

Evaluating the Project Management Maturity in the Construction Industry of Developing Countries, Ghana in Perspective

Ackah David¹ | Amponsah Richard²

¹ORCID: <https://orcid.org/0000-0002-5709-4787>

¹ Knutsford Business School, Knutsford University College, Accra-Ghana

² Department of Procurement, Logistics & Supply Chain, GCTU Business School, GCTU

*Correspondence: Ackah David, email: drackah@ipmp.edu.gh

Abstract

This study evaluates construction contractors' project management maturity levels, examining various factors such as ISO certification, capacity building programs, contractor type (road vs. building), and specific knowledge areas. Data was gathered through surveys and assessments to evaluate the maturity of different processes and practices. The findings reveal various maturity levels across the industry, with significant variations among contractors. Common challenges include gaps in risk management, safety protocols, and overall project management practices. Factors such as ISO certification and capacity-building programs positively impacted maturity levels. However, targeted training and education are crucial for addressing specific knowledge gaps. The analysis identifies critical recommendations for improving project management maturity in the construction industry, including fostering a culture of continuous improvement, promoting knowledge sharing, implementing tailored training programs, and developing industry-specific standards. By addressing these challenges and implementing appropriate strategies, the construction industry can enhance project outcomes, reduce costs, and improve competitiveness.

Keywords: Project Management Maturity, Construction Project Management, Project Management for Development

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1.0 INTRODUCTION

The construction industry plays a critical role in the economic development of any country, particularly in developing nations like Ghana. It significantly drives infrastructure development, job creation, and overall economic growth. However, the success of construction projects in these regions is often hindered by budget overruns, delays, poor quality, and inefficient resource management. These issues are frequently linked to the industry's maturity level of project management practices. Project management maturity refers to the degree to which organisations apply project management principles and methodologies effectively to ensure successful project delivery. Higher maturity levels typically result in better project outcomes, such as timely delivery, cost efficiency, and higher-quality outputs. However, in many developing countries, including Ghana, the level of project management maturity remains relatively low, exacerbating the challenges the construction industry faces.

Ghana's construction sector is a crucial contributor to national development, yet the industry still grapples with inefficiencies that impact its overall performance. The lack of well-established project management processes, limited training, and inadequate adoption of international project management standards have been cited as significant barriers to improving project outcomes. Understanding the current maturity level of project management practices in Ghana's construction sector is essential to identifying gaps and proposing strategies for improvement. This study aims to evaluate the project management maturity in Ghana's construction industry, providing insight into the industry's strengths and weaknesses. By assessing the current state of project management, the research will offer recommendations to enhance efficiency, minimise project risks, and improve overall project success rates. Ultimately, the findings will contribute to a deeper understanding of how developing countries like Ghana can elevate their project management practices to support sustainable growth in the construction sector.

2.0 MATERIALS AND METHODS

Project management maturity has been widely researched across various industries, including construction, due to its significance in ensuring successful project outcomes. Project management maturity refers to the systematic improvement of an organisation's project management processes and its ability to achieve project objectives consistently (Kerzner, 2019). Various models have been developed to assess project management maturity, including the Project Management Maturity Model (PMMM) by the Project Management Institute (PMI), which provides a framework for organisations to assess their project management capabilities (PMI, 2017).

2.1 Project Management Maturity Models

Maturity models such as the Capability Maturity Model (CMM) and PMMM have been adapted to assess project management practices in different sectors. These models evaluate the processes, standards, and methodologies used in managing projects and measure how well an organisation integrates project management into its business practices (Crawford, 2006). According to Kerzner (2019), organisations at higher maturity levels have better control over their project timelines, budgets, and deliverables, which results in improved project performance.

2.2 Construction Industry and Project Management

Project management is essential in the construction industry due to the complexity and scale of most projects. Construction projects are often characterised by high costs, long durations, and multiple stakeholders, which makes efficient project management critical to success (Ofori, 2012). Project management maturity in this sector directly impacts project quality, timeliness, and cost-effectiveness (Khosravi & Afshari, 2011). Higher maturity levels correlate with better coordination, risk management, and stakeholder engagement.

However, research shows that the construction industry in developing countries, including Ghana, faces significant challenges in achieving higher maturity levels. These challenges include limited resources, weak governance structures, and inadequate training of project managers (Agyekum, 2020). Studies have highlighted that low maturity levels in project management are often associated with frequent project delays, cost overruns, and failure to meet project specifications (Amponsah, 2014). In Ghana, despite the increasing number of infrastructure projects, the construction industry still lags in adopting advanced project management practices, mainly due to the fragmented nature of the sector and the lack of standardised processes (Ameyaw & Mensah, 2016).

