INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 16, Issue 5, (2026) E-ISSN: 2222-6990

Mapping Trends in Organizational Capability Integration in Construction Project Management: A Bibliometric Review

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DOI Link: http://dx.doi.org/10.6007/IJARBSS/v16-i5/28293

Published Date: 19 May 2026

Abstract

Organizational capabilities have emerged as a pivotal area in construction project management due to their role in achieving strategic alignment, improving performance, and responding to dynamic challenges. However, the rapid expansion of this literature has occurred without a consolidated understanding of its intellectual structure, conceptual boundaries, and thematic evolution. This study conducts a systematic bibliometric review of 231 Scopus-indexed publications published between 2010 and 2024 to examine research development, thematic trends, and the intellectual architecture of organizational capabilities in construction projects. The analysis employed PRISMA-guided bibliometric techniques using VOSviewer and Bibliometrix. The literature was clustered into major research streams, including organizational and dynamic capabilities, construction project management, innovation, building information modeling (BIM), risk management, and sustainability. The findings reveal a clear shift toward performance-driven, technology-oriented, and knowledge-based capability research. Finally, the study identifies future research directions, including the need to address underexplored areas such as front-end planning, AI-based capabilities, stakeholder and cost management, and the empirical validation of existing theoretical frameworks. It also underscores the importance of more context-sensitive and application-oriented studies that better align theoretical insights with professional practice in the construction sector.

Keywords: Organizational Capabilities, Construction Project Management, Bibliometric Analysis, Dynamic Capabilities, Resource-Based View (RBV)

Introduction

The construction industry has played a vital role in economic development by generating capital and providing widespread employment opportunities (Egan & Tutos, 2023; Kaur et al., 2023). Despite this vital role, the industry continues to suffer from poor project performance,

negatively impacting project outcomes and hindering overall national progress (Cuéllar-Reyes et al., 2023; Majumder et al., 2022). These ongoing challenges highlight the need for a strategic reassessment of internal organizational capabilities to enhance efficiency and adaptability (Zungu & Laryea, 2024). Organizational capabilities have emerged as a key pillar of strategy management, providing organizations with a path to maintaining their competitive advantage and achieving long-term performance (Nayeemunnisa & Gomathi, 2020; Teece et al., 1997). This concept is based on the Resource-Based View (RBV) theory, which emphasizes the strategic deployment of unique resources that are difficult for competitors to imitate, thereby achieving superior results in dynamic environments (Barney & Clark, 2007). The evolution of this concept has led to the emergence of the Dynamic Capabilities (DC) framework, which highlights an organization's ability to integrate, build, and reshape its internal and external competencies in response to rapid environmental changes (Cristofaro & Lovallo, 2022; Pisano, 2017; Teece et al., 1997). Researchers such as Grant (1991) and Collis (1994) have categorized these capabilities into three levels: functional, dynamic, and strategic, highlighting the multidimensional nature of capability development across different industries and contexts.

In the construction sector in particular, organizational capabilities are critical to effective project management, significantly impacting the achievement of project objectives, the adoption of emerging technologies, and successful performance outcomes (Yusuf et al., 2022). Factors such as bureaucratic culture, the complexity of the organizational structure, and the availability of qualified personnel also play a pivotal role in shaping these capabilities and determining an organization's ability to adapt to modern project management models (Akbıyıklı et al., 2023). Effective organizational capabilities contribute not only to supporting innovation but also to the efficient and timely implementation of projects (Tripathi & Jha, 2018). Furthermore, the integration of knowledge architecture, which includes organizational culture, structure, and technology, is a fundamental pillar of capability building, enabling organizations to absorb, process, and utilize information for continuous improvement (Tripathi & Jha, 2018). An organization's absorptive capacity, as discussed in epistemological theories, is essential for building new organizational capabilities and responding to environmental transformations (Aghimien et al., 2023).

Numerous studies have recognized the importance of the concept of organizational capabilities in the construction sector, and many studies have been conducted to develop theoretical frameworks for integrating these capabilities into project management aspects such as sustainability, risk management, digital transformation, and project performance (Ershadi et al., 2023; Fernandes et al., 2022; Lee, 2015; Loo, 2015).

Despite growing research interest in the topic of organizational capabilities in the construction sector, the current literature remains fragmented and lacks a comprehensive vision of the field's trajectory and its conceptual and methodological developments. Accordingly, this study seeks to provide a systematic bibliometric analysis that clarifies the main research trends and contributes and keywords to building a deeper understanding of the integration of organizational capabilities in construction project management by answering the following research questions:

1. What are the prevailing research trends and thematic developments in the integration of organisational capabilities within construction project management?

2. Who are the most influential scholars, institutions, and countries contributing to the advancement of this research domain?
3. What are the primary research keywords, themes for the organizational capabilities in construction?
4. What are the key research gaps and emerging opportunities that warrant further investigation in future studies?

Methods and Materials

Research Design

This study adopted a bibliometric analysis approach to examine the development and trends of research related to organizational capabilities integration in the field of construction project management. Bibliometric analysis relies on applying statistical methods to analyze scientific publications such as articles, books, and conference papers to provide a systematic and comprehensive understanding of the scientific literature on a specific topic (Ninkov et al., 2022). This type of analysis offers a systematic way to explore scientific production and track its development beyond the limitations of traditional manual reviews (Donthu et al., 2021). Bibliometric analysis is used to uncover patterns of scholarly communication, research trends, and the intellectual structure of the studied field through quantitative analytical methods, including citation analysis, co-authorship mapping, and keyword frequency analysis (Donthu et al., 2021; Ninkov et al., 2022). It is also an effective tool for assessing academic production at the level of scholars and institutions by tracking publication trends, citation dynamics, and research collaboration networks (Haddow, 2018). To ensure transparency and accuracy in the processes of identifying, selecting, and screening the studies used in this analysis, the PRISMA framework was used. This framework provides a clear methodology and sequential stages that ensure data collection and refinement in an organized and reliable manner (Page et al., 2021).

