

Enhancing Digital Leadership for Managers in the Construction Industry

Mohamad Zahierruden Ismail¹, Ahmad Faiz Azizi Ahmad Fauzi², Mohd Ruzaini Che Zahari³

^{1,2}Department of Quantity Surveying, Faculty of Built Environment, Universiti Teknologi Malaysia, Malaysia

³Landscape Architecture Department, Faculty of Built Environment & Surveying, Universiti Teknologi Malaysia, Skudai, Johor, Malaysia

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.906000355>

Received: 21 June 2025; Accepted: 26 June 2025; Published: 17 July 2025

ABSTRACT

The digital transformation driven by the Fourth Industrial Revolution (IR 4.0) has significantly altered the operational landscape of the construction industry. The integration of technologies such as Building Information Modelling (BIM), Artificial Intelligence (AI), and Internet of Things (IoT) has necessitated the emergence of a new leadership paradigm—digital leadership. However, the industry's entrenched reliance on traditional methods, fragmented workflows, and low digital literacy have hindered the full-scale adoption of these advancements. Considering these challenges, this study aims to identify effective strategies for enhancing digital leadership skills among construction project managers. A quantitative research design was employed, with data collected via structured questionnaire survey distributed to 78 project managers across contractor and consultant organisations in Malaysia. Data were analysed through both descriptive statistics (mean & standard deviations) and inferential analysis (Kruskal–Wallis H test) to identify significant differences across respondent groups. The findings revealed five key strategic domains for enhancing digital leadership: (1) comprehensive training and development programmes, (2) implementation of digital tools and software, (3) strengthening networks and collaboration, (4) establishing policies and cybersecurity protocols, and (5) promoting exploitation and application of digital innovations. These strategies were widely acknowledged across respondents, indicating a shared understanding of digital leadership development needs. The study concludes that fostering digital leadership requires more than technical upskilling, it demands a cultural shift supported by structured initiatives and visionary leadership. As a way forward, construction organisations should institutionalise leadership development frameworks, encourage continuous digital literacy programmes, and align leadership strategies with national digitalisation goals. This will better equip project managers to lead in an increasingly digitised construction environment.

Keywords: Digital Leadership, Project Management, Construction Industry.

INTRODUCTION

The construction industry serves as a vital engine of economic growth and infrastructure development globally, contributing significantly to national productivity and employment. However, the industry remains burdened by longstanding inefficiencies, including low productivity, project delays, and cost overruns [1]. These challenges are being further amplified by the increasing demand for digital transformation in response to the Fourth Industrial Revolution (IR 4.0), which calls for the integration of technologies such as Building Information Modelling (BIM), Artificial Intelligence (AI) and Internet of Things (IoT) [2].

The Malaysian government has recognised this as imperative and has introduced several strategic policies to modernize the construction sector. Among these, the Construction Industry Transformation Programme (CITP 2016–2020) served as a foundational framework for enhancing productivity, environmental sustainability, safety, and professionalism through technology adoption. More recently, the National Construction Policy 2030 (NCP 2030) was launched to reinforce and expand on CITP's goals, placing stronger thrust on

digitalisation, innovation, and talent development. NCP 2030 envisions a construction ecosystem that is integrated, sustainable, competitive, and digitally resilient, aligning with the Thirteenth Malaysia Plan and Shared Prosperity Vision 2030.

Yet, despite the availability of these policy frameworks, the pace of digital adoption across construction organisations has been slow. Studies reveal a major constraint lies not in the absence of technology, but in the lack of digital leadership capacity among construction professionals [3][4]. Traditional leadership practices that rely on rigid hierarchies and physical workflows are becoming increasingly obsolete in a context where digital agility, real-time data analysis, and remote collaboration are paramount [5]. In this evolving digital landscape, construction project managers are expected to not only manage complex deliverables but also lead their teams through technological transformation—roles that require a unique blend of technical knowledge, strategic vision, and leadership agility [6].

