

ARTIFICIAL INTELLIGENCE IMPLEMENTATION STRATEGIES IN BUSINESS: A SYSTEMATIC REVIEW

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Abstract

Businesses and economies are eager to adopt AI to enhance operational efficiency and maximise profits. However, managers often struggle to identify the best practices for effectively implementing AI, and the successful integration of AI poses a significant challenge for many organisations. This study aims to identify the most effective strategies for integrating AI into business and to provide guidelines for implementation based on existing literature and industry practices. Using the PRISMA protocol, a systematic review with bibliometric analysis was conducted on 76 articles retrieved from the Scopus and Clarivate Web of Science databases. Literature supports the implementation of AI in three major stages. First, the pre-implementation stage involves organisations planning and developing the aims, objectives, and policies for AI implementation. This is followed by the implementation stage, where organisational, process, technological, environmental, and individual factors are considered. Finally, in the post-implementation stage, organisations must monitor, evaluate, and make necessary adjustments and corrections to ensure effective and timely communication. Companies should consider redesigning jobs to augment AI with human capabilities. The study offers a structured approach for organisations to select and tailor AI systems that align with their unique business models, cultures, and capabilities.

Keywords: Digital transformation, Technology implementation, Strategic management, Artificial intelligence.

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1. INTRODUCTION

The fourth industrial revolution ushers in a new era of industrial processes characterised by the adoption of disruptive technologies such as artificial intelligence (AI), robotics, the Internet of Things, service automation, additive manufacturing, cloud computing, and big data analytics (Bajic Rikalovic, Suzic, and Piuri 2020; Kassem, Costa, and Stauducher 2022). Artificial intelligence has the potential to transform businesses, communities, and economies. Both economies and businesses are eager to adopt AI to enhance operational efficiency and maximise profits. There is no standard definition of AI due to its continually evolving and

complex nature. AI is defined as the simulation of human intelligence in machines that are programmed to think and act like humans. It involves creating computer programmes and algorithms capable of performing tasks that typically require human intelligence (Gumbo and Booysse 2025).

Findings from the State of AI 2021 Global survey indicate that AI adoption continues to rise steadily, as most surveyed companies reported implementing AI in at least one function (McKinsey and Company 2021). The most commonly adopted AI use cases within each business function involved service operations optimisation, contact centre automation, product and/or service development, supply chain management, customer service analytics, performance management, risk modelling, and analytics (McKinsey and Company 2021). Nevertheless, managers struggle to identify best practices for effectively implementing AI, and the successful implementation of AI remains a significant challenge for many businesses. A substantial knowledge gap exists regarding how to address implementation challenges and successfully plan for sustainable adoption in practice. Decisions related to AI technologies, the services compatible with AI, the risks associated with these systems, and the required expertise continue to pose challenges. Merhi (2023) noted that 87% of AI and big data projects fail and are never deployed, hence the importance of developing effective AI implementation strategies.

This study aimed to identify the most effective strategies for integrating AI into business and to provide guidelines for implementing AI based on existing literature. Using the PRISMA protocol, a systematic review with bibliometric analysis was conducted on articles retrieved from Scopus and the Clarivate Web of Science databases. The study aims to offer a structured approach for businesses to select and tailor AI systems that align with their unique business models, culture, and capabilities.

2. METHODOLOGY

The study adopted a systematic and bibliometric analysis of the literature. Bibliometric analysis was used to quantitatively detect emerging trends in literature, to identify journal performance, collaboration patterns, and research constituents, and to explore the intellectual structure of a specific domain in the extant literature. On the other hand, the systematic literature review was used to qualitatively analyse data using thematic and content analysis (Donthu, Kumar, Mukherjee, Pandey and Lim 2021).

2.1 Research questions

A systematic literature review should be guided by research questions (Donthu et al. 2021). This study aims to address the following research questions:

- i. What are the key steps for successfully implementing AI within business operations as presented in the current literature?
- ii. Which best practices can be deduced for the implementation of AI?

2.2 Inclusion and exclusion criteria

Scopus and Web of Science databases served as the primary sources of literature, as they rank among the most comprehensive databases with substantial quantities of peer-reviewed journals (Fahimnia, Sarkis and Davarzani 2015). An advanced search using the keywords (*artificial AND intelligence AND implementation* AND strategies AND (ai AND implementation)) was performed in the Clarivate Web of Science and Scopus databases. A filtering process involving the sorting of article data and the reading of abstracts was undertaken. Duplicates, articles that were out of scope, and those not published in English were excluded. The study considered 76 articles for analysis after screening. Table 1 provides the inclusion and exclusion criteria of the study.

