

Influence of Contractor-Related Factors on Delayal of Public Health Building Construction Projects in Manyoni District Council of Tanzania

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Abstract—Public health construction projects are crucial determinants of wellbeing and socio-economic development. Yet, they are hampered by factors that affect their effectiveness. This study examined the factors affecting the progress of health public building construction projects in Manyoni District Council, Tanzania, focusing on contractor-related factors. With an explanatory research design, the study took a quantitative approach. Primary data were collected from 109 respondents sampled by stratified sampling methods, including government staff, contractors, project managers, and committee members, using structured questionnaires, while secondary data were obtained through documentary review of health facility reports and council records. The findings indicate that contractor-related factors were identified as the strongest determinants (0.000 p-value), with schedule adherence, subcontractor management, skilled labor availability, resource mobilization, stakeholder coordination, and financial capacity being critical for timely project completion. Overall, the study concludes that efficient contractor performance, is the great determinant of the successful and timely execution of health infrastructure projects. The study recommends enhancing technical capacity, improving coordination and monitoring mechanisms, to minimize delays and ensure quality outcomes in Manyoni District.

Keywords— Contractor factors, experience, public health buildings, construction projects, contractor ability, stakeholder participation.

I. INTRODUCTION

Contractor related factors are factors associated with the performance and capacity of the contractor in charge of project implementation. Common contractor-related factors include contractor capacity, financial constraints and poor site management, all of which can contribute to project delays (Ofori, 2015). Progress in construction projects refers to the timely advancement of activities in accordance with the planned schedule, budget, and quality standards, leading to the successful completion of the project within the expected timeframe (Alaghbari et al., 2007). Progress of any project, usually is dependent on contractor influence among other internal and external factors to the project. Effective project progress reflects efficient resource utilization, coordination among stakeholders, and proactive problem-solving. In the context of public health building projects, progress can be influenced by multiple factors, which are broadly categorized into three main sub-variables. Mekonen (2025) conducted a global study entitled “Public Construction Project Delays: Lessons for Developing Countries” using comparative case studies from Africa, Asia, and Latin America. The study identified contractor-related issues such as poor planning, lack of skilled labor, and inadequate resources. However, it did not address health-specific projects or local government settings like Manyoni District Council. Gashahun (2020) carried out a study in East Africa titled “Contractor-Related Factors Affecting Public Construction Project Performance” using surveys and interviews with contractors and officials. The findings highlighted poor technical expertise, financial instability, and ineffective project management as major delay factors. The study, however, did not focus on the health sector or local authorities.

Giri (2023) conducted a qualitative study in Tanzania titled “Challenges in Construction Project Execution by Contractors”. The research revealed that contractor delays were caused by poor workmanship, lack of skilled labor, material supply delays, and weak communication. While informative, the study lacked a focus on health-related public building projects in local districts. Kulloya (2022) examined construction delays in Tanzania through a mixed-method study titled “Factors Influencing Timeliness in Public Building Projects”. The study reported issues such as inadequate planning, financial limitations, poor coordination, and delays in material procurement. However, it did not specifically examine contractor-related delays in health facility projects or within local government frameworks. Egina (2021) conducted a qualitative study in Tanzania titled “Exploring Causes of Delays in Public Building Construction Projects”. Through document analysis and interviews, the study found delays linked to poor planning, unskilled labor, procurement issues, and contractor inefficiencies. While relevant, it did not focus on health-sector construction in specific local government contexts like Manyoni District Council. This research is important because it attempts to solve the persistent issue of delays in Manyoni District Council's health public building construction projects, which prevents the prompt delivery of vital public services like education and healthcare. By investigating the specific factors contributing to these delays, the study aims to generate evidence-based insights that can inform improvements in project planning, management, and implementation. The findings are expected to enhance the understanding of construction project delays in local government settings, an area that remains underexplored in the Tanzanian context. Moreover, the study will contribute to informed decision-making among stakeholders involved in public infrastructure

development, including government agencies, contractors, and development partners. Ultimately, the research will serve as a valuable reference for future studies and as a foundation for developing more effective strategies to ensure timely completion of public construction projects, thereby strengthening local development outcomes.

