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ASSESSMENT OF LAND ACQUISITION SYSTEM FOR TELECOMMUNICATION CONSTRUCTION PROJECTS: THE CASE OF SAFARICOM TELECOMMUNICATION PROJECTS IN ADDIS ABABA

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Abstract

Land acquisition plays a vital role in project completion, especially in construction endeavors. It involves obtaining land from its rightful owner, whether governmental or private, through compensation or renting. Acquiring sites before construction commences is critical to prevent delays that could impact project costs and schedules significantly. This study investigated the land acquisition system for Safaricom telecommunication construction projects in Addis Ababa, Ethiopia. It aimed to identify the factors influencing the system, the associated challenges and opportunities, and the system's impact on project completion. Using a mixed-method approach, data were collected from 344 respondents with first-hand information of 86 sample sites from 639 total constructed project sites through structured questionnaires and key informant interviews. Quantitative analysis showed that economic and social factors significantly influence land acquisition decisions, explaining 74.5% of the variance. Challenges include political instability and insufficient compensation, with additional obstacles from local community resistance and bureaucratic procedures. Emphasizing the importance of strategic planning and proactive measures for effective mitigation, Addressing challenges like bureaucracy and legal issues. Opportunities like community engagement and technology can enhance efficiency and sustainability in future projects. The findings of this study suggest that addressing bureaucratic inefficiencies and fostering stronger community engagement can significantly enhance the efficiency and sustainability of land acquisition processes for telecommunication construction projects, potentially leading to improved project outcomes and better community relations for companies like Safaricom. Future research should explore the impact of innovative technology solutions and enhanced community engagement strategies on streamlining land acquisition processes, with a focus on comparative analysis across different regions and project types to identify best practices and scalable models.

Keywords: Addis Ababa, Construction projects, Land acquisition, Safaricom, Telecommunication.

1. INTRODUCTION

1.1.Background of the Study

Infrastructure plays a crucial role in the economic development of any nation, whether developed or developing. The satisfactory provision and administration of infrastructure make economic development possible, create growth, and enhance competitiveness and productivity, thus increasing participation in the global economy (Central Statistical Agency, 2018). It is also essential for improving the quality of life and inclusion in modern societies. Infrastructure, particularly telecommunications, plays a crucial role in the economic development of any nation by enhancing competitiveness and productivity, thus increasing participation in the global economy(Wold Bank, 2020).

In Ethiopia, effective land acquisition is crucial for the timely completion of construction projects, including telecommunication infrastructure essential for economic. Land acquisition, the process of obtaining land for public or private projects, directly impacts project timelines and costs. Efficient acquisition is essential to prevent delays and cost overruns (Tura, 2018). Land acquisition determines when the project will be ready for letting and construction. (Le, 2009) Site acquisition takes place before any construction project begins. There is great pressure to acquire the necessary properties and thus to avoid any delays that may significantly affect the final cost and time of the project (Eshetu and Workneh, 2018).

The fact that a single project usually has many parcels of land that are needed for public projects and must be acquired to ensure the completion of the project. On the other hand, project improvements do not usually require the purchase of the entire parcel from owners. Often only a fraction of the land is needed, and this is referred to as a partial acquisition(Asnake, 2021). Projects are considered delayed when their stipulated completion durations have not been achieved or when they go beyond the officially agreed completion time. Determining the factors that delay the acquisition of these plots could thereby reduce the total project length. The procedural way of land acquisition begins with the collection of data including but not limited to project plans, utility assessment, survey maps, and related aspects. Telecommunication is one of the enablers for a nation's socio-economic development requiring necessary support for its infrastructural development (Zinabu, 2016).

It is observed that project budgets and schedules are directly impacted by land acquisition, the process of acquiring land for public or private undertakings. To avoid delays and cost overruns, purchase must be done efficiently (David, 2016). As a recent arrival in the Ethiopian market, Safaricom encounters numerous obstacles when it comes to acquiring land because of intricate local regulations, problems with alignment, and environmental factors.

The process of acquiring land actually starts with gathering information, which may include survey maps, project blueprints, utility assessments, and other relevant things. One of the factors that contributes to a country's socioeconomic development is telecommunication, which necessitates funding for the development of its infrastructure. Therefore, where the Ethiopian government is making an effort to do so, it needs sufficient infrastructure and official support for its development.

In Ethiopia, the government launched Digital Ethiopia 2025 to help the country realize its digital potential and leverage technology to build a more prosperous society. On top of that Safaricom Ethiopia was granted a nationwide with full service and is the first foreign company in the country to launch a competitive mobile service to Ethio Telecom, which is state-owned. In that regard, Safaricom Ethiopia has secured approvals for tower development and built two data centers, made the first test call, sent out the first test SMS, and completed the first data session even though site acquisition is not an easy task for its project completion. Safaricom

Ethiopia works with its suppliers and business partners to customize, implement, and support the company's services. So far, the company has made available 2G, 3G, and 4G mobile services in 25 cities of the country.

Eshetu and Workneh (2018) have observed that the primary factors influencing the length of the site acquisition process are parcel valuation and negotiation. Moreover, site selection and evaluation are frequently on the project's critical route and have a big influence on the project's budget and timeline. Numerous construction projects, including telecom installations, have been noted to not be finished on schedule in Ethiopia, with Safaricom being one example. Assessing the land acquisition system and the causes of its delays is required by these. The study's objective was to evaluate the land acquisition system and its impact on the timely completion of projects as related to Safaricom's telecommunications projects in Addis Ababa, Ethiopia.