TABLE 1. INCLUSION AND EXCLUSION CRITERIA OF THE SYSTEMATIC REVIEW

Eligibility Criteria	Inclusion	Exclusion
Time Frame/ Years	Limit determined by publication trend (2021-2025)	2020 and below
Publication language	English	Other
Electronic Databases	Scopus and Clarivate Web of Science	Other Sources/ Inaccessible Studies
Relevance/Setting	Related to artificial intelligence implementation	Not related to artificial intelligence implementation
Document Type	Journal articles, conference papers, Books and book chapters	Other
Source type	Open access and green	Other
Publication Status	Published in Journals	Unpublished

Source: Authors' compilation (2025)

The preliminary analysis of searched data showed that literature on the implementation of AI started in 1991, declined from 1994 to 2006 and significantly started to get attention from 2021 to 2025. Hence, this study focused on articles published between 2021 and 2025.

Figure 1 shows a flowchart of the systematic search of the literature.

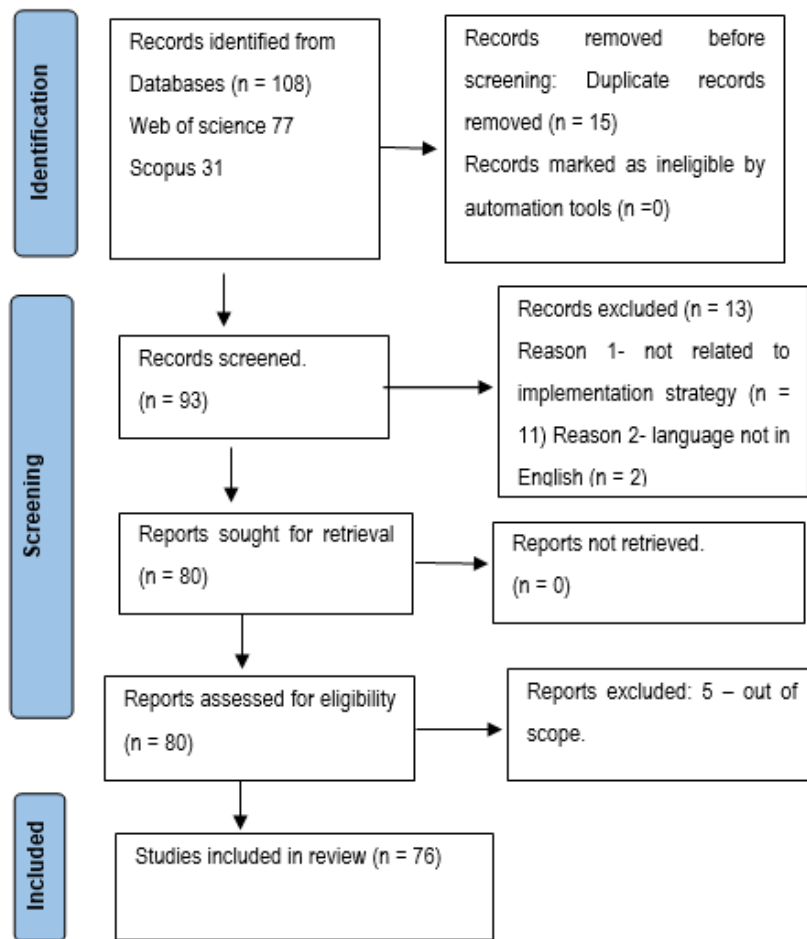


FIGURE 1. PRISMA FLOW CHART OF THE LITERATURE REVIEW PROCESS
Source: Authors' compilation (2025)

2.3 Data analysis

Bibliometric data analysis was conducted through the Vos viewer software, whilst the systematic literature review was analysed through themes. Bibliometric analysis employs statistical methods to conduct performance analysis, science mapping, and network analysis, providing data on the volume, spatial representation, relationships, and impact of literature using a wide range of techniques (Donthu et al., 2021). The study used co-occurrence of keywords, co-citations, and data descriptives as indicators for bibliometric analysis. To identify the main themes directing the implementation of AI, this study was triangulated by content and thematic analysis.

3. RESULTS

3.1 Bibliometric descriptive statistics

The literature of the study covers a timespan from 2021 to 2025 and draws from 57 journal sources and 76 documents/articles. The collaboration of authors was highly concentrated within the same country, with 159 authors contributing and 11 single-authored documents. Table 2 shows the descriptive statistics of the papers used in the systematic literature review. The selected articles have an average citation rate of 9.28, and 56 articles have at least one citation, showing a significant contribution of the articles to the body of knowledge.

TABLE 2. DESCRIPTIVE STATISTICS OF THE PAPERS

Main information about the data	
Timespan	2021-2025
Sources (Journals)	57
Documents	76
Average citation per document	9.28
Document content	
Keywords Plus (ID)	463
Author's Keywords	255
Authors	
Authors	159
Authors collaboration	
Single-authored docs	11
Contributing countries	44

Source: Authors' compilation (2025)

3.2 Contribution according to country

The United States of America, the United Kingdom, India, China, Germany, Italy, Ukraine, Malaysia, and Indonesia emerged as the highest contributors to the implementation of AI literature. However, there is a poor representation of developing nations in the literature under study, especially from the African context. Figure 2 shows the country contribution to the implementation of the AI literature.