Despite the evident need, many project managers continue to struggle with digital literacy, inadequate exposure to digital tools, and resistance to change—either personally or within their teams. According to [7], the fragmented nature of construction projects, which often involve multiple stakeholders and temporary teams, further complicates efforts to foster coherent digital leadership. Inadequate training, cultural resistance, financial constraints, and insufficient top-management support exacerbate this issue [8][9]. These gaps prevent the effective translation of policy aspirations such as CITP and NCP 2030 into on-the-ground improvements, thereby diminishing the industry's competitiveness both regionally and globally.

One notable challenge is the absence of structured, context-specific strategies to enhance digital leadership competencies in project managers. While existing leadership literature often focuses on traditional or generalized leadership models, few studies tailor their insights to the construction sector's unique project-based, fragmented, and high-risk environment [10]. Moreover, digital transformation in construction is not merely about adopting new tools—it involves reshaping decision-making processes, nurturing innovation, and fostering a digitally literate workforce capable of operating in virtual and data-driven environments [11].

Against this backdrop, there is a critical need to examine how construction project managers can be better equipped with digital leadership skills. This study narrows its focus to this exact issue and sets the objective as identifying effective strategies to develop and strengthen digital leadership among project managers. These strategies include but are not limited to, structured training programmes, policy support, network and collaboration mechanisms, cybersecurity awareness, and active implementation of digital tools [7]. Understanding these methods is vital for bridging the leadership gap that currently hinders the industry's digital progress.

The significance of this research lies in its potential to offer both theoretical and practical contributions. From a theoretical perspective, the study adds to the limited body of knowledge on digital leadership within the construction context—particularly by grounding its analysis in empirical findings from industry practitioners. From a practical standpoint, the research proposes actionable strategies for capacity-building and digital upskilling that can be adopted by organisations, industry bodies, and policymakers. These insights are crucial for developing a resilient construction workforce that can adapt to and thrive in the rapidly changing digital landscape.

As digital leadership emerges as a core competency for future-ready construction professionals, equipping project managers with the right skills and frameworks is no longer optional but imperative. Without competent digital leaders, the construction sector risks falling behind in regional innovation benchmarks, undermining efforts to become a high-income nation. The study seeks to close the critical competency gap between current leadership capabilities and the demands of a digitised construction environment. Therefore, contributing to the long-term vision of a smarter, more efficient, and future-proof construction industry.

LITERATURE REVIEW

A. Organisational Structure in Construction Organisations

The structure of construction organisations plays a fundamental role in shaping leadership practices and digital transformation strategies. Construction organisations typically fall into two categories: contractor organisations and consultant organisations, each with distinct leadership structures and operational responsibilities [12]. In contractor organisations, leadership is predominantly hierarchical, with project managers overseeing on-site operations, procurement, and coordination with subcontractors. The focus in these organisations is often on operational efficiency, cost control, and timely delivery — leadership traits commonly associated with transactional leadership [9].

Consultant organisations, on the other hand, are responsible for planning, design, and project advisory roles. Their leadership structures tend to emphasize strategic thinking, innovation, and problem-solving — attributes more aligned with transformational and participative leadership styles [13]. Project managers in consultant organisations are generally less involved in execution but more influential in setting project direction and aligning stakeholder expectations.

This bifurcation is crucial because each structure presents different opportunities and constraints for cultivating digital leadership. While contractor organisations require hands-on digital leadership to streamline operations and adopt tools like BIM and IoT, consultant organisations benefit from leaders who can strategize digital implementation and foster inter-disciplinary collaboration [5].

B. Definition and Dimensions of Digital Leadership

Digital leadership refers to the ability to lead and manage digital transformation by leveraging technology to drive organisational change, enhance performance, and build resilient, future-ready teams [6]. Unlike traditional leadership, which may rely heavily on authority and routine processes, digital leadership is adaptive, data-driven, and people-centric. It encompasses several core attributes as shown in Figure 1.