2.3 Project Management in Developing Countries

In developing countries, the construction industry is generally characterised by a lack of adequate project management practices. Studies have shown that countries like Nigeria, Kenya, and Ghana face significant barriers to improving project management maturity (Ogunlana, 2010). These barriers include financial constraints, insufficient project management training, and a lack of institutional support. Ogunlana (2010) emphasises that the low maturity levels in project management often result in inefficiencies and poor project outcomes. Ghana, in particular, has seen rapid infrastructure development due to urbanisation and government investments in construction projects. However, research suggests that many construction projects in Ghana suffer delays, cost overruns, and quality issues due to immature project management processes (Agyekum, 2020). Agyekum further highlights that most construction firms in Ghana do not have formalised project management frameworks, and project managers often rely on informal practices. This lack of standardised project management practices is a critical factor in the poor performance of many construction projects.

2.4 The Need for Project Management Maturity Assessment in Ghana

There is a growing recognition of the need to assess project management maturity in developing countries, particularly in the construction sector. A maturity assessment can help identify areas for improvement, enabling construction firms to enhance their processes and improve project performance (Agyekum, 2020). By adopting maturity models like the PMMM, construction companies in Ghana can establish standardised project management practices that will allow for better resource allocation, risk management, and stakeholder coordination (Kerzner, 2019).

In conclusion, the existing literature indicates that project management maturity is a critical factor in the success of construction projects. Developing countries, including Ghana, face significant challenges in raising their project management maturity levels due to resource constraints, a lack of institutional support, and the absence of standardised practices. Conducting a maturity assessment in Ghana's construction industry is essential to understanding the current state of project management practices and identifying strategies for improvement.

3.0 METHODOLOGY

The methodology section outlines the approach, tools, and techniques that will be used to evaluate the project management maturity within Ghana's construction industry. This research will adopt a mixed-methods approach, combining qualitative and quantitative data to understand project management maturity comprehensively. The methodology will involve three key phases: literature review, data collection, and analysis.

3.1 Research Design

A descriptive and exploratory research design will be employed to assess Ghana's construction sector's project management maturity levels. The study will utilise the Project Management Maturity Model (PMMM) as the primary framework to assess the maturity levels of construction companies. This model has been widely used in project management maturity research and is suitable for evaluating organisational practices in developing countries (Crawford, 2006). The study will focus on understanding how construction companies in Ghana manage their projects and the extent to which they apply standardised project management practices.

3.2 Sampling

The target population for this study will consist of construction firms operating in Ghana, including small, medium, and large enterprises. A purposive sampling technique will select participants based on their relevance to the study, such as project managers, engineers, and key stakeholders involved in project execution within these firms. The sample size will be determined based on the availability and willingness of respondents, with a target of 30-50 construction firms to ensure adequate representation across the sector.

3.3. Data Collection Instruments

Data collection will be carried out using both primary and secondary sources:

Primary Data: A structured questionnaire and semi-structured interviews will be employed to gather primary data. The questionnaire will be designed based on the PMMM framework and include closed-ended and open-ended questions. It will assess five critical areas of project management maturity: project initiation, planning, execution, monitoring and control, and project closure (Kerzner, 2019). Likert scale questions (1 to 5) will be used to rate the maturity level in each area. The semi-structured interviews will complement the questionnaire by allowing respondents to elaborate on their project management practices, challenges, and areas for improvement.

Secondary Data: Relevant academic literature, industry reports, and government publications on project management in Ghana's construction industry will be reviewed to provide context and support the findings. These sources will help compare the current state of project management maturity with established global standards.

3.4 Pilot Study

A pilot test will be conducted with a small group of respondents to ensure the questionnaire and interview guide's clarity, relevance, and reliability. The feedback from the pilot study will refine the data collection instruments before they are administered to the total sample.

3.5 Quantitative Analysis

The quantitative data collected from the questionnaires will be analysed using descriptive statistics, and the maturity scores will be calculated for each project management process. The maturity level will be categorised into five stages:

- *Level 1:* Initial (Ad hoc processes)
- *Level 2:* Managed (Basic processes exist)
- *Level 3:* Defined (Processes are standardised)
- *Level 4:* Quantitatively Managed (Processes are measured and controlled)
- *Level 5:* Optimizing (Continuous process improvement) (Crawford, 2006).

