



## Eastern Africa Journal of Contemporary Research (EAJCR)

### ***Effect of Geopolitical Tensions on Construction Costs of Selected Government Building in Nairobi City County***

Apronia Khahonjeli Shimejero, Vincent Ongore, Benjamin Mulili, and Cecilia Gathitu

### **Article information:**

To cite this article:

Shimejero, A. K., Ongore, V., Mulili, B. & Gathitu, C. (2026). *Effect of Geopolitical Tensions on Construction Costs of Selected Government Building in Nairobi City County*. *Eastern Africa Journal of Contemporary Research*, 6(1), 55-68.

### **For Authors**

If you would like to publish your conceptual/theoretical and empirical research articles, case studies and book reviews with EAJCR, please use for authors information about how to write your work and submission guidelines. Please, visit [https:// www.eajcr.org/](https://www.eajcr.org/)

### **About Eastern Africa Journal of Contemporary Research (EAJCR)**

The Eastern Africa Journal of Contemporary Research (EAJCR) is both an online (ISSN: 2663-7367) and print (ISSN: 2663-7359) double-blind peer-reviewed quarterly journal published by the Directorate of Research and Publications of Grets University, Kenya.

EAJCR aims at advancing the frontiers of knowledge by publishing contemporary multidisciplinary conceptual/ theoretical and empirical research articles as well as case studies and book reviews.

# **Effect of Geopolitical Tensions on Construction Costs of Selected Government Building in Nairobi City County**

**Apronia Khahonjeli Shimejero**

Technical University of Kenya  
[shimejero8@gmail.com](mailto:shimejero8@gmail.com)

**Vincent Ongore**

Technical University of Kenya  
[vincent.ongore@tukenya.ac.ke](mailto:vincent.ongore@tukenya.ac.ke)

**Benjamin Mulili**

Technical University of Kenya  
[benjamin.mulili@tukenya.ac.ke](mailto:benjamin.mulili@tukenya.ac.ke)

**Cecilia Gathitu**

Technical University of Kenya  
[cecilia.gathitu@tukenya.ac.ke](mailto:cecilia.gathitu@tukenya.ac.ke)

## **Abstract**

*This study examined the effect of geopolitical tensions on construction costs of selected government building projects in Nairobi, Kenya. Increasing global political instability has disrupted supply chains, trade regulations, and currency stability, contributing to rising construction costs. However, despite growing evidence linking geopolitical risks to construction cost escalation globally, limited empirical studies have specifically examined how geopolitically driven security measures and market uncertainty affect construction costs of government building projects in Nairobi City County, Kenya. Anchored on Risk Management Theory and supported by Transaction Cost Economics, the study adopted a quantitative descriptive research design. The target population comprised architects, engineers, quantity surveyors, and project managers. Stratified sampling yielded 75 respondents. Data were collected using structured questionnaires administered physically and electronically, and analyzed using descriptive statistics and multiple regression in SPSS. Validity was ensured through expert review and pilot testing, while reliability was confirmed using Cronbach's alpha. Ethical considerations included informed consent, confidentiality, and research authorization. The results revealed strong agreement among respondents that global trade disruptions contribute to increased construction costs. Multiple regression analysis further showed that COVID-19 pandemic effects, geopolitical tensions, and transport expenses jointly explained approximately 63.9% of the variation in construction costs ( $R^2 = 0.639$ ), with the overall model being statistically significant,  $F(3, 52) = 30.62$ ,  $p < .001$ . The study concludes that geopolitical risks are significant predictors of public construction cost escalation. It recommends integrating geopolitical risk assessment into budgeting frameworks, diversifying supply chains, adopting currency risk management strategies, and strengthening local material production to enhance cost stability.*

**Keys words:** Construction costs; Geopolitical tensions; Government building projects; Market uncertainty; Risk management; Security measures.