1.2 Statement of the Problem

Regardless of the sources of land, whether it is from the government or private owner, land acquisitions in Ethiopia have been criticized to be fraught with several challenges. Delays in the delivery of land, double sales of land, difficulty in obtaining reliable land information, unofficial charges in the acquisition process, unreliable land documents, fraudulent land transactions, and long processing times for land acquisitions are among the major challenges (Tura, 2018; Ameyaw & de Varies, 2021). Besides, legal and ethical issues such as compensation for landowners, environmental concerns, and social justice also complicate timely land acquisitions in the country.

The land acquisition process for Safaricom Telecommunication Projects in Addis Ababa, Ethiopia has challenges that impact the timely completion of construction projects. These challenges could include factors influencing the land acquisition system, as well as specific obstacles and opportunities within the current framework. Understanding and addressing these issues is important for improving project efficiency and successful completion. Furthermore, as Safaricom is a new entrant in the Ethiopian market, there is a lack of specific research conducted within its context. Therefore, this research aimed to address the identified gaps in the land acquisition system for Safaricom telecommunication projects in Addis Ababa, Ethiopia. By assessing the factors, challenges, and implications of the current system, the research seeks to provide valuable understanding to improve the efficiency and reliability of land acquisitions, ultimately contributing to the timely completion of construction projects. Moreover, this study will explore the broader implications of delayed construction projects, considering economic costs, political impacts, societal impacts, and Cultural impacts, thus enhancing the significance of the research.

2. RESREARCH OBJECTIVE

2.1 Research Questions

This study was conducted to answer the following research questions:

1. What are the major factors determining land acquisition for Telecommunication construction projects by Safaricom Telecommunication in Addis Ababa?
2. What are the specific challenges and opportunities related to the current land acquisition system for Safaricom Telecommunication projects in Addis Ababa?
3. How does the land acquisition system impact the timely completion of Safaricom Telecommunication projects in Addis Ababa?

2.2 Objective of the Study

2.2.1 General Objectives

The purpose of this study was to assess the land acquisition system and its implication on the Telecommunication project completion of Safaricom telecommunication in Addis Ababa.

2.2.1 Specific Objectives

Specifically, this study was designed to:

1. To assess factors determining the land acquisition system for the Safaricom Telecommunication construction project in Addis Ababa.
2. To identify the challenges and opportunities associated with the current land acquisition system for Safaricom telecommunication projects in Addis Ababa.
3. To analyze the impact of the land acquisition system on the completion of Safaricom Telecommunication Projects in Addis Ababa.

2.3 Scope of the Study

The scope of the study encompasses an in-depth analysis of the land acquisition system and its implications specifically within the context of Safaricom telecommunication projects in Addis Ababa, Ethiopia. The study has focused on identifying factors, challenges, and opportunities related to land acquisition and analyzing their impact on the timely completion of Safaricom projects. It was not extended to broader assessments of land acquisition systems in other industries or locations.

1.6 Significance of Study

The significance of this study lies in its potential to provide valuable insights for Safaricom and other stakeholders involved in telecommunication projects in Ethiopia. By addressing the specific challenges and implications of the land acquisition system, the study aims to offer practical recommendations for improving project timelines and efficiency. Additionally, the research contributes to filling the gap in knowledge regarding land acquisition within the context of a new entrant like Safaricom in Ethiopia, potentially serving as a valuable reference for future endeavors in the region.

3. RESEARCH METHODOLOGY

3.1. Introduction

This section presents the description of the study area, study design, study population, sample size determination, sampling producers, data types and data sources, study variables definition and hypothesis, data collection tools, data collection methods, methods of data analysis, Assumption test of regression Analysis, and data validity and reliability.

3.2. Description of the Study Area

This study was conducted in Addis Ababa, the capital city of Ethiopia, which hosts the highest number of telecom service construction sites, with 639 projects currently active. These sites represent significant logistical and regulatory challenges that this research aims to address. The map of the study area is illustrated in Figure 1, highlighting the distribution of 639 construction sites in Figure 2 and 86 sites of the samples in Figure 3.

3.3. Study Design

This study employs a mixed methods approach, combining quantitative and qualitative data to provide a comprehensive understanding of the land acquisition process. The mixed methods design, as defined by allows for the integration of qualitative and quantitative data, enhancing the validity and depth of findings by addressing statistical trends and stakeholder perceptions (Battista, 2023). This approach is particularly effective for this study as it addresses both statistical trends and stakeholder perceptions (Gutu et.al., 2023).

The mixed methods approach allows for a comprehensive analysis by combining quantitative data from site assessments with qualitative insights from stakeholder interviews, thereby providing a robust understanding of the land acquisition system's efficiency and challenges

3.4. Study Population

The study population is defined as all members of any well-defined class of people, events, or

objects to which a researcher wishes to generalize the research result (Creswell, 2009).

The target population includes all 639 Safaricom Telecommunication construction projects in Addis Ababa over the past three years, classified into four site types. Additionally, key stakeholders such as Addis Ababa Land Management, Addis Ababa Construction Control and Permitting Authority, and EthioTelecom staff are included due to their direct involvement in the land acquisition and project implementation processes.