The results will be analysed using software such as SPSS or Excel to determine the average maturity level for the construction industry in Ghana. Correlation analysis will also examine relationships between firm size, project complexity, and maturity levels.

3.6 Qualitative Analysis

The qualitative data from the interviews will be analysed using thematic analysis. The interview transcripts will be reviewed, and key themes related to project management practices, challenges, and improvement strategies will be identified. The qualitative data will help explain the reasons behind the maturity levels identified in the quantitative analysis and provide insights into the contextual challenges facing construction firms in Ghana.

3.7 Ethical Considerations

Ethical standards will be maintained throughout the research process. Participants will be fully informed of the purpose of the study, and informed consent will be obtained before data collection. Confidentiality and anonymity will be guaranteed for all participants to ensure their privacy and encourage honest responses. Additionally, the study will comply with institutional ethical guidelines for conducting research.

3.8 Limitations of the Study

While this study aims to provide valuable insights into the project management maturity of construction firms in Ghana, some limitations may arise. The sample size, though representative, may not capture the full diversity of the industry due to time and resource constraints. Additionally, the self-assessment nature of the questionnaire may introduce bias, as respondents may overestimate their maturity levels.

4.0 RESULTS AND DISCUSSIONS

4.1. Demographics of Practicing Contractors

The research questionnaire was initially delivered to 40 contractors, of which 32 are local contractors and eight international contractors (seven Chinese and one Indian contractor doing business in Ethiopia). 26 of the 32 local contractors have returned the questionnaire. Unfortunately, none of the eight international contractors returned the maturity assessment questionnaire. Five of those 26 who returned the survey were rejected as the responses were incomplete or improperly responded to. Hence, only a response from the 21 contractors was used in performing the maturity analysis. This chapter presents only the result of the maturity assessment of the 21 organisations and the practice rating of the PM practices by 15 Practitioners.

Table 1: Summary of the Demographics of Practicing Contractors

Contractor's Category	Number of Contractors in the Category
Based on Ownership Type	
Public Construction Companies	3
Private Construction Companies	18
Non-Identified	0
Based on the Contractor's Major Work	
General Contractors (both road and building works)	7
Building Contractors	9
Road Contractors	5
Based on Participation in the Capacity Building Program	
Capacity Building Program Participant	10
Non-Capacity Building Program Participant	8
Unidentified	3
Based on ISO-Certification	
ISO-Certified	5
In the process of ISO certification	6
Neither Certified nor in Process	9
Unidentified	1

The demographics of contractors in Table 11 provide insight into the composition and characteristics of construction firms operating in Ghana. This analysis covers contractor ownership, their significant areas of work, participation in capacity-building programs, and ISO certification status. These factors are critical in assessing the maturity of project management practices in the industry.

4.1.1 Ownership Type

The table indicates that most contractors are privately owned, with 18 private construction companies compared to only 3 public construction companies. This highlights the dominance of private sector involvement in the construction industry in Ghana. The absence of non-identified contractors under this category suggests clear ownership structures among the firms. However, the relatively small number of public construction companies could indicate a limited role of the government in direct construction activities or that public companies rely on private firms to execute projects.

4.1.2. Contractor's Major Work

Regarding specialisation, the contractors are involved in general construction (road and building works), building-only projects, or road-specific projects. Of the 21 firms, 9 are primarily building contractors, reflecting the significant demand for residential and commercial building projects in Ghana's urbanising economy. General contractors account for 7 firms, indicating that many companies handle road and building projects. Only 5 firms are specialised in road construction, which could point to a narrower focus on infrastructure development within the industry or that general contractors are taking on road-related projects alongside other types of construction.

4.1.3. Participation in Capacity-Building Programs

The data shows that most firms (10 out of 21) have participated in capacity-building programs, which are crucial for improving project management skills and adopting new technologies. This indicates a positive trend toward professional development within the industry. However, 8 firms have not participated in such programs, which may hinder their ability to improve project management processes. Notably, 3 firms did not specify their participation status, suggesting a potential gap in data collection or awareness of the importance of capacity-building programs.

