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The Impact of Artificial Intelligence on Project Lifecycle Efficiency in Emerging Economies

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About Article

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ABSTRACT

Artificial Intelligence (AI) is transformative to increase the efficiency of the project lifecycle within the emerging economies, where the implementation of projects is usually hampered by inadequate infrastructure, lack of skilled labors, and cost escalation. In this paper, the author examines how AI tools can be incorporated into the five major stages of project management, which are initiation, planning, execution, monitoring, and closure. The application of the mixed-methods research design with the literature synthesis and the case study of the industries, including construction, manufacturing, and public administration helps to discover that AI greatly enhance predictive analytics, automatizes routine processes, contributes to data-driven decision-making, and helps eliminate inefficiencies in project cycles. Shortage of skilled personnel, insufficient digital infrastructure, and data security and governance issues however hinder the implementation. Through proper strategic planning, capacity building, and cross-sectoral collaboration, the AI has the potential to serve as a booster of sustainable growth and operational excellence in emerging markets, the findings indicate. The paper wraps up by presenting a policy-recommended framework to AI integration in project-based setup in such economies.

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1. INTRODUCTION

Artificial Intelligence (AI) has become a game-changer in the field of project management in the world, creating a wave of innovations, efficiency, and flexibility in all sectors. AI technologies can provide an effective solution in optimising performance and sustainability in sectors like construction, energy, transportation, and cities development, where the scale and complexity of projects in these fields commonly pose a considerable challenge. Such potential is particularly significant in developing economies where constraints in the level of infrastructure, finances, and human resources often act as roadblocks to the delivery of projects and the development itself (Wijayasekera *et al.*, 2022; Sourav *et al.*, 2025).

Machine learning, natural language processing, predictive analytics and other AI applications continue to be planted all over the project lifecycle, including project planning and execution, monitoring and closure. These tools allow assessing risk in real-time, generate automatic reports, and make responsive decisions, which, in turn, help to reduce delays, costs, and increase the use of resources (Mahmood *et al.*, 2023). With the developing world still largely subject to the forces of rapid urbanization and industrialization, there has never been a better time to start using AI in infrastructure development to overcome the systematic inefficiencies in the development process and speed up sustainable development (Allouzi & Aljaafreh, 2024).

In addition, AI can contribute to wider digital transformation agendas, including being more transparent, accountable, and governable with the help of intelligent infrastructure and e-government services (Johnson *et al.*, 2021). AI-based PMIS Project Management Information Systems are starting to allow consolidated management of all project-related data, enhance collaboration between project stakeholders, and respond more quickly to emergent project requirements (Mahmood *et al.*, 2023). On the construction megaprojects, AI has already helped to enhance the monitoring of equipment, demand prediction, and quality checks (Wijayasekera *et al.*, 2022).

Nonetheless, technological, organizational, socio-cultural challenges accompanied the introduction of AI in emerging economies. The most widespread obstacles are a lack of digital infrastructure, a shortage of skilled labor force, cybersecurity risks, and the cultural reluctance to automation (Mohammadi & Maghsoudi, 2025; Tjebane *et al.*, 2022). Besides, the inequality of access to the internet, the low quality of data, and the lack of inclusive regulatory frameworks of ethical AI usage are obstacles to its broader implementation (Das *et al.*, 2025).

In spite of these limitations, the environmental and economic positives of AI are being acknowledged. Studies demonstrate that AI could be used to achieve sustainable practices through energy optimisation, emissions reduction, waste minimisation, and improved productivity (Rashid *et al.*, 2025; Li *et al.*, 2024; Larbi-Siaw *et al.*, 2022; Zhong *et al.*, 2024). Within the framework of Industry 4.0, the transition to AI-based solutions is a prerequisite in emerging economies that are aimed at optimizing the work on projects and achieving a competitive edge in the context of international integration (Adrian & Cezarino, 2022).

The article explores the role of AI in improving the efficiency of the project lifecycle in the emerging economies through a sector-wise application, empirical observations, and motivations of major implementations. The research question is to gain insights into the way that AI was transforming project phases, including planning, execution, monitoring, and closure, as well as what influences its effective implementation. Finally, it provides strategic implications to policymakers, project managers, and technology leaders who endeavor to utilize AI towards achieving sustainable development and institutional sustainability.