## 1. Introduction

In order to provide the background information necessary for conducting research, we must first define the basic concepts underlying the problem being investigated and then put the study into perspective by considering its global, regional, and local realities. In this study, the term 'security measures' are understood to mean policies and strategies that are implemented by states in order to respond to international political tensions (e.g., increased border controls, export bans, etc.), which can include security measures associated with changing the ways that goods and services flow between nations; and when we refer to 'uncertainty in the market,' we mean the unpredictability associated with supply chains (e.g., material shortages) as well as any shifts in consumer demand due to geopolitical instability, which can lead to disruptions within procurement planning and budgeting (e.g., trade disputes or conflicts). Construction costs include all of the costs associated with any type or scale of construction project and as a result include direct material costs, labour costs, transportation costs, and compliance costs as well.

Worldwide, the construction sector operates as part of an interrelated, global supply chain, that is quite susceptible to political events. Political instability has also been demonstrated to have a direct and indirect impact on the construction sector through the altering of supply routes, the increase in trade barriers, and unpredictability of prices of materials ultimately increasing project costs and lengthening timelines (Ivanov & Dolgui, 2021; Caldara et al., 2020). Additionally, research has shown that geopolitical risk and protectionist policies are significant contributors to cost escalation due to interruptions in material flows and labour availability (Boungou & Yatié, 2022; Gozgor et al., 2022). Furthermore, international disputes and trade tensions have significantly increased price fluctuation of major construction inputs (e.g., steel and cement), making budgeting very complicated for large scale infrastructure projects (Nguyen & Le, 2023).

Markets in Africa and Asia are experiencing comparable market challenges related to external and domestic events. Recent studies have shown that the construction costs associated with these emerging markets will continue to be negatively impacted by the exchange rate fluctuations, commodity price fluctuations, and instability in supply chains associated with geopolitical activities (Balcilar et al., 2021; Nguyen & Le, 2023). Countries that rely exclusively on imported materials for their construction will experience these pressures very heavily because external shocks will quickly translate into higher costs for the total project.

In Kenya, geopolitical tensions on a local level have an indirect impact on construction costs due to the way markets react to import channels in East Africa for construction materials, fluctuations of foreign currencies, and whether or not suppliers will deliver key materials. With the amount of construction materials imported by Nairobi, increased uncertainty worldwide creates an environment in which project budgets exceed initial estimates or construction will be delayed. Other studies examining developing countries find that countries that are connected to global supply chains are more exposed to disruptions from external geopolitical sources than those who rely primarily on domestic suppliers or construction materials (Gereffi, 2021; Nguyen & Le, 2023).



## 1.1 Statement of the Problem

The construction industry globally has experienced significant cost escalations attributed to geopolitical tensions, trade restrictions, and supply chain disruptions. Recent studies indicate that geopolitical instability increases commodity price volatility and procurement uncertainty, thereby affecting infrastructure budgets and project timelines (Caldara et al., 2020; Ivanov & Dolgui, 2021). In emerging economies, reliance on imported construction materials further amplifies vulnerability to exchange rate fluctuations and external trade shocks (Nguyen & Le, 2023). While these studies positively affirm the linkage between geopolitical risk and economic performance, they largely focus on macroeconomic indicators or private sector construction markets.

In the African context, research has primarily examined cost overruns from internal factors such as poor planning, governance inefficiencies, and contract management challenges (Adeleke et al., 2023). Limited attention has been given to external geopolitical drivers of construction cost escalation, particularly in public sector building projects. In Kenya, despite increasing exposure to global supply chain networks, empirical evidence specifically examining how geopolitically driven security measures and market uncertainty influence government construction costs remains scarce.

This conceptual and contextual gap creates uncertainty for policymakers and project managers who require evidence-based strategies to manage emerging global risks. Therefore, this study seeks to bridge this gap by empirically examining the effect of geopolitical tensions on construction costs of selected government building projects in Nairobi.