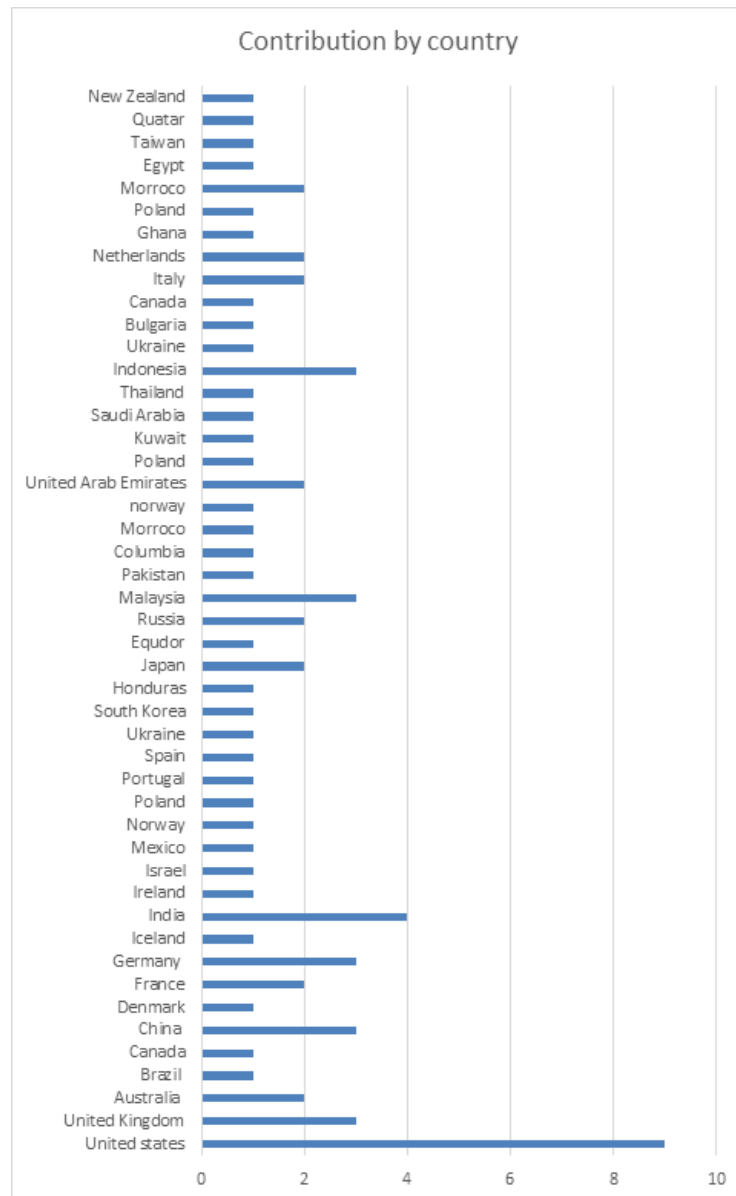


FIGURE 2. COUNTRY CONTRIBUTION

Source: Authors' compilation (2025)

3.3 Keyword co-occurrence

Keyword co-occurrences identify main topics and trends in the literature. Only keywords that occurred at least three (3) times were considered for analysis. Out of 463 keywords, only 33 were mentioned more than three times. Trends in the implementation of AI literature mainly examined AI in offering digital health services, emphasising the importance of performance, quality, and challenges. Another trend looked at implementing frameworks for computer vision, deep learning, machine learning, and neural networks. Issues related to drivers, barriers and adoption were also analysed in the literature.