The study focused on health public building construction projects in Manyoni District Council, Tanzania. It specifically examined the factors that influenced delays in these projects, with emphasis on client-related, contractor-related, and external regulatory and environmental factors. The study covered both ongoing and completed health public building projects within the healthcare sector. Data were gathered from stakeholders directly involved in these projects, including government officials, contractors, project managers, and local community representatives. The study did not explore private sector construction projects or those in other sectors or districts of Tanzania. The geographical scope was limited to Manyoni District Council, concentrating solely on health public building construction projects located within the district. The time frame for data collection focused on the previous five years to ensure relevance to the current challenges and conditions surrounding these projects, and the entire study was completed within four months.

II. STATEMENT OF THE PROBLEM

Public health building construction projects are fundamental for advancing socio-economic development and ensuring effective service delivery in Tanzania's local government authorities. In Manyoni District Council, health infrastructure projects such as hospitals, clinics, and dispensaries are designed to improve access to medical services and address community health needs (Likangaga, 2023). For these benefits to be realized, projects must progress according to planned schedules and budgets. However, the progress of public health construction projects in Manyoni District has been persistently hindered, leading to prolonged timelines and associated challenges. The National Audit Office of Tanzania (NAOT, 2024) reports that infrastructure projects within the district often experience progress interruptions lasting up to 24 months. Such setbacks have resulted in cost overruns, incomplete or non-functional facilities, and disruptions in essential service delivery, especially in healthcare and education. Existing literature identifies various factors influencing construction progress in Tanzania. For instance, Mwakalonge et al, (2019) point to inadequate funding, late payments, and political interference as major client-related obstacles. Similarly, Mtango and Sumuni (2020) emphasize bureaucratic bottlenecks, weak coordination among institutions, and inadequate project designs as significant contributors. Chileshe et al (2021) further discuss systemic issues like corruption, weak monitoring, and poor stakeholder communication. Despite these findings, most research has concentrated on national or urban contexts, leaving a knowledge gap regarding localized factors particularly those that are contractor centred affecting project progress in rural local government authorities.

III. LINKAGE TO THE RESOURCE-BASED VIEW

The Resource-Based View (RBV) Theory was developed by Barney (1991) and is widely recognized in strategic management and organizational theory. The theory emphasizes that an organization's resources, particularly those that are valuable, rare, inimitable, and non-substitutable, are key drivers of its competitive advantage and performance. Barney's seminal work outlined the importance of leveraging internal resources such as human capital, organizational capabilities, and physical assets to gain and sustain an edge over competitors. The core assumption of the Resource-Based View is that an organization's success is determined by its ability to effectively utilize and manage its unique resources. These resources are considered a source of sustained competitive advantage if they meet the VRIN criteria valuable, rare, inimitable, and non-substitutable. Furthermore, the theory assumes that firms or organizations must continuously invest in developing and protecting these resources, as failure to do so can result in lost opportunities and decreased organizational effectiveness. A key concept under this theory is dynamic capabilities, which refers to an organization's ability to adapt and reconfigure its resources in response to changing environments or challenges. The RBV is particularly relevant in contexts where an organization faces external pressures, such as competition, market volatility, or changing regulations, and must leverage its internal resources to navigate these challenges effectively.

In the context of public construction projects in Manyoni District Council, the RBV Theory is highly applicable as it offers a lens through which to examine how the local authority's resources, such as financial assets, human capital, and technical expertise, affect project performance and delays. If the council lacks the necessary resources or fails to leverage them effectively such as experienced contractors, skilled project managers, or sufficient financial capital the construction projects are likely to experience significant delays. For instance, the delay in allocating sufficient funds to contractors, insufficient technical expertise in managing construction processes, or the lack of skilled personnel to oversee projects could be seen as key resource gaps under the RBV Theory. Additionally, the theory can help explain how external pressures (like political interference or environmental factors) influence the allocation and utilization of resources, leading to inefficiencies and project delays. The RBV Theory helps frame the study by highlighting how local authorities in Manyoni might be constrained by limited resources, such as insufficient expertise, inadequate financial resources, or a lack of advanced construction technologies, which can result in delays in health public building projects. It also underscores the importance of managing and deploying these resources strategically to minimize delays. This theory will assist in identifying resource-related challenges and inefficiencies in the planning, execution, and delivery of public infrastructure projects. By understanding how the local authority can leverage its resources more effectively, the study can propose solutions for mitigating delays and improving project outcomes in Manyoni District.