Database Selection

Choosing the appropriate database is a key step in ensuring the accuracy and reliability of bibliometric analysis (Bakhmat et al., 2022). Although databases such as Google Scholar, ScienceDirect, SpringerLink, and PubMed provide broad access to academic content (Gusenbauer & Haddaway, 2020; Wilder & Walters, 2021), bibliometric studies often rely on specialized databases with strong citation indexing capabilities (Bakhmat et al., 2022). Scopus and Web of Science (WoS) are among the most widely used databases for this type of study (Gan et al., 2022; Wang et al., 2024; Alsharif et al., 2025; Pilelienė et al., 2022). In the current study, the Scopus database was selected as the sole data source, due to its greater journal coverage than WoS (Bakhmat et al., 2022; Halsharif et al., 2025; Alsharif & Isa, 2025), and its efficient indexing mechanism, which makes it superior to databases such as Web of Science and Google Scholar, and a preferred choice for academic research (Ametepey et al., 2024). Furthermore, Scopus is known for its high indexing capacity for peer-reviewed literature in different disciplines (Adebowale & Agumba, 2023; Aghimien et al., 2020; Alsharif, 2025), as well as its advanced filtering tools, flexible user interface, and comprehensive citation tracking and analysis capabilities, making it an ideal choice for conducting systematic and rigorous bibliometric analysis (Ametepey et al., 2024).

Bibliometric Techniques

Exploring the growing body of knowledge on organizational capabilities in the context of construction project management requires analytical tools that can simultaneously reveal structural patterns and substantive developments. To achieve this goal, this study adopted a dual-methods strategy that balances statistical rigor with clear visualization. Given that bibliometric analysis tools generally fall into three main categories: local-based, web-based, and programming-based (Li, Goerlandt, & Reniers, 2021), the selection process focused on tools that have proven effective in previous studies. According to Pan et al. (2018), VOS viewer is among the most widely used native tools in the bibliometric literature. Therefore, VOS viewer was chosen for this study for its ability to visualize co-authorship, terminology, and institution relationships effectively. To enhance the analysis, the Bibliometrix R package, along with its interactive interface, Biblioshiny, was also used to perform statistical and descriptive analyses in a flexible environment capable of handling large bibliographic databases (Aria & Cuccurullo, 2017). The Bibliometrix package is a web-based ,advanced, and versatile tool for conducting bibliometric analyses that has been widely used in many research domains to explore and interpret patterns within the scientific literature (Büyükkidik, 2022; Dervis, 2019). This dual methodology enabled the study to go beyond simply tracing superficial trends and to uncover deeper intellectual connections in the field.

Data Selection AND Screening

To ensure a comprehensive and systematic retrieval of the literature on organizational capabilities in the context of construction project management, a structured search strategy was developed and implemented in Scopus on July 14, 2025. The search targeted the title, abstract, and keyword fields, using a combination of Boolean operators and wildcards to capture diverse conceptual terms. For instance, the first set of keywords focused on organizational capabilities and their associated theoretical underpinnings, and included terms such as "capability model*," "organizational capabilities," "organizational competencies," "dynamic capabilities," "core competencies," "resource-based view," and "capability-based view." The second set targeted the context of the construction sector, using terms such as "construction project management," "construction industry," "construction projects," "project management in construction," "construction firms," "contracting," and "built environment." To refine the results and ensure their quality, several filters were applied. Publication years were limited to papers published between 2010 and 2024 (PUBYEAR > 2009 AND PUBYEAR < 2025). Subject areas were narrowed to the most relevant disciplines, including engineering, business, social sciences, environmental sciences, and decision sciences (LIMIT-TO (SUBJAREA, "ENGI", "BUSI", "SOCI", "ENVI", "DECI")). Results were also restricted to publications in English only (LIMIT-TO (LANGUAGE, "English")), and document types were limited to include only peer-reviewed articles and conference papers (LIMIT-TO (DOCTYPE, "ar", "cp")). This comprehensive query formulation contributed to obtaining targeted, high-quality data, suitable for conducting reliable bibliometric analysis consistent with the scope of this study.

A total of 285 studies were retrieved in the initial phase of the literature search. Following the PRISMA framework, a structured and transparent screening process was conducted based on the inclusion and exclusion criteria outlined in Table 1 As a result, 54 studies were excluded for not aligning with the scope and specific objectives of the study. Consequently, 231 studies focusing on organisational capabilities within the context of construction project

management were identified as relevant and were included in the bibliometric analysis dataset. This selective and systematic approach reflects the study's methodological rigor and its commitment to ensuring the relevance and quality of the included literature

Table 1
Inclusion And Exclusion Criteria

Criteria	Inclusion Criteria	Exclusion Criteria
Keywords	Studies including terms related to organisational capabilities and construction (e.g., "organisational capabilities", "construction project management") in the Title, Abstract, or Keywords.	Studies not containing relevant keywords on organisational capabilities or construction context.
Publication Year	Studies published between 2010 and 2024.	Studies published before 2010 or after 2024.
Subject Areas	Studies classified under Engineering, Business, Social Sciences, Environmental Science, or Decision Sciences.	Studies outside the defined fields, such as medical, life sciences, or chemistry.
Document Type	Peer-reviewed journal articles and conference papers.	Book chapters, dissertations, editorials, technical reports, and non-peer-reviewed works.
Language	Publications written in English.	Publications in languages other than English.