4.1.4. ISO Certification

ISO certification is a critical indicator of a firm's commitment to quality management and standardised processes. Among the contractors, 5 are ISO-certified, while 6 are in the process of obtaining certification. This shows a growing recognition of the importance of international standards within the industry. However, 9 firms are neither certified nor in the certification process, reflecting a significant portion of contractors operating without standardised quality controls. The lack of ISO certification in these firms could hinder achieving higher project management maturity, as certification often ensures adherence to best practices. One firm remains unidentified regarding ISO status, indicating incomplete information.

4.1.5 Implications for Project Management Maturity

The data from Table 11 reveals critical aspects of the construction industry in Ghana that may influence project management maturity:

- *Private Sector Dominance:* The large number of private construction companies suggests that improvements in project management practices will largely depend on the private sector's adoption of standards and processes.

- *Specialization and Scope of Work:* Contractors' varying focus (general, building, or road works) points to differing project management needs and complexities. General contractors may have a broader range of challenges, while specialised contractors may benefit from more streamlined processes.
- *Capacity Building and Skills Development:* The industry's high participation in capacity-building programs is encouraging. However, firms that have not participated may lack critical skills for improving their project management maturity.
- *Quality Standards and Certification:* ISO certification is directly linked to improved project management practices. The firms that are neither ISO-certified nor in the certification process may struggle to reach higher levels of project management maturity due to a lack of formalised processes and quality controls.

The analysis of contractor demographics suggests that while some firms in Ghana's construction industry are making progress in enhancing their project management maturity through capacity-building programs and ISO certification, a significant portion still lags in adopting standardised practices. This gap could limit the industry's overall project management maturity, impacting the country's quality and efficiency of construction projects.

4.2 Maturity Assessment Result and Discussion

This provides an overview of the maturity levels of project management (PM) processes among contractors in the construction industry. This analysis focuses on interpreting the maturity levels across various project management processes and their implications for the effectiveness and success of construction projects.

4.2.1. Overview of Maturity Levels

The maturity levels in construction project management are typically categorised into several stages, ranging from initial (ad hoc processes) to optimising (continuous improvement). Understanding where contractors fall within this spectrum is critical for assessing their capabilities and identifying areas for improvement.

4.2.2. Assessment of Key Processes

The analysis of Table 12 likely breaks down several key project management processes, such as:

- *Project Initiation:* This stage assesses how effectively contractors define project objectives and identify stakeholders. A high maturity level in this area indicates that contractors are proficient at initiating projects with clear goals, which is essential for overall project success.
- *Project Planning:* The maturity level in this process reflects the extent to which contractors develop comprehensive project plans, including timelines, budgets, and resource allocation. Higher maturity suggests contractors use standardised planning practices, leading to more accurate forecasting and resource management.
- *Project Execution:* This process examines how contractors implement project plans and manage project activities. A high level of maturity indicates effective communication,

coordination, and adherence to established project management protocols, which can minimise delays and budget overruns.

- *Monitoring and Control:* This process evaluates contractors' ability to track project progress and adjust as needed. Higher monitoring maturity indicates contractors employ robust tools and metrics to assess project performance, allowing timely interventions to mitigate risks.
- *Project Closure:* This final process involves assessing project deliverables and ensuring all aspects are completed satisfactorily. A mature process in this area indicates that contractors engage in thorough project evaluations and lessons learned, which are crucial for continuous improvement in future projects.

4.2.3. Identifying Strengths and Weaknesses

The results presented in Table 12 can help identify strengths and weaknesses among the contractors:

- *Strengths:* If specific processes (e.g., project execution or planning) show high maturity levels, contractors have adequate systems and practices. This can enhance overall project performance and client satisfaction.
- *Weaknesses:* Low maturity levels in specific areas (monitoring and control) may indicate significant gaps in contractors' capabilities. These weaknesses could lead to ineffective project oversight, resulting in missed deadlines and budgetary issues.

4.2.4. Implications for Project Management Maturity

The maturity levels assessed in Table 12 have several implications for the overall project management maturity within the construction industry in Ghana:

- *Benchmarking:* The results can serve as a benchmark for contractors to compare their maturity levels against industry standards. This can encourage firms to adopt best practices and strive for higher maturity.
- *Training and Development Needs:* Identifying low maturity levels in specific processes can guide training and development initiatives. Contractors can focus on enhancing skills and knowledge to improve project management maturity.
- *Investment in Tools and Resources:* Firms may need to invest in project management tools and resources to elevate their maturity levels. Technology solutions can improve planning, monitoring, and reporting processes, improving project outcomes.
- *Continuous Improvement Culture:* Encouraging a culture of continuous improvement is vital for contractors to advance their maturity levels. Engaging in regular evaluations and applying lessons learned can help firms optimise their processes over time.