2. LITERATURE REVIEW

A great deal of literature has been reviewing the possibility of the application of Artificial Intelligence (AI) to project management, and how it would be applied to the setting of an emerging economy. Such areas normally confront the project teams with fewer funds, poor resource use, and unreliable markets. As a result, AI is getting widely employed in enhancing the accurateness of project planning, efficiency of project execution, and real-time monitoring (Wijayasekera *et al.*, 2022; Sourav *et al.*, 2025).

2.1. Ai in project life cycle

AI matters at all project lifecycle stages. During the initiation and planning phase, machine learning, predictive analytics, and other AI-based technologies may be used to forecast project performance, identify risks as early as possible, re-schedule the resources and distribute the budget most efficiently. Sourav *et al.* (2025) claim that the tools contribute to the variation in the extent of uncertainty during financial planning and resource allocation. AI applications monitor resource usage, project status and real-time workflow changes during implementation. One such initiative is the NEOM city development project that successfully implemented AI to reduce the workforce error and delays caused by poor coordination of the supply chain (Allouzi & Aljaafreh, 2024). It is also encouraged to be strategically operationally aligned when integrated with Project Management Information Systems (PMIS) (Mahmood *et al.*, 2023). AI-based dashboards and data visualization can also enhance the decision-making process, given that they have the potential to process the enormous volume of information within a project to outline bottlenecks and performance Patterns. Wijayasekera *et al.* (2022) explain that such tools can enhance the quality of decisions that relate to megaprojects that are typically connected to overwhelming complexity. The AI-based analytics can also improve the sustainability of the supply chains which was the focus of the study conducted by Rashid *et al.* (2025) that reviewed AI use cases in green supply chain management in the developing world.

Table 1. Ai applications across project lifecycle phases

Project Phase	AI Technologies Used	Benefits for Emerging Economies	Key References
Initiation & Planning	Machine Learning, Predictive Analytics	Forecasting outcomes, identifying risks, optimizing resources	Sourav *et al.* (2025)
Execution	Real-time Monitoring, PMIS	Reduced delays, fewer human errors, supply chain optimization	Allouzi & Aljaafreh (2024), Mahmood *et al.* (2023)
Monitoring & Control	AI Dashboards, Big Data Analytics	Trend detection, improved quality control	Wijayasekera *et al.* (2022)
Closure	Automated Reporting, NLP	Faster documentation, lessons-learned integration	Rashid *et al.* (2025)

2.2. Integration of technology and industry 4.0

Industry 4.0 revolves around AI and incorporates IoT, cloud computing, and big data to foster the digital transformation. According to Mithas *et al.* (2022), AI allows flexible data-driven operations both in manufacturing and service industries. Cezarino *et al.* (2021) also believe that Industry 4.0 has a potential to contribute to eliminating systemic barriers in the emerging economies and developing circular and sustainable economic systems.

Nonetheless, digital infrastructure is very critical to the success of AI implementation. According to Das *et al.* (2025), lack of infrastructural sufficiency is an impediment to the working of AI in most areas of the developing world. Tjebane *et al.* (2022) discuss the relevance of digital preparedness and labor competence using the example of the South African construction industry, where professional workers enhance the rate of AI integration.

2.3. Artificial intelligence and environmental sustainability

AI also plays a significant role in promoting the environmental agenda. Li *et al.* (2024) illustrate the potential of AI to support energy-based urban planning, whereas Zhong *et al.* (2024) discover that the use of AI lowers greenhouse gases and industrial pollutants in China. Larbi-Siaw *et al.* (2022) go further to state that AI-driven eco-innovation strategies help companies to keep high levels of performance despite economic uncertainties. These conclusions suggest that AI can not only enhance operational efficiency but also expand environmental resilience, which is a highly underscored issue in the emerging economies.

2.4. Barriers to AI adoption

However, in even emerging economies, where AI potential is the most substantial, the distribution of this technology is uneven due to the role of technological, regulatory, and sociocultural factors. Mohammadi and Maghsoudi (2025) stress the gap between the developed states that are already perfecting the AI policies and innovations and the developing countries that have quite primitive issues of poor internet connection, unstable legislation, and lacking digital education. We also have the cultural resistance to automation that impedes development. In order to reduce the degree of resistance and ease the introduction into the labor market, according to George (2024), one will have to rebrand AI as a method of roles transformation rather than job displacement.