Data Analysis

Overview at a Glance

Word cloud analysis is a visual technique that highlights the most frequently occurring words in the literature, allowing for a quick understanding of the main themes and topics in the studies being analyzed (Feng et al., 2022; McNaught & Lam, 2010). Figure 2 illustrates a word cloud highlighting the core intellectual landscape of organisational capabilities within the construction industry. The term "dynamic capabilities" appears most prominently, indicating its theoretical centrality in explaining firms' resilience and performance in dynamic project environments. Alongside it, terms such as "organizational capabilities," "resource-based view," and "construction industry" underscore the dominant theoretical frameworks in this field. The prominence of terms such as "project management," "core competencies," and "building information modeling (BIM)" reflects a growing interest in integrating organizational capabilities concepts within operational contexts. The frequency of words such as "innovation," "knowledge management," and "risk management" demonstrates a shift toward studying the dynamic aspects of organizational capabilities, with a focus on proactiveness and organizational adaptability. This word cloud not only provides a glimpse into common themes but also paints a picture of an evolving research field toward deeper integration between strategic theory and actual practice in the construction project environment.

Figure 1. Word Cloud.

Publications Annual Trends

The annual trend in publications from 2010 to 2024 reflects a fluctuating but gradually increasing interest in the application of organizational capabilities in construction project management. Despite the long-standing presence of the concept of organizational capabilities in the strategic management literature (Barney & Clark, 2007; Nayeemunnisa & Gomathi, 2020; Teece et al., 1997), the early years (2010–2011) saw modest engagement, with only 10 and 6 studies published, respectively, indicating limited academic interest at the time. A significant increase occurred in 2012 and 2013, with the number of studies reaching its initial peak of 18, indicating growing awareness of the topic. However, 2014 and 2015 again registered a decline (6 and 5 studies, respectively), reflecting a temporary decrease in momentum. Beginning in 2016, interest began to rise again, with 16 studies published that year. The positive trend continued at a double-digit rate until 2020. A significant shift is observed after 2021, with the number of studies increasing from 15 in 2021 to 29 in 2023, peaking at 33 in 2024. This sharp growth reflects a shift in academic discourse, where organizational capabilities are now viewed as a key lens for addressing the increasing challenges of complexity, uncertainty, and performance requirements in the construction sector (Ershadi et al., 2023).

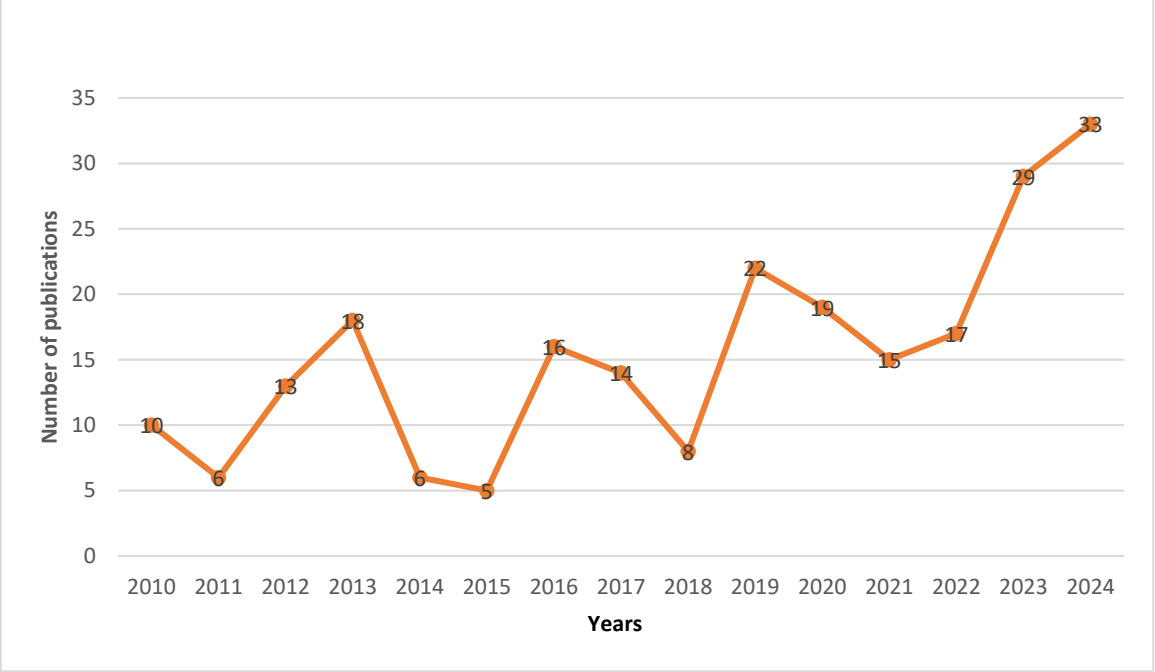

Figure 2. Annual Distribution Of The Publications (2010–2024).

International landscape of publications

Figure 3 shows the geographical distribution of scholarly contributions to the topic of organizational capabilities in the context of construction project management. It is clear that the United States leads the list with 42 publications, reflecting its established leadership in construction and management research. This is followed by the United Kingdom (39) and China (38), indicating that these countries possess mature research systems capable of supporting strategic studies in construction project management. Malaysia's strong performance with 33 publications is noteworthy, positioning it as a prominent regional hub in Southeast Asia and reflecting a growing institutional focus on construction project performance and organizational capabilities. Australia also makes a notable contribution with 29 publications, while countries such as Canada (12) and Hong Kong (10) maintain stable, albeit more moderate, scholarly engagement. India, Nigeria, and South Africa, which each recorded fewer than 10 publications, represent emerging contributors whose rising research momentum may be influenced by growing industry-university collaborations. Overall, the data highlight a core group of leading countries alongside an expanding base of participants globally, indicating a simultaneous concentration and expansion of academic interest in this evolving field.