## 1.2 Research Objectives

- i. To examine the effect of geopolitically driven security measures on construction costs of selected government building projects in Nairobi.
- ii. To establish the effect of geopolitical tensions–induced market uncertainty on construction costs of selected government building projects in Nairobi

## 1.3 Scope of the Study

The scope of this study focuses on examining the effect of geopolitical tensions on construction costs of selected government building projects in Nairobi. Specifically, the study is limited to two key dimensions: geopolitically driven security measures and market uncertainty. It targets public sector building projects implemented by government agencies and concentrates on cost components such as material prices, transportation costs, compliance expenses, and overall project budgets. The study adopts a quantitative approach and relies on data collected from construction professionals involved in government projects. It does not cover privately funded projects or non-building infrastructure such as roads and dams.



#### **1.4 Limitation of the Study**

The study faced several limitations. First, it relied on self-reported data from respondents, which may be affected by personal judgment or perception bias despite efforts to ensure objectivity. Second, the study was confined to selected government building projects, limiting the generalizability of the findings to other types of construction projects or regions. Third, geopolitical tensions are dynamic and continuously evolving, meaning that some effects on construction costs may change over time and may not be fully captured within the study period. Additionally, access to detailed financial records was limited due to confidentiality constraints.

#### **1.5 Significance of the Study**

The findings of this study are significant to multiple stakeholders. Government agencies and policymakers will benefit from insights on how geopolitical tensions influence construction costs, enabling better budgeting, risk management, and policy formulation. Project managers and construction professionals can use the findings to improve cost forecasting and develop mitigation strategies against security-related disruptions and market uncertainty. Academically, the study contributes to existing literature by empirically linking geopolitical factors to construction cost dynamics in a developing-country context. The study also provides a foundation for future research on geopolitical risk management in public sector construction projects

### **2. Literature Review**

#### **2.1 Theoretical Review**

This study is anchored on Risk Management Theory as the primary explanatory framework. Risk Management Theory posits that organizations systematically identify, assess, and mitigate uncertainties that may hinder project performance (Hillson, 2021). In the context of this study, geopolitical tensions represent external strategic risks capable of increasing material costs, disrupting logistics, and inflating compliance expenses. The theory positively supports the first objective by explaining how geopolitically driven security measures necessitate contingency budgeting, contract flexibility, and adaptive procurement strategies. It frames cost escalation as a rational organizational response to heightened uncertainty rather than a random occurrence.

Complementing the anchor theory is Transaction Cost Economics (TCE). TCE argues that uncertainty and environmental volatility increase the costs of negotiating, monitoring, and enforcing contracts (Williamson, 2020). Under geopolitical instability, contractors and government agencies face higher transaction costs due to tariff changes, regulatory adjustments, and renegotiation of supplier agreements. This theoretical lens strongly aligns with the second objective by explaining how market uncertainty translates into increased administrative and procurement costs in public construction projects.

Together, Risk Management Theory and Transaction Cost Economics provide a coherent explanatory framework. The anchor theory clarifies how organizations respond strategically



to geopolitical risk, while TCE explains the structural mechanisms through which uncertainty raises construction costs. Their integration strengthens the conceptual foundation of this study in examining government building projects in Nairobi.

## 2.2 Empirical Review

In their most recent literature review, many academic researchers found that geopolitical tensions create major external influences on the cost of construction projects, including pricing in public work projects which utilize global supply chains. According to researchers, through trade restrictions driven by security issues or border controls, there is a disruption in the flow of materials during the construction process, and as a result increased compliance costs contribute to increasing the overall project budget (Ivanov & Dolgui, 2021). The above findings indicate that for researchers who study the real costs involved in construction, the impact of the geopolitical tensions experienced through security measures or any other means are not simply viewed as political events, but rather as operational realities that have a direct impact on the procurement process, administrative contract execution and the forecasting of costs when performing their work within the confines of any construction project.

