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An Assessment of the Impacts of Rising Building Materials Cost on Property Development and Project Completion in Warri, Delta State

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ABSTRACT

This study examined the effect of rising building material costs on property development and project completion in Warri, Delta State, Nigeria. The study was motivated by persistent inflation, exchange rate depreciation, rising transportation costs, and environmental challenges that have intensified construction costs and constrained project delivery. A descriptive research design was adopted, involving a population of 341 building material suppliers, financial institution staff, and registered building contractors. A sample of 194 respondents was selected using the Taro Yamane formula and a multistage sampling technique comprising stratified and convenience sampling. Data were collected through a structured questionnaire and analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation.The findings revealed that inflation and depreciation of the Nigerian naira significantly increased the prices of both imported and locally sourced building materials. High transportation costs, poor road infrastructure, rising fuel prices, flooding, erosion, inadequate drainage systems, communal land disputes, and regulatory delays were also identified as major contributors to increased construction costs and project delays. Furthermore, escalating material costs were found to discourage real estate investment, reduce project scope, increase project delays, and contribute to project abandonment, thereby undermining sustainable property development.The study concludes that rising building material costs constitute a significant constraint to efficient property development and timely project completion in Warri. It recommends macroeconomic policies aimed at stabilizing inflation and exchange rates, investment in transport infrastructure, streamlined development approval processes, and greater support for local production of construction materials to enhance the sustainability and resilience of property development in Nigeria.

I. INTRODUCTION

Urban environments are dynamic and complex systems shaped by the interaction of socio-economic, political, institutional, and environmental forces. In developing economies, rapid urbanization is accompanied by increasing demand for housing, commercial infrastructure, and public facilities, thereby intensifying the need for efficient property development. The trajectory of urban growth is influenced not only by investment patterns and regulatory frameworks but also by broader macroeconomic conditions and integration into the global economy (Onifade et al., 2024). Within this context, property development serves as a critical mechanism for capital formation, infrastructure expansion, employment generation, and sustainable urban transformation, particularly in rapidly growing economies such as Nigeria.

Property development is a multidisciplinary process involving land acquisition, project financing, planning, design, statutory approvals, procurement, construction, and post-development management. Successful execution of these interconnected stages depends on adequate financial resources, technical expertise, effective project management, and the timely availability of construction materials (Amolo et al., 2022). Consequently, developers rely heavily on accurate cost forecasting, strategic procurement, and efficient supply-chain management to achieve project objectives while maintaining financial viability and long-term sustainability. As noted by Umana et al. (2024), the efficiency of the property development process is strongly influenced by the reliability of material supply, price stability, and logistics management. Disruptions in these critical components frequently result in cost overruns, project delays, compromised construction quality, and diminished investment returns.

Construction materials constitute one of the largest cost components of real estate development and significantly influence project feasibility, quality, and completion schedules. These materials

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encompass basic inputs such as cement, sand, aggregates, steel reinforcement, and blocks, as well as specialized products including roofing materials, fittings, finishes, and mechanical and electrical components. However, the pricing of construction materials has become increasingly volatile due to a combination of domestic and international economic factors. According to Oyadeyi et al. (2024), fluctuations in exchange rates, inflation, global commodity prices, energy costs, transportation expenses, and disruptions in international supply chains collectively shape material costs within the Nigerian construction sector. Given the interconnected nature of global and local markets, disturbances in one segment of the supply chain often generate cascading effects throughout the construction industry, thereby increasing uncertainty for developers and constraining effective project planning.

The persistent increase in construction material costs has emerged as one of the most significant challenges confronting the real estate sector in Nigeria. Escalating material prices reduce developers' profit margins, increase overall project costs, delay construction activities, necessitate design modifications, and, in severe cases, lead to project suspension or abandonment. These challenges ultimately affect housing affordability, infrastructure delivery, and broader urban development outcomes. Nevertheless, the magnitude and implications of rising material costs are not uniform across locations, as regional differences in economic structure, infrastructure provision, institutional capacity, and market maturity influence the resilience of local property markets. While metropolitan centres such as Lagos and Abuja possess relatively diversified real estate markets capable of adapting to economic shocks, secondary cities often exhibit greater vulnerability to construction cost fluctuations.

