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BARRIERS TO THE INSTITUTIONALISATION OF EARNED VALUE MANAGEMENT IN NIGERIAN CONSTRUCTION PROJECT

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Abstract

Persistent cost overruns and schedule delays continue to undermine construction project performance in Nigeria, largely due to weak project monitoring and control practices. Earned Value Management (EVM) offers an integrated framework for tracking cost, time, and progress, yet its adoption within the Nigerian construction industry remains limited. This study empirically examines the barriers hindering effective EVM implementation on construction projects in Nigeria, with a focus on Ogun State. A quantitative cross-sectional survey design was adopted, targeting architects, builders, engineers, and quantity surveyors involved in project planning and control. Data were collected from 151 construction professionals using a structured questionnaire and analysed using descriptive statistics and one-sample t-tests. The results indicate high levels of agreement on the effectiveness of EVM in improving schedule adherence, project control, budget management, and decision-making. However, significant barriers constrain its practical application. The most critical barriers identified include the absence of localized EVM implementation guidelines, lack of regulatory frameworks, inadequate training and expertise, system complexity, and weak organisational and top management support. Data management and accuracy issues further limit effective use. The study concludes that while EVM is widely recognised as a valuable project control tool, its benefits cannot be fully realised without institutional support, capacity development, and reliable project information systems. The findings provide context-specific insights that can inform practitioners, policymakers, and professional bodies seeking to strengthen construction project performance through improved monitoring and control practices in Nigeria and similar developing economies.

Keywords: Construction Project Performance, Earned Value Management, Implementation Barriers, Nigeria, Project Monitoring and Control

INTRODUCTION

The construction industry remains a critical contributor to economic growth and infrastructure development in developing economies, including Nigeria (Albert *et al.,* 2025a). Despite its importance, project delivery within the Nigerian construction sector is persistently undermined by cost overruns, schedule delays, and inefficient resource utilisation (Bala & Adamu, 2023). These barriers have resulted in widespread project underperformance, abandoned developments, and escalating public expenditure. Prior studies consistently attribute these outcomes to deficiencies in project planning, monitoring, and control systems rather than to technical limitations alone (Adewuyi *et al*., 2022). In practice, construction project monitoring in Nigeria continues to rely largely on traditional approaches such as milestone reporting, periodic cost comparisons, and subjective progress

assessments (Olayemi & Odunlade, 2025; Adeleke *et al*., 2022). While these methods provide basic descriptive information, they do not adequately integrate cost, schedule, and work progress, nor do they support early identification of performance deviations (Albert *et al*., 2025b; Egwuatu & Okafor, 2024). Consequently, corrective actions are often delayed, limiting their effectiveness and exacerbating project risks.

Earned Value Management (EVM) offers a structured and quantitative framework for addressing these shortcomings by integrating scope, time, and cost into a unified performance measurement system (David & John, 2024; Bello & Obi, 2022). Through indicators such as the Cost Performance Index (CPI) and Schedule Performance Index (SPI), EVM enables objective assessment of project status and improves forecasting accuracy. The effectiveness of EVM in enhancing project control and decision-making has been well established in complex infrastructure and engineering projects, particularly in developed economies where its application is often institutionalised (Olukemi & Ibrahim, 2019; Anbari, 2004). Despite its demonstrated benefits, EVM adoption within the Nigerian construction industry remains limited and uneven. Existing evidence suggests that its application is constrained by factors such as limited technical expertise, weak organisational commitment, inadequate training, and poor integration with existing project management practices (Adewuyi *et al*., 2022). These constraints are further intensified by the fragmented nature of construction project delivery, inconsistent cost data management, and the absence of enforceable project control standards.