These findings will greatly assist in answering the first hypothesis for this research study. Regardless of the fact that the majority of the academic community has established that external influences from geopolitical sources have a negative impact on the cost of a construction project, there is still discussion surrounding how many researchers consider geopolitical issues to be one of the primary reasons for construction cost escalation as compared to other reasons. A large number of studies conducted on this subject indicate that several internal management of a project issues, including poor planning, weak contract administration, design changes, and poor management by governmental agencies, on average are the primary reason for the escalation of costs associated with the delivery of a construction project (Adeleke et al, 2023). This is a completely different perspective from what other researchers have found. Although geopolitical tensions certainly influence the cost of a construction project, it is likely that not all construction projects will be impacted in the same manner; therefore, additional studies will be necessary to determine the degree to which external sources due to geopolitical influences will impact the cost of a construction project relative to other traditional factors.

In the findings the research found out that the uncertainty in pricing created by geopolitical risks changes suppliers and their pricing behaviors. The authors Gozgor et al. (2022) found that when geopolitical risk increases, there are higher levels of speculation and precautionary pricing among global suppliers. Similarly, Nguyen and Le (2023) found that economies which rely heavily on imports of construction materials are exposed to more exchange rate changes and disruption to logistics during times of geopolitical risk. These studies provide evidence in support of the second objective by providing examples of how uncertainties from geopolitical tensions affect the prices of construction materials, even though shortages do not yet exist. However, some researchers believe that market adaptation mechanisms serve to reduce the negative impacts of geopolitical risk on construction costs. Organizations can mitigate their vulnerability to global market disruptions

by diversifying suppliers, strategically stockpiling materials, and sourcing materials locally. This position contradicts the notion that there is a direct correlation between geopolitical risk and significant increases in construction costs and suggests the extent of impact may be dependent on the strategies adopted by stakeholders involved in the project.

Furthermore, the recent construction management literature identifies an increased integration of geopolitical risks into project risk registers/cost estimation models (Olawale & Sun, 2024). The gradual emergence of geopolitical factors as normal, rather than peripheral, cost drivers in project cost information indicates a growing recognition that geopolitical factors will play an increased role in construction project costs. However, the evidence base is largely derived from global/developed country contexts; that said, there are vast differences among the institutional structure, procurement systems and supply chain networks between global/developed economies and developing economies.

The collected body of literature indicates that geopolitical tensions can affect the construction cost structures through security measures and market insecurities. However, the magnitude of these effects remains ambiguous due to a lack of consistency among studies regarding external geopolitical risks of an external nature versus the impacts of internal project management factors on the overall increase in construction costs. Additionally, most previous studies have concentrated on either macroeconomic implications, private sector projects or projects in developed countries. There are few to no empirical studies that specifically address how the security measures and market uncertainties resulting from geopolitical tensions affect the construction costs of public sector buildings in the city of Nairobi County in Kenya. As such, there exists a conceptual, contextual, and empirical void that supports the need for this research.

### 3. Methodology

The study adopted a quantitative descriptive research design to examine the relationship between global trade disruptions and construction costs of selected government building projects in Nairobi. The target population comprised technical officers from the State Department for Public Works, including project managers, architects, engineers, and quantity surveyors involved in the selected projects. A stratified sampling procedure was used to ensure proportional representation of each professional category. Using Yamane's formula, a sample size of 75 respondents was determined.

The methodology states:

- Population (N) = 300
- Margin of error (e) = 0.10
- Formula:

$$n = \frac{N}{1 + N(e^2)}$$

Substituting the values:

$$\begin{aligned} n &= \frac{300}{1 + 300(0.1)^2} \\ &= \frac{300}{1 + 3} \\ &= \frac{300}{4} \\ &= 75 \end{aligned}$$

The computed sample size was 75 respondents

Primary data were collected using a structured questionnaire with closed-ended items measured on a Likert scale. Data collection was conducted through both physical administration and online platforms to enhance response rates. The collected data were coded and analyzed using descriptive statistics (means and standard deviations) and inferential analysis, including multiple regression analysis, with the aid of SPSS.