Warri, one of the principal urban centres in Delta State, provides a particularly important context for examining these dynamics. As an oil-dependent city, Warri's property market is strongly influenced by petroleum-related economic activities, exchange-rate volatility, inflationary pressures, infrastructural constraints, and periodic socio-political instability. These interacting factors create distinctive challenges for real estate development that may differ substantially from those observed in larger metropolitan areas. Although previous studies have examined construction cost escalation within Nigeria (Ajayi et al., 2023; Umana et al., 2024), limited empirical attention has been given to understanding how rising construction material costs influence property development outcomes in secondary urban centres such as Warri. This contextual gap restricts evidence-based decision-making by developers, investors, policymakers, and urban planners operating within similar regional markets.

Against this backdrop, this study investigates the effect of rising construction material costs on property development in Warri, Delta State, Nigeria. Specifically, it examines how increasing material prices influence project delivery, development costs, investment decisions, and the successful completion of real estate projects. By providing empirical evidence from a strategically important secondary city, the study contributes to the growing body of knowledge on construction economics and urban development while offering practical insights for improving the resilience and sustainability of property development in emerging urban markets.

STATEMENT OF THE PROBLEM

The persistent increase in construction material costs has become a major challenge to property development in Nigeria, resulting in higher project costs, construction delays, and compromised project delivery. These challenges are particularly evident in urban centres such as Warri, where infrastructural deficiencies, economic instability, and logistical inefficiencies further exacerbate the problem (Oyadeyi et al., 2024; Amolo et al., 2022). Despite these challenges, empirical evidence on their effect on property development in Warri remains limited, necessitating this study.

AIM OF THE STUDY

The aim of this study is to examine the Effects of rising costs of building materials on property development and project completion in Warri Delta State.

II. OBJECTIVES OF THE STUDY

The objectives of this study are to:

1. assess the extent to which inflation and naira fluctuations affect the cost of building materials in Warri.
2. determine the extent to which high transportation costs affect the cost of building materials in Warri.
3. Identify the environmental factors militating against property development and completion in Warri.
4. assess the effects of rising cost of building materials on property development in Warri.

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5. evaluate the effects of rising cost of building materials on property completion in Warri.

RESEARCH QUESTIONS

The following research questions which are in line with the objectives of this study were answered:

i. To what extent do inflation and naira fluctuations affect the cost of building materials in Warri?
ii. To what extent do high transportation costs affect the cost of building materials in Warri?
iii. What environmental factors militate against property development and completion in Warri?
iv. What are the effects of rising costs of building materials on property development in Warri?
v. What are the effects of rising costs of building materials on property completion in Warri?

III. RESEARCH HYPOTHESES

Ho: The distribution of respondents' opinions does not indicate a significant association between rising building material costs and property development and project completion in Warri, Delta State.

Ha: The distribution of respondents' opinions indicates a significant association between rising building material costs and property development and project completion in Warri, Delta State.

SIGNIFICANCE OF THE STUDY

This study will provide valuable insights into the effects of rising building material costs on property development, thereby assisting developers, investors, contractors, and policymakers in making informed decisions and formulating effective strategies to enhance sustainable property development and timely project delivery in Warri.

IV. LITERATURE REVIEW

Property Development and Construction Material Costs

Property development is a multidisciplinary process involving land acquisition, financing, planning, design, construction, and management to create assets that generate economic and social value. Its success depends on effective coordination of financial resources, technical expertise, regulatory compliance, and efficient project management throughout the development lifecycle (Afolabi et al., 2024; Falola et al., 2022).

Construction materials constitute a major component of property development costs and significantly influence project quality, cost, and completion time. Material selection is primarily determined by availability, quality, durability, technical requirements, and economic considerations (Woka et al., 2021; Mohamed et al., 2021). Consequently, fluctuations in material prices directly affect project budgeting, procurement, and overall financial viability.

The increasing volatility of construction material prices, driven by macroeconomic instability, supply-chain disruptions, and changing market conditions, has heightened the importance of effective cost management in the construction industry. Rising material costs increase development expenditure, reduce profit margins, delay project delivery, and may result in project redesign, scope reduction, or abandonment (Amadi, 2023; Ogwueleka et al., 2023). As observed by Okolie et al. (2022) and Ibitoye et al. (2023), effective management of construction material costs is therefore essential for enhancing project performance, investment sustainability, and the successful delivery of property development projects, particularly in developing economies such as Nigeria.