Table 2. Key challenges limiting AI use in emerging economies

Challenge Type	Description	References
Technological	Inadequate infrastructure, low internet penetration	Das *et al.* (2025); Mohammadi & Maghsoudi (2025)
Organizational	Lack of skilled workforce, limited digital literacy	Tjebane *et al.* (2022)
Regulatory	Absence of ethical/legal frameworks for AI deployment	Mohammadi & Maghsoudi (2025)
Cultural & Social	Fear of job loss, low public trust in automation	George (2024)

2.5. Synthesis and research gap

Although the literature confirms the value of AI in enhancing efficiency, sustainability, and decision-making throughout the project lifecycle, few embedded frameworks based on the actualities of implementation in the emerging economies exist. The bulk of current research available is limited to individual stages of projects or industries without providing an overview of the aggregate effect of AI. Besides, not many works present practical recommendations on how to overcome infrastructure and cultural obstacles. The proposed study seeks to address that gap by contributing a multidisciplinary perspective on the ways of successful utilization of AI to enhance the efficiency of the project lifecycle in sectors in emerging economies.

3. METHODOLOGY

It relies on qualitative studies and examines secondary material to find out the effect of Artificial Intelligence (AI) on the three main aspects of projects—time, cost and quality—in developing countries. It describes the structure of the theory, shares industry approaches and presents actual research outcomes.

3.1. Research design

Because AI for project management keeps expanding and affecting more industries and nations, the method centered on learning from experience and observation. We can learn how adopting AI changes the process of handling and carrying out projects. It studies the results of using AI on managing time, costs and quality during the project life cycle. Content analysis was used on 17 peer-reviewed papers and various white papers and reports from the AI industry in different markets (listed in references). The reasons they were selected are that they relate to AI tools and guide how the projects have been and can be put into practice in developing countries.

3.2. Gathering and processing the necessary data

This methodology relies most heavily on using these materials to obtain data: As an example, check out these recent academic articles (Wijayasekera *et al.*, 2022; Mahmood *et al.*, 2023). In construction, infrastructure and manufacturing sectors, recent case studies have studied AI's role (Allouzi & Aljaafreh, 2024; Sourav *et al.*, 2025). Analyzing how AI is being used in developing countries demonstrates both gains and challenges (such as what was found by Mohammadi, Maghsoudi and Das in 2025). Examples and changes in efficiency due to using AI tools in projects were identified by looking for similar ideas and concepts. After that, project performance related to time, cost and quality was used to sort the projects.

3.3. Analytical framework

A Project Performance Transformation Framework (PPTF) is applied, based on traditional project management's focus on time, cost and quality and then adds AI-driven changes to each phase.

3.3.1. Time management

AI has made scheduling, forecasting and progress monitoring easier than before. Past information is analyzed by these systems which helps in calculating the duration of work and suggesting where changes might help (Sourav *et al.*, 2025). Infrastructure projects are now using AI dashboards to help improve and control important timeframes (Wijayasekera *et al.*, 2022).

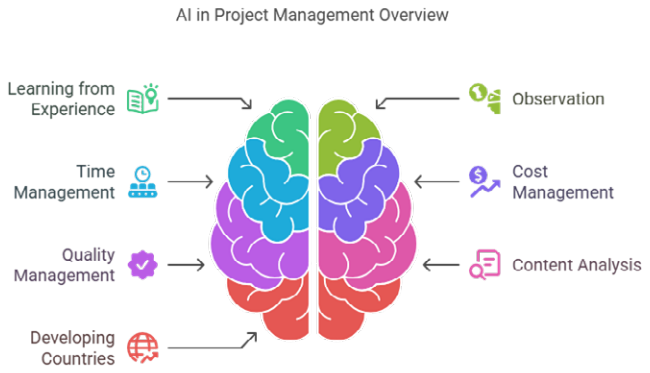

Figure 2. AI in project management overview

3.3.2. Cost management

AI makes it possible to monitor budgets, guess what costs are coming up and safeguard against financial hazards. Machine learning in finance helps by suggesting areas where the company could cut its expenses. According to Allouzi and Aljaafreh (2024), in the NEOM projects, AI was helpful in noticing early problems with high costs and wasted materials, so actions to improve the buying policies could happen right away.

3.3.3. Quality management

Due to its inspection, recognition of problems and support for quality requirements, AI makes goods of better quality. In the authors' words, PMIS includes AI so that quality is considered during decision making in the project process. For these reasons, manual flaws are eliminated and the people working on the project have confidence in the final outcome. Explaining the reasons for using research methods

3.4. Many factors make this method appropriate:

Human action, how an organization is run and progress in technology help to influence what AI can achieve for project results—when using qualitative analysis.