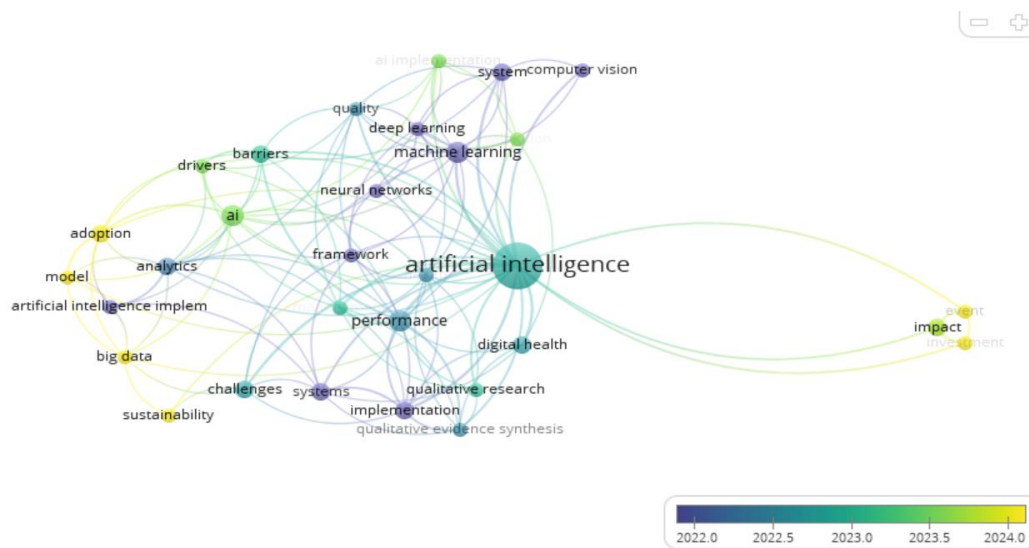


FIGURE 3. KEYWORD CO-OCCURRENCE
Source: Authors' compilation (2025).

3.4 Bibliographic coupling by authors

Bibliographic coupling measures the similarity between documents based on the number of references they share. The link coupling strength was very low, with only five (5) authors with a coupling link strength of more than one (1). Noteworthy is the fact that the study draws from literature from different business industries. Table 3 shows bibliographic coupling by authors.

TABLE 3. BIBLIOGRAPHIC COUPLING BY AUTHORS

Documents	Citations	Total link strength
Hogg (2023)	43	2
Brennan (2022)	16	2
Singh (2024)	29	2
Peretz-Andersson (2024)	30	1
Wolff (2021)	42	1

Source: Authors' compilation (2025).

3.5 Publications by year

The publication trend on literature on the implementation of AI is on the rise, with the period 2023 to 2024 dominating in terms of publication outputs. Publications are expected to increase in 2025 as the first quarter of 2024 already has publications equivalent to the previous years 2022 and 2023. The increase in publication outputs can be a result of increased discussion on the successful implementation of AI due to the increased adoption of AI and previous implementation failures. Figure 4 shows publications by year.

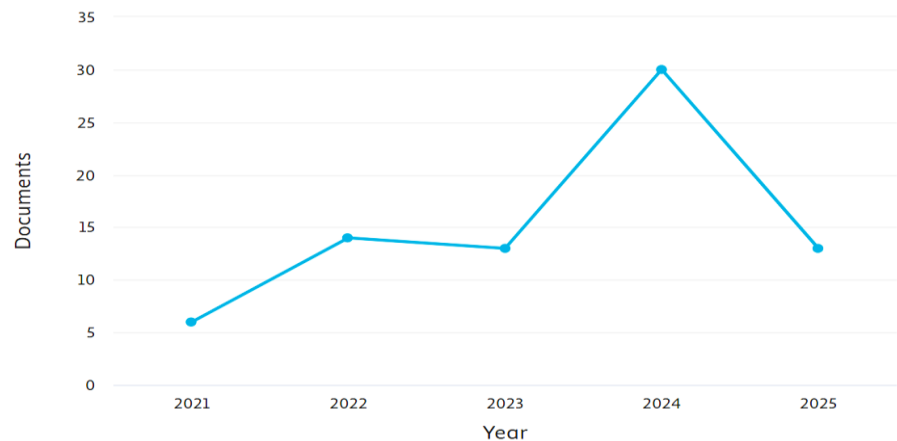


FIGURE 4. PUBLICATION BY YEAR
Source: Authors' compilation (2025).

4. DISCUSSION OF RESULTS ON THE KEY STEPS IN SUCCESSFULLY IMPLEMENTING AI WITHIN BUSINESS OPERATIONS PRESENTED IN THE CURRENT LITERATURE

Literature documents the implementation of artificial intelligence as a planned process in pursuit of ongoing digital transformation, where organisations integrate their resources and capabilities in a mutually enriching manner. This implementation process comprises various interconnected stages, namely planning, resource mobilisation, development of AI tools, training, communication, and evaluation. This section explains the various themes identified from the literature regarding best practices for effective AI implementation in business operations.

Pechtor and Basl (2023) analysed AI implementation using the Technology-Organisation-Environment (TOE) framework. The framework categorises organisational factors like culture and resources, technological factors, and environmental factors as major considerations in AI implementation. The authors also posited top management support and effective change management as vital factors for AI implementation. Environmental factors related to data protection and security, legislation and laws, and public opinion were also categorised as essential for AI implementation (Pechtor and Basl 2023). In contrast, Hashfi and Raharjo (2023) mapped AI implementation in five stages: Initiating, Planning, Execution, Monitoring and Controlling, and Closing. Literature examines the implementation of AI using different terminologies; however, there is a consensus on the stages that should be followed in implementing AI. Seventy per cent (70%) of the literature investigated the implementation of artificial intelligence in healthcare. Table 4 shows the AI implementation stages suggested by the literature.