Validity was ensured through expert review and pilot testing, while reliability was assessed using Cronbach's alpha coefficient. Ethical considerations included obtaining research authorization, informed consent from respondents, assurance of confidentiality, and the use of data strictly for academic purposes.

Geopolitical Tensions are measured through two dimensions, as shown in Table 1: Security Measures which are Geopolitically Driven and Market Uncertainty. Geopolitically Driven Security Measures were determined by the use of indicators; Including Border Conflicts Affecting Material Transportation; Trade Restrictions Creating Material Shortages or Delays; Political Instability Resulting in an Increase in the Import Tariff; and Security Compliance Obligations Creating an Increase in the Cost of Procuring Materials. Market Uncertainty was measured using the following indicators; Disruption to the Global Production of Construction Materials; Currency Fluctuation Affecting Material Prices; Market Speculation Increasing Material Procurement Costs; and Supply Chain Uncertainty will Create Inflationary Pressure on Overall Project Budgets. The dependent variable, Construction Cost, was operationalised as the increase in project costs as a result of increased material costs, increased transportation cost, increased procurement costs, increased compliance costs and an increase in overall project budget volume. Respondents were asked to rate, on a scale of 1-5, their level of agreement with the respective items associated with the identified indicators listed above. 1 - Strongly Disagree 2 - Disagree 3 - Neither Agree nor Disagree 4 - Agree 5 - Strongly Agree.

## 4. Findings and Discussion

### 4.1 Response Rate and Data Screening

In the illustration shown in table 1, a total of 75 questionnaires were distributed to professionals involved in selected government building projects in Nairobi. Out of these, 56 were returned fully completed, representing a response rate of 74.7%. All returned questionnaires were screened for completeness, consistency, and accuracy. No questionnaire was discarded as none had significant missing data or response errors. The achieved response rate exceeded the minimum threshold of 50% recommended for quantitative research, thus considered adequate for statistical analysis and generalization. The clean dataset of 56 responses formed the basis for subsequent descriptive and inferential analysis.

**Table 1. Response Rate**

| Description             | Frequency | Percentage (%) |
|-------------------------|-----------|----------------|
| Questionnaires Issued   | 75        | 100            |
| Questionnaires Returned | 56        | 74.7           |
| Excluded (Incomplete)   | 0         | 0              |
| Valid Questionnaires    | 56        | 74.7           |
| <b>Total</b>            | <b>75</b> | <b>100</b>     |

**Source:** Survey Data (2025)

### 4.2. Demographic Characteristics of Respondents

The table 2 below illustrates the study targeted technical professionals directly engaged in public construction projects. The table 2 above presents findings indicating that architects formed the largest proportion of respondents (37.5%), followed by engineers (32.1%), quantity surveyors (21.4%), and project managers (8.9%). This distribution ensured balanced technical, financial, and managerial perspectives relevant to assessing construction cost dynamics. The representation of multiple professional categories enhances the credibility of the findings, as respondents possess specialized knowledge in design, costing, supervision, and overall project coordination within government building projects.

**Table 2. Demographic Characteristics of Respondents**

| Profession         | Frequency | Percentage (%) |
|--------------------|-----------|----------------|
| Architects         | 21        | 37.5           |
| Engineers          | 18        | 32.1           |
| Quantity Surveyors | 12        | 21.4           |
| Project Managers   | 5         | 8.9            |
| <b>Total</b>       | <b>56</b> | <b>100</b>     |

**Reference:** Survey Data (2025)

### 4.2. Work Experience of Respondents

The table 3 presents professional experience, the majority of respondents had considerable



exposure to government construction projects. Specifically, 35.7% had between 6–10 years of experience, while 19.6% had 11–15 years and another 19.6% had over 16 years. Only 25.0% had less than five years of experience. This indicates that 75% of respondents possessed more than six years of industry experience, suggesting that the data were obtained from knowledgeable and experienced professionals capable of providing informed insights on geopolitical tensions and construction costs.

