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Cost-Benefit Analysis of Commercial Complexes in Minna, Nigeria

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Abstract

Investors rely on Cost-Benefits Analysis (CBA) to guide their investment decisions. The need to determine environmental and social costs and benefits of a proposed commercial property development is crucial to help decide on the best option to adopt. Despite this recognized benefit of CBA, there has been little focus on CBA of commercial property investments in Minna metropolis. This study involves the preparation of CBA of commercial complexes in Minna, Nigeria with specific focus on those recently developed in the city. Data were collected through structured questionnaires, administered to commercial property developers, occupiers, and real estate professionals. The study revealed that location, economy, and transportation/infrastructure are the major factors that influence the demand for commercial complexes. . It also found that return on investment is the major reason private estate developers participate in commercial complex development while the most significant constraint in developing commercial complexes in Minna is high construction cost.

Keywords: *Cost-Benefit Analysis, Commercial Complexes, Property Investment, Minna*

Introduction

Cost - benefit analysis CBA is a means of establishing whether a proposed public project is worthwhile to the community based on an analysis of financial, social, and environmental cost and benefits (Ogunbajo, 2019). Cost benefit analysis can also be used for judging the attractiveness of alternative public project. In many developed countries, public projects are often not considered for approval until cost-benefit analysis is carried out. CBA is an appraisal technique used in assessing the desirability of an investment or project, which is likely to have an impact on a group of people or the entire community (Udechukwu, 2006). Though mostly used for performing financial analysis, CBA is also used for other purposes. It is widely applied as an appraisal technique particularly for use as an input into investment decision-making process. CBA is an analytical tool for judging the economic advantages or disadvantages of an investment decision by assessing its costs and benefits to determine the welfare change attributable to it (European Commission, 2014)

Unlike the private sector whose objective is profit maximization, the public sector aims at maximizing social welfare and concerns itself with social benefits and cost not just financial flows, hence, the need for CBA

Commercial property investments constitute a substantial proportion of real property investments worldwide. Niger State is one of the 36 states in Nigeria with the state capital located in Minna. It has immensely witnessed all round infrastructural development and a corresponding population growth with an annual population growth rate of 3.4% which is higher than the overall national growth rate of 2.60% (Niger State Bureau of Statistics, 2014). The state has witnessed a high increase in population because of its proximity to the nation's capital city, Abuja among others (Mohammed *et al*, 2007). The increase in population has led to rapid increase in the demand for commercial complexes which many parts of Minna could not meet. The consequential effect of the situation is that some inhabitants are making alternative arrangements for commercial complex through corner shops and kiosks and others. Inhabitants and citizens in some neigbourhoods are facing the challenges of living in an overcrowded urban environment with limited commercial space . Many

literatures have reported the significance of commercial real estate to the well-being of a society. It is seen as an essential element in developing a sustainable city by improving resilience, improving economy, healthy living, and well-being, as well as increasing social cohesion (CIWEM, 2010). The need to determine environmental and social costs versus benefits of a proposed commercial property development is critical to help decide on the best option to adopt before launching a major investment undertaking (Boardman & Boardman, 2008).

Literature Review

Cost -benefit analysis is an appraisal technique used in assessing the desirability of an investment or project, which is likely to have an impact on a group of people or the entire community (Udechukwu, 2006). It is used for projects with both quantitative and qualitative implications, thus mainly applied in the appraisal of public sector related projects with social, economic, financial or political implication. Certain aspects of urban development process require more funds than others, thus the need to carry out investment appraisal that would guide in taking decisions to either embark or reject such proposals. Project evaluation techniques of a more sophisticated nature are normally applied to urban development projects.

CBA is an economic technique applied to public decision−making that attempts to quantify the advantages (benefits) and disadvantages (costs) associated with a particular project or policy. This technique has been used to analyze policies affecting transportation, urban regeneration, agriculture, public health, criminal justice, defence, education, and the environment. The appeal of CBA is that by monetizing the benefits of the policy, it is possible to compare and/or aggregate many different categories of benefits with one another, and with the costs of the policy.

A scheme or project would be deemed acceptable if its benefits outweigh the costs. In this sense, a CBA informs decision−makers of both the direction and the strength of social preferences, and thereby also of the social desirability of a project or policy. Out of a number of alternative scheme being examined, CBA would recommend choosing the one with the largest net benefits, where net benefits are defined as the benefits minus the costs.

Cost−benefit analysis—or more specifically, the estimation of costs and benefits that is required to perform a CBA—also allows one to determine the socially optimal size of the project, i.e., the one that maximizes net benefits.