IV. METHODOLOGY

This study was conducted in Manyoni District Council, located in the Singida Region of central Tanzania. The district has been selected due to its strategic focus on improving healthcare infrastructure through public construction projects, many of which have faced notable challenges in execution and progress. Manyoni is a predominantly rural district, characterized by limited financial and technical resources, inadequate contractor capacity, and complex regulatory processes all of which are key factors that influence construction project progress. The district has recently launched multiple health facility projects under government-funded initiatives such as the Health Sector Development Programme (HSDP), yet delays and inefficiencies in implementation have been widely reported. These challenges make Manyoni a critical and relevant setting for exploring client, contractor, and regulatory factors affecting the progress of public health building construction. Furthermore, data accessibility, administrative cooperation, and the presence of diverse stakeholders involved in construction projects (including engineers, council officers, and contractors) make the area feasible for comprehensive field research.

In this study, a quantitative research approach was employed, focusing on the collection and analysis of numerical data to assess the factors influencing delays in health public building construction projects in Manyoni District Council. The quantitative approach was considered ideal for this research as it allowed for objective measurement of variables such as client-related, contractor-related, and government-related factors and their correlation with project delays. Data were collected through structured surveys, which were distributed to stakeholders directly involved in the construction process, including contractors, project managers, and government officials. This approach facilitated the identification of trends, patterns, and relationships among the factors and delays, ensuring that the findings were based on empirical evidence.

The outcomes of this study are expected to inform not only the improvement of construction practices in Manyoni District but also serve as a reference for other local government authorities facing similar implementation hurdles in Tanzania. The population for this study focused on key stakeholders directly involved in health public building construction projects in Manyoni District Council, specifically government officials, contractors, and project managers. The target population consisted of 20 government officials responsible for the planning, approval, and oversight of public construction projects in the district, as well as 105 construction committee members. These individuals provided valuable insights into the bureaucratic processes, regulatory challenges, and decision-making procedures that may have contributed to delays.

The second group comprised 15 contractors involved in the construction and execution of health building projects. The logistic, financial, and technical elements impacting the project's timely completion were highlighted. Lastly, the study included 10 project managers overseeing the day-to-day operations of the construction projects. In total, the target population comprised 95 individuals who provided detailed information on project management practices, resource

allocation, and coordination efforts that influenced project timelines. This diverse group ensured a comprehensive understanding of the factors causing delays in health public building construction projects within the district. The health construction projects covered in the study are presented in Table I.

TABLE I. Health Infrastructure Construction Projects in Manyoni District

Project	Location / Facility	Details & Status
X-Ray Building, Health Centre	Kituo cha Afya Nkonko	The District Director visited the construction of an X-ray building for Nkonko Health Centre.
Ward / Wodi Construction	Zahanatiya Ikasi	Construction of a ward in Ikasi dispensary / health facility. Reported during a development-projects inspection.
Completion of Health Centre Buildings	Kijiji cha Ntope	There is a project for completing the health centre buildings at Ntope.
Main Health Centre Construction	Manyoni DC	According to the Finance, Leadership, and Planning Committee report, there is a construction project for the "Kituo cha Afya Makuu" (main health centre) in Manyoni.
Dispensary (Zahanati) Construction	Mbwasa	Construction of a new zahanati (dispensary) in Mbwasa was inspected by the political committee.

The number of participants in a study is known as the sample size, which is essential for ensuring the reliability and validity of the results (Creswell, 2017). This number is determined using a simple formula by Yamane (1967):

$$n = N / (1 + Ne^2)$$

Where, N is the total population size at the Headquarters, n is the sample size, and e represents the margin of error or the desired confidence level. This method allows researchers to extract a statistically sound sample from a larger group, ensuring that the conclusions drawn are both accurate and representative.

In this instance, with N=150, e=5% or 0.05

Therefore, the calculation for n would be:

$$\begin{aligned} \text{Sample size } (n) &= 150 / (1 + 150 \times 0.05^2) \\ &= 150 / (1 + 150 \times 0.0025) \\ &= 150 / (1 + 0.375) \\ &= 150 / 1.375 \\ &= 109 \end{aligned}$$

Thus, the sample size (n) was determined to be 109 respondents as presented in Table II.