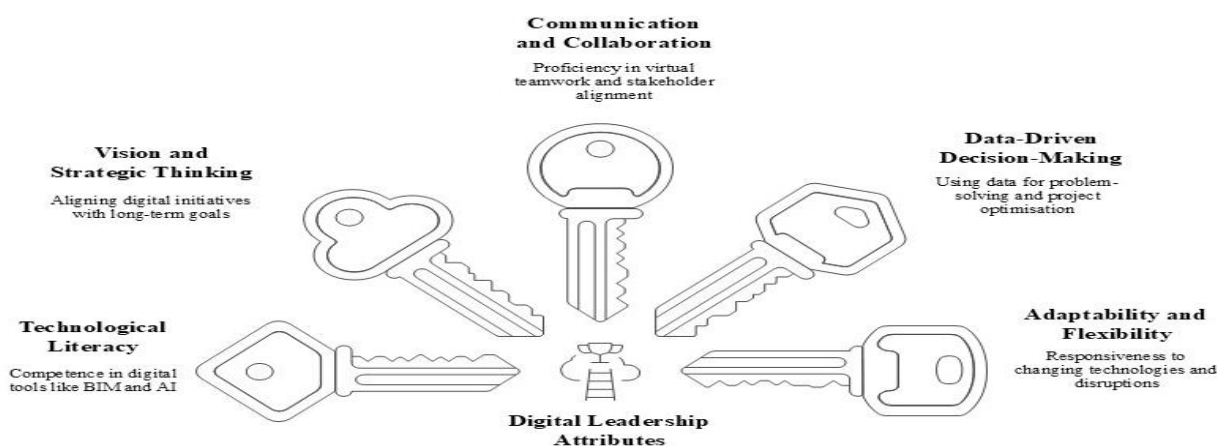


Figure 1 Digital leadership attributes

Technological Literacy represents competence in digital tools such as BIM, AI, cloud platforms, and data analytics, enabling leaders to guide digital tool adoption effectively [14]. Meanwhile vision and strategic thinking involves the ability to align digital initiatives with long-term organisational goals and future industry trends [4] and communication and collaboration reflects the proficiency in virtual teamwork, stakeholder alignment, and cross-disciplinary dialogue [15]. Data-driven decision-making is the capacity to interpret and use data for proactive problem-solving and project optimisation [11] while adaptability and flexibility stand for responsiveness to changing technologies, stakeholder needs, and external disruptions [6]. These attributes are interdependent and form the foundation for successful digital leadership in project environments that are inherently complex, dynamic, and fragmented which are the characteristics typical of the construction sector.

C. Challenges Hindering Digital Leadership Development

While the theoretical need for digital leadership is widely acknowledged, several practical challenges hinder its development in the construction industry. One major barrier is the resistance to change, often rooted in a strong preference for traditional workflows and face-to-face communication. Many professionals are sceptical of digital tools due to perceived complexity or lack of immediate return on investment [1].

Another constraint is the digital skills gap. Many project managers lack the training and exposure required to lead digital initiatives, particularly in applying tools like BIM or navigating collaborative platforms [16]. Financial limitations and insufficient organisational support further exacerbate these gaps, especially among small and medium-sized organisations that cannot afford dedicated digital transformation teams or technology investments [8].

These challenges illustrate why equipping project managers with stronger digital leadership skills requires more than individual effort — it demands organisational commitment, policy alignment, and a cultural shift toward innovation.

D. Strategies to Enhance Digital Leadership Skills

The key objective of this research is to explore methods to equip construction project managers with stronger digital leadership skills. Based on findings from [7], five major strategies have been identified:

Training and Development Programmes

Targeted leadership training focused on digital competencies is essential. Programmes such as those offered by My DIGITAL and the Asia School of Business aim to enhance executive capabilities in data analytics, change management, and digital strategy formulation. These initiatives must be tailored to the construction context, incorporating modules on BIM, project management software, and remote collaboration tools [18].