Given the varying levels of AI involvement among nations and fields, a closer look at things through study topics is preferred over just using numbers and data.

AI is advancing all the time, so this study shows cases where there is still a need to standardize.

3.5. Limitations

Since qualitative data goes deeper, it is generally harder to apply it to different cases. Because these results describe one situation, they cannot represent all the uses of AI in economies globally. Data security and the variety of project-related formats across countries make it hard to get details instantly.

3.6. Ethical considerations

People can find and cite each source used in the study because they are referenced properly. No company data found in public domain was incorporated. The project is carried out in accordance with rules about ethics in academic work and ownership of intellectual property. To understand how AI tools shape time, cost and quality management during the various stages of a project, this study uses case analysis as part of a qualitative approach. The review of peer-reviewed papers and project reports reveals innovations using AI, including predictive analytics, automating scheduling, budget forecasting and quality inspection in real time. The tools are reviewed to check if they help improve working processes, cut back on delays and raise the caliber of the output. It stresses the value of applying concepts in practical examples that affect senior business specialists in emerging economies.

4. RESULTS AND DISCUSSION

This research study reveals that Artificial Intelligence (AI) incorporation in project management is very useful in boosting the efficiency of the lifecycle within the emerging economies.

The literary and practical case study analysis shows the positive developments in the most important spheres of time, cost, and quality assurance. Although the use of AI is not at the same level of development throughout all the territories, its purposeful application is showing a positive result in various projects, especially infrastructural development, buildings and factories construction, and production.

4.1. Better time management skills

With the AI technologies, scheduling, progress, and time prediction have become more accurate. Project management software combined with AI and predictive models can provide alerts in case of possible delays. Indicatively, Sourav *et al.* (2025) and Wijayasekera *et al.* (2022) noted that the projects that used such tools recorded a time overrun decrease of 20 percent to 30 percent, especially in infrastructure mega projects. Additionally, the introduction of field equipment powered by AI like drones and surveillance systems allowed optimizing the workflow and reducing downtimes. They were applied in the NEOM smart city development to achieve the optimal allocation of tasks on-site, which has a direct impact on the productivity of operations (Allouzi & Aljaafreh, 2024).

4.2. Cost Management improvements

The application of AI has been efficient also in cost optimization. Financial planning platforms with machine learning algorithms were able to point out differences in the budgets at an earlier stage, making managers resolve the issue with a timely adjustment (Mahmood *et al.*, 2023). The use of AI in BRICS economies to undertake procurement activities resulted in more intelligent vendor selection, resulting in cost reductions of around 15 per cent to 25 per cent (Sourav *et al.*, 2025). These savings were greatly explained to be because of less wastage of materials and better contract compliance. Also, scenario planning assisted by AI allowed decision-makers to consider a variety of budgetary scenarios, resulting in the increased resilience of financial projections (Chen *et al.*, 2021). Nevertheless, regardless of how encouraging these data are, the digital maturity and digital infrastructure differences between various regions indicate that these advantages are not likely to be evenly available without proper supporting systems.

4.3. Influence on the quality management

AI has disrupted quality assurance in terms of automation of checks, predictive based defect detection, and on-line monitoring. In NEOM project, example, AIs inspections enabled the sooner detection of structural faults in the project, thereby enhancing safety and long-term performance outcomes (Allouzi & Aljaafreh, 2024). In the same vein, Mahmood *et al.* (2023) and Rashid *et al.* (2025) showed how the use of AI in Project Management Information Systems (PMIS) fostered the regular compliance with quality standards. This subsequently led to decreased rework, increased stakeholder satisfaction and smoother delivery cycles.

4.4. Limitations discussion

Even though the findings highlight the transformative potential of AI, there are a few limitations that need to be mentioned. Firstly, a number of the documented results are founded on project-particular case examinations, and these might not be generalizing. Second, AI tool efficacy depends highly on digital infrastructure and digital workforce capability of the region, which is highly variant in emerging economies. Moreover, causal relationships between the AI application and performance gains are in some cases hard to disentangle because of the simultaneous effect of other modernization initiatives or policy changes. Still, the facts substantiate the claim that AI can be used in a strategically beneficial way, e.g., with the proper digital foundation and regulations, it can be used to promote the efficiency of project lifecycle in developing countries.

