

INFLUENCE OF ARCHITECTURAL DESIGN AS DETERMINANTS TO INCREASE RESIDENTIAL PROPERTY VALUES IN PORT HARCOURT, NIGERIA.

¹KIANEN, Bonmene, ²NKPITE, Bari-ene Samuel and ³OHOCHUKU,
Chinwennwo Phillips.

^{1&3}*Department of Architecture, Rivers State University, Port Harcourt, Nigeria.*

²*Department of Estate Management, Rivers State University, Port Harcourt, Nigeria.*

ABSTRACT

Architectural quality design has gained its recognition in the property market in Nigeria. The aim of the study is to analyze the influence of quality architectural design in the determination of residential property values in Port Harcourt, Nigeria. In order to achieve this, attempts were made to evaluate qualities of architectural design; roles of architectural design on property values; show how importance of architectural design and the extent of architectural design leads to increase of residential property values. The study adopted cross-sectional survey design with a total of 1,000 questionnaire retrieved representing 66.6% response rate. Respondents were selected from 2 Local Government Areas representing 58 residential zones in Port Harcourt Metropolis. The data were analyzed using descriptive and inferential statistics. Making use of the data collected on rental values of residential properties, a hedonic price analysis was carried out on specific quality architectural design elements that added value to residential properties concerned. The study revealed that features of an impressive design include sustainable design, superior indoor air quality, energy efficiency and performance and reduced greenhouse gas emission. The analysis results indicated that a good quality architectural design elements increases residential property values in the market. The findings suggest that architectural design add to: new brand facilities, reputation, reinvestment value, pricing policy and speculative behavior having significant roles in residential property values determination. The policy and practical implications should be proper balance of aesthetic, accessibility, cost-effectiveness, safety, and security based on specific requirements of the space.

KEYWORDS: Architecture, Design, Determinants, Influence, Property, Residential Rental Values.

I. INTRODUCTION

The modern architectural design has manifests economic strength of real estate sector and the belief in the future has given a dominant role in improving residential property values. The physical form of building is generally neither rural nor excludable, and therefore can usually be considered as a determinant of property values. In fact, there is little doubt that “good” or high quality architecture is a determinant of property values; is one that creates positive externalities for surrounding structures and communities (Bourassa, Hoesli and Sun, 2004). This concept of quality architecture as determinant of property values explains, in part, the existence aesthetic requirement permitting design reviews, and planning for an area. It is also generally accepted that, as a whole, according to Mill House (2002), the construction and design cost to produce “good” architecture and higher than those required to produce properties that are more questionable or less unique design quality. If there is a positive externality to quality architecture, Lane and Vandel (1989); Hough and Kratz (1983) stated that on surrounding properties, tenants and by standers must experience a socially optimal level as measured to increase property values. The impact of architectural design on residential property value is very significant. Since properties are fixed in location, they differ in terms of their surroundings, the kind of community in which they are developed, and their nearness to other social or basic amenities. Architectural design of buildings also means that properties and its surrounding is possibly of great importance affecting its value. This study therefore among others examined how quality architectural design determines residential property values and the preferences the people place on it. The aim of this study is to analyses the roles of quality architectural design in the determination of residential property values. The specific objectives of the study include to;

- i. Assess the qualities of a good quality architectural design.
- ii. Ascertain the roles of architectural design that increases residential property values.
- iii. Identify the importance of a good quality design to residential property values.
- iv. Analyze the determinants of quality architectural design increasing residential property values.

The quest here is to investigate the optimal design and determine the degree to which good architects or good architecture can affect the investors returns residential development. More on simply put, does there exist increase in value for good architectural design within the real estate market?

II. LITERATURE REVIEW

Significance of Architectural Design to Property Condition : Architectural design is a concept that focuses on components or elements of a structure by considering space and elements to create a coherent and functional structure (Day, 2002). Architectural design focuses on the aesthetic and function of the structure which is a design works to create a space that flows with its surroundings Rosiers, et al, (2002) noted that neighborhood and access factors influences between both series as to achieve most select model design with minimum information loss. Its explained that property values on the basis of physical and neighborhood are related to in characteristics. The significance of architectural design to property condition and residents well beings has been well documented. Given the design and construction are up to stand and, properties are usually of good performance when newly built (Yau and Wing Ho, 2008). As a physical asset, a property is always subject to wear and tear (Hui, 2005). Therefore, proper design is indispensable for enlongening the life span of a building in serviceable conditions (Yau, and Wing Ho 2008). Architectural design defines the physical characteristics of the properties in the market. The physical characteristics of property are attributed to building features, age and condition of repair. According to Aluko (2008), building features defines the size and number of rooms perceived as the most significant factors influencing the value of residential properties. Next to these is the aesthetic appeal include; design finishes, etc. Careedy and Wall (1999) stated that size of lots of buildings could influence the value of property. The size of lot or buildings has positive impacts on the value of property. The bigger floor area of residential properties, the higher the value. Physical element of property differs from physical elements of another property which covers land size, floor areas location and type of property (Hamid, 2005).