Although previous studies have explored project performance management in Nigeria, empirical research focusing specifically on the barriers hindering effective Earned Value Management implementation remains sparse. Most available studies emphasise the theoretical relevance or perceived benefits of EVM without systematically examining the contextual, organisational, and technical barriers affecting its practical use (Albert *et al.,* 2025c; Chukwuemeka & Umar, 2024). Moreover, the majority of EVM-related research is grounded in developed country contexts, where institutional capacity, professional training, and data systems differ significantly from those in Nigeria. As a result, there is limited empirical evidence on how Nigeria's institutional environment, industry practices, and professional capacity shape EVM adoption and effectiveness. This gap restricts the development of context-responsive strategies for improving project control practices within the Nigerian construction sector.

This study addresses this gap by empirically examining the barriers hindering the effective implementation of Earned Value Management on construction projects in Nigeria. By drawing on data from construction professionals directly involved in project planning and control, the study provides context-specific insights into the barriers limiting EVM adoption and offers evidence-based recommendations aimed at strengthening performance monitoring and project delivery outcomes.

LITERATURE REVIEW

Effectiveness of EVM in Construction Projects

Research consistently demonstrates that EVM provides objective and real-time insights into project performance against established baselines. Adekunle and Okoro (2023) conducted a comprehensive study of construction projects in Nigeria and found that projects implementing EVM showed 35% better performance tracking accuracy compared to traditional monitoring methods. The study revealed that EVM's systematic approach to progress measurement eliminates much of the subjectivity inherent in conventional progress reporting. The effectiveness of EVM in performance tracking is particularly evident in its ability to provide standardized metrics across different project phases and activities.

Green and White (2021) analysed multiple construction projects and demonstrated that EVM enables consistent performance comparison across diverse project types and organizational contexts. This standardization capability is crucial for portfolio management and organizational learning. EVM's capability to detect deviations in cost overruns and schedule delays at early stages represents one of its most valuable characteristics for construction project management. Chike and Musa (2024) documented several case studies where EVM identification of performance trends enabled project teams to implement corrective actions that prevented major project failures. Their research showed that projects using EVM as an early warning system had 42% fewer major cost overruns compared to projects using traditional monitoring approaches. The early detection capability is particularly valuable in construction projects where problems often compound rapidly if left unaddressed. Daramola and Ayodele (2023) found that EVM's trend analysis capabilities enabled project managers to identify performance degradation patterns weeks or months before they would have been detected through conventional monitoring methods. Research demonstrates significant improvements in forecasting accuracy when EVM is properly implemented in construction projects. Chukwuemeka and Umar, (2024) conducted a longitudinal study of infrastructure projects and found that EVM-based forecasts were accurate within 5-10% of actual outcomes, compared to 15-25% accuracy for traditional forecasting methods. This improvement in forecasting accuracy enables better resource planning and stakeholder communication. Modern EVM implementation increasingly involves integration with other project management tools and technologies. Chike and Musa (2024) documented successful integrations of EVM with software platforms such as Primavera P6 and Microsoft Project, showing that these integrations enhance data accuracy and reduce administrative overhead. The integration capabilities enable automated data collection and real-time performance dashboard generation. Emerging research explores EVM integration with Building Information Modelling (BIM) systems. Anbari (2004) presented preliminary findings suggesting that BIM-EVM integration can provide enhanced progress tracking through visual progress monitoring and automated quantity measurements. This integration represents a significant advancement in construction project control capabilities.

Barriers of Applying EVM in Construction Projects

The complexity of implementing and maintaining EVM systems presents significant barriers, particularly in large and complex construction projects. Daramola and Ayodele (2023) identified implementation complexity as the primary barrier to EVM adoption, noting that the methodology requires sophisticated understanding of project management principles and significant organizational commitment. The complexity is compounded by the need to integrate EVM with existing project management processes and systems. Construction projects face unique implementation challenges due to their dynamic environments and multiple stakeholders. Bakare and Bello (2022) documented several cases where EVM implementation failed due to insufficient attention to the complexity of construction project environments and inadequate preparation for implementation challenges. Accurate data collection and reliable progress measurements represent significant barriers in construction EVM implementation. Oke *et al*. (2022) found that data accuracy issues were responsible for 38% of EVM implementation failures in their study of construction projects. The barriers stem from the difficulty of measuring progress objectively in construction environments where work quality and completion definitions can be subjective.