**Table 3. Work Experience of Respondents**

| Years of Experience | Frequency | Percentage (%) |
|---------------------|-----------|----------------|
| Less than 5 years   | 14        | 25.0           |
| 6–10 years          | 20        | 35.7           |
| 11–15 years         | 11        | 19.6           |
| 16 years and above  | 11        | 19.6           |
| Total               | 56        | 100            |

**Source:** Survey Data (2025)

### 4.3 Descriptive Statistics

#### 4.3.1. Effect of Geopolitically Driven Security Measures on Construction Costs

In the table 4 below examines how security-related geopolitical actions such as border controls, trade restrictions, and tariff adjustments influence construction costs of government building projects in Nairobi. The findings indicate high levels of agreement among respondents, with all statements recording mean scores above 4.0 on a five-point Likert scale. The highest mean (4.30) was recorded on border conflicts hindering transportation of materials, while increased tariffs scored a mean of 4.10. The composite mean of 4.23 demonstrates strong consensus that geopolitically driven security measures significantly contribute to cost escalation through logistics disruptions, compliance costs, and import-related charges.

**Table 4. Effect of Geopolitically Driven Security Measures on Construction Costs**

| Statement                                                       | Mean | Std, Dev |
|-----------------------------------------------------------------|------|----------|
| Border conflict hinder transportation of construction materials | 4.30 | 0.86     |
| Trade restrictions cause material shortages and delays          | 4.28 | 0.82     |
| Political instability increases tariffs on imports              | 4.10 | 0.98     |
| Security compliance requirements raise procurement cost         | 4.24 | 0.90     |
| Composite mean                                                  | 4.23 | 0.89     |

**Source:** Survey Data (2025)

#### 4.3.2. Effect of Geopolitical Tension–Induced Market Uncertainty on Construction Costs

The table 5 below shows influence of market uncertainty arising from geopolitical tensions. The results show strong agreement among respondents that global instability increases price volatility and exchange rate fluctuations. The highest mean (4.46) was recorded on disruption of global production causing market uncertainty. Currency fluctuations also scored highly (mean = 4.24). The composite mean of 4.35 indicates that market uncertainty



is perceived as a major determinant of rising construction costs in government projects.

**Table 5. Induced Market Uncertainty on Construction Costs**

| Statement                                                | Mean | Std, Dev |
|----------------------------------------------------------|------|----------|
| Political unrest disrupts global production of materials | 4.46 | 0.72     |
| Currency fluctuations increase material prices           | 4.24 | 0.90     |
| Market speculation increases procurement costs           | 4.32 | 0.84     |
| Supply chain unpredictability inflates project budgets   | 4.38 | 0.76     |
| Composite Mean                                           | 4.35 | 0.81     |

**Source:** Survey Data (2025)

#### 4.4 Regression and Inferential Analysis

A multiple regression model was conducted to determine the combined effect of geopolitically driven security measures and market uncertainty on construction costs. The table 6 below shows the model summary

**Table 6. Model Summary**

| Model | R     | R <sup>2</sup> | Adjusted R <sup>2</sup> |
|-------|-------|----------------|-------------------------|
| 1     | 0.798 | 0.639          | 0.618                   |

**Source:** Researcher, (2025)

The R<sup>2</sup> value above is derived directly from the thesis's reported sums of squares:

$$R^2 = \frac{42.85}{67.10} = 0.639$$

#### 4.5 ANOVA Results

The table 7 below shows the ANOVA results

**Table 7. ANOVA**

| Source     | Sum of Squares | df | Mean Square | F     | Sig.  |
|------------|----------------|----|-------------|-------|-------|
| Regression | 42.85          | 3  | 14.28       | 30.62 | 0.000 |
| Residual   | 24.25          | 52 | 0.47        |       |       |
| Total      | 67.10          | 55 |             |       |       |

**Source:** Researcher, (2025)

The model is statistically significant ( $p < 0.05$ ), indicating that geopolitical factors significantly predict construction costs.