TABLE 4. AI IMPLEMENTATION STAGES

Author	Implementation stages
Merhi (2023)	Pre-implementation, implementation, and post-implementation
Hashfi and Raharjo (2023)	Initiating, Planning, Execution, Monitoring, Controlling, and Closing.
Roppelt, Jenkins, Kanbach, Kraus and Jones (2025)	Strategic, structured implementation approach vs unstructured trial and error approach.
Alt, Klingensmith and Faber (2022)	Customised data engineering, data science, software development, software deployment, feedback and new requirements.
Peretz-Andersson, Tabares, Mikalef and Parida (2024)	Structuring AI resources, building AI capabilities, leveraging AI resources and capabilities
Wolff, Josch, Keck and Baumbach (2021)	Policy setting, technological implementation, and medical and economic impact measurement.
Chomutare et al. (2022)	Planning, engaging, executing, reflecting, and evaluating
Deryl, Verma and Srivastava (2024)	Timing, training, teaming, tailoring, targeting, technique, trust, and technology
Sandoval-Almazan, Millan-Vargas, Garcia-Contreras (2024)	Digital Planning and Design, Data Utilisation and Governance, Digital Management and Implementation, Openness and digitalisation using AI

Source: Authors' compilation (2025).

Alt, Klingensmith, and Faber (2022) emphasised that implementing AI requires three primary functions: data engineering, data science, and software development. The authors explained that customised AI systems are developed using organisational data; therefore, for effective AI system development, company data must be synchronised and governed. This data is then used in AI system development, followed by the eventual deployment of applications. Data managers responsible for organising, securing, and protecting organisational data also need directive guidance in the form of a data strategy and data governance policies for uniformity and alignment with the overall vision of the organisation (Alt, Klingensmith, and Faber 2022). The following section explains the major strategies identified as fundamental in the implementation of AI.

4.1 Stage one: pre-implementation

Literature agrees that the first stage in AI implementation is the pre-implementation stage, which includes the development of an AI policy and plan, goal setting, budgeting, sourcing required resources, and planning technological systems and vendors, among other considerations. This step provides the business enterprise with a project blueprint for effective planning and implementation. The following themes are highlighted in the literature as major issues to consider for the successful implementation of AI during the pre-implementation stage.

4.1.1 Theme one: development of an AI policy and plan

Literature documents the development of an AI policy and plan as a foundational step in AI implementation (Danquah, Dadzie, Gyesi, Yeboah, and Nyarko 2024). An AI policy should be developed by bringing together various competencies and experts to create a holistic and inclusive policy for AI implementation.

Best practices suggest forming an AI transformation group or committee that includes Chief Financial Officers, the Head of Information Technology, the Chief Data Scientist, the Production Development Manager, the Business System Manager, and other key personnel (Peretz-Andersson, Tabares, and Mikalef 2024). The policy should provide a roadmap and guidelines for AI implementation. This stage also involves analysing the available AI tools and creating a detailed plan to select those that best align with the organisation's vision and mission (Danquah, Dadzie, Gyesi, Yeboah, and Nyarko 2024). Clear aims, objectives, AI operations, data gathering, and the decision-making process are essential for effective AI implementation.

4.1.2 Theme two: acquiring and accumulating resources

Literature emphasises that the implementation of AI requires the acquisition and accumulation of resources, ranging from investments in computing power and smart equipment to purchasing standardised cloud infrastructure and partnering with specialised digital consulting providers (Peretz-Andersson, Tabares, and Mikalef 2024). However, some infrastructure essential for the continuous development, implementation, and use of AI is still in the development phase, therefore, organisations might need to update these systems as they evolve. Peretz-Andersson, Tabares, and Mikalef (2024) noted the necessity of developing in-house database servers, preferably using more cost-effective cloud technologies. Improvements in data platforms are critical for effectively integrating cloud capabilities, such as database hosting, scaling, code hosting, and machine learning (Peretz-Andersson, Tabares, and Mikalef 2024).

4.2 Stage two: implementation

Literature outlines the implementation stage as the second step in strategising the effective implementation of AI. This stage is the most fundamental and complex, comprising three major aspects: organisation, environment, and technology, according to the TOE theoretical framework. Literature also suggested the consideration of process and individual factors.

4.2.1 Theme one: organisation

Merhi (2023), Roppelt, Jenkins, Kanbach, Kraus, and Jones (2025), and Abdallah, Harraf, and Wael (2025) cited effective organisation as a significant theme in AI implementation. Organisation encompasses organisational structure, culture, and communication.

4.2.1.1 Organisational structure

The organisation of AI implementation necessitates a holistic approach that includes all departments where AI is implemented, same as other departments that rely on the functions of the AI-automated departments. Roppelt, Jenkins, Kanbach, Kraus, and Jones (2025) argued that a structured approach to

AI implementation requires management support, the appointment of implementation leaders, structured assessment of AI system quality, guidance on necessary workflow changes, user education, stepwise rollouts, and sustainable adaptation of processes and workflows. However, in smaller organisations, an unstructured trial-and-error approach may be utilised to determine the services that require AI implementation. Nevertheless, this strategy is not effective in complex and multi-site institutions (Roppelt, Jenkins, Kanbach, Kraus, and Jones 2025).