3.5. Sample Size and Sampling Techniques

Sampling is a key component of any investigation and involves several considerations. Sampling is very important in any research undertaking, and hence a sample is considered a subgroup of the target population that the researcher plans to study to gain general information about the larger population (Creswell, 2009).

Safaricom Ethiopia is managing a considerable number of construction projects in Addis Ababa, totaling around 639 projects as per company-provided documents. To determine a representative sample of project sites, the study utilizes the statistical formula developed by (Yamane, 1967) Equation 1.

The formula employed is:

$$n = \frac{N}{1+N(e^2)} \quad \text{.....Equation 1}$$

Where n- represented the Sample size required, N- represented the total number of projects, and e- represented the Level of precision/allowable error /sampling. Using a 90%(0.9) confidence level and 10% (0.1) margin error.

$$N=\frac{639}{1+639(0.1^2)}= 86$$

The calculation yields a sample size of 86 project sites. Each project comprises four Site Acquisition (SAQ) teams actively involved in the process. These teams are purposively selected due to their first-hand information about the acquisition process, resulting in a total sample size of 344 when multiplied by the 86 selected sites. The inclusion of SAQ teams is based on their expertise and unique insights into Safaricom projects in Addis Ababa, contributing to an in-depth understanding of the land acquisition system. Additionally, the construction projects are categorized into four types (Colo Tower, Green Field/GF/Tower, Rapid Deployment Unit/RDU/Tower, and Roof Top/RT/Tower), and a disproportionate stratified sampling method is employed to ensure a representative sample that reflects the diversity of these project types within the overall sample of 86 sites. This approach allows for a deliberate and strategic selection, ensuring proportional representation across the different project types.

3.6. Study Variables

Dependent Variables: This include the Land Acquisition of Telecommunication project. Independent Variables: These include Economic viability, political stability, and Social and Cultural factors, all of which are hypothesized to impact the dependent variables significantly.

3.7. Data Collection Tools and Procedures

Structured questionnaires and semi-structured interviews were selected as data collection tools due to their ability to capture both quantitative and qualitative data, respectively. The structured questionnaire was pre-tested to ensure reliability, and the semi-structured interviews were designed to elicit in-depth responses, providing a comprehensive understanding of the research questions (Patton, 2002)

In this study, a descending order Likert scale was employed, ranging from "Strongly Agree" to "Strongly Disagree." This choice was made to mitigate the potential for inflated mean scores and to ensure more accurate results. This approach is supported by research conducted by (Kennedy and Campbell, 2018), which found that descending-ordered response scales tend to elicit more positive responses from respondents compared to ascending-ordered scales.

3.8. Methods of Data Analysis

In the data analysis phase, a comprehensive approach was adopted, incorporating both descriptive and inferential statistics methods using the statistical software SPSS 26. Descriptive statistics was employed to summarize and present key features of the quantitative data collected through the structured questionnaire with a 5-point Likert scale. This included measures such as mean, standard deviation, and frequency distributions, providing a clear overview of the central tendencies and variations in the dataset. Additionally, inferential statistics was utilized to draw conclusions and make inferences about the larger population based on the sample data. Multiple linear regression analysis was employed to further explore the relationships between multiple independent variables and the dependent variable Equation 2. This technique allowed for the examination of the combined impact of various factors on the outcome of interest, providing a more nuanced understanding of the factors influencing the effectiveness of the land acquisition system in Safaricom projects in Addis Ababa. The analysis involved assessing the strength and significance of the relationships, identifying key predictors, and exploring potential interactions among variables.

The general equation of the Linear Regression Model (LRM) can be expressed as:

$$Y=\beta 0+\beta 1X1+\beta 2X2+\cdots+\beta nXn+\in \quad \ldots\ldots \text{Equation 2}$$

Where,
Y= is the dependent variable (Land Acquisition of Telecommunication project), X1, X2------ Xn – are independent variables (Economic viability, political stability, and Social and Cultural factors,).

β0 – is intercept (the value of Y, when all X are Zero)

β1.β2,----βn – are coefficients (the effect of each X and Y)

$\in$ -is represent the error

Simultaneously, qualitative data obtained from Key Informant Interviews (KIIs) undergo thematic analysis. The thematic analysis involves systematically identifying, analyzing, and reporting patterns (themes) within the qualitative data. The process includes coding, categorizing, and interpreting textual information to identify recurring themes and extract meaningful insights. This qualitative analysis method allows for a nuanced exploration of the perspectives, experiences, and perceptions of key stakeholders involved in the land acquisition process, providing rich contextual understanding.

4. RESULTS AND DISCUSSION

4.1 Introduction

Chapter Four presents the findings from the data collected during this study and discusses their implications. This chapter is organized as follows: First, the results are presented in both narrative and visual formats, including tables and figures. This is followed by statistical analyses highlighting significant findings. The discussion then contextualizes these results within the existing literature, explores their theoretical and practical implications, addresses limitations, and suggests directions for future research.

4.2. Assumption test of regression Analysis

4.2.1.1. Multicollinearity

The study checked for multicollinearity among independent variables using SPSS 26 and no multicollinearity problem was detected in the data presented in Table 1. Tolerance values were less than 1 and Variance Inflation Factor VIF values were around 1.00 and not more than 2.6, indicating no multicollinearity.