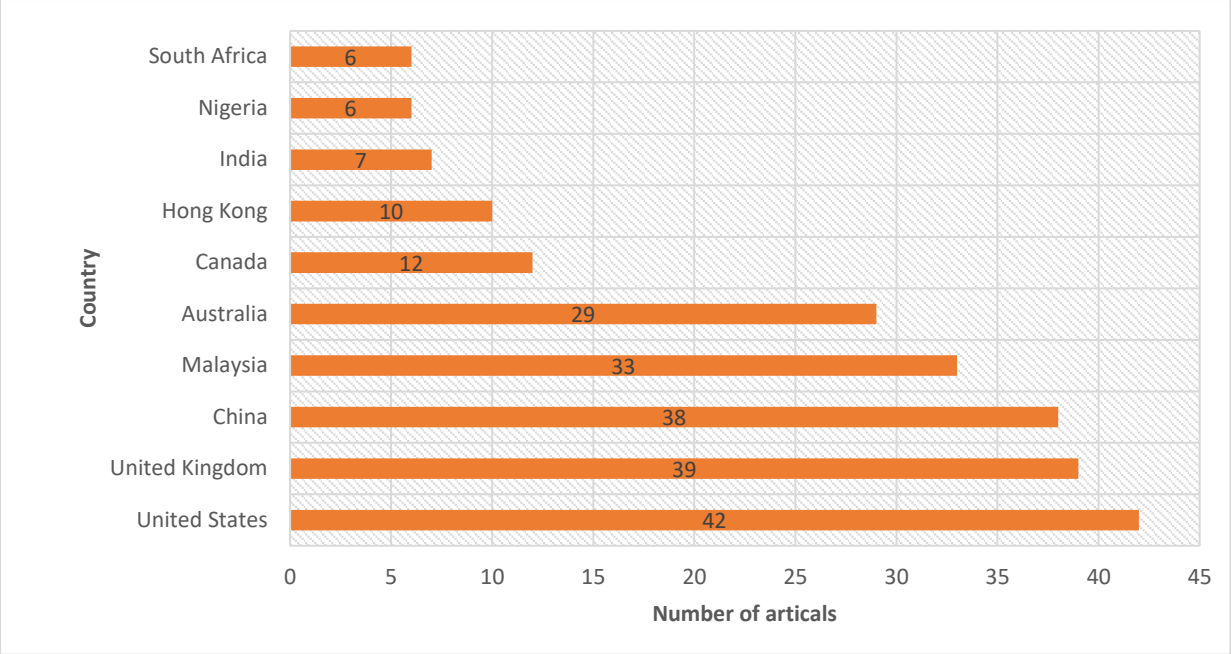

Figure 3. Article Distributions By Country.

Prolific Educational Institutions

Table 2 shows the contributions of the leading academic institutions to research on organizational capabilities in construction project management. The data show a close distribution, with the number of publications ranging from 5 to 7 per university, indicating a similar level of research interest without a clear dominance of any one institution. Tianjin University tops the list with 7 publications, followed by institutions from Malaysia, the United Kingdom, Australia, and Hong Kong. This geographical diversity and similarity in output reflect a balanced global interest in the topic, enhancing the importance of the field in various academic circles.

Table 2
Prolific Educational Institutions

Educational Institutions	**TP**	**Country**
Tianjin University	7	China
Universiti Sains Malaysia	6	Malaysia
The University of Manchester	6	United Kingdom (UK
The University of Newcastle,	6	Australia
Universiti Teknologi Malaysia	6	Malaysia
Loughborough University	5	United Kingdom (UK
The Hong Kong Polytechnic University	5	China
Queensland University of Technology	5	Australia
University of the West of England	5	United Kingdom (UK
Universiti Malaya	5	Malaysia

TP= Total Publications

Journal Analysis And Characteristics

Bradford's Law describes how scientific literature on a given topic is unevenly distributed across academic journals. It divides the sources into three zones: a core group, the most relevant publications, a middle zone with moderate contributions, and a peripheral region

containing the fewest relevant articles (Debnath & Singh, 2021). Figure 4 illustrates the core journals according to Bradford's Law, indicating that a group of journals constitutes the core for publishing the majority of influential research. In this study, the Journal of Construction Engineering and Management emerged as the primary source, contributing 11 articles. It was followed by Engineering, Construction, and Architectural Management and Sustainability (Switzerland) with 9 and 8 articles, respectively. Other major contributors included the Journal of Cleaner Production (7 articles), Construction Management and Economics (6 articles), and Buildings (5 articles). These journals represent the primary outlets for publishing research related to organizational capabilities in the construction sector, reflecting their central role in shaping contemporary academic discourse in the field.

Figure 4. Top Contributing Journals as per Bradford's Law

As presented in Table 3, Source impact indicators reveal that the Journal of Construction Engineering and Management leads the field, with the highest h-index (9) and a total of 454 citations since 2010, reflecting a sustained impact. The Journal of Cleaner Production also stands out strongly, with 440 citations and high h-indexes (h = 7, g = 7) since 2016. The Journal of Engineering and Architectural Management in Construction displays the highest m-index (0.750), demonstrating consistent annual impact despite its recent publication in 2018. Journals such as Buildings and Sustainability (Switzerland) are showing increasing impact, particularly Buildings, which achieved a remarkable m-index (0.667) in a short period. Other journals, such as Construction Economics and Management and Management in Engineering, maintain moderate impact, while some new or specialized sources, such as the IOP Conference Series, show signs of increasing engagement in the field.