It should be noted that to determine the net effect of a proposed policy, we must first identify those persons who stand to gain and those who stand to lose from the implementation of the policy, and then estimate their respective gains or losses. For all practical purposes, CBA adopts the principle of a potential Pareto improvement, where winners can potentially compensate the losers. In total the benefits and the costs examined in a CBA are the aggregate gains and losses experienced by the individuals who comprise society. Thus, if no individual is made better off by the public scheme, there are no benefits associated with it. If no one is made worse off by the scheme, there are no costs. A CBA is usually performed to identify the most effective and economic way to conduct a transaction, engage in an activity, implement a project or accomplish a mission when there are several alternative ways of setting about it. The purpose of the analysis is to help determine the best approach that would yield the desired results while keeping the costs as low as possible (David *et al*., 2013). The CBA, also referred to as benefit-cost analysis (BCA) makes use of a systematic process for working out the costs of following a given approach or policy and weighing it against the benefits. The approach that can provide the most benefits for the least cost is then chosen for implementation. Both governments and organizations depend on cost-benefit analysis to help them decide on the best option before launching a major undertaking.

Cost-benefit analyses serve two important purposes; they can provide a good indication of the soundness of an investment or a decision. They can justify same by showing that the overall benefits are more than worth the costs and to what extent. They make it possible to compare different approaches to implementing a given program by providing rough estimates of the total cost of each option and the benefits available from each option (Mishan & Quah, 2007).

Cost-benefit analysis is not the same thing as other types of investment analysis. In CBA, costs and benefits are assessed in terms of money value and this includes corrections made for the time value of money. The value of benefits realized and the value of money invested in the venture over time are calculated to give their Net Present Value (NPV). There are various other types of investment or project analyses such as, cost-effectiveness analysis, cost–utility analysis, risk–benefit analysis, economic impact analysis, fiscal impact

analysis, and social return on investment (SROI) analysis. Therefore, the analytical technique employed for quantifying the risks and benefits of programmes and projects over a given period (Pearce *et al*., 2006), must use the same process to make comparisons valid (Willemen *et al*., 2010). In contrast to the present value (PV) method of investment appraisal, CBA makes use of the net present value (NPV) method by excluding the investment and returns (Lohmann, 2009). Though mostly used for performing financial analysis, CBA is also used for other purposes. It is frequently employed to work out environmental and social costs versus benefits of projects whenever these can be quantified with an acceptable degree of accuracy (Boardman & Boardman, 2008).

The Concept of Cost-Benefit Analysis

Cost-benefit analysis is the application of neo-classical economic calculus to the fields of public decision-making (Dupuis, 1985). It is therefore based on micro-economic analysis theory and on the general principle of expressing costs and benefits in monetary terms. It implies the inclusion not only of all the financial factors but also of monetary equivalents (by monetary simulation) of all the other features of the project being evaluated (Oladokun, 2009). The major roles of CBA can be highlighted in two folds. Firstly, that it seeks to bring greater objectivity into decision making by identifying all benefits and costs of a particular scheme, quantifying same for comparison. Secondly, that its use in the public sector where price signals are inadequate to guide investment decision, "spillover" benefits and costs are important because of the magnitude of the schemes (Harvey, 2000). Its purpose is to assist public decision-making, not only in terms of producing the ideal project but also by proposing the optimum solution for the community out of the spectrum of possibilities (Johannesson, 1996). The objective, therefore, is to determine optimum quantities as a contribution to decision-making or to evaluate the effectiveness of decisions already taken. Because of its paradigms and systematic use of monetary units, cost-benefit analysis holds a privileged position in the 'rationalization of budgetary choices' technique where it represents the endpoint of public sector economics (Samuelson, 1954, Musgrave & Musgrave, 1998). The validity of cost-benefit analysis is therefore grounded on bold and restrictive assumptions making for a normative approach to public decision-making (Musgrave, 1996). The government is assumed to do what the

theory says it should and to comply with the rules of defined economic behaviour, acting as a rational agent maximizing utility functions under various constraints.

The Need for Commercial Real Property Investments

Investment is the giving up of a capital sum now in exchange for benefit to be received in the future which usually take the form of an income flow and or capital gain (Enever and Isaac, 2002). Investment in property may be achieved in several ways, the chief of which are: property acquisition, mortgage investment, property development and acquisition of shares in property companies which produces interest, dividends or royalties. In the context of portfolio investing, real estate is traditionally considered an "alternative" investment class (Woychuck, 2012). That means it is a supplementary investment used to build on a primary portfolio of stocks, bonds and other securities. Woychuck (2012) affirmed that one of the beneficial features of real estate is that it produces relatively consistent total returns that are a hybrid of income and capital growth. In that sense, real estate has a coupon paying bond-like component in that it pays a regular, steady income stream and it has a stock-like component in that its value has a propensity to fluctuate; and like all securities, one would prefer the value to go up more than to go down. Hence, the need for consideration of factors determining property investment performance.