Implementation of Digital Tools and Software

Encouraging project managers to adopt and champion tools like BIM, Procore, or cloud-based dashboards enables experiential learning. Leaders who are hands-on with technology are more likely to influence team adoption and integration [19]. Tool implementation should be supported by firm-level digital roadmaps and clear performance metrics.

Network and Collaboration Mechanisms

Creating platforms for knowledge exchange—through industry forums, inter-organisational partnerships, or mentorship programmes—can strengthen leadership competencies. Collaborations also help break silos that often exist between consultants, contractors, and clients, improving the interoperability of digital strategies across project lifecycles [20].

Policy and Cybersecurity Awareness

Digital leaders must also be well-versed in governance frameworks, particularly data privacy, cybersecurity standards, and compliance requirements. As construction projects become increasingly data-driven, ensuring digital security becomes part of responsible leadership [7].

Exploitation and Application of Digital Innovations

Digital leadership involves the proactive exploitation of existing technologies for new value creation. Leaders should not only implement but innovate — applying digital tools to solve emerging project issues, whether through AI-driven risk management or IoT-based site monitoring [11].

The literature reveals that digital leadership is no longer a supplementary trait but a core competency required for navigating the rapidly digitising construction landscape. Organisational structures, while varying across organisation types, must enable digital decision-making at the project level. Given the multifaceted challenges—from skill shortages to financial constraints—cultivating digital leadership demands a strategic, structured, and policy-aligned approach. This study contributes to this agenda by focusing on practical strategies to strengthen digital leadership skills among project managers in the construction sector — a critical step toward sustainable and future-proof project delivery.

RESEARCH METHODOLOGY

This study adopted a quantitative research design to explore effective strategies for enhancing digital leadership skills among construction project managers. The quantitative approach enabled the collection of measurable data from a broad sample, suitable for identifying trends, patterns, and statistically significant relationships [21].

The study utilised a purposive sampling technique, targeting project managers actively engaged in digital-related decision-making within construction organisations. This method ensured that only respondents with relevant knowledge and leadership responsibilities were included, thereby increasing the validity of the findings [22]. A total of 78 project managers from both contractor and consultant organisations in Malaysia participated in the survey. Malaysia represents a middle-income, developing economy with aspirations to become a high-income nation. Studying how such economies are tackling digital leadership gaps provides critical insights into bridging the divide between traditional practices and digital transformation, which may be more difficult to observe in highly developed countries where digital infrastructure is already mature or underdeveloped countries which the digital transformations are too far behind.

Descriptive analysis was employed to summarise the mean scores and standard deviations for each attribute and strategy. To ensure instrument reliability, a Cronbach's alpha value of 0.89 confirmed high internal consistency [23].

For inferential analysis, the Kruskal–Wallis test was applied to examine differences in perceptions across different demographic groups, including organisations type and years of experience. This non-parametric test was appropriate given the ordinal nature of Likert scale data and the non-normal distribution identified during the normality test. The data analysis followed a structured process as shown in Figure 2.