Table 1:- Collinearity statistics

Model	Collinearity Statistics	
	Tolerance	VIF
Economic	0.384	2.601
Social	0.460	2.172
Cultural	0.492	2.032
Political	0.990	1.001

4.2.1.2 Normality of the Error Term Distribution

Normality refers to the shape of a normal distribution of the matric variable (Roberts, 2006). For variables with normal distribution, the values of skewness and kurtosis are zero, and any value other than zero indicated deviation from normality (Hair, 2010).

Skewness indicates the symmetry of the distribution. A value of zero indicates symmetry, while positive and negative values indicate right and left skew, respectively. Kurtosis measures how much the peak of a distribution differs from a normal distribution. Positive values indicate a more pointed distribution, while negative values indicate a flatter distribution. Table 2 shows that all variables have acceptable skewness statistics for normality (-1.0 to +1.0). The skewness and kurtosis values are between the acceptable ranges. Despite this, the data still meets the assumption of normality for multiple regression Figure 2.

Table 2:- Skewness and Kurtosis

Descriptive Statistics					
	N	Skewness		Kurtosis	
	SD	Statistic	Std. Error	Statistic	Std. Error
Economic	0.704	0.547	0.131	-0.694	0.262
Social	0.729	0.567	0.131	-0.752	0.262
Cultural	0.912	0.688	0.131	-0.361	0.262
Political	1.161	0.217	0.131	-0.913	0.262
Land Acquisition	0.880	0.896	0.131	-0.546	0.262

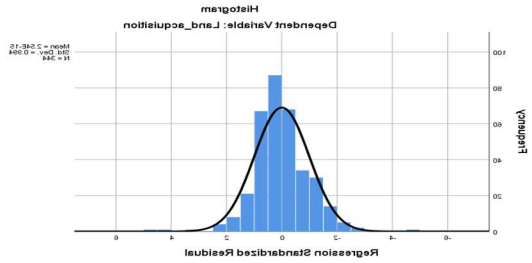


Figure 1:- Histogram test for normality

4.2.1.3. Heteroscedasticity

The Heteroscedastic assumption can easily be checked using scatterplots or residual plots: plots of the residuals vs. either the predicted values of the dependent variable or against (one of) the independent variable(s) (Hoekstra, Morey, Rouder, and Wagenmakers, 2014). The scatter plots of standardized residuals versus the fitted values for the regression models were visually inspected in Figure 3. This shows that the data has no heteroscedasticity problem, and the assumption is met.

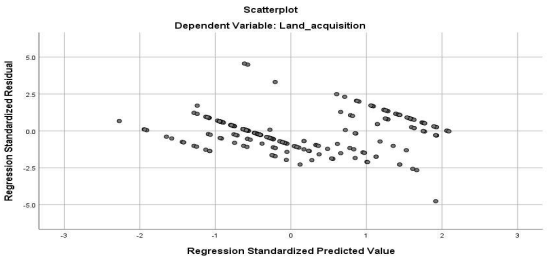


Figure 2:- Scatter plot test for Heteroscedastic.

4.2.1.5. Auto-correlation

The Durbin-Watson test detects auto-correlation in regression analysis, which occurs when the dependent variable at time t is related to its value at the previous time period. A value of 2 indicates no autocorrelation, while values 0-2 indicate positive autocorrelation and values 2-4 indicate negative autocorrelation. The acceptable range for no autocorrelation is 1.5<DW<2.5. the Durbin-Watson value in this study is 1.61, Table 3. which falls within the acceptable range, indicating no significant autocorrelation.

Table 3:- Durbin-Waston Value

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.863[a]	0.745	0.742	0.44718	1.611

a. Predictors: (Constant), Political, Cultural, Social, Economic

b. Dependent Variable: Land acquisition

4.2.1.6. Reliability and Validity Tests

Reliability was assessed using Cronbach's alpha, presented in Table 3, while validity was evaluated through content and construct validity methods.

Reliability was assessed using Cronbach's alpha to ensure the internal consistency of the questionnaire items presented in Table 4. A Cronbach's alpha value above 0.7 was considered acceptable (Thanasegaran, G. , 2009). Validity was evaluated through content validity, ensured by expert reviews, and construct validity, assessed through factor analysis. These measures ensure that the data collection instruments are both reliable and valid.

Table 4:-Reliability test

Reliability test	
Variable	**Cronbach's alpha**
Economic	0.784
Social	0.726
Cultural	0.886
Political	0.713
Land Acquisition	0.754

Clear and standardized data collection protocols were developed to maintain consistency and reduce errors. Data collectors were trained to follow these protocols accurately, and pilot testing ensured the validity and reliability of measurement tools. Quality control checks during data collection and entry, secure data storage systems, and thorough data cleaning procedures were implemented to ensure data accuracy and integrity. Cross-verification of data with external sources enhanced the reliability of findings.

4.3. Demography of the Respondents

The majority of respondents were male, accounting for 72.7% of the sample, while females represented 27.3%. In terms of age distribution, the highest percentage fell within the 25-34 age group at 45.3%, followed by the 18-24 age group at 27.6%. Educational status varied among respondents, with 61.6% holding a Bachelor's degree, 36.3% having college or vocational training, and only 2% possessing a Master's degree. Regarding the length of residency in Addis Ababa, an almost equal split was observed between those residing for less than 1 year (48.8%) and those residing for 1-5 years (51.2%). The positions held by respondents in the project included project managers (27%), SAQ team members (38.7%), and construction supervisors (34.3%). In terms of project involvement, the majority of respondents were engaged in Rapid Deployment projects (36.3%), followed by Green Field Tower projects (24.7%) and Colo Tower projects (20.3%). Nearly half of the respondents (49.1%) had previous experience with land acquisition, while the remaining 50.9% did not.