Determinants of Rising Building Material Costs in Nigeria

The cost of building materials in Nigeria is influenced by a combination of macroeconomic, infrastructural, environmental, and institutional factors that collectively shape the performance of the construction industry. Among these, inflation and exchange-rate depreciation remain the most significant drivers of material price escalation. Persistent inflation erodes purchasing power and increases the production and procurement costs of construction inputs, while the depreciation of the Nigerian naira raises the cost of imported materials and equipment, thereby increasing overall project expenditure (Oyadeyi et al., 2024; Umana et al., 2024).Transportation and logistics also contribute substantially to rising construction material costs. Poor road infrastructure, rising fuel prices, inadequate transport networks, and supply-chain inefficiencies increase the cost of moving materials from production centres to construction sites. These challenges often result in procurement delays, higher operational costs, and disruptions to project schedules, particularly in rapidly growing urban areas (Amolo et al., 2022).Environmental and regulatory factors further exacerbate material price volatility. Flooding, erosion, and other climate-related events frequently disrupt production and distribution networks, while prolonged approval processes, changing government policies, and land-related disputes increase transaction costs and delay

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project implementation. Together, these factors create uncertainty in the construction market, limiting developers' ability to accurately forecast costs and efficiently allocate resources (Ajayi et al., 2023; Umana et al., 2024).Given the interdependence of these economic, logistical, environmental, and institutional factors, managing construction material costs has become a critical challenge for sustainable property development in Nigeria. Their combined effects continue to undermine project affordability, timely completion, and investment performance, particularly in emerging urban centres such as Warri.

Impacts of Rising Building Material Costs on Property Development and Project Completion

Rising building material costs have significant implications for property development by increasing project expenditure, reducing investment returns, and constraining the timely delivery of construction projects. As material costs constitute a substantial proportion of total development expenditure, persistent price increases undermine cost predictability, disrupt procurement planning, and weaken the financial viability of both public and private real estate investments (Oyadeyi et al., 2024; Amolo et al., 2022).Escalating material prices frequently result in project delays, budget overruns, and modifications to project scope as developers seek cost-saving alternatives. In many cases, developers are compelled to reduce building specifications, postpone construction activities, or abandon projects where rising costs exceed available financial resources. These outcomes not only affect project completion but also reduce housing supply, discourage private investment, and hinder sustainable urban development (Ajayi et al., 2023; Umana et al., 2024).Beyond their financial implications, rising building material costs adversely affect the efficiency and resilience of the construction sector. Increased construction costs limit access to affordable housing, weaken investor confidence, and reduce the capacity of developers to undertake new projects. The effects are particularly pronounced in emerging urban centres such as Warri, where infrastructural deficiencies, economic instability, and supply-chain challenges further amplify constructionrisks. Consequently, addressing the drivers of material cost escalation is essential for improving project delivery, enhancing investment performance, and promoting sustainable property development in Nigeria (Oyadeyi et al., 2024; Umana et al., 2024).

V. METHODOLOGY

This study adopted a descriptive research design to examine the impacts of rising building material costs on property development and project completion in Warri, Delta State. The design was considered appropriate because it facilitates the systematic collection and analysis of quantitative data on respondents' perceptions and experiences without manipulating the study variables. It also enables the accurate description of existing conditions and relationships relevant to the study objectives, thereby providing reliable empirical evidence for assessing the effects of construction material cost escalation on property development (Jongbo, 2018).

METHOD OF DATA ANALYSIS

The data collected were analyzed using descriptive statistical techniques, including frequencies, percentages, mean, and standard deviation, to summarize respondents' characteristics and evaluate their perceptions of the factors influencing building material costs and their effects on property development and project completion. The results were presented in tables to facilitate interpretation and comparison. Responses to the Likert-scale items were interpreted using a mean decision criterion of 2.50, where mean scores of 2.50 orabove indicated agreement with a statement, while mean scores below 2.50 indicated disagreement.

VI. RESULTS AND DISCUSSIONS

RESPONSE RATE

Distribution of Questionnaires

Questionnaire	Frequency	Percentage
Questionnaires Distributed	184	100
Questionnaires Retrieved and Valid	138	75
Questionnaires Retrieved but Invalid	46	25

Source: Field Survey, 2026

The table presents the distribution and retrieval of the questionnaires administered for the study. A total of **184 questionnaires** were distributed to the respondents, out of which **138 (75.0%)** were

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retrieved and found to be valid for analysis, while **46 (25.0%)** were retrieved but considered invalid due to incomplete responses and improper completion. Consequently, **138 valid questionnaires** were used for the analysis of the study.