The reliability challenges are compounded by construction projects' often harsh and changeable environments. Chike and Musa (2024) noted that weather conditions, site access limitations, and equipment failures frequently disrupt data collection processes, compromising EVM data reliability.

Organizational resistance to adopting new methodologies represents a persistent challenge in EVM implementation. Coker and Salami (2022) identified resistance to change as a critical factor in EVM implementation success, finding that projects with strong leadership support for change management had 56% higher EVM implementation success rates. Construction industry resistance to change is particularly pronounced due to the industry's traditional approaches and conservative culture. Olukemi & Ibrahim (2019) documented several cases where EVM implementation encountered significant resistance from field personnel who preferred established progress tracking methods. The shortage of properly trained personnel represents a significant barrier to successful EVM implementation. Adeniyi (2023) found that 67% of construction organizations attempting EVM implementation lacked sufficient internal expertise to support successful adoption. The training challenge is compounded by the need for ongoing skill development as EVM practices evolve and mature. Integrating EVM with existing project management and accounting systems presents significant technical and organizational barriers. Chike and Musa (2024) found that system integration issues were responsible for 42% of EVM implementation difficulties in their study. The integration barriers often involve incompatible data formats, different reporting cycles, and conflicting organizational processes.

Theoretical Framework

This study is anchored on Control Theory and Project Management Performance Measurement Theory, which together explain how structured monitoring tools such as Earned Value Management (EVM) improve project control and performance.

Control Theory provides a useful basis for understanding project monitoring and control. The theory emphasizes that effective management systems require continuous comparison between planned objectives and actual performance, followed by corrective actions when deviations occur (Alferjany *et al*., 2018). In project management, this process involves establishing performance baselines, measuring progress, and analysing deviations in cost, schedule, and scope. Earned Value Management operates within this control framework by integrating these three project dimensions into a single performance measurement system. Through indicators such as the Cost Performance Index (CPI) and Schedule Performance Index (SPI), EVM enables project managers to objectively assess project performance and identify potential problems at an early stage (Anbari, 2004). By providing timely performance feedback, EVM strengthens the monitoring and control mechanisms emphasized in Control Theory and supports more proactive decision-making during project execution.

The study is also informed by Project Management Performance Measurement Theory, which highlights the importance of structured metrics and systematic monitoring techniques in evaluating project performance. Performance measurement systems provide objective information that helps managers assess whether projects are progressing according to plan and whether corrective actions are necessary (Taticchi *et al*., 2012). Within the construction industry, performance measurement tools such as EVM are particularly valuable because they integrate cost, schedule, and work progress into a single analytical framework, enabling more accurate forecasting and improved project decision-making (Fleming & Koppelman, 2016). As a result, EVM has become one of the most widely recognized techniques for monitoring project performance in complex engineering and construction projects.

However, the effectiveness of such performance measurement systems depends not only on the methodology itself but also on the organizational and institutional environment in which they are implemented. Factors such as professional expertise, organizational support, regulatory frameworks, and reliable data management systems influence the successful adoption of project control techniques.

In developing construction environments such as Nigeria, limitations in these areas may hinder the effective application of EVM despite its recognized benefits.

Based on these theoretical perspectives, this study examines the barriers that hinder the implementation of Earned Value Management in construction projects. The theoretical framework therefore positions EVM as a structured project control tool whose effectiveness depends on the interaction between performance measurement systems and the organizational and institutional context in which they are applied. By investigating these contextual barriers, the study contributes to a better understanding of the factors influencing the adoption of modern project monitoring techniques within the Nigerian construction industry.