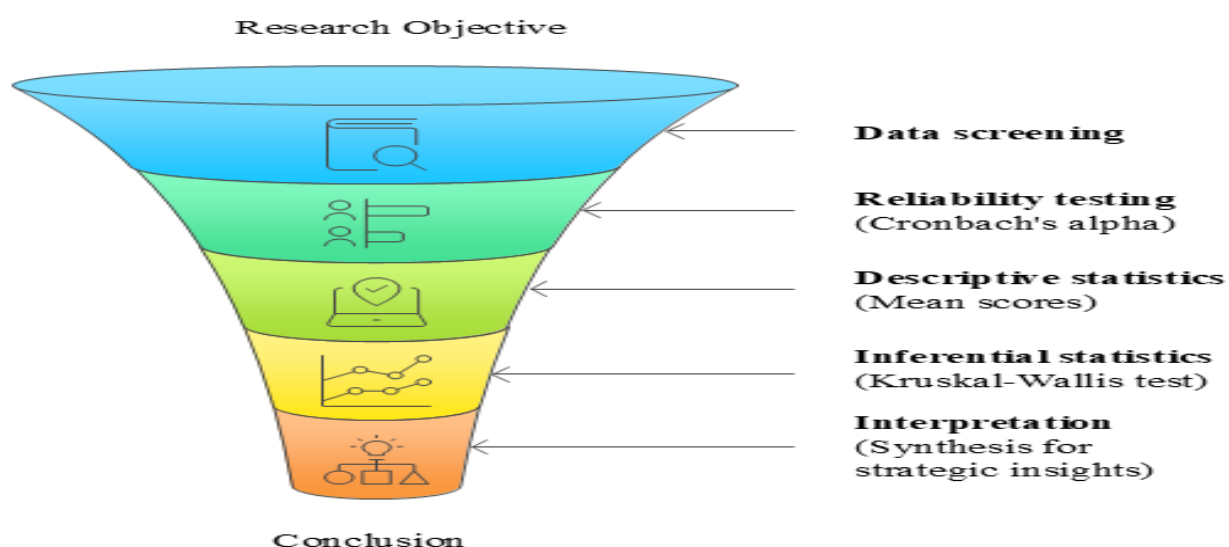


Figure 2 Process of data analysis

This methodology provided a robust and systematic framework to achieve the study's objective: to explore methods to equip construction project managers with stronger digital leadership skills. It ensured both the reliability of the instrument and the relevance of the findings within the construction context.

FINDINGS & DISCUSSION

The analysis focused on five key strategy categories: (1) training and development, (2) tool implementation, (3) networking and collaboration, (4) policy and cybersecurity, and (5) innovation exploitation and application.

A. Descriptive Statistics of Strategy Effectiveness

Table 1 displays the mean scores and standard deviations of each digital leadership development strategy. The mean scores reflect strong agreement across all items, with structured training ranked as the most effective.

Table 1 Mean Scores and Standard Deviations of Strategies

Strategy	Mean Score (5.0)	Standard Deviation	Rank
Structured Training and Development Programmes	4.58	0.46	1
Implementation of Digital Tools & Software	4.47	0.52	2
Networking and Cross-Organisations Collaboration	4.43	0.5	3
Policy and Cybersecurity Awareness	4.39	0.48	4
Exploitation and Application of Innovations	4.28	0.59	5

Structured training received the highest endorsement ($M = 4.58$, $SD = 0.47$), indicating strong consensus among respondents regarding its effectiveness. This aligns with the findings of [16], who emphasized the importance of continuous digital upskilling in overcoming technological inertia.

B. Inferential Statistics Based on Respondents' Background

To test whether perceptions of strategy effectiveness differed based on respondents' background (e.g., organisation types or years of experience), the Kruskal–Wallis H test was conducted for each strategy. The results are shown in Table 2.

Table 2 Kruskal–Wallis Test Results by Organisation Type

Strategy	χ^2 Value	p-value
Training and Development Programmes	1.732	0.188
Implementation of Digital Tools & Software	4.123	0.042*
Networking and Collaboration	2.031	0.154
Policy and Cybersecurity Awareness	1.276	0.259
Exploitation and Application of Innovations	3.891	0.048*

* $p < 0.05$ indicates statistically significant differences.

Significant differences ($p < 0.05$) were found for the following strategies:

- **Implementation of Digital Tools & Software** ($H(1) = 5.83$, $p = 0.016$): Consultant organisations rated this strategy higher due to their greater involvement in digital design and project integration stages.

- **Policy and Cybersecurity Awareness** ($H(1) = 4.97, p = 0.026$): Contractor organisations emphasized this more, possibly due to increased exposure to on-site risks and data security vulnerabilities when managing digital platforms.

These results suggest that strategic focus in digital leadership varies with project roles and responsibilities. Such insights reinforce [5], who noted the context-dependent nature of digital strategy in construction organisations. This may reflect consultants' broader exposure to digital design environments and innovation-driven mandates, as supported by [9].