The size of project teams varied, with the majority falling into the medium category (11-50 members) at 94.5%. When it comes to the type of telecommunication projects, Fiber Optic Deployment projects were the most common (46.2%), followed by Mobile Network Expansion projects (26.2%) and Infrastructure Upgrade projects (23.8%). In terms of decision-making involvement, the majority of respondents reported being moderately involved (58.4%), followed by those who were highly involved (35.8%). A small percentage reported minimal involvement (2.6%), while others indicated no involvement in decision-making (3.2%) Table

4.3. Economic, Social, Cultural, and Political Influences on Land Acquisition

4.3.1 Economic Factor

One of the factors taken into account in the land purchase system for Safaricom development projects was the economic component. With a mean score of 2.5, the land acquisition system's financial concerns rank as the most important economic component. The cost of purchasing land comes in second with a mean score of 2.57. With a mean score of 2.69, the estimated return on investment in the individual areas is the third most relevant component in the Safaricom land purchase method, as shown in Table 5. The economic feasibility of the Safaricom construction project and the financial consequences of the land acquisition system, with mean scores of 2.72 and 3.1, respectively, are the fourth and fifth elements influencing the land acquisition system of Safaricom building projects.

Table 5:- Perception of the respondents on the influence of economic factors.

Item	Mean	Std. Dev
The economic viability of the Safaricom construction project significantly influences the land acquisition decisions.	2.72	0.953
Financial considerations play a crucial role in determining the selected areas for land acquisition for Safaricom projects.	2.5	0.978
The cost of land acquisition is a major determinant in the overall project budget for Safaricom construction projects.	2.57	1.031
The land acquisition decisions for Safaricom projects are influenced by considerations of the expected return on investment in the respective areas.	2.69	1.103
The financial implications of the land acquisition system are predictable and allow for accurate budgeting in Safaricom construction projects.	3.1	0.684

These findings align with previous research highlighting the importance of economic factors in land acquisition processes (Adetokunboh & Agbato, 2017). However, the moderate variability in responses regarding predictabilities of financial implications suggests a nuanced understanding among respondents, which may differ from previous studies emphasizing more uniform perceptions in this aspect (Osei-Owusu, A., & Henten, A. , 2017).

4.3.2 Social Factor

The approval and support of the community, social cohesiveness, and general well-being were all important factors in determining the land acquisition decisions made for Safaricom development projects. While the mean score of 2.88 revealed reduced agreement for social cohesion and well-being, the mean score of 2.51 indicated a reasonable level of agreement for community acceptance and support. In spite of this, respondents' agreement was largely consistent. Furthermore, a mean score of 2.88 indicated that a thorough social effect evaluation was considered essential to comprehending community dynamics. These results Table 6 illustrate the value of community understanding and engagement in project planning and execution, underscoring the importance of community-related factors in Safaricom construction projects.

Table 6: Perception of the respondents on the influence of social factors

Item	Mean	Std. Dev
Community acceptance and support influence the choice of land acquisition for Safaricom projects.	3.12	1.029
Social cohesion and community well-being are considered when deciding on the location for Safaricom construction projects.	2.47	0.893
	2.51	0.894

Item	Mean	Std. Dev
Public opinion and perception are taken into account when selecting areas for land acquisition for Safaricom projects.		
A comprehensive social impact assessment is conducted as part of the land acquisition system, ensuring a thorough understanding of the community dynamics.	2.88	1.105

Consistent with prior research highlighting the significance of community engagement, community acceptability, and support, as well as social cohesiveness and well-being considerations, appear as critical determinants affecting land acquisition decisions (Anni & Acquah, 2021). On the other hand, the somewhat ambivalent attitude about the significance of a thorough social effect evaluation points away from research supporting its crucial function in comprehending community dynamics (Mani , 1989).

4.3.3 Cultural Factor

The survey results in Table 7 highlighted several key aspects regarding cultural considerations in the land acquisition process for study projects conducted by Safaricom. Firstly, the cultural compatibility of projects with local communities was moderately valued, indicated by a mean score of 2.44, suggesting moderate agreement. Secondly, alignment with cultural values and practices received similar consideration reflected by a mean score of 2.5, indicating moderate agreement. Thirdly, the preservation of cultural heritage was identified as a priority in land acquisition decision-making. Overall, these findings emphasize the importance of cultural sensitivity and alignment with community values in Safaricom's project planning processes, with relatively consistent responses across the surveyed population.

Table 7: Perception of the respondents on the influence of Cultural factors.

Item	Mean	Std. Dev
The cultural compatibility of the project with the local community is considered during the land acquisition process.	2.44	0.943
Safaricom projects aim to align with the cultural values and practices of the communities in the selected areas.	2.5	0.966
Preservation of cultural heritage is a priority in the decision-making process of land acquisition for Safaricom projects.	2.59	1.026
Negotiations during the land acquisition process demonstrate cultural sensitivity, respecting the traditions and values of the communities involved in Safaricom projects.	2.44	1.263

The survey showed the significance of cultural compatibility and alignment with local practices in land acquisition decisions, supporting previous findings emphasizing the importance of cultural considerations in development projects (Smith, 2001). However, the mixed responses regarding negotiations demonstrating cultural sensitivity suggest a divergence from studies emphasizing the necessity of culturally sensitive approaches in land acquisition processes (Hoda, 2018).

