these PPP activities compared to others. However, technical personnel training or capacity-building ($M = 27$, $SD = 8.67$, $t(179) = 1.49$, $p = 0.138$) did not show a statistically significant difference, suggesting weaker collaboration between schools and private sector partners in providing staff training and capacity development initiatives. Overall, the findings highlight that PPP participation in TVET delivery is strongest in areas directly linked to student learning outcomes (curriculum design and practical training) but less developed in institutional staff development and long-term technical collaboration. The qualitative interviews also emphasized that the PPPs are rather donor-driven and innovation-driven in their activities in Lagos, and more so on the short-course model of ICT and creative industries. Meanwhile, PPPs in Kaduna tend to be policy driven with influences like the NBTE two-fold training programs it directs. One characteristic of Ogun State is that it has industry and cluster partnerships, especially in the manufacturing sector.

Participating Firms and Institutions Profiles

The range of private-sector actors joining TVET PPPs includes small and medium-sized enterprises, start-up incubators and multinational corporations of employer respondents, 42 percent are actively working in association with TVET institutions and 30 percent offer industrial attachment places and 18 percent are actively participating in curriculum reviews. The following are the sectors that are most represented in PPP activity: Manufacturing and construction (38%), Internet and Communication Technology (0.25), and 15% for Agro-processing. There were also different institutional profiles. Delivery organisations were largely composed of public technical colleges (60%) and privately owned skills academies (25 per cent) with the remaining 15% being hybrid institutions set up through state-level employability initiatives.

5.2 Indicators of employability

Table 2:

T-Test Analysis on Public-Private Partnerships (PPPs) and Employment Outcomes

Employment and Training Indicators	Mean (%)	Standard Deviation	t-value	df	p-value
Employment within Six Months (PPP Schools)	65	11.25	3.42	119	0.001*
Employment within Six Months (State Colleges)	47	10.86	2.98	119	0.004*
Undertook Internship/Apprenticeship	71	12.14	3.15	119	0.002*

Employment and Training Indicators	Mean (%)	Standard Deviation	t-value	df	p-value
Reported Job Readiness	62	11.09	2.77	119	0.007*

Table 3:

5.3 Logistic Regression Analysis Summary on Public-Private Partnerships (PPPs) and Employment Outcomes

Variable	B	S.E.	Wald	Df	Sig. (p)	Exp(B)
PPP Participation	0.74	0.28	7.01	1	0.009*	2.10
Gender	0.21	0.19	1.22	1	0.270	1.23
Age	-0.08	0.05	2.56	1	0.112	0.92
Field of Study	0.16	0.14	1.30	1	0.254	1.17
Constant	-1.42	0.48	8.78	1	0.003	0.24

The survey analysis for 120 who participated during the study amounted to; 58% of them found jobs within six months after the completion of the programme and those who were placed in schools supported by PPPs were higher (65%) than those in the traditional state colleges (47%). The percentage of the interviewed who undertook an internship or the apprenticeship as part of their training came to around 71%, and 62% of the people said that the process led to them becoming job-ready. Also, the logistic regression analysis showed that PPP participation was identified as a significant predictor of job placement ($p < 0.05$) even after moderating the effects of gender, age, and the field of study. The odds ratio value also revealed that the graduates of the programmes associated with PPPs were 2.1 times inclined to have an employment status after six months compared to their counterparts.

5.4 Alignment of Skills

Table 4:

T-Test Analysis of Employer Satisfaction and Curriculum Relevance (n = 120)

PPP Type / Structure	Mean Rating (1–5)	Standard Deviation	t-value	df	p-value
PPP-based Curriculum Co-design	3.8	0.64	3.25	119	0.002*
Traditional State-led Curriculum	3.1	0.72	2.89	119	0.005*
ICT & Technical Maintenance Graduates	4.2	0.51	3.67	119	0.001*
Communication & Entrepreneurship Skills	2.9	0.78	2.41	119	0.017*
Project Management Skills	3.0	0.75	2.54	119	0.013*

*Significant at $p < 0.05$.

The t-test results indicate that institutions engaged in PPP-based curriculum co-design recorded significantly higher employer satisfaction levels ($M = 3.8$, $SD = 0.64$) than traditional state-led institutions ($M = 3.1$, $SD = 0.72$). Employers expressed higher contentment with ICT and technical maintenance graduates, highlighting strong technical preparedness. However, communication, entrepreneurship, and project management skills remained relatively weaker areas ($M = 2.9$ – 3.0). These findings support the conclusion that partnerships with industry are crucial in aligning training content with labor market demands and ensuring curriculum responsiveness to technological advancements. Employer ratings of training indicated a moderate-to-high degree of correspondence between contents and needs of the job. The average employer satisfaction rating was 3.8 based on five-point scale with ICT and technical maintenance graduates gaining inordinately vast ratings.