Figure 2 is a critical tool for assessing the maturity of project management processes among contractors in the construction industry. By evaluating maturity levels across key processes, contractors can identify areas for improvement and develop strategies to enhance their overall project management capabilities. The findings can also inform training needs, resource

investments, and the establishment of a culture that prioritises continuous improvement, ultimately leading to more successful construction projects in Ghana.

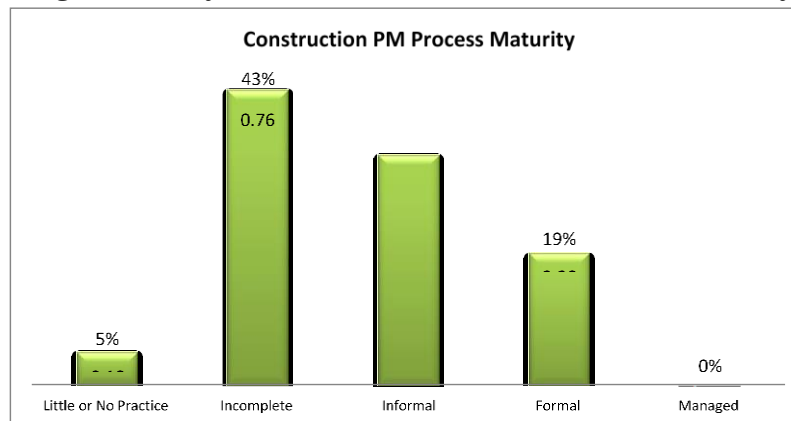
4.2.5 Analysis of the Construction PM Process Maturity

- **Dominance of "Incomplete" Maturity Level:** Most contractors (43%) fall into the "Incomplete" category, indicating that while they have some processes in place, they are not fully defined or implemented consistently. This suggests a significant opportunity for improvement in project management practices.
- **Low Levels of Formal and Managed Maturity:** Only 19% of contractors have reached the "Formal" level, demonstrating a lack of standardised processes and procedures. The "Managed" level, representing the highest level of maturity, is not represented, indicating a significant gap in the industry.
- **Limited Use of Project Management Practices:** The combined percentage of contractors in the "Little or No Practice" and "Incomplete" categories is 48%, highlighting a general lack of formal project management approaches in the industry.

Implications

- **Need for Improved Training and Education:** Contractors need access to training and education programs focusing on project management methodologies and best practices. This will equip them with the knowledge and skills to implement more effective processes.
- **Adoption of Standardized Frameworks:** Encouraging the adoption of standardised project management frameworks, such as PMBOK or Agile, can help contractors establish consistent processes and improve project outcomes.
- **Investment in Technology:** Leveraging project management software and tools can streamline processes, enhance collaboration, and improve decision-making.
- **Collaboration and Knowledge Sharing:** Fostering a culture of collaboration and knowledge sharing among contractors can help identify best practices and accelerate the adoption of more mature project management approaches.

Figure 1 Analysis of the Construction PM Process Maturity



4.2.6 Analysis of the Construction PM Knowledge Area Process Maturity

- *Strong Maturity in Core Knowledge Areas:* The highest-rated knowledge areas are Material, Procurement, Cost, Time, and Financial, indicating that contractors are relatively proficient. This suggests the construction industry has established robust processes and practices for managing resources, budgeting, and scheduling.
- *Gaps in Process Maturity for Certain Knowledge Areas:* The knowledge areas of Risk, Safety, and Construction PM have significantly lower maturity levels, suggesting areas for significant improvement. This indicates a need for a greater focus on risk management, safety protocols, and overall project management practices.
- *Inconsistencies Across Knowledge Areas:* While some knowledge areas demonstrate high maturity, others exhibit low levels, indicating inconsistencies in process implementation. This suggests a more holistic and integrated approach to project management.

Implications

- *Focus on Risk and Safety:* Contractors should improve their risk management and safety practices to mitigate risks and ensure worker well-being.
- *Enhance Overall Project Management:* The low maturity of the Construction PM knowledge area highlights a need for greater emphasis on overall project management practices, including planning, execution, monitoring, and control.
- *Address Knowledge Gaps:* Identify and address knowledge gaps in areas with lower maturity levels through training, education, and the adoption of best practices.
- *Promote Integration:* Encourage a more integrated approach to project management, ensuring that processes across different knowledge areas are aligned and coordinated.