TABLE II. Sample size distribution

Category	Number of Respondents
Government officials	16
Contractors	15
Project Managers	10
Construction committee members	68
Total	109

The proportionate distribution ensures representation of all key stakeholders involved in health public building construction projects, improving data credibility and inclusiveness of perspectives. In order to guarantee that the sample was representative of the various actors engaged in public construction projects, this research employed a stratified sampling approach. Stratified sampling involves

dividing the total population into mutually exclusive subgroups (strata) based on relevant characteristics in this case, stakeholder roles such as government officials, contractors, project managers, and construction committee members. Then, proportionate random sampling was applied within each stratum to select respondents. This method was particularly suitable as it reduced sampling bias and ensures that all critical subgroups contributing to or affected by construction delays are adequately represented in the study. According to Kothari (2004), stratified sampling enhances precision and efficiency when population subgroups are heterogeneous with respect to the key variables under investigation. Additionally, sampling adequacy was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity during data analysis preparation. A KMO value above 0.6 and a significant Bartlett's test result ($p < 0.05$) would confirm the sampling adequacy and suitability of the data for further statistical analysis (Field, 2013). Therefore, the combination of Yamane's formula, stratified sampling, and preliminary sampling adequacy tests ensured that the study findings are both statistically valid and contextually grounded.

This study adopted multiple data collection methods to obtain comprehensive and reliable data relevant to the factors influencing delays in health public building construction projects in Manyoni District Council. The methods included: The survey method was employed to collect quantitative data from a broad range of stakeholders involved in construction projects, including engineers, project managers, procurement officers, and site supervisors. This method allowed for the systematic collection of standardized data from a large sample, enabling the analysis of trends and patterns related to project delays. Document review was used to collect secondary data by examining existing records and documents relevant to public building construction projects. This included project implementation reports, progress reports, annual performance reports, audit findings, and other government publications. This method supported triangulation and provides historical and contextual background that complements the primary data. Primary data for this study was collected using a self-administered, closed-ended questionnaire tailored to capture insights on the factors influencing delays in health public building construction projects in Manyoni District Council. Crucial stakeholders such as government officials, project managers, and contractors who were either directly engaged in or well-versed in these construction projects were the target of the survey.

The instrument was designed to assess various dimensions of project delays, such as administrative hurdles, financial constraints, and logistical challenges. This method aligned with the study's objectives and minimizes interviewer bias, as respondents can complete the questionnaire independently and at their convenience (Creswell, 2017; Robson & McCartan, 2016). Additionally, follow-up procedures were implemented to ensure the timely completion and collection of the questionnaires, thereby enhancing the reliability and representativeness of the data collected.

The quantitative component involved the use of descriptive statistics to summarize key characteristics of data collected from government officials, contractors, and project managers, along with inferential statistics such as correlation and

regression analyses to examine relationships and patterns underlying project delays. These analyses were conducted using statistical software - IBM SPSS Statistics.

A. Regression Model

In this research, the variables were divided into two primary groups. The independent variables included factors comprising of client related factors, contractor related factors and government related factors while the dependent variable focused on delays in health public building construction projects. To analyze the data, the study used a Multiple Linear Regression model, and the econometric model for this analysis is formulated as follows:

$$D = \beta_0 + \beta_1 CL_{it} + \beta_2 C_{it} + \beta_3 G_{it} + e_{it}$$

Whereby;

- D - Delays in health public building construction projects
- CL - Client related factors
- C - Contractor related factors
- G - Government related factors
- B_0 - The Intercept (constant)
- e_{it} - margin of error component
- β_{1-3} - The slope which represents the degree with which delays in health public building construction projects changes as the independent variable changes by one-unit variable.

Data validity refers to the accuracy and relevance of the data in reflecting the concepts it intends to measure (Creswell, 2018). In this study validity was ensured through clear operational definitions of key concepts, pre-testing research instruments, triangulation of data from surveys, interviews, and document analysis, expert reviews of research tools, and ensuring a representative sample of respondents. These measures helped ensure that the data collected is both accurate and representative, thus enhancing the credibility and reliability of the study's findings.

Data dependability refers to the data's steadiness and reliability in producing consistent and stable findings over time (Creswell, 2018). In this study, reliability was ensured through the use of standardized research instruments designed to yield consistent results across different respondents and settings. To further enhance reliability, the research instruments were pre-tested to identify and correct any issues before full-scale data collection. Additionally, a Cronbach's alpha test was conducted on the questionnaire data to assess internal consistency. A Cronbach's alpha value of 0.7 or higher was considered satisfactory, indicating that the questions reliably measured the intended constructs.