ANALYSIS OF THE RESPONDENTS' BACKGROUND

Demographic Profile of the Respondents

Demographic Variable	Frequency	Percentage
Gender		
Male	98	71.0%
Female	40	29.0%
Total	138	100
Age		
21–30 years	25	18.1%
31–40 years	55	39.9%
41–50 years	40	29.0%
51 years and above	18	13.0%
Total	138	100
Occupation		
Building Material Supplier	60	43.5%
Financial Institution Staff	28	20.3%
Building Contractor	50	36.2%
Total	138	100
Educational Qualification		
OND/NCE	30	21.7%
HND/Bachelor's Degree	75	54.4%
Postgraduate Degree	33	23.9%
Total	138	100

Source: Field Survey, 2026

Interpretation

The results in the table above indicates that the majority of the respondents were male (71.0%), aged between 31 and 40 years (39.9%), and comprised mainly building material suppliers (43.5%) and building contractors (36.2%). Furthermore, over half of the respondents (54.4%) possessed an HND or Bachelor's degree, suggesting that the participants were sufficiently knowledgeable and experienced to provide reliable information for the study.

ANALYSIS OF THE OBJECTIVES

Research Question One: To what extent does inflation and naira fluctuations affect the cost of building materials in Warri?

Mean and Standard Deviation on the Extent Inflation and Naira Fluctuations Affect the Cost of Building Materials in Warri

S/N	Statement	N	Minimum	Maximum	Mean	Std.	Decision
1	Inflation has significantly increased the cost of cement in recent years.	138	1	4	3.48	0.69	Agree
2	Fluctuations in the naira exchange rate directly affect imported materials.	138	1	4	3.47	0.73	Agree
3	Local building materials are also affected by general inflation trends.	138	1	4	3.36	0.71	Agree
4	Frequent naira devaluation causes price instability for builders.	138	1	4	3.40	0.72	Agree
5	Contractors adjust project budgets due to inflation and currency issues.	138	1	4	3.41	0.70	Agree
6	Inflation and naira fluctuations delay project completion timelines.	138	1	4	3.45	0.68	Agree

Source: Field Survey, 2026

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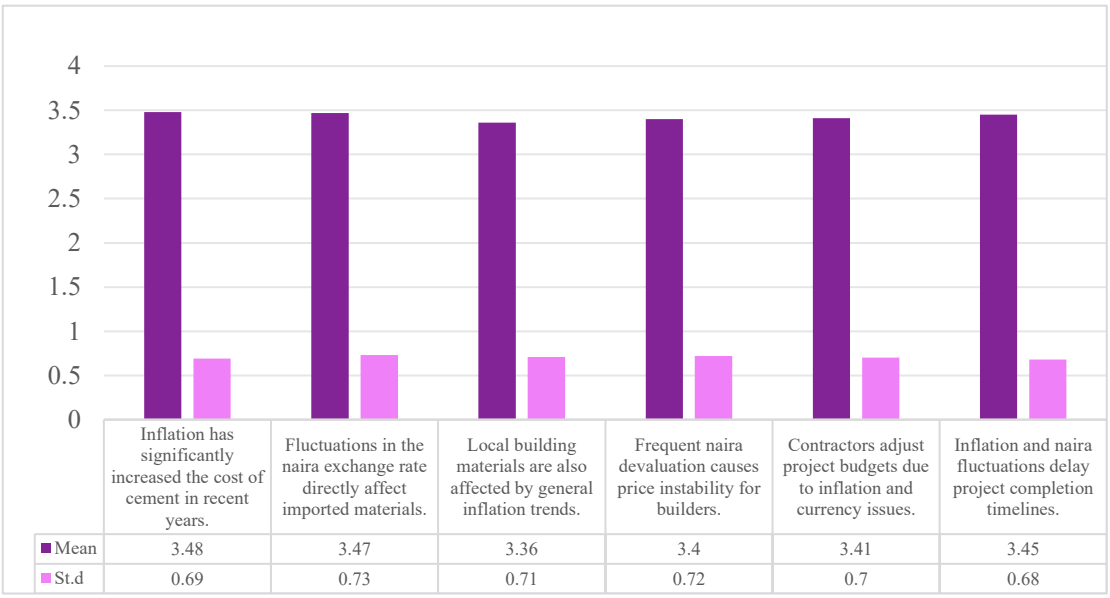

Interpretation

The results in the table above shows that respondents agreed that inflation and naira fluctuations significantly increase the cost of building materials in Warri, with mean scores ranging from **3.36 to 3.48**, all exceeding the benchmark of **2.50**. The low standard deviation values indicate consistency in respondents' opinions, suggesting that inflation and exchange rate fluctuations are major drivers of rising building material costs in the study area.