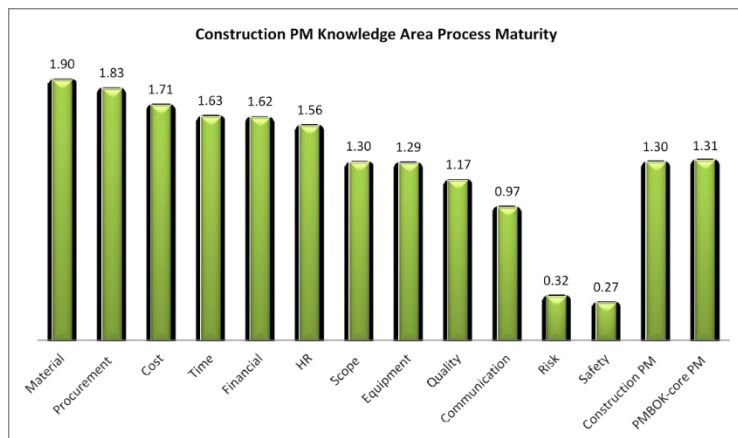


Figure 2: Construction PM Knowledge Area Process Maturity

4.2.7 Analysis of the Construction PM Practice Maturity Assessment

- **Dominance of Basic Practice:** Most contractors (57%) fall into the "Basic Practice" category, indicating that they have established some fundamental project management processes but still have room for improvement.
- **Incomplete-Practice and Very Little or No Practice:** A significant portion of contractors (38% and 5%, respectively) exhibit lower maturity levels, suggesting a lack of formal project management practices or inconsistent implementation.
- **No Intermediate Level:** The "Intermediate" category is not represented, indicating a significant gap in the industry's maturity levels.

Implications

- **Opportunity for Improvement:** The large percentage of contractors in the "Basic Practice" category presents a significant opportunity for improvement by implementing more advanced project management practices.
- **Need for Fundamental Practices:** The presence of contractors in the "Incomplete-Practice" and "Very Little or No Practice" categories highlights the need for establishing fundamental project management processes to improve project outcomes.
- **Lack of Advanced Practices:** The absence of contractors in the "Intermediate" category suggests a lack of advanced project management practices and a need for further industry development.

