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Demand Side Characteristics and Their Effects on Implementation of Low Cost Housing Projects in Nairobi County: A Case Study of National Housing Corporation Properties in Kenya

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Abstract:
This study sought to investigate the demand side characteristics that affect the implementation of low cost housing projects in Nairobi County. The specific objectives of the study were to investigate the effect of buying price, affordability, location of the home and accessibility on the implementation of low cost housing projects in Nairobi County. Descriptive research design was used where the study target population was the National Housing Corporation. A sample size of 108 employees was considered as a representative of the whole population under study.The main data collection instrument used in this study was a questionnaire. Data analysis was done in statistical package for social science (SPSS) where both descriptive and inferential statistics were used. It was found that buying price; affordability; location; and accessibility exerts great effect on implementation of low cost housing projects in the County. The study concluded that buying price; affordability; location; and accessibility exerts a significant positive effect on the implementation of low cost housing project.

Keywords: Buying price, affordability, location, accessibility, low cost housing project

1. Introduction

Housing is considered one of the fundamental urban issues in both developed and developing countries. According to UN-HABITAT (2014), every household should be able to afford a decent home without their ability to spend for other necessities compromised.Owning a home especially by the low income and middle income earners is therefore a major policy concern worldwide (Rubinowitz, 2014; Macoloo, 2013).However, the problem of affordable housing is more concentrated in the developing nations (UN-HABITAT, 2014). In Africa, it is estimated that over 57 per cent of African population do not have proper housing structures (Nussbaum, 2013).Kenya has struggled to provide basic housing for poor and modest income households. As a result, the Kenya government came up with a strategy for low cost housing projects implementation to supplement private sector housing projects in Nairobi and fill the gap of providing low income earners with the opportunity to own homes and live decently (Owoko, 2013). However, Syagga and Kiamba, (2012) view, the uptake of low cost housing projects by the middle income and low income earners in Kenya is relatively low due to the unaddressed demand side factors. Unfortunately, few studies have been done to investigate demand side characteristics that affect the implementation of low cost housing projects with focus on Nairobi County. This study therefore sought to fill this gap by assessing the demand side characteristics on the implementation of low cost housing projects in Nairobi County. The research objectives were:

- To determine the effect of buying price on the implementation of low cost housing projects in Nairobi County.
- To assess the influence of affordability on the implementation of low cost housing projects in Nairobi County.
- To establish the influence of location on the implementation of low cost housing projects in Nairobi County.
- To find out the influence of accessibility on the implementation of low cost housing projects in Nairobi County.

2. Materials and Methods

The study was carried out in Nairobi County focusing on the National Housing Corporation (NHC).The study target population was 360 employees of NHC involved in the actual development of low cost housing projects in Nairobi County.

2.1. Study Design

Descriptive research design was applied.

2.2. Study Duration

March 2018 to July 2019

2.3. Sample Size Calculation

A sample size of 30% was drawn from the total target population. This is according to Kothari (2004) who opined that 30% of the target population is representative enough to be used as sample size in a study. In this regard, a sample size of 108 out of 360 employees of NHC was targeted.

2.4. Subjects and Selection Method

Using stratified random sampling method the respondents were selected proportionately using the different categories of employees as the strata. In this regard, 30% of employees were selected from each category and the sample size was distributed as illustrated in Table 1.

Category	Population(N)	Sample Size (30% x N)
Top Management	13	4
Middle Management	71	21
Support Staff	276	83
Total	360	108

Table 1: Sample Size Distribution

2.5. Data Collection Procedure/Methodology

The study used a questionnaire for data collection.First approval of the research project was sought from Kenyatta University supervisor. Thereafter, research permit was applied for and obtained from the National Council of Science and Technology (NACOSTI).The researcher was then booked for appointments with civil servants from the National Housing Corporation involved in the actual development of low cost housing projects in Nairobi County to conduct the study. The researcher administered the questionnaires personally to the respondents. Participants were then allowed to fill the questionnaires based on the best of their knowledge. The questionnaires were then collected later on specific agreed dates with the participants for analysis.

2.6. Data Analysis

Qualitative data relating to each of the variables was analysedby organizing the qualitative data into themes in accordance to the study objectives. Quantitative data was coded and entered into Statistical Program for Social Sciences (SPSS) version 22. Descriptive statistics were first computed including the frequency, percentage, mean and standard deviation. Inferential statistics were then computed including Pearson's Correlation analysis and regression analysis.The descriptive and inferential analysis was used in this study. The analysis was qualitative and quantitative in nature. Quantitative analysis was done for the numerical data collected, with the help of Statistical Package for Social Sciences (SPSS) version 21.0.The ranking of effects of each determinant was calculated based on the mean score, as guided by the items in the questionnaire which were measured using a Likert scale of one to five with one being strongly disagree and five being strongly agree. Inferential statistics computed for the analysis mainly entailed regression analysis. The confidence level used was 95% level.