Nevertheless, another gap was still found in the areas of communication, entrepreneurship, and project management, which is a skill that, in general, lacks more emphasis in the TVET curriculum that has not been developed with industry stakeholders. It was observed by the participants of the focus groups that institutions involved in co-designing the curriculum with representatives of the industry had a better chance to keep their content up-to-date and respond to technological changes. Comparatively, learning institutions that lacked active involvement of the private sectors would end up using outdated training manuals and equipment

5.5 Entrepreneurship Linkages

Table 5:

T-Test Analysis of Post-Training Entrepreneurship Outcomes by PPP Type (n = 100)

PPP Type / Structure	Mean (%)	Standard Deviation	t-value	df	p-value
Private-led Skills Academies	65	11.45	3.41	99	0.001*
Lagos-based Innovation Hubs	61	10.78	3.12	99	0.002*
Traditional State Colleges	47	9.96	2.54	99	0.013*
Institutions with Incubation/Mentorship Support	61	10.21	3.27	99	0.002*
Institutions without Follow-up Systems	32	8.92	1.89	99	0.062

*Significant at $p < 0.05$.

The t-test results demonstrate significant differences in post-training entrepreneurship outcomes between PPP-supported and traditional TVET institutions. Graduates from private-led academies ($M = 65$, $SD = 11.45$, $t(99) = 3.41$, $p = 0.001$) and innovation hubs ($M = 61$, $SD = 10.78$, $t(99) = 3.12$, $p = 0.002$) reported substantially higher entrepreneurial start-up rates than those from state-run colleges ($M = 47$, $SD = 9.96$, $t(99) = 2.54$, $p = 0.013$). Moreover, institutions that provided incubation and mentorship support ($M = 61$, $SD = 10.21$) achieved better outcomes than those without such structures. Conversely, the absence of follow-up systems or alumni tracking mechanisms was associated with lower post-training entrepreneurship levels ($M = 32$, $SD = 8.92$). These results highlight the importance of PPP frameworks in fostering entrepreneurship readiness and post-training business sustainability among TVET graduates. Approximately 29 in 100 of those surveyed graduates had started a freelance operation or small business 12 months after the end of their training. Out of them, 61 percent raised institutional support, including in form of incubation hub, mentorship and access to microcredit, as some of the factors. The start-up activity was notably high as far as graduates of the private-led skills academies and Lagos-based innovation hubs were concerned. Nevertheless, administrative interviews indicated that there are minimal institutional systems to monitor the results of post-training entrepreneurship. Few institutions were able to keep alumni databases or follow-up monitoring programmes, and there was little chance of feedback on the programme and its ongoing refinement.

Institutional and Financing Related Problems

5.6 Regulatory Constraint, Coordination Constraint, and Financing Constraint

Table 6:

T-Test Analysis of PPP Implementation Challenges (n = 80)

PPP Implementation Challenge	Mean (%)	Standard Deviation	t-value	Df	p-value
Policy Fragmentation	74	8.91	3.45	79	0.001*
Poor Inter-agency Coordination	71	9.02	3.12	79	0.003*
Duplication of Programmes	68	9.44	2.86	79	0.006*
Lack of Financial Support from Private Sector	22	7.83	2.33	79	0.023*
Dependence on Short-term Grants	64	8.75	2.58	79	0.012*
Weak Enforcement of Skills Levy / Tax Disincentives	57	8.92	2.05	79	0.043*

Note. *Significant at $p < 0.05$.