Research Gap and Position of the Current Study

Despite the widely acknowledged benefits of Earned Value Management (EVM) in improving cost control, schedule monitoring, and project performance (Hasan *et al*., 2021; Agumalu, 2022), most existing studies have focused on its theoretical relevance or applications in developed economies where institutional frameworks, technological infrastructure, and professional competencies are more advanced. While these studies demonstrate the effectiveness of EVM as an integrated project monitoring tool, their findings cannot be easily generalized to developing construction environments such as Nigeria, where project monitoring practices are often characterized by fragmented systems, limited technical expertise, and weak regulatory enforcement. In the Nigerian construction sector, research has predominantly focused on broader project delivery challenges such as cost overruns, delays, and inefficient resource management, with relatively limited empirical attention given to the specific barriers hindering the practical adoption and institutionalisation of EVM in construction projects.

Consequently, there remains insufficient empirical evidence on how contextual factors within Nigeria's construction industry such as organizational capacity, professional training, data management practices, and regulatory support affect the implementation of structured project control techniques like EVM. Addressing this gap, the present study empirically investigates the barriers to the implementation of Earned Value Management in construction projects in Nigeria, with particular focus on Ogun State. By drawing on the perspectives of construction professionals directly involved in project planning and monitoring, the study provides context-specific insights into the institutional, technical, and organizational constraints affecting EVM adoption and contributes to ongoing efforts aimed at improving project monitoring practices and overall construction project performance in developing economies

RESEARCH METHOD

This study employed a quantitative cross-sectional survey design to examine the effectiveness of Earned Value Management (EVM) and the barriers hindering its implementation in construction projects. A quantitative approach was considered appropriate because it allows for objective measurement of professionals' perceptions and supports robust statistical analysis (Sekaran & Bougie, 2020). The study was conducted in Ogun State, Nigeria, a strategically important construction corridor due to its proximity to Lagos and its concentration of public and private development projects. The target population comprised architects, builders, engineers, and quantity surveyors involved in project planning, monitoring, and control across small-, medium-, and large-scale construction firms, as well as government agencies. These professionals were selected because EVM relies heavily on

integrated cost, schedule, and performance information (Anbari, 2004). A purposive sampling technique was adopted to ensure that respondents possessed relevant project management experience. A total of 151 valid responses were obtained, satisfying recommended sample adequacy requirements for multivariate analysis (Taber, 2018). Data were collected using a structured questionnaire developed from established EVM and construction project management literature. The questionnaire consisted of sections on respondents' characteristics, perceived effectiveness of EVM, and barriers affecting its application. Responses were measured using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Data analysis was conducted using SPSS. Descriptive statistics and one-sample t-tests were used to analyse effectiveness and challenge variables. Ethical standards were observed through voluntary participation and assured anonymity.

RESULTS AND DISCUSSION

Characteristics of respondents

Table 1 shows that architects constituted the largest group at 29.8% (45 respondents), followed closely by builders at 27.2% (41 respondents) and engineers at 26.5% (40 respondents). Quantity surveyors represented 16.6% (25 respondents) of the sample. This distribution was particularly significant for the study as it ensured representation from all major professional groups involved in construction project management and control. The analysis showed that architects, builders, engineers, and quantity surveyors each brought unique perspectives to project performance evaluation, cost control, and scheduling - all core components of Earned Value Management (EVM). The relatively even distribution across these professions enhanced the validity of the findings, as EVM implementation required input from multiple disciplines working collaboratively on construction projects. The analysis showed that a combined 65.6% of respondents had over five years of experience (6-10 years: 45.0%, 11-15 years: 17.2%, 16-20 years: 1.3%, and 21 years and above: 2.0%). Table 4.2 indicates that the most dominant category is 6-10 years (45.0%), representing a strong concentration of mid-career professionals. The analysis revealed that professionals with over a decade of experience constituted 20.5% of the sample, which was particularly crucial for the study. Many of the respondents held a bachelor's degree (BTech/BSc) at 85.4%. The analysis revealed that a smaller but significant proportion held a master's degree (MTech/MSc) at 13.2%, with only 1.3% holding a PhD. The high level of educational attainment suggested that the respondents possessed strong theoretical and foundational knowledge of their respective fields. Table 1 shows that medium-scale construction firms had the highest representation at 39.7%, followed by small-scale firms (30.5%) and large-scale firms (23.8%). Government agencies accounted for a small percentage (6.0%). This diversity was identified as a significant strength of the study, as it provided a comprehensive view of EVM application across various operational scales.