Research Question Two: To what extent does high transportation cost affects the cost of building materials in Warri?

Mean and Standard Deviation on the Extent High Transportation Cost Affects the Cost of Building Materials in Warri

S/N	Statement	N	Minimum	Maximum	Mean	Std.	Decision
1	High fuel prices increase the cost of transporting building materials.	138	1	4	3.51	0.67	Agree
2	Poor road conditions add to the cost of material transportation.	138	1	4	3.48	0.69	Agree
3	Transport unions' levies contribute to rising haulage costs.	138	1	4	3.45	0.70	Agree
4	Distance from supply sources to Warri increases final material costs.	138	1	4	3.48	0.68	Agree
5	Contractors pay more to hire trucks due to rising diesel prices.	138	1	4	3.45	0.69	Agree
6	Delays caused by traffic congestion increase transportation expenses.	138	1	4	3.42	0.71	Agree

Source: Field Survey, 2026

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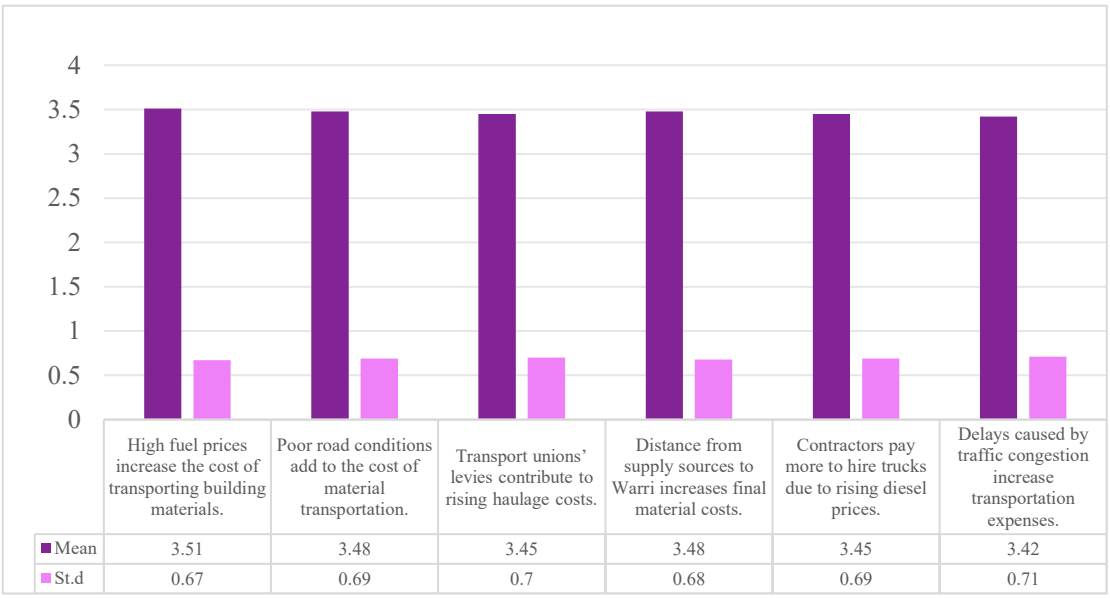

Interpretation

The results in the Table above indicates that respondents agreed that high transportation costs significantly increase the cost of building materials in Warri, with mean scores ranging from **3.42 to 3.51**, all above the benchmark of **2.50**. The low standard deviation values indicate consistency in respondents' opinions, suggesting that transportation-related factors are major contributors to rising building material costs in the study area.

Research Question Three: What are the environmental factors militating against property development and completion in Warri?

Mean and Standard Deviation on Environmental Factors Militating Against Property Development and Completion in Warri

S/N	Statement	N	Minimum	Maximum	Mean	Std.	Decision
1	Seasonal flooding often disrupts construction activities in Warri.	138	1	4	3.46	0.68	Agree
2	Poor drainage systems increase site preparation costs and delays.	138	1	4	3.48	0.67	Agree
3	Environmental regulations sometimes delay approval processes.	138	1	4	3.40	0.71	Agree
4	Land disputes arising from communal ownership affect project timelines.	138	1	4	3.36	0.72	Agree
5	Waste disposal challenges increase operational costs at construction sites.	138	1	4	3.36	0.70	Agree
6	Erosion and unstable soil conditions raise building foundation costs.	138	1	4	3.38	0.69	Agree