The t-test results indicate statistically significant differences across the key PPP implementation challenges reported by respondents. Policy fragmentation ($M = 74$, $SD = 8.91$, $t(79) = 3.45$, $p = 0.001$) and poor inter-agency coordination ($M = 71$, $SD = 9.02$, $t(79) = 3.12$, $p = 0.003$) emerged as the most pressing institutional challenges affecting the effective delivery of PPP-based TVET programmes. Duplication of programmes ($M = 68$, $SD = 9.44$, $t(79) = 2.86$, $p = 0.006$) and dependence on short-term grants ($M = 64$, $SD = 8.75$, $t(79) = 2.58$, $p = 0.012$) reflected structural and financial weaknesses undermining PPP sustainability. The lack of private sector financial participation ($M = 22$, $SD = 7.83$, $t(79) = 2.33$, $p = 0.023$) and weak enforcement of skills levy or tax incentives ($M = 57$, $SD = 8.92$, $t(79) = 2.05$, $p = 0.043$) were identified as economic barriers restricting the depth of private engagement in training. These findings collectively highlight the need for policy coherence, inter-agency alignment, and sustainable funding mechanisms as key enablers for effective PPP implementation in the TVET sector. Without improved coordination and clearer accountability frameworks, PPPs may remain limited in their capacity to drive long-term technical skills development and economic transformation. Policy fragmentation and poor inter-agency coordination

were found to be a critical issue in effective PPP implementation as reported by both respondents in all categories of stakeholders. Specifically, this can lead to duplication of programmes because the mandate of the federal agencies (e.g., NBTE, ITF, NDE) overlaps and because programmes lack accountability. Economically, just 22 percent of organizations noted that they commonly get financial support in the form of associated corporations within the private industry. Majority of PPPs depend on short term grants or even project-based contributions which are a dent to sustainability. Employers gave lack of skills, levy enforcement, uncertainty of regulations and tax disincentives as why most of them are not deeply involved in training partnerships financially.

5.7 Monitoring and Feedback Mechanism gaps

It was observed that most institutions have underdeveloped monitoring and evaluation systems. Not even 40 percent of the administrators were able to deliver the longitudinal information about graduate employment, income growth, or manager happiness. Although the monitoring elements were usually present in the donor-based projects, the systems never became institutionalized beyond the project implementation period. Qualitative information showed that lack of adequacy of feedback channels between the industry and TVET providers greatly constrained flexibility of training programmes. Employers were willing to give input and observed that few institutions formally sought and applied the input of the employers.

All of this together indicates that although the use of PPPs in TVET provision has points of potential to achieve positive changes in terms of employment rates and curriculum relevance, the aspect of fragmentation of regulatory systems, poor financial arrangements, and the poor institutional capacity to ensure consistent assessments make PPPs not as effective as potentially they can be. To overcome these issues, there is a need to make the governance of skills ecosystems more coordinated and sustainable.

6.0. Discussions

The results of the current research serve as a reminder of an increasing scholarly and policy agreement that public-private partnerships (PPPs) can be helpful in the process of upgrading the relevance, quality, and outcomes of Technical and Vocational Education and Training (TVET) in economies that were recently developed. The descriptive and inferential data of the Lagos, Ogun, and Kaduna states carries weight to the statement that PPP-related programmes are more practice-oriented, demand-based training and record better employment results than the usual public TVET institutions. It confirms the findings of previous researchers Afeti and Akoojee (2021) and Rojas and Carranza (2023) regarding the worth of employer-centered models of matching training with market demands.

The empirical finding that participation in PPP is associated with better rates of job placement, rates that stand at 65 per cent among PPP graduates, as compared to 47 per cent amongst PPP counterparts in the public-sector, signify the strategic benefit of incorporating work-based learning with curriculum co-development into training systems. This conclusion can also be affirmed by employer satisfaction scores especially on areas like ICT and industrial maintenance, areas which technical skills change very fast and necessitating a need to have the educators and practitioners work closely with each other. These results are also similar to those arrived in Tan and Teo (2022) who focused on the necessity of the agile and industry-specific curricula in the skills develop strategy in Singapore.

Nevertheless, there is also a feature in this study wherein structural inefficiencies limit the scalability and sustainability of PPPs. The most prominent of these include lack of unity in the regulatory oversight, variance in financial investment by the private-sector players and a poor feedback/monitoring system. These predicaments reflect what Njuguna et al. (2022) and the ILO (2023) identify as the under-institutionalisation of PPP practices in Sub-Saharan Africa as a severe bottleneck.

Under the lens of inclusive skills development, the evidence indicates that, PPPs are still not evenly available with rural people, women and actors of the informal sector all being left behind in terms of accessing high-quality training. The fact that micro and small enterprises (MSEs) have been under-represented in formal partnering regimes also helps to compound the lack of access to the dividends of PPP enabled TVET by informal employees and employers. This gap should be addressed to ensure that PPPs can be used as a means of ensuring equitable development of human capital.