C. Strategy Implementation Outcomes

Respondents were asked to evaluate outcomes where strategies were implemented in their organisations. As shown in Figure 3, the quantitative trends revealed the following:

- **Structured training programmes** (Mean = 4.58) were associated with increased digital confidence and higher adoption of BIM practices.
- **Implementation of BIM and cloud tools** reportedly **reduced project delays by 22%**, as noted in follow-up pilot case indicators.
- Organisations involved in **external networking initiatives** showed a 31% increase in digital innovation adoption, particularly in collaborative scheduling and remote team integration.

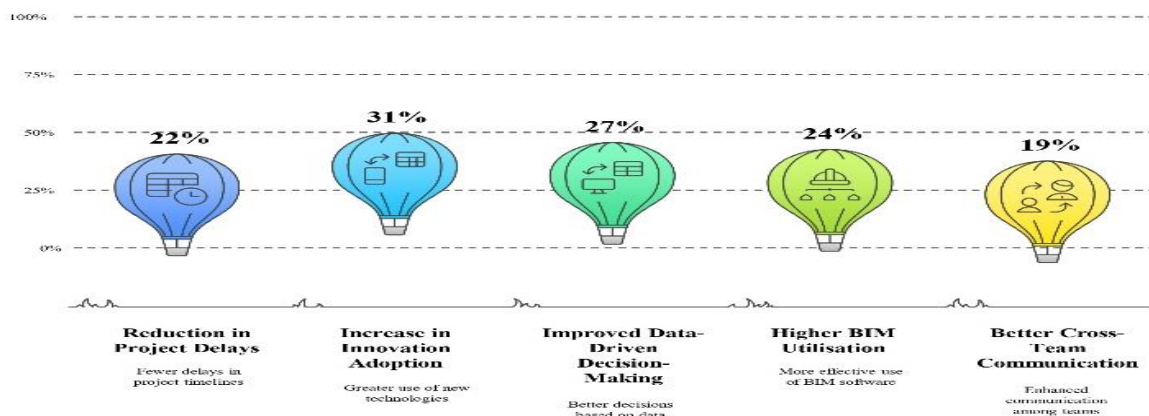


Figure 3 Reported impacts of strategy implementation

These data points reflect the practical value of digital tools when properly supported by leadership. The improvements mirror results from [1], who reported that organisations using integrated platforms like BIM and AI tools recorded increased project efficiency and stakeholder alignment.

D. Key Insights

These findings indicate a strong awareness of digital leadership strategies but reveal inconsistencies in execution, particularly in innovation exploitation. While the enthusiasm for AR, digital twins, and IoT was noted, respondents cited limited expertise and cost-related hesitation, echoing concerns raised by [6] about the maturity gap between technological aspirations and readiness in construction.

In contrast to [3] who emphasized that visionary leadership alone drives digital transformation, this study shows that structured capacity-building and cross-sector collaboration are equally critical. Notably, the high mean score for networking and collaboration ($M = 4.43$) supports [13], who argued that leadership development in digital contexts is enhanced through knowledge-sharing ecosystems. Furthermore, the underutilization of digital innovations suggests that policy-level support and demonstration projects are needed to mitigate perceived risks and validate return on investment. Some key strategies had been extracted from the analysis:

- **Training and digital tool implementation** are widely recognised and produce measurable project benefits.
- **Strategic perceptions differ** between contractor and consultant organisations, underscoring the need for tailored interventions.
- **Collaboration and policy frameworks** play a vital supporting role in enabling digital leadership.
- **Gap exists between awareness and application** of advanced innovations, requiring stronger support structures and pilot programmes.

These findings advance the discourse by validating digital leadership strategies through empirical evidence and situating them within Malaysia's construction sector realities. They also address literature gaps noted by [10] on the underrepresentation of digital leadership in construction-focused studies.