Building Design and Property Value: There has been numerous research dedicated to the relationship between building design and property value, especially in residential properties. Vandell and Lane (1989); Chau, Wong and Yiu (2004) discovered that properties with better designs attracted higher values. Robinson (1946) and Juinenez (1983) as cited in Yau, and Wing Ho (2008) found that better designed and conditioned properties were rewarded with higher value. Nevertheless, the relationship between building design and property values has not been extensively investigated. Hastings, Wong and Walters (2006) in their study of 15 residential developments in Hong Kong found that architectural designs is a significant predictor of property value. That means the designs of building or even their outputs vary across buildings so it is not precise to use the existence of one particular design on a type of building. These previous studies on the property value enhancement effect of building design are not free from methodological flaws. Hasting et al (2006) took building design dichotomously in the exploratory model: using a case were professional architect was engaged as proxies of building design. Likewise, Lau (2005) only concerned whether the architect was accredited by the 180. These dichotomous definitions are misleading because even with the same architectural design the structure could have different value as regards to locational attribute.

Impact of Architectural Design on Neighborhood Properties: Architectural design refers to the specific placement of property which affects tenants' choices (Aluko, 2011). A property is part of the neighborhood and should be viewed in the community settings. Each occupant has needs which must be met in the large community when considering property choices. Design choices also ranges from urban to suburban to rural. A property that takes advantage of its surroundings reflects the character of architectural designs in the area. For properties to fit their surroundings, architectural design is an important consideration in the construction and value of a property. The materials, used to build the structure as well as the furnishings used to decorate the interior can be affected by design

Roles of Architectural Design to the Property Market: Architectural design was conceived to address the key theme and strategic priority as an important step in establishing knowledge (Architects Council of Europe, 2019). From brief examination of recent research of Scottish Executive (2006), architecture and design can do impact on many aspect of life. Architecture can have either a positive or negative social economic or environmental effect on properties, depending on the quality of the design. Samuel (2018) suggest that there is a

strong developing evidence base on the importance of environments on well-being, productivity and other positive outputs of design to property development, but these are almost never linked to the activities of the architects. And further it is important to specify the type of value the design generated to the property market. A recent systematic literature review of quality design in the context of property market revealed considerably that the consensus on triple bottom line of architectural design are social, environmental and economic values of property market (Serin, Kenny, While and Samuel, 2018).

Sustainable Architectural Design and Urban Property Development: The measurement of design is growing particularly important with the advent of outcome based procurement which focuses on the value of building delivers, rather than its form (Bently, 2018). According to Methuish (2015), architecture have an important role to play in driving innovation with cities, through the use of urban rooms as a nexus of collaborative effort to add urban quality design. Architects are reported to enhance the retail value of property and promote local economies through improving. Urban design quality (Scottish Executive, 2006). Residential environment and urban planning as well as trans formatted processes for sustainable development of urban design was identified as the central part of improving property values (Dahlin, 2017). According to Stigendal and Ostergen (2013), “a city’s design and residential environment affect well-being, health and their social distribution in many aspects. Some physical characteristics of the city environment such as access to green spaces, lack of physical barriers to walking and cycling, safe and inviting outdoor environments, are directly connected to well-being and health and are often socially inequitably distributed. Since the physical environment also provides a framework for all social interactions that occur in a city, the city’s design is a fundamental prerequisite for the health of the residents”.

Literature has measured externally from occupants or publicly and privately produced environmental good been burgeoning Li and Brown, 1980; (Aluko, 2018), little has been said about the extent of architectural design effect on residential property values. Also, existing studies are in conclusive on the extent externality and there has been little effort to integrate architectural design externality into urban spatial structure. This study will incorporate these considerations to provide an explicit perspective. Most urban researchers also agree that design quality is an important element of the property bundle of rights. But there is little agreement, however, regarding the measurement of design quality (Dubin and Sung, 1990, Mabogunje 2007). The choice of design quality is based primarily upon data availability and hence little justification is given for the choice of variables. Thus necessary to examine architectural design as part of the property value. Thai is, give more attention to quality of design characteristics as determinants of residential property values.