4.3.4 Political Factor

With a mean score of 3.94, which indicates considerable disagreement among respondents, the survey results did not support the significance of political stability in affecting Safaricom's land acquisition strategy. Likewise, with a mean score of 3.77, indicating general disagreement, adherence to regional and federal political laws was disregarded. On the other hand, a mean score of 3.92 indicated substantial disagreement about the perceived influence of political support at different levels in influencing land acquisition. An average score of

3.68 indicated that respondents were generally unsatisfied with the cooperation with governmental bodies Table 8. Compared with the other categories in the study, these findings highlight the minimal influence of political issues on Safaricom's land acquisition procedures.

Table 8: Perception of the respondents on the influence of Political factor

Item	Mean	Std. Dev
The political stability of the region significantly influences the land acquisition strategy for Safaricom construction projects.	3.94	1.097
Compliance with local and national political regulations is a key consideration in the land acquisition process.	3.77	1.096
Political support at various levels affects the ease of land acquisition for Safaricom projects in Addis Ababa.	3.92	1.028
Collaboration with governmental entities is a key aspect of the land acquisition system, ensuring alignment with political objectives and regulations.	3.68	1.1

These results contradict earlier studies that highlighted the impact of political considerations on development projects and the importance of political stability and regulatory compliance on land acquisition techniques (Larbi, 2008). In a similar vein, research highlighting the critical role that political support plays in enabling such processes contrasts with the generally low agreement over how political support influences the ease of land acquisition (Anaba, 2021). The variations in the socio-political situations in which the studies were carried out can be used to explain the discrepancies between the outcomes of earlier and contemporary research.

4.3.5 Factors Affecting Land Acquisition System in the Study Area

The model predicting land Acquisition produced noteworthy outcomes when subjected to multiple linear regression analysis. From the result in Table 9, A strong correlation was shown by the model, with an R-squared value of 0.745, meaning that the predictors in the model can account for 74.5% of the variance in land Acquisition. The model's explanatory power is still strong even after taking the number of predictors into account, as seen by the adjusted R-squared value of 0.742. The regression model was also statistically significant ($F(4, 339) = 247.129$, $p < 0.001$), according to the ANOVA findings, suggesting that the predictors (political, cultural, social, and economic) collectively strongly predict land Acquisition.

Table 9:- Regression analysis results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.863[a]	.745	.742	.44718	1.611

a. Predictors: (Constant), Political, Cultural, Social, Economic

b. Dependent Variable: Land acquisition

Table 10:- Regression Coefficients

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	197.670	4	49.418	247.129	.000[b]
	Residual	67.789	339	.200		
	Total	265.459	343			

a. Dependent Variable: Land acquisition

b. Predictors: (Constant), Political, Cultural, Social, Economic

The regression model accounted for a significant amount of variance in land acquisition, as evidenced by the sum of squares for regression being 197.670 compared to the residual sum of squares of 67.789. These results suggest that

the included predictors have a substantial impact on explaining the variation in land acquisition in the context of the study.

Among the predictors, Economic (β = 0.474, p < 0.001) and Social (β = 0.437, p < 0.001) factors demonstrate significant influence on land acquisition decisions for Safaricom projects. These findings suggest that economic and social considerations play a substantial role in shaping the outcomes of the land acquisition process. In contrast, the Cultural predictor (β = 0.027, p = 0.493) shows a minimal impact, indicating that cultural factors may not significantly affect land acquisition in this context. In addition, the Political predictor (β = 0.000, p = 0.997) exhibits no substantial influence on Land acquisition, suggesting that political considerations do not play a significant role in determining the outcomes of land acquisition for Safaricom projects.

Table 11:- Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.694	.117		-5.942	.000
	Economic	.592	.055	.474	10.704	.000
	Social	.527	.049	.437	10.801	.000
	Cultural	.026	.038	.027	.687	.493
	Political	7.620E-5	.021	.000	.004	.997

Both economic and social factors demonstrate significant influences on land acquisition decisions for Safaricom projects, aligning with previous studies emphasizing the importance of these factors in shaping land acquisition outcomes (Danso & Antwi, 2012). These findings underscore the need for comprehensive consideration of economic viability and community acceptance in land acquisition processes to ensure successful project implementation (Ur Rehman et.al., 2012).

4.4 Challenges and opportunities associated with the current land acquisition system.

4.4.1 Challenges

The challenges identified in Safaricom's land acquisition process varied in their perceived severity. Among these challenges, political instability ranked as the most significant, with a mean score of 1.91, followed closely by issues related to insufficient compensation, which garnered a mean score of 2.04, and poor planning and coordination, with a mean score of 1.98. Resistance from local communities was also notable, ranking fourth with a mean score of 2.20. On the other hand, challenges such as complex bureaucratic procedures, legal hurdles, lack of transparency, environmental concerns, and infrastructure development were identified but ranked slightly lower in severity, with mean scores ranging from 2.10 to 2.32.