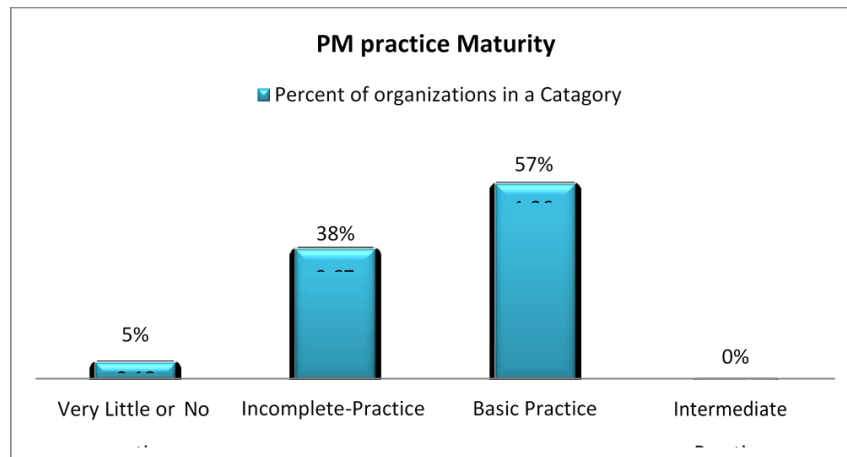


Figure 3: Construction PM Practice Maturity Assessment

4.3 ISO vs. Non-ISO Contractors' PM Maturity

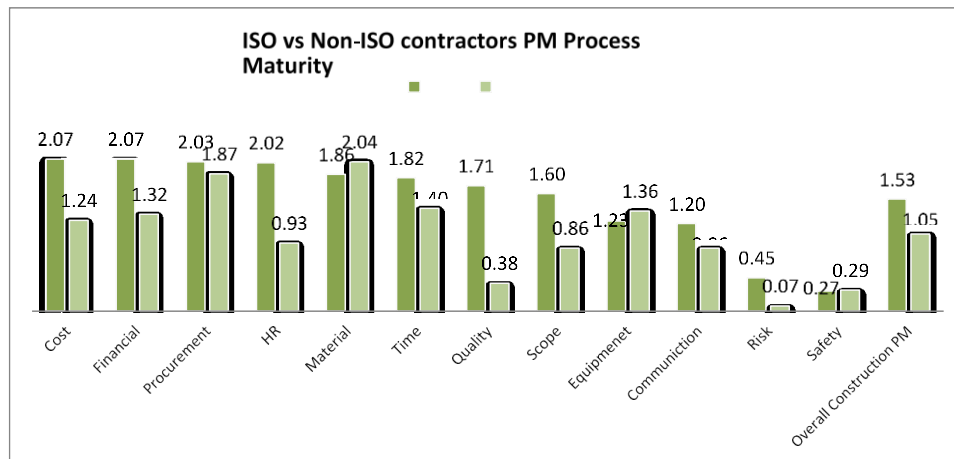
Analysis of ISO vs. Non-ISO Contractors' PM Process Maturity

- **Overall Higher Maturity for ISO Contractors:** Generally, ISO-certified contractors demonstrate higher process maturity levels across most knowledge areas than non-ISO contractors. This suggests that ISO certification is associated with more robust project management practices.

- *Significant Differences in Specific Areas:* While ISO contractors outperform non-ISO contractors in many areas, there are notable differences in specific knowledge areas. For instance, non-ISO contractors have higher maturity levels in Equipment and Communication, indicating potential strengths in these areas.
- *Gaps in Maturity for Both Groups:* Both ISO and non-ISO contractors exhibit gaps in maturity, particularly in the areas of Risk, Safety, and Overall Construction PM. This suggests that both groups can improve in these areas.

Implications

- *Benefits of ISO Certification:* ISO certification can be a valuable tool for contractors to improve their project management practices and enhance their overall performance.
- *Targeted Improvement Efforts:* Both ISO and non-ISO contractors should focus on improving their maturity levels in areas where they are lagging, such as risk management, safety protocols, and overall project management practices.
- *Continuous Improvement:* ISO certification should be a starting point for continuous improvement, with regular assessments and efforts to enhance processes and practices.



4.4 Capacity Building Program (CBP) Vs (Non-CBP) Contractors PM Maturity

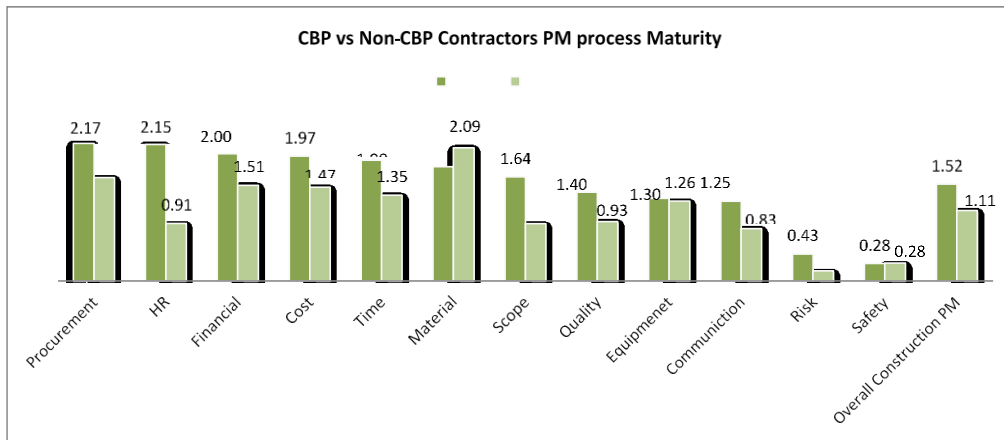
Analysis of CBP vs. Non-CBP Contractors' PM Process Maturity

- *Overall Higher Maturity for CBP Contractors:* Generally, contractors who have participated in a Capacity Building Program (CBP) demonstrate higher process maturity levels across most knowledge areas than non-CBP contractors. This suggests that CBPs are effective in improving project management practices.
- *Significant Differences in Specific Areas:* While CBP contractors outperform non-CBP contractors in many areas, there are notable differences in specific knowledge areas. For instance, non-CBP contractors have higher maturity levels in Equipment and Communication, indicating potential strengths in these areas.