III. RESEARCH METHODOLOGY

This study utilized both secondary and primary sources of data. Primary information was collected from both direct interviews and personal observations. The secondary data were collected from journals, articles, research report, etc. there are two (2) local government areas divided into 8 areas and consisting of 58 residential zones in Port Harcourt metropolis. The total number of residential properties in the 58 zones is 155,830. The number of questionnaire administered was 1,550 (this was based on about 1% of the total number of residential properties). The large number of properties made it difficult to cover all because of limited time and fund. The selection of residential properties covered by the questionnaire was done by both random and systematic sampling techniques in the metropolis. Descriptive and inferential statistics were employed to resolve objectives and the formulated hypothesis. To test for the effect of architectural design on residential property values, the hedonic pricing method was applied with regression models.

Analytical Framework: In this study, hedonic price model was adopted for the exploratory analysis. Hedonic price model extracted the implicit architectural design elements on property values. As such, it was employed to estimate the property value enhancement elements of various architectural designs. With the loss of generality, the price of a property (P) can be expressed as a function $F(.)$ of the architectural design elements of the property (X), architectural design quality on the building (M), architectural design related factors (L), the time when the property was valued (T) and unknown parameters (P), or mathematically: $PRICE = f(X, L, M, T, Q)$ (1).

Model Specification: Since the functional form of $f(.)$ is not known a priori, a semi-log specification with quadratic terms for continuous variable was used for estimation because, this functional form has been widely sported. The generic model in equation 1 was this specified as:

$$\begin{aligned}
 \text{In PRICE} = & \alpha_0 + \alpha_1 \text{Type}_i + \alpha_2 \text{Type}_i^2 + \alpha_3 \text{Rooms}_i + \alpha_4 + \text{Floor}_i + \alpha_4 + \text{Floor}_i + \alpha_4 \\
 & + \text{Floor}_i^2 + \alpha_5 + \text{Size}_i + \alpha_6 \text{Size}_i^2 + \text{Kitchen}_i + \alpha_7 \text{Kitchen}_i^2 + \alpha_8 \text{Bath}_i^2 \\
 & + \text{Laundry}_i + \alpha_9 \text{Roof}_i + \alpha_{10} \text{Courtyard}_i + \alpha_{11} \text{Outdoor space}_i + \alpha_{12} \\
 & \text{Storage}_i + \alpha_{13} \text{Fittings}_i + \varphi \text{Time}_{it} + \Sigma_i
 \end{aligned} \tag{2}$$

Where α_s ($s = 0, 1, 2, \dots, 18$), $8w$ ($w = 1, 2, \dots, 11$) and φ (a reactor of coefficients) coefficient to be estimated, and Σ is the stochastic term. The variables incorporate in the equation. The first set of coefficients (i.e. α_s) measures the marginal effects of the inborn architectural design elemental influencing property value such as: floor area of building, type of building, number of rooms, size of rooms, bathroom, laundry, kitchen, roof terrace, outdoors (porch, deck, etc.), outdoor courtyard, extra storage in building and fittings which are architectural design elements that can enhance property value. All these elements were controlled in the model. Meanwhile, the second coefficient set (i.e. w) measures the effects of the marginal effects of various architectural design βw element on property values. A total of twelve (12) architectural design elements were assessed in this study.

IV. RESULTS AND DISCUSSION OF FINDINGS

Importance of Architectural Design to Property Values: The importance of architectural design to residential property values has been shown in Table 1. On the average, >50% of the respondents indicated that the importance of architectural design to property values likes in the area of its needs, involvement and renovation. The study discovered that needs for architectural design, involvement of architectural design and architectural design in renovation and the importance of a quality design on residential property values. It is important to have architectural design done before work begins on new building or renovation or other building. the blueprint and building models allows the architect work to customize the building exactly the way the owner wants it. Having a plan beforehand also prevent errors during the construction process. It is a lot easier and less expensive to fix a mistake in a draining than to correct a building under construction.