Table 3
Sources Impact in the field

Source	h_index	g_index	m_index	TC	NP	PY_start
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT	9	11	0.563	454	11	2010
JOURNAL OF CLEANER PRODUCTION	7	7	0.700	440	7	2016
CONSTRUCTION MANAGEMENT AND ECONOMICS	6	6	0.429	161	6	2012
ENGINEERING, CONSTRUCTION AND ARCHITECTURAL MANAGEMENT	6	9	0.750	179	9	2018
JOURNAL OF MANAGEMENT IN ENGINEERING	5	5	0.357	218	5	2012
BUILDINGS	4	5	0.667	154	5	2020

SUSTAINABILITY (SWITZERLAND)	4	8	0.400	191	8	2016
AUSTRALASIAN JOURNAL OF CONSTRUCTION ECONOMICS AND BUILDING	3	3	0.231	29	3	2013
INTERNATIONAL JOURNAL OF PROJECT MANAGEMENT	3	3	0.300	146	3	2016
IOP CONFERENCE SERIES: EARTH AND ENVIRONMENTAL SCIENCE	3	3	0.429	12	4	2019

TC= Total Citations NP= Number of Publications PY= Paper Year

Journal Productivity Over The Years

Figure 5 illustrates the publication trends in five prominent journals from 2010 to 2024, demonstrating a steady increase in academic output over the years. Among these journals, the Journal of Construction Engineering and Management is the most stable and growing, with its publications increasing from one article in 2010 to 11 articles annually from 2022 to 2024, making it the most prominent source in the field. A notable increase is also observed in the Journal of Engineering, Construction, and Architectural Management, particularly after 2018, with its publications increasing from one article to nine by 2024. Sustainability (Switzerland), which had no publications in its early years, began contributing in 2016, reaching eight articles in 2024, demonstrating a growing interest in construction management and organizational capabilities. The Journal of Cleaner Production shows gradual but steady growth, peaking in 2024 with the publication of seven articles. In contrast, Construction Management and Economics has maintained a relatively stable level of contributions, ranging from one to six publications per year, with a moderate increase in recent years. Overall, this upward trend across all five journals suggests growing academic interest and recognition of the importance of organizational capabilities integrations into construction management concepts. The concentration of publications in 2024 also underscores the field's emerging significance in current research discourse.

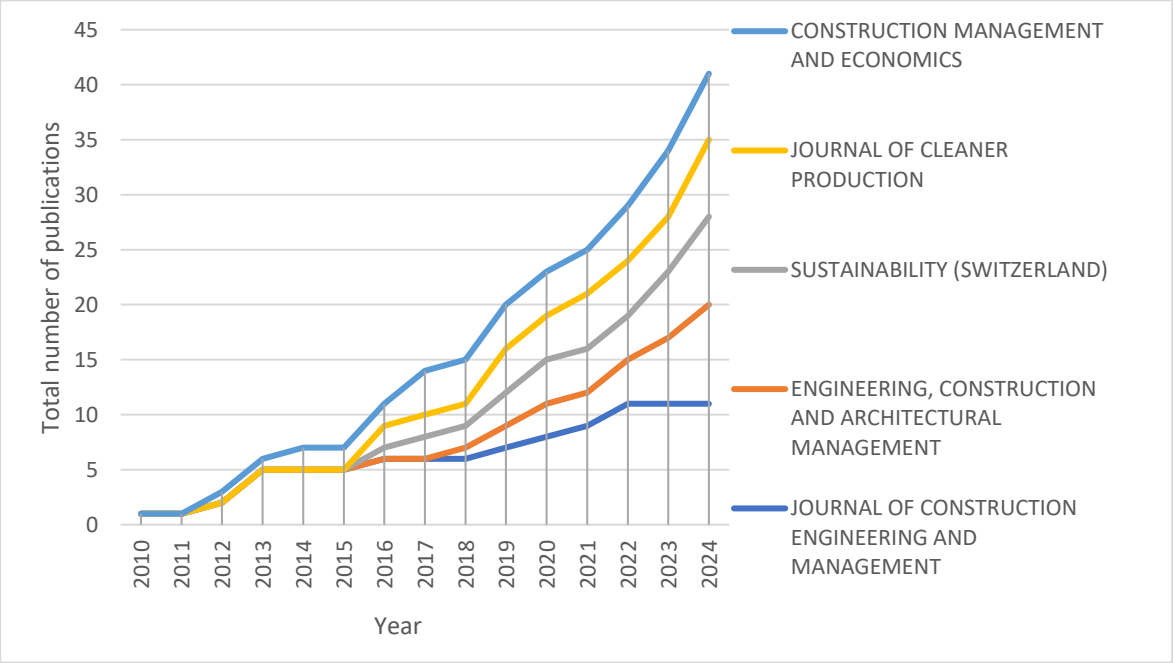

Figure 5. Annual Trends in Journal Publications

Prolific Authors Analysis

The data presented in Figure 6 reflect the pattern illustrated by Lotka's Law, which assumes that a small number of authors produce the majority of publications, while most researchers contribute only one or two articles (Sadik Batcha & Sivaraman, 2019). As the table shows, 579 authors contributed only one paper, constituting the vast majority. The number of authors declines dramatically as productivity increases, with 52 authors publishing only two articles, and very few contributing three or more. This sharp decline highlights the dominance of a small group of active researchers in driving scientific production in the field, a pattern common across many academic disciplines (Egghe, 2008; Naqvi & Fatima, 2017).