#### 4.6 Regression Coefficients

The table 8 below presents Regression results



Construction Costs=1.20+0.35(COVID19)+0.28(Geopolitical Tensions)+0.31(Transport Costs)+ $\epsilon$  and reports the coefficients as 0.35, 0.28 and 0.31.

**Table 8. Regression**

| Variable             | Coefficient ( $\beta$ ) |
|----------------------|-------------------------|
| Constant             | 1.20                    |
| COVID-19 pandemic    | 0.35                    |
| Geopolitical tension | 0.28                    |
| Transport costs      | 0.31                    |

**Source:** Researcher, (2025)

Table 8 shows that COVID-19 pandemic effects, geopolitical tensions, and transport expenses were positively associated with construction costs. The regression coefficients were 0.35 for COVID-19 pandemic effects, 0.28 for geopolitical tensions, and 0.31 for transport expenses, with the COVID-19 pandemic having the largest coefficient, followed by transport expenses and geopolitical tensions. The empirical regression model was specified as: Construction Costs = 1.20 + 0.35(COVID-19) + 0.28(Geopolitical Tensions) + 0.31(Transport Costs) +  $\epsilon$ .

The multiple regression model explained approximately 63.9% of the variation in construction costs ( $R^2 = 0.639$ ). This value was obtained from the reported regression sum of squares of 42.85 and total sum of squares of 67.10. The remaining 36.1% of the variation in construction costs may be attributed to other factors that were not included in the model.

The analysis of variance (ANOVA) further showed that the overall regression model was statistically significant,  $F(3, 52) = 30.62$ ,  $p < .001$ , indicating that COVID-19 pandemic effects, geopolitical tensions, and transport expenses jointly provided a statistically significant explanation of variations in construction costs.

The findings are consistent with Risk Management Theory, which suggests that external disruptions and uncertainties increase project risks and may require additional resources to manage potential disruptions. The findings are also consistent with Transaction Cost Economics, which explains that disruptions affecting procurement, transportation, coordination, and supply arrangements can increase the costs associated with construction projects. Consequently, global trade disruptions represent important external factors that can influence the cost performance of public-sector construction projects

## 5. Conclusion and Recommendations

### 5.1 Conclusions

This research found that the geopolitical situation has a major impact on the costs associated with Government-built buildings in Nairobi. It is noted by professional individuals in the industry that security-based trade restrictions, border control measures and tariffs all create a higher level of cost associated with procurement and delivery of goods. Additionally, market uncertainty due to fluctuations in exchange rates, uncertainty in the supply chain, and speculation on prices was considered to be a significant cost driver as



well. Regression analysis showed that these two factors both are significant predictors of construction costs together account for 61.1% of the variance in construction costs.

This finding is consistent with the findings of Ivanov & Dolgui (2021) who found that geopolitical disruptions negatively affect supply chains due to trade restrictions, logistical bottlenecks and an increase in compliance requirements which results in increased operational and project costs. Gozgor et al. (2022) also reported that geopolitical instability increases uncertainty in the market, leads to speculative pricing and contributes to cost volatility throughout various industries. Additionally, Nguyen & Le (2023) found exchange rate fluctuations and disruptions in imported material supply result in greater than average construction costs in developing countries that are largely dependent on international markets.

The study's results are in agreement with Boungou and Yatié (2022) who found that external factors such as geopolitical risk cause earthquake and commodity price volatility which further contributes to additional costs of essential construction materials. On the other hand, the results of this study contradict the findings of Adeleke et al (2023) who suggested that internal project management factors such as poor project planning, governance inefficiencies, and challenges associated with contract administration are the leading causes of cost overruns on construction project. The current study does not dismiss the significance of internal factors, but demonstrates that external factors such as geopolitical risks may also play an important role in construction cost performance, particularly for public sector construction projects where imported materials and supply chains from other countries are used.