Ethical considerations are vital to ensure the protection of participants' rights, dignity, and well-being throughout the research process. In this study, ethical practices were emphasized in several key areas. First, informed consent was a priority. Before participating, all participants were fully informed about the purpose of the study, the nature of their involvement, and any potential risks or benefits. This was communicated clearly through an informed consent form, ensuring that participants understood their rights, including the ability to withdraw from the study at any time without penalty. Confidentiality and anonymity were also ensured to protect participants' privacy. All data collected was kept confidential,

and personal identifiers were removed or anonymized. This approach prevented any potential harm or discrimination based on the information provided by participants. Additionally, all data was stored securely, with access limited to authorized individuals, ensuring that participants' sensitive information was handled with the utmost care. Voluntary participation was another key ethical consideration. Participation in the study was completely voluntary, with no participant coerced into taking part. The participants were told that they were allowed to withdraw from the research at any moment without repercussions and could choose to take part or not. This fostered a respectful and ethical research environment, empowering participants to make informed choices about their involvement.

In terms of minimizing harm, the research was designed to ensure that participants were not exposed to physical or psychological distress. Sensitive topics were approached with caution, and participants were given the option to skip questions or discontinue participation if they felt uncomfortable. This commitment to minimizing harm reflected the study's focus on participant welfare. Lastly, the researcher maintained transparency and integrity throughout the study. The research process, including methods, data collection, and findings, was reported truthfully and without bias, ensuring that the results were reliable and accurately represented the data gathered while upholding high standards of academic integrity and transparency.

V. RESULTS AND DISCUSSION

A. Response Rate

The study was premised on the quest to gain meaningful understanding on the factors affecting progress of health public building construction projects in local government authorities, with a focus on Manyoni District Council. Subsequently, 109 respondents were reached comprising of government employees, project managers, contractors and members of the construction committee which gave rise to the below response rate presented in Table III.

TABLE III. Response Rate

Description	Number	Percentage (%)
Questionnaires distributed	109	100
Questionnaires returned	108	99.1
Questionnaires not returned	1	0.9

The results in Table III show an exceptionally high response rate, with 108 out of 109 questionnaires successfully returned, representing a 99.1% response rate. Only one questionnaire was not returned, accounting for 0.9% of the total distributed. This exceptional reaction rate shows how much the participants government personnel, project managers, contractors, and construction committee members are willing to work together and take part in the study. Such a high level of participation enhances the reliability, validity, and representativeness of the data collected, ensuring that the findings accurately reflect the views and experiences of key stakeholders involved in health public building construction projects in Manyoni District Council. This robust response also reduces the risk of non-response bias, thereby strengthening the credibility of the study's conclusions.

B. Contractors Factors that Affect Progress of Public Health Building Construction Projects

This study focused on identifying contractor-related factors that influence the progress of health public building construction projects in Manyoni District Council. Contractors play a central role in project implementation, as they are responsible for mobilizing resources, managing labour, coordinating with stakeholders, adhering to schedules, and resolving unforeseen challenges. Understanding how these factors contribute to project delays or timely completion is essential for improving overall construction performance. Respondents' perceptions of many contractor-related aspects and their effects on the advancement of health building projects are shown in Table IV.

The findings in Table IV indicate that contractor-related factors are critical determinants of project progress. Respondents strongly agreed that adherence to project timelines and schedules is essential for timely completion, with this factor recording one of the highest mean scores of 4.3148 and a relatively small standard deviation (.78118), reflecting consistent views among participants. Similarly, effective management of subcontractors (mean = 4.2963) was highlighted as a key contributor to smooth project execution, suggesting that contractors' supervisory capacity directly affects how efficiently work proceeds.

The availability of qualified labour was also considered highly influential (mean = 4.2315), indicating that shortages of skilled personnel often result in delays, rework, or compromised quality. Poor coordination between contractors and other stakeholders received a mean of 4.2037, demonstrating that misalignment in communication and planning between contractors, clients, and project managers can slow project progress. Other factors, such as delays in contractor mobilization (mean = 4.1667), timely delivery of construction materials (mean = 4.1574), and effective resource management (mean = 4.1019), were rated slightly lower but still indicate substantial influence on project timelines. The contractor's experience and expertise (mean = 4.1296) and ability to respond to unforeseen challenges (mean = 4.0278) further underscore the importance of technical competence and problem-solving in maintaining project schedules.