Source: Field Survey, 2026

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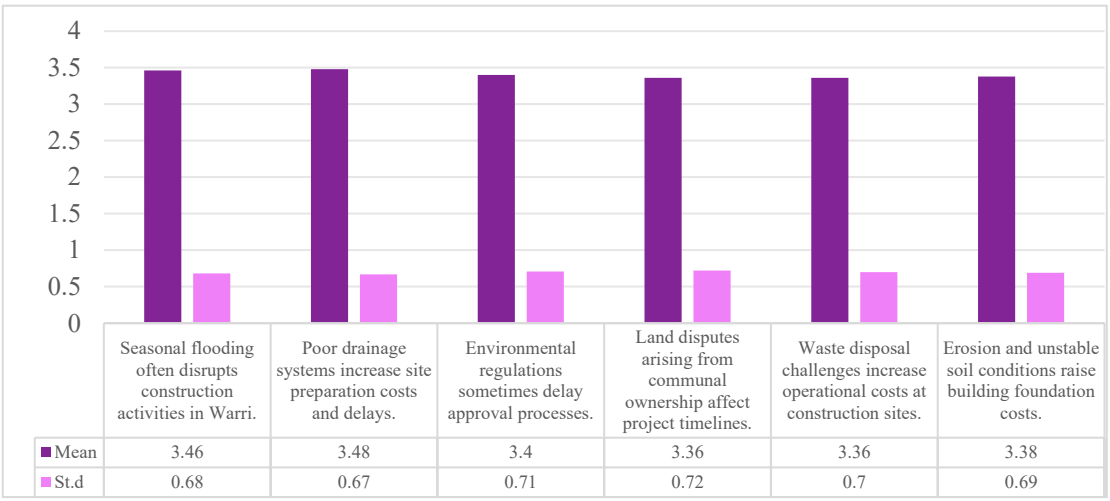

Interpretation

The results in the above indicates that respondents agreed that environmental factors significantly hinder property development and project completion in Warri, with mean scores ranging from **3.36 to 3.48**, all above the benchmark of **2.50**. The low standard deviation values indicate consistency in respondents' responses, suggesting that environmental challenges constitute significant constraints to property development and timely project completion in the study area.

Research Question Four: What are the effects of rising costs of building materials on property development in Warri?

Mean and Standard Deviation on the Effects of Rising Cost of Building Materials on Property Development in Warri

S/N	Statement	N	Minimum	Maximum	Mean	Std.	Decision
1	Rising material costs discourage new property investments in Warri.	138	2	4	3.47	0.68	Agree
2	Developers reduce project scale due to increased material costs.	138	1	4	3.45	0.69	Agree
3	High material costs make it difficult to secure project financing.	138	2	4	3.42	0.70	Agree
4	Some developers abandon projects midway due to rising costs.	138	1	4	3.43	0.71	Agree
5	Rising costs limit the ability of small developers to enter the market.	138	2	4	3.45	0.68	Agree
6	Rising material prices reduce profit margins for developers.	138	2	4	3.48	0.67	Agree

Source: Field Survey, 2026

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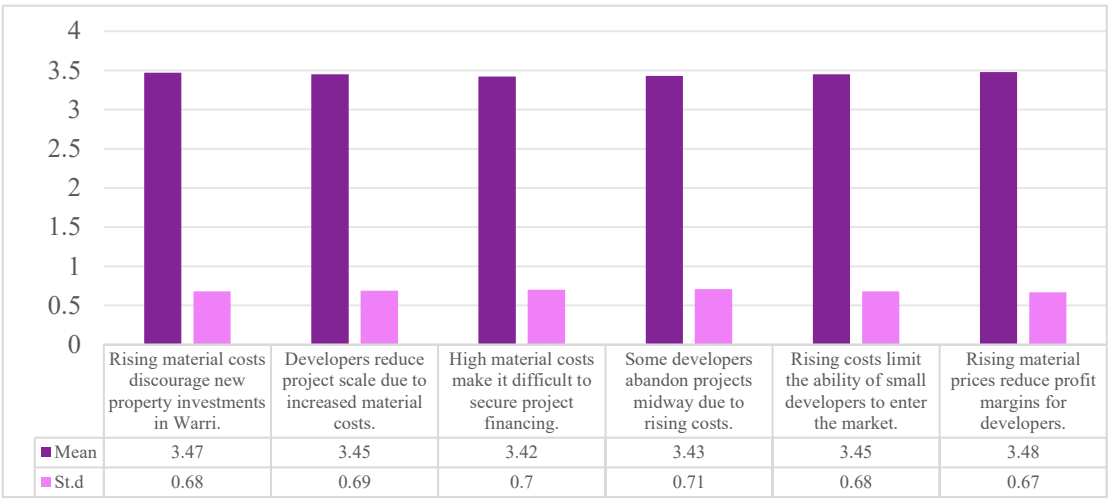