3. Results

3.1. Response Rate

After data quality checks were done, it was established that 7 out of the 108 questionnaires administered were not properly filled hence, they were discarded. Therefore, the rest 101 questionnaires equivalent to 93.5%, constituted the response rate for the study.

3.2. Buying Price and implementation of Low Cost Housing Projects

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Consumer budget affects the implementation of low cost housing projects	33.3%	42.9%	14.3%	9.5%	0%	4.0
Ratio of average house price to average income of customer affects the implementation of low cost housing projects.	52.4%	38.1%	9.5%	0%	0%	4.4
Ratio of customer income to construction cost affects the implementation of low cost housing projects.	19%	38.1%	23.8%	9.5%	9.5%	3.5
Ratio of household expenditure to house price affects the implementation of low cost housing projects	28.6%	42.9%	23.8%	4.8%	0%	4.0
Average						3.9

Table 2: Perception on the Influence of Buying Price

On average, the effect of buying price was rated at a mean of 3.9.According to the employees, the greatest effect is exerted by the ratio of average house price to average income of customer as indicated by the highest mean of 4.4. The effect of consumer budget and the ratio of household expenditure to house price on implementation of low cost housing projects were equally rated at a mean of 4.0.

3.3. Affordability and Implementation of Low Cost Housing Projects

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
The need to meet affordability index affects the implementation of low cost housing projects	62%	20%	12%	4%	2%	4.4
The need to meet consumer buying power affects the implementation of low cost housing	50%	32%	10%	5%	3%	4.2
The need to meet ratio measure of spending per household affects the implementation of low cost housing projects	42%	33%	21%	3%	1%	4.1
The need to meet residual measure of spending per household affects the implementation of low cost housing projects	48%	29%	14%	7%	2%	4.1
Average						4.2

Table 3: Perception on the influence of affordability

The aggregated effect of affordability on implementation of low cost housing projects in Nairobi County was rated at a mean of 4.2.The effect exerted by the need to meet affordability index was rated the greatest, followed by the effect from the need to meet consumer buying power (mean = 4.2).

3.4. Location and Implementation of Low Cost Housing Projects

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Accessibility to the home affects the implementation of low cost housing projects	51%	28%	15%	5%	1%	4.2
Closeness of the home to the workplace affects the implementation of low cost housing projects	55%	35%	7%	3%	0%	4.4
Security of the area of the home affects the implementation of low cost housing projects	35%	25%	20%	18%	2%	3.7
The Infrastructure around the home affects the implementation of low cost housing projects	25%	30%	30%	10%	50%	4.1
Average						4.1

Table 4: Project planning in ASDSP in Kiambu County

The overall effect of the various aspects of location on implementation of low cost housing projects in Nairobi County was rated at a mean of 4.1. The greatest effect according to the respondents is exerted by the closeness of the home to the workplace (mean = 4.4), followed by accessibility to the home affected (mean = 4.2) and the infrastructure around the home affected (mean = 4.1).

3.5. Accessibility and Implementation of Low Cost Housing Projects

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Safety of the house affects the implementation of low cost housing projects	0%	53%	37%	10%	0%	3.4
Adaptability of the house affects the implementation of low cost housing projects	10%	40%	43%	7%	0%	3.5
Type/size of the house affects the implementation of low cost housing projects	10%	30%	50%	10%	0%	3.4
Design of the house affects the implementation of low cost housing projects	0%	53%	37%	10%	0%	3.4
Average						3.4

Table 5: Perception on the influence of accessibility

The aggregated effect of the various aspects of accessibility on implementation of low cost housing projects in Nairobi County rated at a mean of 3.4.They expressed their neutrality on the effect of safety of the house; type/size of the house and its design with a mean of 3.4 for each aspect, while they affirmed that adaptability of the house affects the implementation of low cost housing projects as reflected by the mean of 3.5.