Financial capacity also emerged as a notable factor, with contractors lacking sufficient funds reported to contribute to delays (mean = 4.1852). Overall, the moderate standard deviations across all items show that respondents generally agreed on the significance of these factors. In essence, the analysis reveals that contractor-related factors particularly schedule adherence, management of subcontractors, labour availability, coordination, and financial capacity play a decisive role in shaping the progress of health public building construction projects in Manyoni District Council. Efficient contractor performance is therefore essential for minimizing delays and ensuring projects are completed on time and within quality standards.

The study also entailed running inferential statistics whereby correlation and regression analysis were conducted to examine the influence of contractor-related factors on the progress of health public building construction projects in Manyoni District Council. The findings, as shown in Table IV, indicate a positive correlation between contractor-related

factors and project progress ($r = 0.503$, $p < 0.01$). This suggests that effective contractor performance including timely mobilization, resource management, availability of skilled labour, adherence to project schedules, and the ability to address unforeseen challenges is significantly associated

with improved project progress. The statistical significance of this relationship ($p < 0.01$) confirms that contractor-related practices play an important role in determining the timely execution of health public building projects.

TABLE IV. Constructor related factors and progress in construction health projects

	Minimum	Maximum	Mean	Std. Deviation
1. Delays in contractor mobilization affect the overall construction schedule of health public building projects.	2.00	5.00	4.1667	.90171
2. The contractor's ability to manage resources effectively influences the timeliness of health public building construction projects.	2.00	5.00	4.1019	.93669
3. Lack of qualified labor from contractors often leads to delays in health public building construction projects.	2.00	5.00	4.2315	.92329
5. The contractor's experience and expertise significantly impact the timely completion of health public building projects.	2.00	5.00	4.1296	1.00552
5. Poor coordination between contractors and other stakeholders results in delays in health public building construction projects.	2.00	5.00	4.2037	.88349
6. Delays in the delivery of construction materials by contractors lead to project delays in health public buildings.	2.00	5.00	4.1574	.86643
7. The contractor's management of subcontractors influences the overall timeliness of health public building construction projects.	2.00	5.00	4.2963	.90955
8. The contractor's adherence to project timelines and schedules is crucial for the completion of health public building projects on time.	2.00	5.00	4.3148	.78118
9. The contractor's ability to address unforeseen challenges and delays affects the timeliness of construction projects.	2.00	5.00	4.0278	.96149
10. Contractors with insufficient financial resources tend to cause delays in health public building construction projects.	2.00	5.00	4.1852	.81054
Valid N (listwise)	108			

TABLE V. Correlation analysis

		Progress of health public building construction projects	Client related factors	Contractor related factors	Regulatory factors
Pearson Correlation	Progress of health public building construction projects	1.000	.579	.503	.394
	Client related factors	.579	1.000	-.012	-.017
	Contractor related factors	.503	-.012	1.000	.036
	Regulatory factors	.394	-.017	.036	1.000
Sig. (1-tailed)	Progress of health public building construction projects	.	.000	.000	.000
	Client related factors	.000	.	.450	.429
	Contractor related factors	.000	.450	.	.355
	Regulatory factors	.000	.429	.355	.
	N	108	108	108	108

C. Inferential Statistics

Inferential statistics were also used in the study to look at the connections between contractor-related variables and the progress of health public building construction projects in Manyoni District Council. Correlation and regression analyses were conducted to determine the strength, direction, and significance of these relationships, providing deeper insight into the key drivers of project performance as presented in Table V.

The correlation analysis in Table V reveals positive relationships between all independent variables and project progress. Contractor-related factors were positively correlated with project progress ($r = 0.503$, $p < 0.01$), highlighting the importance of contractor efficiency, skilled labour, resource management, and schedule adherence in achieving timely project completion.

The model summary regression analysis further confirms these findings. As shown in Table VI, the model explains 74.4% of the variance in project progress ($R^2 = 0.744$), indicating that client-related, contractor-related, and regulatory

factors collectively have a strong predictive power on the progress of health public building construction projects.

The ANOVA results in Table VII demonstrate that the regression model is statistically significant ($F = 100.754$, $p < 0.001$), confirming that the independent variables reliably predict project performance.

Examining the coefficients in Table VIII, contractor-related factors emerged with ($\beta = 0.496$, $p < 0.001$). These results indicate that improvements in contractor efficiency, among others with compliance are all likely to enhance the progress of health public building construction projects. The constant term was not statistically significant, which implies that the independent variables in the model adequately account for the variation in project progress without the need for additional factors. Regression analysis further highlighted the critical role of contractor-related factors. As presented in Tables VI and VIII, the overall regression model. Contractor-related factors had a standardized Beta (β) of 0.496 ($t = 9.985$, $p < 0.001$), indicating that improvements in contractor efficiency, project management, coordination with subcontractors, and adherence to timelines significantly enhance project progress, even when controlling for client and

regulatory influences. The high t-value and significant p-value demonstrate that this effect is robust and reliable.