	Rising material costs discourage new property investments in Warri.	Developers reduce project scale due to increased material costs.	High material costs make it difficult to secure project financing.	Some developers abandon projects midway due to rising costs.	Rising costs limit the ability of small developers to enter the market.	Rising material prices reduce profit margins for developers.
Mean	3.47	3.45	3.42	3.43	3.45	3.48
St.d	0.68	0.69	0.7	0.71	0.68	0.67

Interpretation

The results in the above Table indicates that respondents agreed that rising building material costs adversely affect property development in Warri, with mean scores ranging from **3.42 to 3.48**, all above the benchmark of **2.50**. The low standard deviation values indicate consistency in respondents' opinions, suggesting that rising material costs significantly constrain property development in the study area.

Research Question Five: What are the effects of rising cost of building materials on property completion in Warri?

Mean and Standard Deviation on the Effect of Rising Cost of Building Materials on Property Completion in Warri

S/N	Statement	N	Minimum	Maximum	Mean	Std.	Decision
1	Rising material costs delay the completion of building projects.	138	1	4	3.50	0.67	Agree
2	Contractors often pause construction to source additional funds.	138	1	4	3.48	0.68	Agree
3	Cost increases lead to frequent project timeline extensions.	138	1	4	3.46	0.69	Agree
4	Some clients abandon uncompleted buildings due to rising costs.	138	1	4	3.42	0.70	Agree
5	Cost overruns due to material price hikes create disputes between clients and contractors.	138	1	4	3.43	0.70	Agree
6	Rising costs reduce contractors' ability to deliver projects on agreed timelines.	138	1	4	3.47	0.68	Agree

Source: Field Survey, 2026

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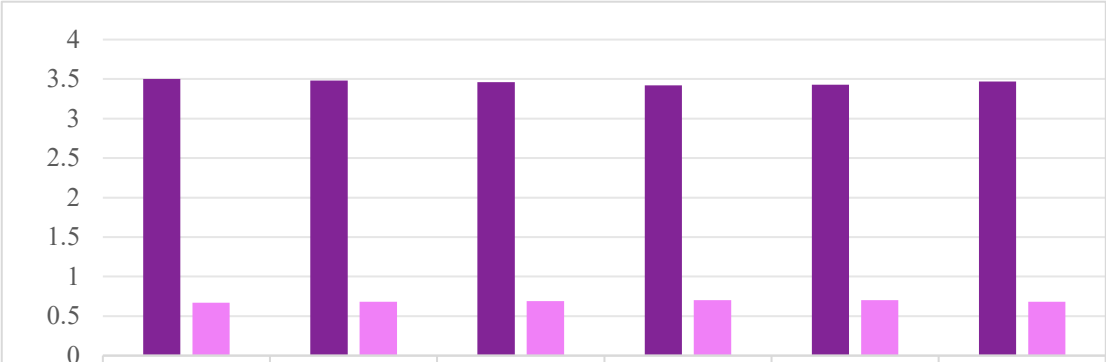

	Rising material costs delay the completion of building projects.	Contractors often pause construction to source additional funds.	Cost increases lead to frequent project timeline extensions.	Some clients abandon uncompleted buildings due to rising costs.	Cost overruns due to material price hikes create disputes between clients and contractors.	Rising costs reduce contractors' ability to deliver projects on agreed timelines.
Mean	3.5	3.48	3.46	3.42	3.43	3.47
St.d	0.67	0.68	0.69	0.7	0.7	0.68

Interpretation
The results in the table above indicates that respondents agreed that rising building material costs significantly affect property completion in Warri, with mean scores ranging from **3.42 to 3.50**, all above the benchmark of **2.50**. The low standard deviation values indicate consistency in respondents' responses, suggesting that rising material costs significantly hinder the timely completion of property projects in the study area.