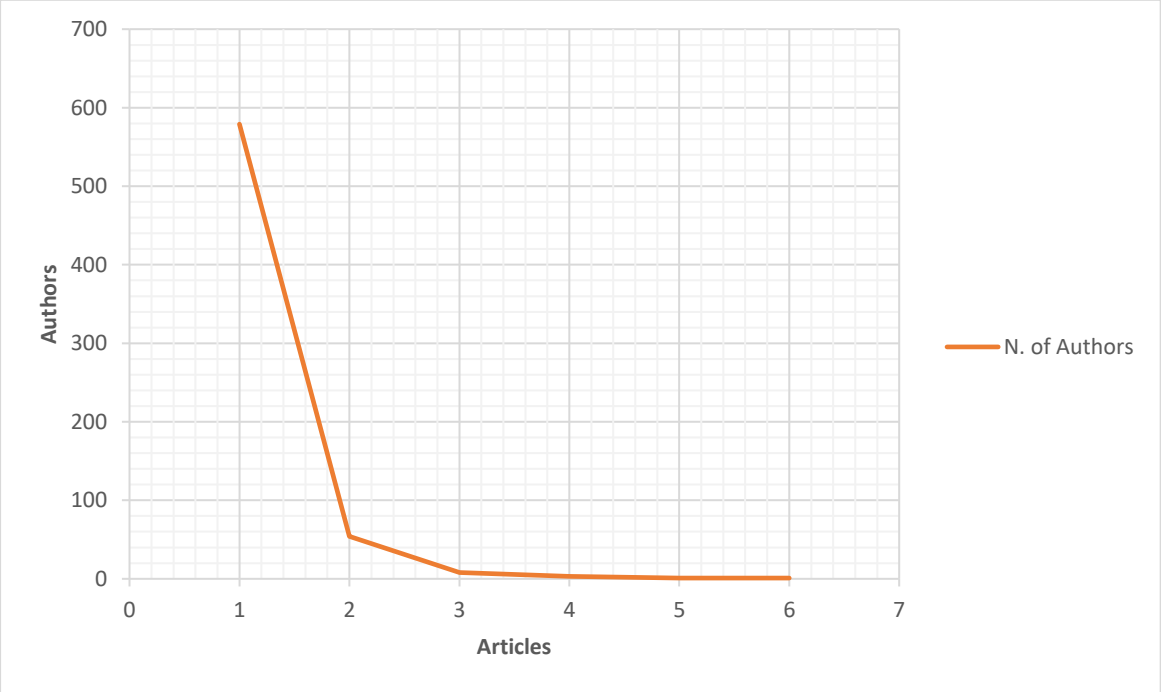

Figure 5. author's output pattern based on Lotka's law

Table 4 highlights the highest contributing researchers in the context of organizational capabilities and construction research, based on key bibliographic indicators. Among them, Manu Patrick stands out with the highest g-index of 6 and the highest total citations (TC) of 136, indicating significant impact across multiple publications since 2019. Chen Yongqiang, despite joining the field recently in 2022, has demonstrated remarkable productivity with an m-index of 1.0, reflecting rapid impact. Chen Le also records a high citation count (151) despite his h-index of only 3, indicating a concentrated impact. Other researchers, such as Arif Mohammed and Adeleke A.Q., have also made influential contributions, with 122 and 107 citations, respectively, reflecting their importance to the field. Overall, while some researchers have demonstrated long-term influence since 2012, a new group of researchers emerged after 2018 with strong citation performance, reflecting growing interest in the topic. This clearly highlights the significance and relevance of the topic, indicating that it remains a fertile area for further exploration and impactful contributions.

Table 4
Prolific Authors in the field

Author	h_index	g_index	m_index	TC	NP	PY_start
CHEN YONGQIANG	4	4	1	36	4	2022
GAJENDRAN THAYAPARAN	4	5	0.286	62	5	2012
MANU PATRICK	4	6	0.571	136	6	2019
ARIF MOHAMMED	3	3	0.375	122	3	2018
BREWER GRAHAM	3	4	0.214	53	4	2012
CHEN LE	3	3	0.214	151	3	2012
MAHAMADU ABDUL-MAJEED	3	4	0.429	100	4	2019
ABDUL-RAHMAN HAMZAH	2	2	0.286	32	2	2019
ADELEKE A.Q.	2	2	0.286	107	2	2019
AKINADE OLUGBENGA	2	2	0.286	94	2	2019

TC= Total Citations NP= Number of Publications PY= Paper Year

Core Keywords And Research Themes

Figure 6 provides a comprehensive overview of the most frequently occurring keywords associated with organizational capabilities in construction project management. The frequency of the terms “construction industry” (14%) and “project management” (9%) highlights the importance of this topic within the broader literature. “Organizational capabilities” and “dynamic capabilities” are central concepts, underscoring their theoretical and applied importance in the literature. These capabilities do not appear as discrete concepts but are deeply interconnected with a range of substantive topics such as innovation, sustainability, risk management, decision-making, performance, and quality. For example, keywords such as “innovation,” “performance,” and “safety” indicate that organizational capabilities impact both strategic outcomes and operational effectiveness. The presence of terms such as “core competencies,” “supply chains,” and “resource perspective” also reflects that researchers frame these capabilities through core management theories and apply them to practical construction contexts. The terms "outsourcing," "contractors," and "construction firms" highlight that these capabilities are also influenced by collaborative and contextual factors that span the project lifecycle. This multidimensional presence confirms that organizational capabilities are a strategic driver of project success and remain a rich area of in-depth theoretical and applied study.

Figure 6. Word Tree Map

To uncover the intellectual structure and thematic composition of research on organizational capabilities within construction project management, a keyword co-occurrence analysis was conducted using the VOSviewer tool (Li & Wei, 2022). This bibliographic technique identifies the frequency with which keywords appear together in the same documents, highlighting conceptual relationships, thematic clusters, and the overall structure of the research field (Li & Wei, 2022). This tool enables researchers to track prevalent and emerging themes by providing a visual map of the field of knowledge that supports theoretical understanding and guides strategic positions for future research (Li & Wei, 2022) . At first glance, Figure 7 reveals a highly interconnected and complex research field, reflecting a wide variety of substantive topics related to organizational capabilities and construction project management. As illustrated in the visual network, several prominent clusters emerge, each representing a set of interconnected research themes. At the center, keywords such as "organizational capabilities," "dynamic capabilities," and "resource-based theory" emerge as a major intellectual focus for the field. These keywords are closely associated with concepts such as "construction industry", "project management," and "construction projects," illustrating the theoretical foundations and contexts within which organizational capabilities in construction sectors are framed.