While these challenges highlight the complexity of Safaricom's land acquisition endeavors, they also underscore the need for strategic planning and proactive mitigation measures to address these multifaceted issues effectively.

Previous research reports emphasize bureaucratic hurdles, legal complexities, and community resistance (Gupta & Sharma, 2019). Additionally, concerns related to inadequate compensation, lack of transparency, political instability, and environmental impacts resonate with studies highlighting similar challenges in land acquisition processes for infrastructure projects (Ninan, 2017).

During the interviews, several challenges related to land acquisition for Safaricom telecommunication projects were highlighted. One SAQ team leader mentioned that “ownership problems often arise, such as disagreements with heirs of the land due to the original owner's death. Additionally, space constraints in required areas and incomplete legal documentation, like difficulty in obtaining marriage certificates and low awareness of TIN

registration, were identified as challenges. Another issue raised by an interviewee was the doubt regarding building strength to support tower loads and concerns about property security, including theft.

Moreover, tax-related issues and health concerns, such as fertility and brain damage, were mentioned by an interviewed landowner. Management from SAQ pointed out various challenges, including owners changing their minds after the SAR process, potential failures in TSSR due to space or building quality issues, owners' reluctance to provide necessary documents to DARA, absentee owners residing outside Ethiopia, and the challenge of a 10-year lease period.

In terms of colocation challenges, a management representative from Ethiotelecom highlighted space limitations for service expansion on towers, power requirements for Safaricom projects, and security concerns at core network sites. Insights from a DARA officer revealed challenges with lease agreements, reluctance to authenticate open land leases due to Ethiopian land laws, and resistance to processing authentication for governmental offices.

4.4.2 Opportunities

The opportunities identified for Safaricom's land acquisition process varied in their perceived significance. Cultural awareness and sensitivity in the land acquisition process ranked as the most ranking opportunity, with a mean score of 2.02. Legal reforms to simplify regulations followed closely, with a mean score of 2.07, alongside simultaneous infrastructure development alongside land acquisition projects (mean score: 2.09). Opportunities for public-private partnerships, sustainable development practices, and comprehensive social impact assessments were recognized with a mean score of 2.09. Integration of technology for efficient mapping and assessment also held a similar ranking, with a mean score of 2.09.

Information gathered from the interviews also have identified some opportunities related to the land acquisition for the projects. The SAQ team leader mentioned that the availability of buildings in the city could help address DARA issues. Additionally, advantages such as a rent down payment option for lessors (30 months) and colocation opportunities in dense residential areas lacking sufficient space for tower erection were highlighted as favorable aspects for land acquisition in Safaricom projects.

Capacity building and training programs were identified as another significant opportunity, with collaboration, technology integration, and policy reform to enhance efficiency and community engagement.

The positive mean score of 2.10. Government support and policies facilitating streamlined processes were also seen as important, with a mean score of 2.15. These findings highlight various avenues for improvement and innovation in Safaricom's land acquisition practices, emphasizing the potential for perceptions regarding community engagement, technological integration, capacity building, and government support align with studies advocating for participatory approaches, technological innovations, and supportive policies in land acquisition processes (Adetokunboh & Agbato, 2017).

4.5 The Impact of the Land Acquisition System on Project Completion

The system's ability to accommodate changes or unforeseen circumstances was recognized as important for project flexibility, with a mean score of 2.46. Delays in the land acquisition process directly affected project schedules and completion deadlines, with a mean score of 2.47. Improvements in the system to enhance predictability and timeliness were also deemed crucial, with a mean score of 2.52. The efficiency of the land acquisition system was perceived as significantly impacting the timely completion of Safaricom telecommunication projects, with a mean score of 2.64. These findings emphasize

the critical role of the land acquisition process in Safaricom's project completion timelines and highlight the need for efficient and adaptable systems to ensure timely project delivery.

Table 12:- The Impact of the Land Acquisition System on Project Completion

Item	Mean	Std. Dev
The efficiency of the land acquisition system significantly influences the overall timely completion of Safaricom telecommunication projects.	2.64	1.135
Delays in the land acquisition process directly impact the project schedule and completion deadlines for Safaricom construction projects.	2.47	1.168
Improvements in the land acquisition system would contribute to a more predictable and timely completion of Safaricom Projects in Addis Ababa.	2.52	0.975
The current land acquisition system's ability to accommodate changes in project requirements or unforeseen circumstances directly affects the flexibility of Safaricom projects in Addis Ababa.	2.46	1.116

5. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The research study concludes that economic and social factors significantly influence Safaricom's land acquisition decisions, with financial considerations, community acceptance, and social cohesion being pivotal. Cultural factors have a minimal impact, and political factors are largely insignificant. Challenges include bureaucratic procedures, legal issues, community resistance, lack of transparency, political instability, environmental concerns, infrastructure development issues, and poor planning. Opportunities lie in community engagement, technology integration, capacity building, government support, sustainable practices, public-private partnerships, and legal reforms. Optimizing land acquisition processes is essential for timely project delivery.

It can be concluded from the research study that the survey findings underline the significant influence of the economic factor on land acquisition decisions and financial considerations within Safaricom construction projects. Economic viability, financial considerations, and cost implications were identified as pivotal aspects shaping the decision-making process surrounding land acquisition. While there was a consensus on the importance of financial factors in selecting areas for acquisition and budget planning.