Table 1: Respondents profiles

Variable	Categories	Frequency	Percentage (%)
Professional	Architect	45	29.8
	Builder	41	27.2
	Engineer	40	26.5
	Quantity Surveyor	25	16.6
	Total	**151**	**100**
Years of Experience	6 - 10 years	68	45.0
	0 - 5 years	52	34.4
	11 - 15 years	26	17.2
	16 - 20 years	2	1.3

	21 years and above	3	2.0
	Total	**151**	**100.**
Educational Qualification	B.Tech / B.Sc	129	85.4
	M.Tech / M.Sc	20	13.2
	Ph.D	2	1.3
	Total	**151**	**100**
Type of Organization	Medium-scale construction firm	60	39.7
	Small-scale construction firm	46	30.5
	Large-scale construction firm	36	23.8
	Government agency	9	6.0
	Total	**151**	**100**

The effectiveness of EVM in Construction Projects

Table 2 show the statistical analysis demonstrated exceptional professional confidence in EVM's effectiveness, with all variables achieving mean scores between 3.95 and 4.34 on a 5-point Likert scale, indicating consistent strong agreement across all effectiveness dimensions ($p < 0.001$). Schedule-related benefits dominated the effectiveness rankings, with "Improve Schedule Adherence" achieving the highest mean score of 4.34 (Rank 1), followed by "Improve Project Control" at 4.30 (Rank 2). This finding aligned with recent empirical research by Silva *et al.* (2025), who demonstrated that the integration of cost control and technical supervision through EVM enables project managers to gain timely, accurate insights into cost performance and schedule adherence, thereby enhancing decision-making and risk mitigation. The prominence of schedule adherence reflects EVM's core strength in providing comprehensive project oversight and timeline management capabilities. Financial control dimensions received equally strong endorsement, with "Improves Budget Control" ranking third (Mean = 4.26) and "Supports Contract and Performance-Based Payment Systems" ranking fifth (Mean = 4.22). These findings resonated with contemporary research indicating that construction teams report 25% cost reductions in infrastructure projects, while residential developments consistently achieve accelerated delivery timelines when EVM methodologies are properly implemented. The strong support for contractor performance evaluation (Mean = 4.24, Rank 4) demonstrated professionals' appreciation for EVM's objective assessment capabilities in multi-stakeholder construction environments. Recent comparative studies have shown that Earned Schedule provides the most accurate predictions during early project stages, while Earned Duration was more reliable at later stages, supporting the varied effectiveness perceptions across different project phases. Decision-making and analytical capabilities received consistent recognition, with three variables achieving identical mean scores of 4.13: "Enhances Forecasting Accuracy," "Supports Informed Decision-Making," and "Improves Resource Allocation" (all Rank 9). This convergence suggested professionals recognized EVM as a comprehensive analytical framework rather than isolated control mechanisms. The lowest-ranked effectiveness dimension, "Reduces Subjectivity in Performance Assessment" (Mean = 3.95, Rank 15), while still indicating strong agreement, suggested this benefit was perceived as less critical compared to operational improvements. Recent empirical studies supported this prioritization, showing that comparison of earned value against actual cost and planned value provides insights into the project's performance in terms of schedule adherence and budget management, allowing for early detection of deviations from the plan and facilitating timely decision-making and adjustments, emphasizing practical control benefits over theoretical objectivity gains.