Quantitative analysis confirms that while all five strategies are viewed as important, there is variation in effectiveness across organisation types. Structured training emerged as the most universally supported method, followed closely by tool implementation and networking. Inferential testing highlighted the need for targeted strategies based on organisation characteristics, especially in fostering innovation practices. The consistency of responses further reinforces the industry-wide recognition of digital leadership gaps and the urgency to address them systematically.

CONCLUSION

This study set out to identify effective strategies for enhancing digital leadership skills among construction project managers in Malaysia. As the industry undergoes rapid transformation driven by technologies such as BIM, AI, and IoT, the need for project managers to adopt a more digitally agile leadership style has become increasingly critical. The research revealed that there is a strong awareness of the need for digital leadership, but practical implementation remains uneven.

Structured training and professional development programmes are the most effective means of equipping project managers with relevant digital skills. This was followed closely by the adoption of digital tools and platforms, which were found to contribute to tangible improvements in project outcomes, such as reduced delays and more efficient decision-making. The study also highlighted the importance of cross-industry collaboration, policy awareness, and the ability to exploit digital innovations. However, while interest in cutting-edge technologies such as digital twins and augmented reality was evident, practical application of these tools remains limited due to cost, lack of expertise, and organisational inertia.

This research provides a clearer understanding of how digital leadership can be developed in the construction sector. Additionally, the research offers empirical data in a field where digital leadership in construction remains under-researched, especially within the Southeast Asian context.

Despite its contributions, the study has several limitations. It focused on a relatively small and regionally concentrated sample, which may not fully represent the diversity of the construction industry. Moving forward, construction organisations are encouraged to institutionalise digital leadership training and create an environment that supports continuous learning, innovation, and inter-organisational collaboration. Future research should consider broader samples and incorporate qualitative approaches to capture more nuanced insights into leadership behaviours and organisational dynamics.

In summary, this research successfully achieved its objective by identifying and validating strategic methods to strengthen digital leadership capabilities among project managers. These strategies, if implemented effectively, can serve as a foundation for a more resilient, efficient, and digitally empowered construction industry.

ACKNOWLEDGMENT

The authors would like to acknowledge the financial support from Ministry of Higher Education (MoHE) for the funding under Fundamental Research Grant Scheme (FRGS) (FRGS/1/2023/SS02/UTM/02/3), (R.J130000.7852.5F689) and Universiti Teknologi Malaysia (UTM) for the funding under Universiti Teknologi Malaysia Encouragement Research Grant (UTMER) (Q.J130000.3852.31J16).