Furthermore, Roppelt, Jenkins, Kanbach, Kraus, and Jones (2025) emphasised that the firm's scope and size, the centralisation and formalisation of the organisation, and the availability and utilisation of internal resources are key factors to consider in AI implementation. In some cases, the scope of AI implementation relates to the level of AI deployment, ranging from hybrid AI implementation to full-scale AI deployment and replacement of human intervention.

4.2.1.2 Organisational culture

Merhi (2023) argued that organising the implementation of AI depends on top management, organisational structure, and organisational culture. Successful AI implementation requires the support and understanding of both top management and staff (Merhi 2023). An organisation's culture, shaped by shared values, social ideals, and beliefs among employees, needs to change and adapt to the new norm. In this regard, Abdallah, Harraf, and Wael (2025) underline that organisational culture derives from top management, as their values, behaviours, and work ethics set the tone for the overall culture that junior employees imitate. Successful AI implementation necessitates an organisational culture that values and supports innovation. Since AI implementation requires financial resources and extensive investment, top management buy-in is crucial for the continual approval of necessary financial resources.

4.2.1.3 Organisational communication structure

Abdallah, Harraf, and Wael (2025) noted the significance of communication in facilitating AI implementation. The authors argued that for new AI innovations to be integrated, upper management must communicate effectively through a viable communication plan. Communication is generally bi-directional, making feedback from lower levels essential for making necessary adjustments during implementation.

4.2.2 Theme two: process

AI implementation is an evolving process of technology improvement through AI. Implementation processes are facilitated by employees in the organisation. Merhi (2023) argues for consideration of ethical issues, reliability and accountability of AI patrons and staff and dealing with resistance as major concerns when implementing AI. AI systems implementation brings new processes and methods which can cause

changes in social and technical environments that can lead to confusion, inefficiency and resistance from employees.

4.2.2.1 Training and education of staff and patrons

To avoid unnecessary resistance to change and the technostress associated with new technological systems, businesses need to train and educate their staff on the structure of AI, input data requirements, how to use the systems effectively and on the advantages and disadvantages of AI tools (Singh, Jain, Kamal, Bodhi, Gupta 2024). Danquah, Dadzie, Gyesi, Yeboah and Nyarko (2024) accentuate the importance of frequent training, which forms part of an organisation's core activities. The authors considered participation in webinars, conferences, workshops, and training sessions, potentially in partnership with professional organisations, crucial in availing critical skills to staff. In the same vein, Peretz-Andersson, Tabares and Mikalef (2024) argued for the internal sharing of AI expertise among data scientists and experts with employees through meetings and knowledge exchange platforms.

In the same vein, Roppelt, Jenkins, Kanbach, Kraus and Jones (2025) categorised educational and acceptance of AI implementation by employees as individual factors. The authors argued that individuals' mindset and their backgrounds affect the level of openness to new technologies. Effective implementation of AI technologies is based on employees having sufficient knowledge and technical skills and having access to appropriate technical resources (Abdallah, Harraf and Wael 2025).

4.2.2.2 Provision of guidelines on the use of AI

The provision of guidelines for the utilisation of AI tools guided by best practices for AI implementation is crucial. Dadzie, Gyesi, Yeboah and Nyarko (2024) argued for organisations to develop guidelines on the best practices of implementing AI, ethical considerations, and standards. It is a general practice in the use of gadgets to include a manual which guides users on how to use a gadget. In the same vein, a Step-by-step manual on how to use new systems is required.

4.2.2.3 Excellent project management

AI implementation is a complex project which requires excellent project management. Merhi (2023) argued for effective project management with clear objectives, a work plan, a resource plan, and time tracking of the project progress. In that regard, a project manager with expertise in management, technical systems and business orientation should lead the project.

4.2.3. Theme three: technology

Technology deals with implementing the required IT infrastructure, ensuring data quality and quantity, security and confidentiality of systems, systems interoperability, maturity and trustworthiness.

4.2.3.1 Theme: data quality and quantity

AI systems development and functionality depend on the quality of data since data is crucial for training and testing models, as well as making predictions or performing classification tasks (Pechtor and Basl 2023). Unreliable, incorrect, and poor data input impact the functionalities of the systems and lead to incorrect decisions (Merhi 2023). Data quality should be a top priority before, during, and after the implementation of AI systems. On the other hand, the larger the datasets that AI systems use to make decisions, the more accurate the decisions are, hence a centralised data structure with a large data pool from different departments is more efficient in implementing AI systems compared to decentralised data that is dispersed across departments and business units (Pechtor and Basl 2023).