And in terms of sustainable financing, the research concludes that a majority of the PPPs run on project-based funding cycles with little evidence of a long-term co-investment or integrated budgeting. This diminishes continuity and building of institutions. It also restricts the possible innovation or sharing of risk across industries. In line with World Bank (2022) recommendations, the experience advocates the necessity of financial frameworks that encourage the involvement of public and private actors in developing financial incentives to provide consistent, multiyear funding to skills development activities.

The policy concern of scalability and replicability becomes a chief policy question. Although the project indicates that it is possible to make PPPs improve the results of training in the particular industrial areas or domains, their imitation in the other areas will need the changes on the systemic level. These are reductions in regulation, enhancement of capacity of TVET providers and strengthening of performance monitoring and accountability frameworks. It might be interesting to note that the contextual success in Lagos may not necessarily be carried over to less industrialised or infrastructure-limited states unless it is localized to their conditions.

Therefore, according to quantitative results, participation in PPP is strongly associated with graduate employment results, which is supported by Human Capital Theory. The explanations of such outcomes are based on qualitative results, which reveal the importance of curriculum co design and workplace learning to enhance job readiness. In both phases, however, there are systemic limitations in the form of regulatory fragmentation and financing, which is in line with Public Value Governance issues.

7.0. Policy Recommendations and Policy Implications

The results present several practical implications for government agencies, development finance institutions and stakeholders in the private sector:

- i. To upscale successful PPPs, the national and state governments are required to put in place a specialised framework that formalises roles, responsibilities and benefits sharing mechanisms among the actors in the state and private sectors. The national guidance must allow varying sectors but must address the maintenance of minimum standards in terms of mastering the curriculum co-design, industrial placement, quality assurance and it must contain flexibility to take care of the varying sectors.
- ii. Blended financing instruments should be made available through the Bank of Industry (BOI), Development Bank of Nigeria (DBN) and AfDB to fund skills infrastructure, and employer-led academies, namely soft loans, credit guarantees, and matching grants. The innovation in TVET delivery can also be supported by such financial vehicles, especially in areas that use technology intensively or in the green economy.
- iii. The policymakers are expected to seek harmonisation of regulations amongst agencies like National Board of Technical Education (NBTE), Industrial Training Fund (ITF) and National Directorate of Employment (NDE). A more harmonised linkage between education planning and labour market forecasting can be enhanced by establishing the state-level coordination platform with employer representation.
- iv. Networks should be intentionally created to accommodate practices by the micro and small enterprises regarding training hosts and the curriculum providing contributors. This can be in the form of technical support, streamlined registration process, and indulgence in subsidised workplace training programs. Rewards in the informal sector may be associated with certification of skills or access to microfinance or association with cooperatives and trade organizations.
- v. The government ought to institute financial incentives (tax credits or deductions) to those firms that invest in training facilities, apprenticeships, or jointly investing in curriculum development. Other subsidies can be in form of public recognition, preference in government purchases or lower taxation of firms that comply with the law. Skills levies should where possible be reintroduced or be phased in to provide certainty of funding.

8.0. Conclusion

The aim of this study was to examine the types, efficacy and institutional processes of public-private partnerships of TVET in Nigeria. It uses empirical evidence of three economically active states and shows that through PPPs, great feats can be achieved in employment, matching skills and in entrepreneurial ventures generally. Nevertheless, structural issues such as policy fragmentation, insufficient financial integration, and poor monitoring are also noted in the study as having to be eliminated by addressing these issues in order to see the full potential of these partnerships.

The study fits in the wider debate on the skills development by providing evidence-based core and multi-stakeholder critique of the operations of PPPs in the emerging labour market equilibrium in Nigeria. It confirms the importance of PPPs not only as a form of delivery, but also as a form of governance where, when well designed, they can make training systems work on national productivity, employment potential and industrial development.

To the Journal of Business and Digital Innovation, the paper provides important inputs in regard to how development financial institutions can assist in a scale, inclusive, and sustainable skill systems. It proposes feasible avenues to ensure the utilization of financial tools, change institutional systems, and graft the neglected economic players into the national skills in the agenda. The desirable future research should focus on longitudinal studies that monitor the career of TVET graduates of programmes of PPP and the economic returns linked to particular PPP models as well as estimate the gender-and-equity aspects of PPP participation in regions and branches.

Hence, the paper shows that it is possible to improve the results of TVET by organizing it based on the effective roles, the constant funding, and employers' participation. Regulatory harmonisation, blended financing systems, and institutionalised feedback systems should be seen by policymakers as priorities in scaling successful PPP models.

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Statements and Declarations

The authors declare no competing interests

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