These results support the relevance of Risk Management Theory as the theoretical foundation for this research study. The empirical relationship found in the data between geopolitical risks and cost escalation confirms the theory's assertion that external sources of risk must be addressed through implementing a planned strategic risk mitigation strategy with contingency plans. All government construction projects (publicly funded) must include an evaluation of the geopolitical risk in their budgeting process and procurement planning.

Moreover, the transactional cost economics theory also supports the findings of this study, which states that uncertainty will increase costs associated with transactions, monitoring and compliance. The empirical evidence of security measures and market uncertainty impacting construction costs demonstrates the impact of geopolitical instability as a driver of additional costs for procuring materials, managing suppliers, regulatory compliance, and any other procurement changes. Consequently, the empirical findings in this study add to the existing literature by demonstrating that geopolitical risk can be measured as a significant factor in determining public construction cost performance, and confirms this same relationship as applicable to Government Building Projects in Nairobi City County, Kenya.

## 5.2 Recommendations

Based on the findings, government agencies should institutionalize geopolitical risk assessment within project planning and budgeting frameworks. Risk registers should explicitly incorporate global trade risks, sanctions, and exchange rate exposure when



estimating construction costs. Contingency allocations should be adjusted to reflect global market volatility, particularly for imported construction materials.

Second, diversification of supply chains is recommended to reduce overreliance on single international markets. Establishing regional supplier networks within East Africa can mitigate disruptions caused by geopolitical conflicts in distant economies.

Third, financial hedging mechanisms such as forward contracts and currency risk management strategies should be adopted to cushion against exchange rate volatility.

Fourth, contract agreements should incorporate flexible pricing clauses to accommodate unforeseen geopolitical changes without causing severe project delays.

Finally, policymakers should promote local production of key construction materials to enhance resilience against global supply disruptions. By strengthening proactive risk management mechanisms, government building projects can better withstand geopolitical shocks and improve cost predictability.

## References

- Adeleke, A., Windapo, A., & Odediran, S. (2023). External risk factors and cost overruns in African public construction projects. *Journal of Construction in Developing Countries*, 28(1), 45–62.
- Balcilar, M., Bonato, M., Demirer, R., & Gupta, R. (2021). Geopolitical risks and stock market dynamics of emerging economies. *Emerging Markets Review*, 46, 100742. <https://doi.org/10.1016/j.ememar.2020.100742>
- Boungou, W., & Yatié, A. (2022). The impact of geopolitical risk on commodity prices. *Resources Policy*, 77, 102688. <https://doi.org/10.1016/j.resourpol.2022.102688>
- Caldara, D., Iacoviello, M., Molligo, P., Prestipino, A., & Raffo, A. (2020). The economic effects of trade policy uncertainty. *Journal of Monetary Economics*, 109, 38–59. <https://doi.org/10.1016/j.jmoneco.2019.11.002>
- Gereffi, G. (2021). Global value chains and international development policy. *Cambridge Journal of Regions, Economy and Society*, 14(2), 213–228. <https://doi.org/10.1093/cjres/rsab002>
- Gozgor, G., Lau, C. K. M., & Bilgin, M. H. (2022). Geopolitical risks and economic activity: Evidence from emerging markets. *Economic Analysis and Policy*, 74, 465–476. <https://doi.org/10.1016/j.eap.2022.03.012>
- Hillson, D. (2021). *Practical project risk management: The ATOM methodology* (3rd ed.). Berrett-Koehler Publishers.
- Hopkin, P. (2022). *Fundamentals of risk management* (6th ed.). Kogan Page. <https://www.koganpage.com>
- Ivanov, D., & Dolgui, A. (2021). OR-methods for coping with the ripple effect in supply chains during geopolitical disruptions. *International Journal of Production Research*, 59(1), 197–219. <https://doi.org/10.1080/00207543.2020.1840008>
- Nguyen, T. H., & Le, T. T. (2023). Exchange rate volatility and construction material imports in developing economies. *Construction Economics and Building*, 23(2), 55–70.
- Olawale, Y., & Sun, M. (2024). Risk-informed cost estimation in public construction projects.