4.2.3.2 Technology interoperability, maturity, and trustworthiness of AI

Roppelt, Jenkins, Kanbach, Kraus and Jones (2025) debate technological interoperability as a major consideration that ensures a smooth integration in existing workflows with AI. Combined with technological maturity, technology interoperability ensures a seamless workflow integration required for effective implementation of AI. Implemented AI systems should communicate effectively with existing systems and databases to collect, aggregate, store, and use accurate data (Merhi 2023). AI systems should be well tested and developed to be implemented effectively.

On the other hand, Trivedi and Khadem (2022) regarded trustworthiness of AI as an important determinant of effective implementation of AI. The authors argued that AI systems must guarantee explainability, transparency, technical robustness, non-discrimination and fairness, privacy, and accountability such that the user can understand how the model is working internally.

4.2.3.3 Customised development of AI tools

Literature advocates for the development of customised AI tools which effectively address specific organisational needs. Hence, apart from training employees on how to use AI systems, staff can be trained on how to develop AI systems which specifically address their work problems (Danquah, Dadzie, Gyesi, Yeboah and Nyarko 2024). AI system developers need to be aware of the mission, purpose, and needs that the AI tools should address.

4.2.3.4 Computing capabilities

Alt, Klingensmith and Faber (2022) stress the importance of computing capabilities in AI implementation. The authors argued for computer hardware and software development capabilities that can provide the platform upon which modern, big data analytics occur, to include operations research, statistics, advanced engineering, and design, and ultimately data science for effective development and implementation of AI. In the same vein, Peretz-Andersson, Tabares, Mikalef and Parida (2024) explained the importance of investing in smart equipment, standardised cloud infrastructure, and partnership with specialised digital consulting providers. An advanced and scalable infrastructure required for the implementation of AI, such

as GPUS and a data centre, requires specialised personnel to manage it. Alternatively, businesses can utilise Amazon, Google, or Microsoft public cloud offerings. However, data protection regulations make it challenging for businesses in some jurisdictions to adopt cloud servers (Pechtor and Basl 2023).

4.2.4 Theme four: environmental factors

Roppelt, Jenkins, Kanbach, Kraus and Jones (2025) accentuated that environmental factors shape organisational and technology aspects. Environmental factors cover competition, governmental policies and regulations, ethics, employee shortages, and demand and supply forces of the service industry.

4.2.4.1 *Legislation, security, and confidentiality*

Government policies greatly affect an organisation's willingness to embrace AI (Abdallah, Harraf and Wael 2025). Some legislations related to the use of the cloud do not allow the use of public cloud offerings for data that contains personally identifiable information. Generally, most data contain names and email addresses, which renders it inappropriate for cloud prototyping, storage, and processing (Pechtor and Basl 2023). Legislation and laws provide opportunities and challenges in AI implementation. Legislation provides standards and frameworks for the legal use of AI, on the other hand, providing certain restrictions and compliance requirements. Data used in AI development and the implemented AI systems need to be highly secured and protected to prevent misuse, fraud, or breaches. Data stakeholders must feel confident that their data and information will not be lost, sold, or otherwise misused. Wolff, Josch, Keck and Baumbach (2021) argued that most of the real-world AI applications in the health care sector face data protection challenges as they require complete data access, which is usually restricted by regulation.

4.2.4.2 *Competition, employee shortages, and demand and supply forces of the service industry*

There is no consensus in the literature on the importance of competition pressures in the Implementation of AI. Implementation of new technology is often impacted by firms' competitive pressures as they concentrate on addressing market dynamics and current demands. Abdallah, Harraf and Wael's (2025) research findings showed that competition has no significant effect on AI implementation. In some specialised sectors like the health sector, employee shortages and demand and supply forces should be of priority in AI implementation as AI systems provide an alternative for specialised labour (Roppelt, Jenkins, Kanbach, Kraus and Jones 2025).

4.2.4.3 *Ethical use of AI*

Literature also asserts the importance of developing an AI ethics policy which ensures the ethical use of AI in the organisation. Danquah, Dadzie, Gyesi, Yeboah, and Nyarko (2024) asserted that organisations should establish a comprehensive plan for their ethical utilisation, which should be developed in collaboration with related professional and regulatory bodies to minimise AI misuse and misinformation. Of greater concern in literature is the development of poorly modelled AI systems due to developer bias and

inadequate data, which might lead to less effective AI decisions (Merhi 2023); hence, the importance of ethical consideration in the development and use of AI systems.

By way of contrast, Voorst (2024) argued that AI systems produce outcomes in a manner that is not easily understandable or verifiable in the health sector, due to the algorithm's black box system. Although developers are urged to ensure explainability, the author advocates for rigorous internal and external validation of AI models to ensure ethical AI Implementation in Health Care. Nord-Bronzyk et al. (2025) suggested respect for the rights and dignity of patients, respect for clinician judgements, provision of optimal clinical care to each patient, avoiding imposing nonclinical risks and burdens on patients, addressing health inequities, and conducting continuous learning activities that improve the quality of care and health systems as major principles for an ethical AI framework.