TABLE VI. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.863 ^a	.744	.737	.11839	.744	100.754	3	104	.000

a. Predictors: (Constant), Regulatory factors, Client related factors, Contractor related factors

TABLE VII. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.237	3	1.412	100.754	.000 ^b
	Residual	1.458	104	.014		
	Total	5.694	107			

a. Dependent Variable: Progress of health public building construction projects

b. Predictors: (Constant), Regulatory factors, Client related factors, Contractor related factors

TABLE VIII. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.040	.229		.174	.862
	Client related factors	.429	.036	.592	11.927	.000
	Contractor related factors	.311	.031	.496	9.985	.000
	Regulatory factors	.202	.026	.386	7.778	.000

a. Dependent Variable: Progress of health public building construction projects

The ANOVA results in Table VII further confirm that the regression model is statistically significant ($F = 100.754$, $p < 0.001$), indicating that contractor-related factors, together with client and regulatory factors, meaningfully explain variations in project progress. The non-significant constant term ($B = 0.040$, $p = 0.862$) implies that contractor-related practices alone have a substantial influence on project performance, with minimal contribution from other unmeasured variables.

Overall, the inferential analysis clearly demonstrates that contractor-related factors are key determinants of the progress of health public building construction projects in Manyoni District Council. Effective contractor management including prompt mobilization, skilled labour deployment, resource allocation, schedule adherence, and proactive problem-solving directly contributes to timely project completion and reduces delays. These findings align with descriptive results indicating that delays in contractor mobilization, poor coordination, insufficient labour, and inadequate resource management were among the primary challenges affecting project timelines.

In essence, enhancing contractor practices in planning, resource management, workforce deployment, and coordination is essential for ensuring that health public building projects in Manyoni District Council progress efficiently, meet scheduled timelines, and achieve the desired quality outcomes. Furthermore, a review of publicly available records suggests that there is very limited secondary data on the performance, capacity, and financial strength of contractors involved in Manyoni District's health public building projects. For example, tenders listed for infrastructure in Manyoni, such as water-supply or road works, tend to be for small or non-health projects, and these public tender notices do not provide detailed data on the contractors beyond the procurement stage. This lack of transparency may reflect weak reporting or low prioritization of contractor performance metrics (e.g., financial health, technical capacity, past experience) in Manyoni's public documentation.

Furthermore, audit reports from Tanzanian local governments reveal recurrent problems in contractor

procurement and project implementation. According to an audit conducted by the Office of the Controller and Auditor General, the Manyoni District Council neglected to properly plan for contractor procurement. Contracts were not always consistent with annual procurement plans, which resulted in project startup delays (National Audit Office, 2023). The same audit reported that health-sector projects in Manyoni (and other LGAs) often experienced significant schedule slippages. For example, in the period audited (2018/19–2021/2022), health projects in some councils had deviations from contract timelines of up to 34 months on average. Such lengthy delays indicate that contractor-related inefficiencies, such as poor planning, insufficient capacity, or coordination concerns, are genuine and significant in Manyoni and other councils.

D. Discussion

This study found that contractor-related factors significantly influence the progress of health public building construction projects in Manyoni District Council. Key factors identified include adherence to project timelines, effective management of subcontractors, availability of skilled labour, coordination with stakeholders, timely delivery of materials, and sufficient financial capacity. Respondents consistently rated these elements highly, with mean scores ranging from 4.0278 to 4.3148, indicating strong agreement on their importance. Inferential analysis confirmed a positive correlation between contractor-related factors and project progress ($r = 0.503$, $p < 0.01$), and regression results showed that contractor efficiency, schedule adherence, and problem-solving capacity significantly enhance project timelines ($\beta = 0.496$, $p < 0.001$).