Table 2: Descriptive Statistics table of the Effectiveness of EVM in Construction Projects

Effectiveness of EVM	Mean	Df	SD	T	Sig. (2-tailed)	Rank
Improve Schedule Adherence	4.34	150	0.886	18.67	0.000	1
Improve Project Control	4.30	150	0.815	19.65	0.000	2
Improves Budget Control	4.26	150	0.868	17.85	0.000	3
Aids in evaluating contractor performance	4.24	150	0.862	17.71	0.000	4
Supports Contract and Performance-Based Payment Systems	4.22	150	0.791	19.01	0.000	5
Supports Timely Reporting	4.19	150	0.859	17.06	0.000	6
Aids in Portfolio and Program Management	4.17	150	0.798	18.04	0.000	7
Evaluate project performance regularly	4.17	150	0.852	16.90	0.000	8
Improve Resource Allocation	4.13	150	0.884	15.73	0.000	9
Enhances Forecasting Accuracy	4.13	150	0.789	17.62	0.000	10
Supports Informed Decision-Making	4.13	150	0.819	16.99	0.000	11
Strengthens Progress Measurement	4.11	150	0.829	16.45	0.000	12
Boosts Communication Among Stakeholders	4.11	150	0.784	17.41	0.000	13
Monitor Earned Value (EV) and Actual Cost (AC)	4.09	150	0.843	15.90	0.000	14
Reduce Subjectivity in Performance Assessment	3.95	150	0.908	12.88	0.000	15

Note: Df = Degree of freedom; M = Mean Score; SD = Standard Deviation; t = calculated t-value
Test Value = 3.00; All variables significant at $p < 0.001$

Identify the barriers hindering EVM in construction projects

Table 3 show the statistical analysis revealed that all identified barriers achieved mean scores above the neutral point (3.00), ranging from 3.95 to 4.21, with all variables demonstrating statistical significance at $p < 0.001$. The regulatory and institutional barriers dominated the top rankings, with the absence of localized EVM implementation guidelines (Mean = 4.21, Rank 1) representing the most critical barrier. This finding aligned with recent research by *Nasir et al.,* (2022), who emphasized that lack of knowledge and experience constituted 14% of EVM implementation barriers, while inadequate regulatory frameworks significantly impeded adoption in developing economies. The lack of regulatory framework for EVM adoption (Mean = 4.18, Rank 2) further underscored the institutional void that hampered systematic EVM implementation across the Nigerian construction sector. Human capital deficiencies emerged as equally significant obstacles, with training and expertise challenges (Mean = 4.17, Rank 3) tied with scope definition difficulties (Mean = 4.17, Rank 4). These findings resonated with contemporary research indicating that lack of motivation and support from top management accounts for 12% of implementation barriers, while tedious data collection processes constituted 11% of the barriers (Nasir *et al.,* 2022). The complexity of EVM systems (Mean = 4.16, Rank 5) and continuous monitoring requirements (Mean = 4.15, Rank 6) reflected the sophisticated technical competencies demanded for successful implementation, which often exceed current industry capabilities in developing construction markets. The findings emphasized continuous monitoring and stakeholder buy-in challenges, reflecting the demanding nature of EVM implementation in environments where project management practices remained underdeveloped. Organizational and operational barriers constituted the remaining barriers, with stakeholder buy-in difficulties (Mean = 4.11, Rank 7) and inadequate top management support (Mean = 4.10, Rank 8) highlighting critical leadership and commitment gaps. Recent empirical evidence from African construction contexts by Idowu and James (2025) confirmed that projects require over-cost completion due to improper resource planning, inflation, and poor employee management, directly correlating with the identified EVM implementation barriers. The data management and accuracy issues (Mean = 4.05 and 4.02 respectively, ranks 11-12) underscored the fundamental information system inadequacies that compromise EVM effectiveness, while cultural and organizational barriers (Mean = 4.01, Rank 14) reflected the broader systemic changes required for

successful EVM adoption in Nigerian construction practice. The findings showed that absent localized implementation guidelines and regulatory frameworks received the highest challenge ratings, aligning with Onwuka and Nnamdi (2021) observation that limited EVM adoption in public sector projects reflected broader institutional voids in developing economies. These findings highlighted the need for policy-level interventions to support EVM implementation, extending beyond organizational initiatives to systemic industry transformation.