Beyond this core, the map branches out into several thematic areas. They can be categorized according to the following keywords: "innovation," "sustainability," "digital transformation," "green capabilities," and "supply chain." This indicates a strong research focus on future capabilities and strategic adaptation in dynamic environments. Another cluster is associated with performance-related concepts, including "firm performance," "project success,"

"project management," and "decision-making," indicating that practical outcomes are influenced by internal capabilities.

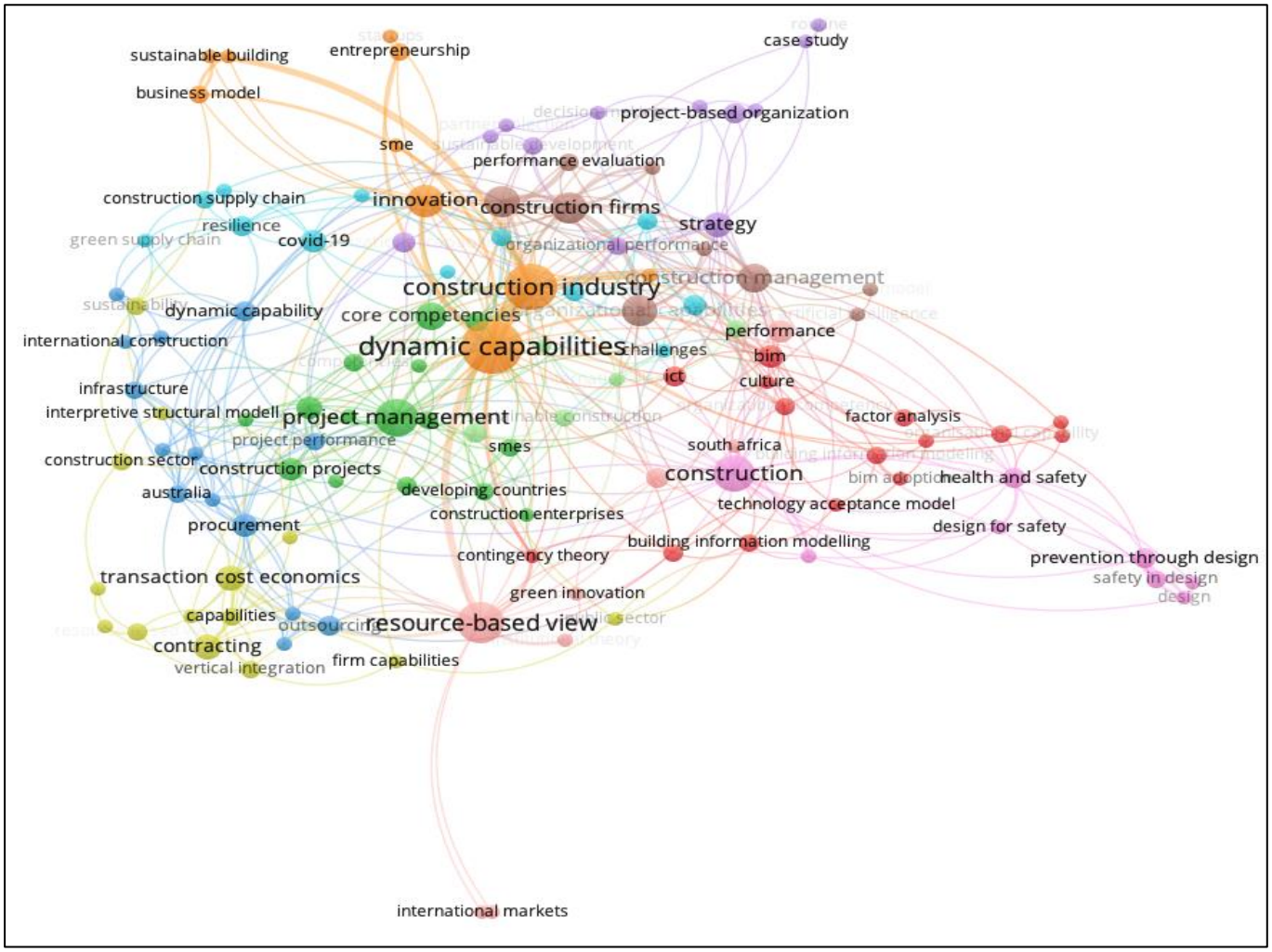

Figure 7. Keywords Co-Occurrence Map

In addition, the presence of terms such as "health and safety," "risk management," and "design" indicates that organizational capabilities are also being studied in the context of operational and organizational concerns, particularly in high-risk construction environments. The interconnections between "knowledge transfer," "outsourcing," and "collaboration" within other clusters also indicate a growing interest in relational capabilities, inter-firm interactions, and the extended organization model. For instance, multiple models and frameworks have been proposed to explain the impact of these capabilities across different domains in construction project management. Risk assessment in international project contexts has been linked to key organizational factors such as learning capabilities, human resource management, and project management functions (Loo, 2015). High-performing project management offices (PMOs) in construction firms have been confirmed to rely on five core capabilities: competent human capital, strategic alignment, implementation support, knowledge management, and leveraging internal capabilities to enhance team and organizational performance (Ershadi et al., 2023). In the context of digital transformation, studies have shown that adopting Building Information Modeling (BIM) contributes to enhancing organizational capabilities by integrating employees' technical and social

competencies within a supportive corporate culture (Kumar et al., 2022; Munianday et al., 2022). BIM has also been integrated with lean and sustainable construction strategies through multi-level frameworks that link technological tools to sustainable environmental outcomes (Ahuja et al., 2018).In the innovation dimension, capability-based predictive models have been proposed to support the growth of construction SMEs through organizational and technological innovation pathways (Wang et al., 2018). The implementation of megaprojects has also been linked to a set of 24 strategic and contextual organizational factors, including procurement-related capabilities, which are essential during the design and implementation phases (Hu et al., 2015).