Table 3. Summary of key results on AI applications in project lifecycle efficiency in emerging economies

Project Management Area	AI Application	Observed Benefits	Supporting Studies
Time Management	Predictive scheduling, visual monitoring	Reduced project delays by 20–30%; real-time resource reallocation	Wijayasekera *et al.*, 2022; Allouzi & Aljaafreh, 2024
Cost Management	Budget forecasting, AI procurement tools	Cost savings of 15–25%; early detection of cost overruns	Sourav *et al.*, 2025; Chen *et al.*, 2021; Mahmood *et al.*, 2023
Quality Management	AI-based inspection, compliance tracking	Earlier defect detection; improved quality assurance; reduced rework rates	Allouzi & Aljaafreh, 2024; Rashid *et al.*, 2025

4.5. Additional observations

The efficiency of AI implementation in project management was largely determined by the level of development of digital infrastructure and institutional support. The projects located in the areas with well-developed digital ecosystems and governmental support, like the NEOM smart city project in Saudi Arabia and the urban infrastructural projects in China, showed better outcomes regarding AI-empowered efficiency and sustainability (Li *et al.*, 2024; Zhong *et al.*, 2024). Such settings offered the technical capability, funding, and policies to realize the effective implementation of AI-based tools in the entire project lifecycle.

In contrast, low-income areas experienced significant losses connected with poor connectivity, lack of technical expertise, and inability to invest money. These limitations greatly inhibited the acceptance and expandability of the AI-based project solutions, particularly during the initial stages of the implementation (Mohammadi & Maghsoudi, 2025; Das *et al.*,

2025). There are indications that projects that incorporated AI in the initiation phase especially in the planning and design realized greater advantages than those who tried to implement AI in the middle of the stream. This shows the strategic nature of adopting and integrating AI early to have maximum effect on the efficiency of projects and risks reduction.

4.6. Discussion

This research highlights the major impact that Artificial Intelligence (AI) has on improving how quickly projects are completed within emerging nations. The use of AI in managing time, cost and quality has become very important where fast urban growth, infrastructure problems and shortages of essential resources are common. In the first place, project management has improved a lot with help from AI-driven features such as predictive analytics and smart scheduling. Project managers can use these tools to predict possible delays, adjust resources as needed and watch work being done as it happens. This is consistent with Wijayasekera *et al.*'s (2022) finding that using AI for scheduling in megaprojects greatly reduced time overruns because the software issued early notifications when tasks depended on one another or were in conflict. In addition, Allouzi and Aljaafreh (2024) noted that AI equipment such as drones and computer vision helped Pakistan build roads by improving the way progress was monitored and management of the labor force was carried out. AI tools are showing great effectiveness in cutting costs and protecting businesses from financial risks. Looking at historical finance data and recent spending trends with machine learning has helped project managers spot budget deviations early during a project. Similarly, the study by Mahmood *et al.* (2023) pointed out that using PMIS with AI can smooth out the financial side of projects and improve how companies handle their costs. The researchers (Sourav *et al.*, 2025) showed that the use of AI for procurement in BRICS countries greatly reduced costs, mainly by handling supplier assessment and inventories automatically. Because of limited transparency and rule-breaking in some businesses, these applications are especially valuable in emerging economies where cost overruns and problems with procurement are usual. Similarly valuable is the rise in quality management due to AI. Older project environments usually assure quality by looking at code and fixing problems afterward, both processes that take a lot of effort and still can lead to mistakes by humans. It addresses these matters by using image recognition, anomaly detection and sensor analysis so that defects are spotted immediately. Using AI for quality checks at NEOM, as outlined in Allouzi and Aljaafreh (2024), managed to secure the safety of workers and met the standards set by engineers. Similarly, Rashid *et al.* (2025) say that applying AI in manufacturing firms' green supply chains has increased both product quality and sustainability, supporting both the economic and environmental goals.

One should also consider that AI project management might not work well if the environment is not ready for it. Because of poor internet services, a shortage of people trained in AI and infrequent project updates, emerging economies are prevented from using AI as much as they would like. As per Mohammadi and Maghsoudi (2025), advanced countries use AI more widely because they have established digital and educational support and less developed countries struggle due to inadequate infrastructure and education. It was found by Das *et al.* (2025) that a lack of reliable connections hampers AI-based urban planning in Africa and South Asia by impacting the quality of data used by AI.