The survey findings showed the pivotal role of social factors in shaping land acquisition decisions. Notably, community acceptance and support emerged as influential factors, with a substantial percentage of respondents recognizing the importance. Additionally, social cohesion, community well-being & public opinion were key considerations in determining project locations, acknowledged by majority of participants.

The survey results also indicated different cultural considerations in the land acquisition process for the study projects. Firstly, the cultural compatibility of the projects with the local community was moderately acknowledged, with a considerable percentage of respondents agreeing or strongly agreeing. Similarly, Safaricom's efforts to align with the cultural values and practices of communities in selected areas received a comparable level of consideration, showing moderate agreement among participants. Preservation of cultural heritage was identified as a priority in the decision-making process for land acquisition, with a majority of respondents valuing this aspect. However, negotiations demonstrating cultural sensitivity during the land acquisition

process yielded mixed responses, indicating differing perspectives among participants.

The influence of the political factor on the land acquisition process was not perceived by the study participants. Participants did not perceive the political stability of the region as a significant driver of the land acquisition strategy, with a significant percentage disagreeing. The survey results indicated that political stability, compliance with political regulations, political support, and collaboration with governmental entities had little impact on Safaricom's land acquisition strategy. Respondents generally disagreed on the significance of these political factors compared to other factors studied.

According to the multiple linear regression analysis economic and social factors significantly influence land acquisition decisions within Safaricom projects. These findings suggest that considerations related to economic viability and social aspects play a substantial role in shaping the outcomes of the land acquisition process. On the other hand, cultural factors were found to have a minimal impact, indicating that they may not significantly affect land acquisition in this context. Additionally, political considerations were not found to play a significant role in determining the outcomes of land acquisition for Safaricom projects.

The survey findings revealed a multitude of challenges and issues in the land acquisition process for Safaricom projects. Participants identified various obstacles, including complex and time-consuming bureaucratic procedures, legal challenges related to ownership and compliance, resistance from local communities causing delays, conflicts between modern and traditional practices, lack of transparency in decision-making, political instability affecting project continuity, environmental concerns, infrastructure development challenges, and poor planning leading to inefficient land use.

The survey revealed various opportunities in the land acquisition process for the projects. Participants emphasized the importance of meaningful community engagement, technology integration for efficient mapping, and capacity building for community understanding. Government support for transparent processes and the incorporation of sustainable practices were seen as crucial. Additionally, public-private partnerships, social impact assessments, infrastructure development, cultural sensitivity, and legal reforms were recognized as valuable opportunities for enhancing project efficiency and outcomes.

The results highlight the pivotal role of Safaricom's land acquisition system in ensuring the timely completion of telecommunication projects. The system's ability to accommodate changes or unforeseen circumstances is paramount for maintaining project flexibility. Additionally, addressing delays in the land acquisition process is essential to avoid negative impacts on project schedules and completion deadlines. Enhancing the predictability and timeliness of the system is also crucial. Overall, these findings underscore the necessity for Safaricom to prioritize the optimization of its land acquisition processes to ensure efficient and timely project delivery.

The findings of the study imply that Safaricom must prioritize economic and social factors in their land acquisition strategy, emphasizing financial viability and community engagement. Cultural factors, though less influential, should not be neglected, and political factors, while not critical, still require some attention to mitigate risks. Addressing bureaucratic and legal challenges, improving transparency, and enhancing planning are essential to overcoming obstacles. Opportunities exist in leveraging technology, fostering government and community partnerships, and implementing sustainable practices. Optimizing the land acquisition process is crucial for maintaining

project flexibility and ensuring timely completion of telecommunication projects.

5.2 Recommendations

Based on the findings of the study, the following recommendations related to Land Acquisition were made for all the new entrants of foreign companies to the Ethiopian market.

- Strengthen financial planning and analysis frameworks to ensure economic viability is thoroughly assessed. This includes conducting detailed cost-benefit analyses and financial forecasting to make informed decisions on land acquisition and project budgeting.
- Develop comprehensive community engagement strategies to build and maintain strong relationships with local communities. Regularly seek community input and address their concerns to ensure community acceptance and support, which are crucial for the success of land acquisition and project implementation.
- Implement robust social impact assessments to evaluate the effects of projects on community well-being, social cohesion, and public opinion. Use the findings to guide decision-making and ensure projects positively contribute to the social fabric of the areas involved.
- Incorporate cultural sensitivity training for project teams and prioritize the preservation of cultural heritage in the land acquisition process. Align projects with local cultural values and practices to gain community trust and support, and address any cultural conflicts that may arise.
- Work with governmental entities to simplify and expedite bureaucratic procedures related to land acquisition. Ensure clear legal frameworks and compliance to reduce delays and legal challenges, enhancing the efficiency and predictability of the acquisition process
- Invest in advanced technologies, such as GIS mapping and data analytics, to improve the accuracy and efficiency of land acquisition processes. Use these tools for better planning, tracking, and management of land resources, leading to more informed and timely decisions.
- Build strong partnerships with public and private sector stakeholders to support transparent and efficient land acquisition processes. Collaborative efforts can lead to shared resources, knowledge, and support, facilitating smoother project execution and overcoming various challenges.
- Plan and implement infrastructure development in a way that mitigates environmental concerns and promotes sustainable practices. Incorporate environmental impact assessments into the decision-making process to ensure projects do not adversely affect the natural environment and contribute to long-term sustainability

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