The essential objective of investment is to maximize returns while minimizing risks (Fraser, 1993). Enever and Isaac (2002) affirmed that the rate of return on a particular investment is determined by the forces of supply and demand within the market and is evaluated by investors and their advisers by comparing returns from various investments. They further stated however, that certain underlying economic influences affect the rate of return on property investment. These are inflation, incidence of taxation, tenant risk, risk of irregularity of income, legal risk, liquidity of the investment, cost of transfer (sale and purchase) and the cost and trouble of management amongst others. Real estate investment as a resource of primary importance in the economy of any nation seemingly constitutes a large portion of the total wealth in Nigeria, although the estimated value is yet to be ascertained. Little is known about their risk and return characteristics to enable future planning and forecasting. Moreover, willing foreign and local investors often seek to know the inherent risk in any geographical location

before investing. However, real estate investment data are not generally accessible. Furthermore, it is generally opined that real estate investments are related to general economic activity and prosperity of a nation or country.

Research Methodology

The population for this study comprises the developers of commercial complexes, occupiers of commercial complexes, estate surveyors and valuers, and real estate investors in the study area. There are several private individuals involved in commercial complex delivery in Minna. These groups of population will therefore be broken into a manageable size and hence make up the sample size for the study. Structured questionnaire was administered for collection of primary data in the study area. The questionnaire was designed in such a manner as to attract vital responses for the study. Specifically, a set of questionnaires was designed with two sections which were administered to occupiers of commercial complexes, estate surveyors and valuers, real estate developers and investors in commercial complexes to collect data. Each group of respondents had their questionnaire designed to suit the information expected from them. The researcher administered the questionnaires by personal visit to the respondents. The questionnaire was structured to gather information relating to Cost-Benefit Analysis in Minna, Nigeria. The data collected for the study were analyzed using descriptive statistics, Relative Importance Index (RII) analysis , Mean Difference and Benefit-to-Cost-Ratio analysis.

Results and Discussion

The result of Relative Importance Index (RII) of the factors that influence the demand for commercial premises in the study area is presented in Table 1.

Table 1: Relative Importance Index (RII) for factors that influence the demand for commercial premises in the study area.

Variable	Frequency	Percent	RII	Rank
Location	51	34	0.0226	1st
Nearby Properties	10	6.7	0.0044	5th
Land use	11	7.3	0.0048	4th
Social amenities	28	18.7	0.0124	2nd

Transportation/infrastructure	15	10	0.0066	3rd
Neighbourhood quality	15	10	0.0066	3rd
Age of property	5	3.3	0.0022	6th
Improved road/highway	10	6.7	0.0044	5th
quality	5	3.3	0.0022	6th
Design quality specification				

Source: Author's Field Survey (2021)

Table 1 shows the factors that influences demand for commercial premises in the study area. Meanwhile location has 34% responses with highest Relative Importance Index of 0.0226 is ranked first (1st) follow by social amenities with 18.8% and Relative Importance Index of 0.0126 and is ranked (2nd). The RII of 0.0066 for infrastructure/transportation and neighbourhood quality are ranked 3rd with 15% each and closely follow by land use and ranked 4th with 11%. Meanwhile, neighbourhood properties and improved road/highway quality with RII of 0.0044 are ranked 5th each followed by age of property and design specification with RII of 0.0022 Each ranked 6th and Economy, Information on current owners, Policy intervention, Supply of new Properties or conversion and Volume of traffic each has no rank.