In addition, the study finds that AI is increasingly seen as a tool supporting people in project management, instead of replacing them. In his book (2024), George points out that most forecasters now consider AI to support decisions instead of getting rid of jobs. Due to job security problems in emerging countries, this view is incredibly relevant in those areas. Though AI provides data-based insights to project managers, people are still needed to manage strategies, ethics and interactions with stakeholders. Teamwork with AI is more effective if it is used in early phases of the project such as during the planning and risk evaluation stages. Cezarino *et al.* (2021) believe that late adoption of AI results in only minor improvements, not real system benefits. Starting with AI in the first phase of the project helps design it, determine the scope, plan the procurement and execute, so that disruptions later are less of a concern.

Ultimately, the discussion makes it clear that while AI can greatly improve project management, it needs access to the right infrastructure, organization support and acceptance by the culture, especially in emerging nations. Adopting AI in project environments calls for policymakers and project leaders to support technology along with digital skills, workforce upskilling and ethical use of AI.

5. CONCLUSION

Artificial intelligence (AI) has greatly transformed the project management practices within the emerging economies in the sense that it has helped to raise time, cost, and quality performance within key sectors of the economies including infrastructure, manufacturing, and energy. Both empirical and case-based evidence suggests that AI systems and applications, including predictive analytics and visual monitoring, self-scheduling systems, have allowed achieving more accurate projects, minimizing delays, and making real-time decisions more effectively. AI helped in project management, as it assisted in NEOM and BRICS infrastructure projects and developments through proactive scheduling, real-time monitoring, and strategic planning, resulting in a decrease in downtime and an increase in efficiency (Allouzi & Aljaafreh, 2024; Sourav *et al.*, 2025). The management of finances was also enhanced, as AI enabled precise budgeting, fraud detection at its early stages, and more intelligent procurement decisions, which are of utmost importance in areas where mismanagement and corruption are among the leading issues (Mahmood *et al.*, 2023; Chen *et al.*, 2021). AI-enabled inspection and compliance tools were used in quality control systems that were able to help minimize rework, enhance safety and improve long-term sustainability (Rashid *et al.*, 2025).

Nonetheless, the wider use of AI in project lifecycles is inhibited by the environmental, infrastructural, and human capacity restrictions. The limited internet connectivity, investing in digital infrastructure, and technical know-how impede the scalable AI implementation in most low-income areas (Das *et al.*, 2025; Mohammadi & Maghsoudi, 2025).

Notably, the research states that AI must complement rather than substitute human knowledge. AI is superior at handling multifaceted data and executing repetitive processes, but project managers are still needed in regards to situational decision making, ethical regulation and stakeholder management (George, 2024). Human partnership with AI is the best way to utilize AI.

REFERENCES

Allouzi, M., & Aljaafreh, M. (2024). Applied Ai In Neom construction projects: the potential impact Of Ai In enhancing projects success. *Acta Informatica Malaysia, 8*(1), 32-44.http://doi.org/10.26480/aim.01.2024.32.44

Cezarino, L. O., Liboni, L. B., Oliveira Stefanelli, N., Oliveira, B. G., & Stocco, L. C. (2021). Diving into emerging economies bottleneck: Industry 4.0 and implications for circular economy. *Management Decision, 59*(8), 1841-1862. https://doi.org/10.1108/MD-10-2018-1084

Chen, C., Hu, Y., Karuppiah, M., & Kumar, P. M. (2021). Artificial intelligence on economic evaluation of energy efficiency and renewable energy technologies. *Sustainable Energy Technologies and Assessments, 47*, 101358. https://doi.org/10.1016/j.seta.2021.101358

Das, D., Bapat, J., Katsenou, A., & Shrestha, S. (2025). *Connectivity for AI enabled cities--A field survey based study of emerging economies.* arXiv preprint arXiv:2501.09479. https://doi.org/10.48550/arXiv.2501.09479

George, A. S. (2024). Artificial intelligence and the future of work: Job shifting not job loss. *Partners Universal Innovative Research Publication, 2*(2), 17-37. https://doi.org/10.5281/zenodo.10936490

Holt, K. L. (2025). Predictive Modeling of Occupational Exposure Using Machine Learning and Environmental Sensor Data. *Journal of Exceptional Multidisciplinary Research, 2*(1), 82-89. https://doi.org/10.69739/jemr.v2i1.617