4.2.5 Theme five: individual factors

Abdallah, Harraf and Wael (2025) highlighted the importance of individual factors, life perceived as easy to use and perceived usefulness as major considerations affecting the implementation of AI. Individual factors in innovation adoption were popularised by the Technology adoption model, which stresses that the degree to which the employee believes that a particular system would enhance their performance at work and the perceived ease of use affect adoption by employees. Hence, perceived usefulness and ease of use affect AI implementation. Poorly structured AI systems and interfaces have a high probability of being rejected due to difficulty in use. Literature justifies the need for training and educating employees, and taking note of users' feedback to adjust the usability and effectiveness of AI techniques. In the same vein, Singh, Jain, Kamal, Bodhi, and Gupta (2024) collated that ease of use and the convenience brought by AI lead to higher satisfaction that ultimately augments initial and continued adoption of AI services.

Kim and Lee (2025) argued that organisations should pay attention to employees' psychological issues about AI implementation and develop comprehensive support systems that support technological transition. This includes education and training programs, mentoring programs, and creating career development pathways that incorporate new technological roles. Literature advocates for companies to consider reorganising their work to augment employees with AI systems instead of replacing employees with AI systems.

4.3 Stage three: post-implementation

Literature documents the importance of continuous monitoring and evaluation after implementing AI systems to assess their effectiveness in executing tasks, identify challenges faced by employees and clients and make necessary adjustments. Merhi (2023) pointed out that 87% of AI projects fail due to poor

implementation, leading to loss of financial resources and efforts. Hence, the need for this study to assess the critical access factors for the implementation of AI. Developing a mechanism for communication is crucial in providing feedback required for adjustments and corrections.

5. PROPOSED STRATEGY FOR THE IMPLEMENTATION OF AI IN BUSINESS AND FUTURE RESEARCH

This study aims to recommend a strategy for the effective implementation of AI in business. Based on findings from a bibliometric analysis and a systematic review of the literature, key strategies for implementing AI in business include the development of an AI policy and plan, as well as the acquisition and accumulation of resources in the pre-implementation stage. Policy development should involve expert advice, discussions, and consultations with experts, key stakeholders, and staff representatives. The literature recommends establishing a well-represented AI implementation committee. The necessary resources should be budgeted and acquired well before the implementation of AI systems.

Secondly, during AI implementation, technological, organisational, environmental, and individual factors need to be considered. Specifically, the implementation process requires top management buy-in and a workable communication plan with the rest of the employees in the organisation. Training and education of staff are regarded as effective strategies for equipping employees with the necessary skills to use and adapt to the new systems. Training may occur either externally or internally; however, there is a need for technical experts to be readily available to train and assist employees regularly.

The effectiveness of the development and implementation of AI systems depends on the quality and quantity of data for the continuous learning of AI algorithms. Organisations must ensure a centralised collection of data and interoperability of AI systems for effective synchronisation. Computing capabilities should be upgraded to allow for big data analytics and large data storage. Cloud services from international organisations are regarded as a suitable substitute for traditional GPUs that require expert management; however, organisations must ensure the confidentiality of sensitive information and comply with regulatory laws regarding the use of cloud systems.

Legislative laws and regulations prohibit certain high-risk AI applications and the sharing of sensitive information, thus organisations need to consider these regulations and laws. Furthermore, developing an AI ethics plan is crucial for creating systems that do not violate acceptable ethical practices. The literature advocates for the collaboration of organisations with regulatory and professional bodies in developing an AI ethics plan. Internal marketing of the importance and benefits of AI systems to employees is vital to promote individual perceived usefulness and foster a culture of accepting innovation. Providing guidelines

on how to use and implement new systems is critical to promoting ease of use and the positive adoption of AI systems.

Finally, continuous monitoring and evaluation after implementing AI systems should take place to assess performance and make necessary adjustments in the post-implementation stage. In this stage, developing communication channels for feedback is essential for a prompt response to identified challenges. The theories guiding AI implementation strategies involve the Technology–Organization–Environment model, the Unified Theory of Acceptance and Use of Technology, diffusion theory, and the Technology Acceptance Model. Future research should focus on how work can be reorganised to augment AI systems with human capabilities so that employees remain useful and retain their jobs. There remains a heated debate regarding the implementation of AI in the health sector, underscoring the need for further research relating to AI implementation in this field.

6. CONCLUSIONS

The study aimed to examine and recommend AI implementation strategies in business. There is a consensus in the literature regarding the stages and factors that organisations need to consider when implementing AI. The literature advocates for the implementation of AI in three major stages: the pre-implementation stage, where organisations plan and develop their aims, objectives, and policies for AI implementation; the implementation stage, which considers organisational, process, technological, environmental, and individual factors; and finally, the post-implementation stage, where organisations need to monitor, evaluate, and make necessary adjustments and corrections, ensuring effective and timely communication.

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