Table 2: Benefit-to-cost ratio analysis for commercial complexes in the study area

S/N	Brief Description of the Property	LOCATION	Net floor Area	Net Income	Capitalization Factor	Market Value	Capital Outlay	Net Present Value	Benefit to Cost Ratio
1.	2 story complex containing shops and office paces	GBEGANU JUNCTION	382.5	1,434,375	16.667	23,906,297.81	72,462,500	-48,556,202.19	-.6701
2.	Two (2) storey commercial complex having shops & complex wire houses	KPAKUNGU	1434.37	5,375,888	16.667	91,390,096	89,598,312.53	-117,964,187.47	-56.83
3.	A single storey building with	KPAKUNGU	221	828,750	16.667	13,812,527.63	39,450,000	-25,637,472.37	-64.99

	shops and wire house								
4.	Two (2) storey building with shops	KPAKUNGU	459	1,744,200	16.667	29,070,058.14	65,880,000	-36,809,941.93	-55.87
5.	A single storey building with shops	KPAKUNGU	229.5	872,100	16.667	14,535,029.07	30,873,000	-16,337,970.93	-52.92
6.	Two (2) storey complex with shops	SOJE	956.25	3,633,750	16.667	60,562,621.13	138,375,000	-77,812,378.87	-56.23
7.	Two (2) storey complex having shops & offices	SOJE	217.5	978,750	16.667	16,312,532.63	31,388,200	-15,075,667.37	-48.03
8	Two (2) storey building having shops SALE 5 3	BARIKIN	287.55	1,293,97	16.667	21,566,293.1	45,045,000	-23,478,706.87	-52.12
9	Two (2) storey building with shops SALE 8	BARIKIN	258.4	904,400	16.667	15,073,363.4	42,560,000	-27,004,881.08	-63.86
10	Two (2) storey building with shops 5 6	MAITUMBI	190.15	1,015,87	16.667	16,931,283.8	46,854,000	-29,922,716.14	-63.86
11	A storey building with shops 5 3	MAITUMBI	280.5	981,750	16.667	16,362,532.7	44,799,500	-27,004,881.08	-60.27
12	A storey building with shops 5 2	MAITUMBI	305.05	1,067,67	16.667	17,794,618.9	50,104,600	-11,429,638.67	-22.81
13	A storey building with shops & offices ROAD 5 3	KUTA	386.75	1,740,37	4.5	38,674,961.3	63,824,600	-25,149,638.67	-39.40
14	Two (2) storey building with ---- & office ROAD 0	BOSSO	368.9	1,660,05	25	41,501,250	51,674,400	-10,173,150	-19.69
15	Two (2) storey complex with shops & offices ROAD 0	BOSSO	348.5	1,568,25	25	39,206,250	53,782,050	-14,575,800	-27.10
16	Two (2) storey building with shops & eatery ROAD 0	BOSSO	382.5	1,721,25	25	43,031,250	66,891,500	-23,860,250	-35.67

17	Two (2) storey complex with shops ROAD D	BOSSO	437.5	1,968,75	25	49,218,750	57,271,500	8,052,750	-14.06

Source: Author's Field Survey (2021)

Table 2 shows the benefit cost ratio which is an indicator of the profitability of a potential investment or project. The BCR values in the table are all negative, this indicates that commercial complex is not profitable in times of cost.

Table 3: The Economic Benefits of Commercial Complexes

Factors	Responses	Weighted Mean	Mean Difference	Interpretation
Employment	35	3.5	1	NS
Environment	10	1	-1.5	NS
Income	45	4.5	2	S
Recreation/Leisure	3	0.3	-2.2	NS
Safety and security	8	0.8	-1.7	NS
Crime	36	3.6	1.1	S
Culture	0	0	0	NS
Tax	11	1.1	-1.3	NS
Education	0	0	0	NS
Tourism	2	0.2	-2.3	NS
Total	**150**			

Source: Author's Field Survey (2021)

Keys: S (Significant) NS (Not Significant).

Table 3 shows the economic benefits of complexes in the study area using mean difference statistical tool. It indicates employment, income and crime as a significant benefit of commercial complexes in the study area while other factors are not significant as economic benefits of complex in the study area,

Conclusion and Recommendations

Cost-Benefit Analysis of a Commercial Complexes in Minna, Nigeria has been explored in this study. Factors that influence the demand for commercial premises in Minna were evaluated, viability of commercial complexes in Minna as well as economic benefits of commercial complexes were assessed. From this study, a conclusion can be made that Cost and Benefit analysis (CBA) remains a very important analytical tool in real estate investment and related disciplines, as it is helpful in ascertaining the viability or otherwise of investments and a useful tool for policymakers, and that it provides important information that should be considered in a policy making process. Thus, it is recommended that.

i. The state government should be committed to industrializing the state and this would enhance investors from without the state as a result encourage economic advancement.
ii. The State Government should consider good road networks as well as affordable and efficient transport systems as this would encourage both private investors/developers and those occupying the complex spaces.
iii. Price control policy should be looked into and implemented in every way possible in other to regulate the unnecessary inflation of the prices of building materials as this is the major setback and constraints in the developing commercial complexes within the sampled location.

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