Johnson, M., Jain, R., Brennan-Tonetta, P., Swartz, E., Silver, D., Paolini, J., ... & Hill, C. (2021). Impact of big data and artificial intelligence on industry: developing a workforce roadmap for a data driven economy. *Global Journal of Flexible Systems Management, 22*(3), 197-217. https://doi.org/10.1007/s00146-025-02331-9

Kar, A. K., Choudhary, S. K., & Singh, V. K. (2022). How can artificial intelligence impact sustainability: A systematic literature review. *Journal of Cleaner Production, 376,* 134120. https://doi.org/10.1016/j.jclepro.2022.134120

Larbi-Siaw, O., Xuhua, H., Owusu, E., Owusu-Agyeman, A., Fulgence, B. E., & Frimpong, S. A. (2022). Eco-innovation, sustainable business performance and market turbulence moderation in emerging economies. *Technology in Society, 68*, 101899. https://doi.org/10.1016/j.techsoc.2022.101899

Li, Q., Zhang, J., Feng, Y., Sun, R., & Hu, J. (2024). Towards a high-energy efficiency world: Assessing the impact of artificial intelligence on urban energy efficiency. *Journal of Cleaner Production, 461*, 142593. https://doi.org/10.1016/j.jclepro.2024.142593

Mahmood, A., Al Marzooqi, A., El Khatib, M., & AlAmeemi, H. (2023). How Artificial Intelligence can leverage Project Management Information system (PMIS) and data driven decision making in project management. *International Journal of Business Analytics and Security (IJBAS), 3*(1), 184-195. https://doi.org/10.54489/ijbas.v3i1.215

Mithas, S., Chen, Z. L., Saldanha, T. J., & De Oliveira Silveira, A. (2022). How will artificial intelligence and Industry 4.0 emerging technologies transform operations management?. *Production and Operations Management, 31*(12), 4475-4487. https://doi.org/10.1111/poms.13864

Mohammadi, A., & Maghsoudi, M. (2025). Bridging perspectives on artificial intelligence: a comparative analysis of hopes and concerns in developed and developing countries. *AI & Society*, 1-22. https://doi.org/10.1007/s00146-025-02331-9

Podonsky, G. S. (2012). DOE 2012 Occupational Radiation Exposure October 2013 (No. 13-OEWH-1303). Oak Ridge Inst. for Science and Education (ORISE), Oak Ridge, TN (United States). https://doi.org/10.2172/1113642

Rashid, A., Baloch, N., Rasheed, R., & Ngah, A. H. (2025). Big data analytics-artificial intelligence and sustainable performance through green supply chain practices in manufacturing firms of a developing country. *Journal of Science and Technology Policy Management, 16*(1), 42-67. https://doi.org/10.1108/JSTPM-04-2023-0050

Sokolnikov, M., Preston, D., Gilbert, E., Schonfeld, S., & Koshurnikova, N. (2015). Radiation effects on mortality from solid cancers other than lung, liver, and bone cancer in the Mayak worker cohort: 1948–2008. *PloS one, 10*(2), e0117784. https://doi.org/10.1371/*journal.pone.0117784*

Sourav, M. S. R., Hossain, A., Islam, M. R., Wasif, M., & Samia, S. (2025). AI-Driven forecasting in BRICS infrastructure investment: impacts on resource allocation and project delivery. *Journal of Economics, Finance and Accounting Studies, 7*(2), 117-132. https://doi.org/10.1177/87569728221114002

Tjebane, M. M., Musonda, I., & Okoro, C. (2022). Organisational factors of artificial intelligence adoption in the South African construction industry. *Frontiers in Built Environment, 8*, 823998. https://doi.org/10.3389/fbuil.2022.823998

Wijayasekera, S. C., Hussain, S. A., Paudel, A., Paudel, B., Steen, J., Sadiq, R., & Hewage, K. (2022). Data analytics and artificial intelligence in the complex environment of megaprojects: Implications for practitioners and project organizing theory. *Project Management Journal, 53*(5), 485-500. https://doi.org/10.1177/87569728221114002

Zhong, W., Liu, Y., Dong, K., & Ni, G. (2024). Assessing the synergistic effects of artificial intelligence on pollutant and carbon emission mitigation in China. *Energy Economics, 138*, 107829. https://doi.org/10.1016/j.eneco.2024.107829