- *Gaps in Maturity for Both Groups:* Both CBP and non-CBP contractors exhibit gaps in maturity, particularly in the areas of Risk, Safety, and Overall Construction PM. This suggests that both groups can improve in these areas.

Implications

- *Effectiveness of CBPs:* CBPs can be a valuable tool for contractors to improve their project management practices and enhance their overall performance.
- *Targeted Improvement Efforts:* Both CBP and non-CBP contractors should focus on improving their maturity levels in areas where they are lagging, such as risk management, safety protocols, and overall project management practices.
- *Continuous Improvement:* CBP should be a starting point for continuous improvement, with regular assessments and efforts to enhance processes and practices.



4.5 Road Contractors vs. Building Contractors PM Maturity

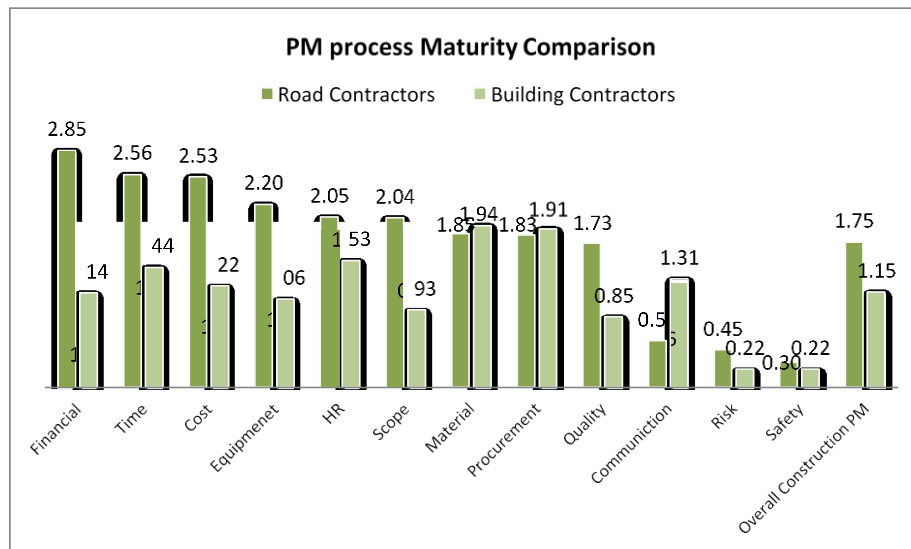
Analysis of Road Contractors vs. Building Contractors PM Maturity

- *Overall Higher Maturity for Road Contractors:* Road contractors generally exhibit higher process maturity levels across most knowledge areas than building contractors. This suggests that road contractors have more established and effective project management practices.
- *Significant Differences in Specific Areas:* While road contractors outperform building contractors in many areas, there are notable differences in specific knowledge areas. For instance, building contractors have higher maturity levels in Equipment and Communication, indicating potential strengths in these areas.
- *Gaps in Maturity for Both Groups:* Both road and building contractors exhibit gaps in maturity, particularly in the areas of Risk, Safety, and Overall Construction PM. This suggests that both groups can improve in these areas.

Implications

- *Best Practices Sharing:* Road contractors can share their expertise and best practices with building contractors to help them improve their project management processes.

- *Targeted Improvement Efforts:* Both road and building contractors should focus on improving their maturity levels in areas lagging, such as risk management, safety protocols, and overall project management practices.
- *Industry-Specific Approaches:* The construction industry should consider developing industry-specific project management frameworks and standards to address road and building projects' unique challenges and requirements.



5.0 CONCLUSIONS

The construction industry exhibits a wide range of project management maturity levels, with some contractors demonstrating advanced practices while others struggle with fundamentals. Common challenges contractors face include gaps in risk management, safety protocols, and overall project management practices. ISO certification and capacity-building programs can significantly improve project management maturity levels, but targeted training and education are also crucial. Differences exist between road and building contractors regarding project management maturity, highlighting the need for tailored approaches.

Contractors should strive to continuously improve their project management practices, focusing on areas with lower maturity levels. Fostering a culture of collaboration and knowledge sharing can accelerate the adoption of best practices and improve overall industry performance. Training programs should be tailored to address the specific needs of different contractor types and knowledge areas. Developing and adopting industry-specific standards can provide a common framework for improving project management practices. By addressing these challenges and implementing appropriate strategies, the construction industry can enhance project outcomes, reduce risks, and improve competitiveness.

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