Overall, this analysis reveals that research on organizational capabilities in the construction sector is conceptually rich and multidimensional. It bridges strategic management theories—particularly resource theory and dynamic capabilities theory—with the practical realities of construction project implementation. The thematic diversity evident in the co-occurrence map confirms that organizational capabilities are not only a core focus of academic research but also a critical component of achieving performance, resilience, and sustainability in the construction industry (Ershadi et al., 2023; Hu et al., 2015). This provides a strong foundation for future research to build integrated frameworks that reflect both the complexity and importance of these capabilities from a strategic perspective.

However, the analysis reveals some important research gaps. Key topics, such as "front-end planning," "artificial intelligence," "value management," "stakeholder management," and "cost management," and their link to organizational capabilities appear to be insufficiently studied or partially ignored when discussed in the context of organizational capabilities. Although some of these topics have been addressed in specific studies, coverage remains incomplete and not impactful. This suggests a real need for more research that explores these dimensions in greater depth, especially given their strategic importance in adaptively enhancing project outcomes and organizational performance.

Future Research Agenda

Based on the previous analysis of research topics related to organizational capabilities in construction project management, future studies can be directed towards several main avenues to enhance theoretical and applied understanding of this vital field. First, there is a need to study topics that have not received sufficient attention in the context of organizational capabilities, such as front-end planning, which is a critical phase in project success but has rarely been studied from an organizational capabilities perspective (Aubry et al., 2025). Furthermore, studying artificial intelligence as a dynamic capability on its own remains limited in the literature, despite the growing literature on the importance of smart technologies in accelerating decision-making and enhancing organizational resilience, improving design, project management, quality, safety, cost management, and sustainability (Harle, 2024; Kaushik et al., 2024; Kediya et al., 2023). Other topics, such as value management, stakeholder management, and cost management, may have been partially addressed, but they have not been adequately studied or within comprehensive organizational capabilities frameworks, opening the way for more in-depth studies in these areas. Furthermore, despite the growing interest in topics such as sustainability, digital transformation, construction performance, risk management, and supply chain, current studies are still at the foundational level. Existing literature shows a trend toward grounding

organizational capabilities in these areas, but it has not yet reached theoretical maturity or cognitive saturation. Therefore, there is a need to sufficiently delve into their detailed variables or considering the contextual differences between different project environments and contexts.

Second, there is a clear gap in studies that validate the organizational capabilities theories, such as the Resource-Based View (RBV) theory and the Dynamic Capabilities theory, in real-world construction project settings. Many existing models focus on theoretical model building but neglect practical aspects and field validation, which weakens the generalizability of their findings. Therefore, it is recommended to conduct empirical validation studies that evaluate the effectiveness of existing models and test them in real construction organizations, particularly in emerging markets or different contexts. This gap also highlights the importance of developing practically applicable models that contribute to supporting organizational transformation and enhancing performance. Hence, it becomes imperative to promote research that bridges the gap between theory and practice and produces realistic recommendations based on field data. This ensures their effectiveness in actual work contexts and enhances their impact on developing construction project management practices.

Finally, many traditional research topics in construction project management can be renewed, especially in light of the dramatic changes taking place in contemporary reality. Rapid developments in technology, the economy, and the market impose a constant need to re-examine previous topics from new perspectives. For example, Keyword correlation analysis reveals that innovation is a pivotal element in organizational capabilities studies, alongside other dynamic topics such as artificial intelligence, building information modelling (BIM), and sustainability. The importance of these topics lies in their changing and evolving nature over short periods of time, which calls for ongoing research to understand their impact on organizational capabilities and activate them in a manner consistent with the new challenges in the construction project environment.

Conclusion

This bibliometric study systematically analyzed the development, trends, and knowledge structure of research related to organizational capabilities into construction project management. Following the PRIMA framework, the study analyzed 231 peer-reviewed publications extracted from the Scopus database and using advanced analysis tools such as VOSviewer and Bibliometrix. The study provides critical insights into prolific trends, geographical distributions, contributors, impactful journals, thematic clusters, and core keywords.

The analysis confirmed that this topic has received significant academic attention over the past decade, particularly since 2018, with an increasing number of publications in high-impact journals and increased participation by researchers in countries such as Malaysia, the United States, the United Kingdom, and China. Key conceptual pillars in the literature include dynamic capabilities, resource theory, innovation, building information modeling (BIM), risk management, and sustainability. However, research remains unevenly distributed among authors and journals, in line with the Lotka and Bradford laws.

Importantly, keyword co-occurrence analyses revealed a multidimensional landscape where strategic, technological, and operational themes intersect. Despite these contributions, a number of underexplored areas were identified. These topics include front-end planning, artificial intelligence as an organizational capability, value management, stakeholder management, and cost management, in addition to empirical validation of existing theoretical frameworks. More context-sensitive and application-oriented studies are also needed to bridge the gap between theory and actual practice in the construction sector.

However, this study is limited by its reliance exclusively on the Scopus database, which, despite its broad comprehensiveness, may have omitted some relevant studies included in other major databases such as Web of Science or Google Scholar. Furthermore, while tools such as VOSviewer and Bibliometrix provide powerful visualizations and effective categorization capabilities, interpreting thematic patterns and conceptual structures inherently involves a degree of subjectivity.

This study provides a foundational understanding and a future research roadmap for researchers aiming to enhance the integration of organizational capabilities into construction projects. By revealing substantive gaps, validating theoretical models, and proposing a re-examination of emerging contexts, this study paves the way for innovative, responsive, and effective contributions to the changing construction environment.

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