3.6. Inferential Statistics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808	.653	.648	.529

Table 6: Model Summary
a. Predictors: (Constant), Buying price, Affordability, Location, Accessibility

Since the value of R square was 0.653, it follows that the demand side characteristics (buying price, affordability, location and accessibility) influence 65.3% of the variations in the implementation of low cost housing projects in Nairobi County. Other variations (34.7%) in the implementation of low cost housing projects in Nairobi County are explained by other factors apart from buying price, affordability, location and accessibility.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.159	4	9.290	45.235	.000(a)
	Residual	19.715	96	0.205		
	Total	56.874	100			

Table 7: ANOVA
a. Predictors: (Constant), Buying Price, Affordability, Location, Accessibility
b. Dependent Variable: Implementation of Low Cost Housing Projects

From the ANOVA results, the p-value (Sig.) was 0.000. Since the p-value was less than 0.05, it indicates that the estimated model for the dependent variable (implementation of low cost housing projects) and the predictors (Buying price, Affordability, Location, Accessibility), was statistically significant at the 0.05 significance level.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.831	.473		2.558	.019
	Buying price	.866	.251	.752	1.739	.010
	Affordability	.773	.197	.658	2.912	.003
	Location	.695	.192	.601	1.875	.014
	Accessibility	.608	.263	.553	1.641	.001

Table 8: Regression Coefficients

Dependent Variable: Implementation of low cost housing projects
From the regression results, the estimated regression model for the relationship between demand side characteristics and the implementation of low cost housing projects in Nairobi County was expressed as follows:

$$Y = 0.831 + 0.866X_1 + 0.773X_2 + 0.695X_3 + 0.608X_4$$

Where: Y is implementation of low-cost housing projects; X_1, X_2, X_3 and X_4 is Buying price; Affordability; Location; and Accessibility respectively.
The regression coefficients indicated that enhancing thebuying price;affordability; location; and accessibilityby one unit increases the implementation of low cost housing projects by 0.86621, 0.773, 0.695 and 0.608 respectively. The influence by each of them was significant at 5 percent significance level sincep values (Sig.) were less than 0.05 for all the coefficients.

4. Discussion

The regression coefficient (β) for buying price was 0.866 with a p-value (Sig.) of 0.010. This indicates that when the buying price of the houses is increased by one unit, it will cause an increment of 0.866 units in implementation of low cost housing projects. The influence is significant at 5 percent significance level since the p-value is less than 0.05.
The regression coefficient for affordability was 0.773 with a p-value of 0.003. The implication is that when affordability of houses to the consumers is improved by one unit, it boosts the implementation of low cost housing projects by 0.773 units. The influenceis also significant at 5 percent significance level since the p-value is less than 0.05.
Location had a regression coefficient of 0.695 with a p-value of 0.014. This is an indication that enhancing the location for the houses by one unit causes the implementation of low cost housing projects to increase by 0.695 units. Since the p-value was less than 0.05, it means that the influence is significant at 5 percent significance level.
Accessibility had a regression coefficient of 0.608 with a p-value of 0.001. The coefficient indicates that enhancing accessibility of the house by one unit increases the implementation of low cost housing projects by 0.608 units. The influence caused by changes in accessibility is significant at 5 percent significance level as reflected by its p-value being less than 0.05.

The regression constant was 0.831 indicating that when the demand side characteristics assessed in this study (including buying price, affordability, location and accessibility) are held constant or at zero, implementation of low cost housing projects would relatively be low rating approximately 0.831 out of 5.

5. Conclusion

The study concluded that there is a significant direct relationship between buying price and implementation of low cost housing projects in Nairobi County.It was also inferred that there is a significant direct relationship between affordability and implementation of low cost housing projects in Nairobi County.Moreover, the study concluded that there is a significant direct relationship between location and implementation of low cost housing projects in Nairobi County.Lastly, the study concluded that a significant direct relationship exists between accessibility and implementation of low-cost housing projects in Nairobi County.

6. References

i.   Macoloo, G. (2013). The changing nature of financing low income urban housing development in Kenya. Housing Studies, 9(2), 189-281.

ii.   Nussbaum, N. (2013). Effectiveness in project implementation. Scorecard Analysis, 4(1), 56-61.

iii.   Owoko, D. M. (2013). How should Kenya address it needs? Journal for Planning and Urban Development, 30(1), 97-99.

iv.   Rubinowitz, L. (2014). Low-income housing: Suburban Strategies.Cambridge, Mass: Ballinger Publishing Company.

v.   Syagga, P.M. & Kiamba, J.M. (2012). Housing the urban poor in Nairobi. African Urban Quarterly, 7(1/2), 79-88.

vi.   UN-HABITAT (2014). Affordable Land and Housing in Asia. Nairobi, Kenya: United Nations Human Settlements Programme.