VII. DISCUSSION OF FINDINGS

The extent inflation and naira fluctuations affect the cost of building materials
The findings revealed that respondents agreed that inflation and naira fluctuations significantly increase the cost of building materials in Warri, as evidenced by mean scores ranging from **3.36 to 3.48**, indicating that macroeconomic instability has become a major driver of construction cost escalation. This finding is consistent with the studies of **Okoro and Ibidapo-Obe (2022)**, **Chukwuemeka (2023)**, and **Ahmed and Musa (2024)**, who reported that inflation and exchange rate volatility increase the cost of both imported and locally sourced building materials, resulting in cost overruns, reduced investor confidence, project abandonment, and the need for effective cost-control measures and supportive government policies.

The extent high transportation cost affects the cost of building materials
The findings revealed that high transportation costs significantly increase the cost of building materials in Warri, with mean scores ranging from **3.42 to 3.51**, indicating that factors such as high fuel prices, poor road conditions, long haulage distances, and traffic congestion substantially influence construction costs. This finding is consistent with the studies of **Okechukwu and Adebanjo (2021)**, **Eze and Ogundipe (2022)**, and **Bello and Nwachukwu (2023)**, who found that transportation challenges significantly inflate building material costs and project budgets, underscoring the need for improved transport infrastructure, efficient logistics management, and government intervention to support sustainable property development.

The environmental factors militating against property development and completion
The findings revealed that environmental factors significantly hinder property development and project completion in Warri, with mean scores ranging from **3.36 to 3.48**, indicating that poor drainage systems, flooding, environmental regulations, communal land disputes, waste disposal challenges, and unstable soil conditions adversely affect construction activities. This finding is consistent with the studies of **Olajide and Emeka (2022)**, **Adedeji and Omoregie (2023)**, and **Musa and Ede (2024)**, who reported that environmental challenges contribute to project delays, cost overruns, and investor uncertainty, emphasizing the need for effective environmental risk management, improved infrastructure, and efficient land administration to promote sustainable property development.

The effect of rising cost of building materials on property development
The findings revealed that the rising cost of building materials has a significant negative effect on property development in Warri, with mean scores ranging from **3.42 to 3.48**, indicating that escalating

material costs discourage new investments, constrain project financing, reduce developers' profit margins, limit project scale, and increase project abandonment. This finding is consistent with the studies of **Eze and Ibrahim (2022)**, **Okafor and Hassan (2023)**, and **Adepoju and Akinola (2024)**, who reported that rising building material costs undermine investor confidence, hinder housing delivery, and slow real estate development, highlighting the need for effective cost-control measures, local material sourcing, and supportive government policies.

The effect of rising cost of building materials on property completion

The findings revealed that the rising cost of building materials significantly affects property completion in Warri, with mean scores ranging from **3.42 to 3.50**, indicating that escalating material costs contribute to project delays, construction interruptions, project abandonment, cost overruns, contractual disputes, and the inability of contractors to complete projects within the agreed timelines. This finding is consistent with the studies of **Okoye and Akintoye (2021)**, **Yusuf and Emefiele (2022)**, **Adeyemi and Chukwuma (2023)**, and **Musa and Edokpolor (2024)**, who reported that rising material costs adversely affect project delivery and completion, emphasizing the need for effective cost management, flexible financing strategies, local material sourcing, and supportive government policies to ensure timely completion of construction projects.

VIII. CONCLUSION

The study concludes that rising building material costs, driven by inflation, exchange rate fluctuations, high transportation costs, and environmental constraints, constitute a significant challenge to property development and project completion in Warri, Delta State. These factors increase construction costs, reduce investment viability, delay project delivery, and undermine the profitability and sustainability of real estate development. The findings underscore the need for effective economic, infrastructural, and policy interventions to enhance cost stability and promote sustainable property development in the study area.

IX. RECOMMENDATIONS

i. Government and relevant monetary authorities should implement sound macroeconomic policies aimed at controlling inflation, stabilizing the naira, and reducing exchange rate volatility to moderate fluctuations in construction material prices and improve investment confidence in the real estate sector.

ii. Investments in transportation infrastructure and logistics systems should be prioritized to improve the efficiency of construction material supply chains, reduce haulage costs, and facilitate the timely delivery of materials to project sites, particularly in rapidly developing urban centres such as Warri.

iii. Property developers and contractors should strengthen project cost management by adopting proactive risk management measures, flexible budgeting practices, strategic procurement planning, and contingency cost provisions to mitigate the effects of building material price volatility on project delivery.

iv. Regulatory agencies should streamline development approval processes and strengthen land administration and environmental management frameworks to reduce project delays. Greater collaboration among government agencies, host communities, and other stakeholders

is also essential to minimize land-related conflicts and create an enabling environment for sustainable property development.

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