These findings align with Mekonen (2025), who identified poor planning, lack of skilled labour, and inadequate resources as key contractor-related issues affecting public construction projects globally, though his study did not focus on health-specific projects or local government contexts. Similarly, Gashahun (2020) highlighted technical incompetence, financial instability, and ineffective project management as

major sources of delays in East African public projects, while Giri (2023) and Kulloya (2022) emphasized poor workmanship, insufficient skilled labour, delays in material supply, and weak coordination as contributors to project slowdowns in Tanzania. Egina (2021) further corroborated these findings, noting contractor inefficiencies, procurement challenges, and unskilled labour as drivers of construction delays, although none specifically addressed health-sector projects at the district level.

The results are also consistent with, the Resource-Based View (RBV) Theory helps explain how contractor capabilities such as technical expertise, human resources, and financial strength serve as strategic resources that determine project performance. A lack of these resources or ineffective deployment, as observed in Manyoni District, directly contributes to delays and inefficiencies. Overall, this study confirms that improving contractor practices including planning, workforce management, coordination, and resource utilization is essential for ensuring timely completion and quality outcomes in health public building projects. The findings both reinforce and extend previous literature by providing empirical evidence specific to health-sector construction in a Tanzanian local government context.

E. Conclusion

The study found contractor-related factors emerged as one of the strong determinants of project progress. The analysis showed that adherence to schedules, effective management of subcontractors, availability of skilled labor, timely mobilization of resources, coordination with stakeholders, and financial capacity substantially affect the timely completion of health public building projects. Poor planning, contractor inefficiency, and inadequate problem-solving were significantly linked to slower project advancement, underscoring the value of skilled contractor performance for prosperous project results. Overall, the study concludes that the progress of health public building projects in Manyoni District Council is determined by the influence of contractor factors. Among many factors the contractor-related practices have the most pronounced effect. Addressing the challenges of these factors is critical for enhancing construction efficiency, minimizing delays, and achieving successful delivery of health infrastructure projects.

F. Recommendations

a. Knowledge Implications

It is recommended that local government authorities, project managers, and contractors prioritize increasing awareness and technical understanding of factors influencing the timely completion of health public building projects. Regular training and capacity-building workshops should focus on practical skills for effective project planning, resource management, schedule adherence, and coordination among stakeholders. Emphasis should be placed on enhancing contractors' technical expertise, workforce management, and problem-solving capabilities to reduce construction delays. Strengthening knowledge on regulatory compliance, procurement procedures, and environmental requirements will

equip project teams to anticipate and mitigate potential delays efficiently.

b. Policy Implications

Policymakers, local government authorities, and regulatory bodies should establish and enforce policies that streamline construction approvals, improve coordination between regulatory agencies, and ensure consistency in public construction regulations. Policies should encourage timely disbursement of project funds, adoption of standardized approval processes, and integration of environmental and technical compliance checks within project timelines. Authorities might enhance regulatory efficiency, lower bureaucratic hurdles, and assist customers and contractors in reaching planned project milestones by formalizing these regulations.

c. Recommendations to Project Management Practices

Project management teams and contractors should institutionalize practices that improve project execution through structured planning, resource allocation, and stakeholder engagement. This includes: Implementing robust project schedules with clearly defined timelines, milestones, and responsibilities. Establishing mechanisms for effective subcontractor management, quality control, and workforce deployment. Strengthening coordination between clients, contractors, and regulatory bodies to ensure smooth communication and timely approvals. Conducting regular risk assessments and contingency planning to address unforeseen challenges and environmental disruptions. Monitoring project progress through standardized reporting and evaluation to identify gaps and implement corrective actions promptly. Regular monitoring and evaluation of these practices will ensure that projects progress efficiently, minimize delays, and achieve the desired quality outcomes.

d. Theoretical Implications

The study recommends applying Project Management Theory and the Resource-Based View (RBV) as guiding frameworks for improving construction project performance. Project Management Theory emphasizes structured planning, scheduling, and stakeholder coordination, which are critical for minimizing delays and ensuring timely project delivery. The RBV highlights the importance of leveraging internal resources such as skilled labor, technical expertise, and financial capacity to achieve project objectives. Applying these theories provides a conceptual foundation for understanding how both managerial practices and resource allocation influence project timelines and success.

e. Recommendations for Further Studies

Future research should explore additional factors influencing the progress of health public building projects, such as political interference, community participation, and technology adoption. Longitudinal studies could assess the impact of interventions aimed at improving contractor performance, regulatory efficiency, and client engagement on project outcomes. Comparative studies across different districts or types of public infrastructure could provide insights into context-specific challenges and effective strategies for timely project completion, offering evidence-based guidance for policymakers, contractors, and local authorities.

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