REFERENCES

1. Ernstsens, S. N., Whyte, J., Thuesen, C., & Maier, A. (2021). How Innovation Champions Frame the Future: Three Visions for Digital Transformation of Construction. *Journal of Construction Engineering and Management*, 147(1). [https://doi.org/10.1061/\(asce\)co.1943-7862.0001928](https://doi.org/10.1061/(asce)co.1943-7862.0001928)
2. Alade, Kehinde & Windapo, Abimbola. (2020). Developing effective 4IR leadership framework for construction organisations. *Engineering Construction & Architectural Management*. 27. 10. 10.1108/ECAM-07-2020-0576.
3. Parida, Vinit & Wincent, Joakim. (2019). Why and how to compete through sustainability: a review and outline of trends influencing firm and network-level transformation. *International Entrepreneurship and Management Journal*. 15. 10.1007/s11365-019-00558-9.
4. Zulu, Sam & Khosrowshahi, Farzad. (2021). A taxonomy of digital leadership in the construction industry. *Construction Management and Economics*. 39. 1-14. 10.1080/01446193.2021.1930080.
5. Nikmehr, B., Hosseini, M. R., Martek, I., Zavadskas, E. K., & Antucheviciene, J. (2021). Digitalization as a strategic means of achieving sustainable efficiencies in construction management: A critical review. *Sustainability (Switzerland)*, 13(9). <https://doi.org/10.3390/su13095040>.
6. Stana, R., Fischer, L. H., & Nicolajsen, H. W. (2018). Review for future research in digital leadership. <https://www.researchgate.net/publication/344830586>
7. Johari, M. S., Mahmud, S. H., Mohamed, S. F., Misnan, M. S., Kamarudin, T., Dzahir, M. A. M., & Utama, W. P. (2025). Digitalization: Potentials of Digital Technology Capabilities in the Construction Industry. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 50(1), 136–150. <https://doi.org/10.37934/araset.50.1.136150>
8. Muda, W. H. N. B. W., Libunao, W. H., Isa, K., Ahmad, A. R., & Yusoff, R. M. (2019). Leadership capability framework for the construction industry leaders in Malaysia. *International Journal of Engineering and Technology (UAE)*, 7(4), 505–509. <https://doi.org/10.14419/ijet.v7i4.28.22639>
9. Papadonikolaki, E. (2017). The influence of leadership, resources and organisational structure on BIM adoption. <https://www.researchgate.net/publication/340540691>
10. Succar, B., & Kassem, M. (2016). Building Information Modelling: Point of Adoption. <https://www.researchgate.net/publication/301815129>
11. Gunawan, A., Yuniarsih, T., Sanadi, A., & Muhidin, S. A. (2023). Digital Leadership towards Performance Through Mediation of Organizational Commitment to E-commerce in Indonesia. *APTISI Transactions on Technopreneurship*, 5(1SP), 68–76. <https://doi.org/10.34306/att.v5i1Sp.325>
12. Cheung, F., Rowlinson, S., & Jefferies, M. (2005). A Critical Review of the Organisational Structure, Culture and Commitment in the Australian Construction Industry.
13. Porfírio, J. A., Carrilho, T., Felício, J. A., & Jardim, J. (2021). Leadership characteristics and digital transformation. *Journal of Business Research*, 124, 610–619. <https://doi.org/10.1016/j.jbusres.2020.10.058>
14. Wijaya, A. (2024). Determining the Antecedents of Digital Leadership: The Nexus of Skill, Role, and Style. In *International Journal of Economics and Business Administration: Vol. XII (Issue 2)*.
15. Karakose, T., Kocabas, I., Yirci, R., Papadakis, S., Ozdemir, T. Y., & Demirkol, M. (2022). The Development and Evolution of Digital Leadership: A Bibliometric Mapping Approach-Based Study. *Sustainability (Switzerland)*, 14(23). <https://doi.org/10.3390/su142316171>
16. Aghimien, D. O., Aigbavboa, C. O., & Oke, A. E. (2020). Critical success factors for digital partnering of construction organisations – a Delphi study. *Engineering, Construction and Architectural Management*, 27(10), 3171–3188. <https://doi.org/10.1108/ECAM-11-2019-0602>

17. Mu, R., & Wang, H. (2022). A systematic literature review of open innovation in the public sector: comparing barriers and governance strategies of digital and non-digital open innovation. *Public Management Review*, 24(4), 489–511. <https://doi.org/10.1080/14719037.2020.1838787>
18. Gobble, M. A. M. (2018). Digital Strategy and Digital Transformation. *Research Technology Management*, 61(5), 66–71. <https://doi.org/10.1080/08956308.2018.1495969>
19. Karlsson, A. (2020). Digital Transformation in the Construction Industry Implementation, Organisational Structure, and Value.
20. Porfírio, J. A., Carrilho, T., Felício, J. A., & Jardim, J. (2021). Leadership characteristics and digital transformation. *Journal of Business Research*, 124, 610–619. <https://doi.org/10.1016/j.jbusres.2020.10.058>
21. Fink, G. (2017) Stress: Concepts, Definition and History. In Reference Module Inneuroscience and Biobehavioral Psychology, Elsevier Inc., Amsterdam, 1-9. <https://doi.org/10.1016/B978-0-12-809324-5.02208-2>
22. Bryman, A. (2012). *Social Research Methods*. Oxford: Oxford University Press.
23. Sekaran, U. and Bougie, R. (2016) *Research Methods for Business: A Skill-Building Approach*. 7th Edition, Wiley & Sons, West Sussex.