Table 3: Barriers of EVM Implementation in Construction Projects

Barriers of EVM	Mean	Df	SD	T	Sig. (2-tailed)	Rank
Absence of localized EVM implementation guidelines	4.21	150	0.914	16.299	0.000	1
Lack of regulatory framework for EVM adoption	4.18	150	0.865	16.751	0.000	2
Training and Expertise	4.17	150	0.885	16.273	0.000	3
Scope Definition	4.17	150	0.905	15.826	0.000	4
Complexity	4.16	150	0.932	15.287	0.000	5
Continuous Monitoring and Updates	4.15	150	0.875	16.093	0.000	6
Stakeholder Buy-In	4.11	150	0.896	15.175	0.000	7
Inadequate support from top management	4.10	150	0.929	14.538	0.000	8
Variability in contractor project management maturity	4.10	150	0.943	14.319	0.000	9
Schedule and Cost Baselines	4.09	150	0.843	15.920	0.000	10
Data Management	4.05	150	0.843	15.247	0.000	11
Data Accuracy	4.02	150	0.868	14.443	0.000	12
Inconsistent cost recording practices	4.02	150	0.875	14.317	0.000	13
Cultural and Organizational Barriers	4.01	150	0.927	13.339	0.000	14
Integration	3.95	150	0.904	12.958	0.000	15

Note: Df = Degree of freedom; M = Mean Score; SD = Standard Deviation; t = calculated t-value
Test Value = 3.00; All variables significant at $p < 0.001$

Implications of the Study

The findings of this study show that Earned Value Management is not just a theoretical project control tool, but a practical approach that can genuinely improve how construction projects are monitored and managed in Ogun State and similar contexts. By identifying the key areas where EVM performs well and the main obstacles to its effective use, the study adds real-world evidence to the growing body of construction project management literature, particularly within developing economies.

For practitioners, the results suggest that EVM can support better cost control, clearer schedule tracking, and more informed decision-making. However, these benefits are unlikely to be realised without adequate training, reliable project data, and strong organisational support. This means that simply introducing EVM tools is not enough; attention must also be given to building skills and creating an environment where performance measurement is valued.

At the policy level, the findings provide useful guidance for government agencies and professional bodies seeking to improve project delivery outcomes. Promoting structured project control methods such as EVM could contribute to better accountability and more predictable performance on public construction projects.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effectiveness of Earned Value Management and the barriers affecting its implementation on construction projects in Ogun State, Nigeria. The results indicate that construction professionals recognise EVM as a useful tool for integrating cost, time, and performance information.

When applied correctly, it supports more proactive project monitoring and improves control over project outcomes.

Despite these strengths, the study also reveals that EVM is not yet being used to its full potential. Gaps in technical knowledge, limited organisational support, and weaknesses in data management continue to limit its effectiveness. The study therefore concludes that the value of EVM lies not only in the technique itself, but in how well it is understood, supported, and embedded within everyday project management practice.

Recommendations

Based on the findings, the following recommendations are made:

1. Strengthen skills and knowledge: Construction firms should prioritise training and continuous professional development to improve practical understanding of EVM among project teams.
2. Encourage management commitment: Senior management should actively support the use of EVM by providing resources, setting clear expectations, and embedding it within standard project control procedures.
3. Support through policy: Government agencies and professional bodies should encourage or mandate the use of structured project performance measurement tools such as EVM, particularly for large public projects.
4. Improve data and technology use: Integrating EVM with digital project management systems and BIM can improve data accuracy and make performance information more accessible and useful.
5. Extend future research: Future studies should examine EVM implementation across other states and project types, and consider qualitative or longitudinal approaches to gain deeper insights into practice over time.

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