The study has also indicated that architectural design is only concerned with functionality; for the building to meet the needs of the lessee or the lessor, or it is worthless. Safety and security also a primary concern; and new building needs to be structurally sound, designed to withstand the test of time and built in accordance with the rational building codes and ordinance. However, architecture is not only concerned with the practically, functionality and endurance, but also an art form with aesthetic beauty of building. while architectures work to the client's specification and take their need into consideration using their own artistic sensibility to make each building unique. As revealed in the study, architectural design helps to feed that part of your soul that craves artistic sustenance with the life spent living and working in the building all looked exactly the same. One can survive and function well, without which the vital part of the soul would be starved of colour and beauty the study further illustrated that design is important in property renovation, which is concerned about correcting mistakes before construction begins. It is applying to the renovation of old building the same way as it is done to building a new one. However, the design is also concern in renovation because the new changes or additions should match the cosmoses of the original building; showing that unity and coherence should be to the overall design. Whether in the cases of renovation of an old building or constructing can entirety new one, the architectural design of the property is important for practical, aesthetic reasons as well as its values in the property market.

1: Importance of Architectural Design to Property Values

Importance of Architectural Design	Acceptable Reponses (%)					SD	Remarks
	VI(5)	IM(4)	I(3)	UUM(2)	VUIM(1)		
Involvement of Architectural Design							
Functionality	50.4	42.3	6.4	0.6	0.2	0.60	1.34
Practicality	45.5	32.6	7.0	3.0	3.0	0.55	1.16
Endurance	37.5	35.3	19.8	0.03	0.2	0.75	1.10
Aesthetic	23.0	38.5	22.0	12.0	4.5	0.71	0.77
Specification	54.4	40.3	2.4	0.6	0.2	0.61	1.44
Needs consideration	32.1	45.5	17.4	2.5	2.5	0.57	1.13

Artistic sustenance	42.6	37.0	14.7	2.6	3.1	0.68	1.15
Safety and security	22.9	39.5	22.3	11.8	3.5	0.73	0.79
Needs for Design							
Customize building	42.6	37.0	14.7	2.6	3.1	6.68	1.15
Prevent errors	22.9	39.5	22.3	11.8	3.5	0.73	0.79
Easier and less expenses	19.4	28.6	24.8	17.5	8.8	0.77	0.71
Design in Renovation							
Correcting mistakes	56.3	40.6	2.4	0.6	0.2	0.61	1.44
New changes	37.5	35.5	19.8	0.03	0.02	0.75	1.10
Coherence	32.1	45.5	17.4	2.5	2.5	0.57	1.13
Cosmoses matched	10.7	0.43	0.413	11.6	3.1	0.96	0.40

Source: Author's Field Investigation, 2020.

Qualities of Architectural Design to property Values: In Table 2, the qualities of architectural design improving property values are illustrated as considered by the respondents. Based on the findings of this study (Table 2) some attributes such as sustainable, accessible, functional, well-made, emotionally resonates, enduring, especially beneficial, beautify, ergonomic and affordable have been chosen to be the most important qualities with 750% responses. The study established that profoundly, qualities of a good architectural design is based a great checklist as an architect move through the design process. The checklist for considerations are sustainable design, accessible, functional, well made, emotionally resonant, enduring, socially beneficial, beautiful, ergonomic and affordable. Most responses obtained from key informants indicated that:

Sustainable Design: It is clear that a sustainable design should consider the real change of energy the building requires to generate less carbon dioxide during marketing spin.

Accessibility: Also, accessibility dictate that our built environment be accessible to those with disabilities, and not only to consider the building codes, it is important to look beyond the minimum standards.

Functionality: Functionality should be the simplest attribute of a good architectural design; but it is often difficult to achieve by successfully crating easy way to use the building that surpasses its completion.

Well-Made: Architects does not make anything on their own, but how well a building is built limited to asset of instructions provided. It means that instructions better be good, and just as important, easy to understand, because people that actually building it have little to no actual interaction with the architect.

Emotionally Resonant: Not every building can be found with bland sameness of our urban or suburban development. But every design should be an attempt to stir the senses. People rarely forget the feeling of walking into a building with a quality design.

Enduring: The time frame for enduring is uncertain. Buildings need both structural and aesthetic longevity and it is important to innovate a design that do not looks outdated before the last coat of paint dries.

Socially Beneficial: A quality architectural design has a responsibility to care both items within and beyond the walls of our buildings to see what can be done to help people occupying it.

Beautiful: It requires that a building stands the test of time with a quality design. Beauty is subjective, right and quality design in a neighbourhood will be attractive to prospective occupant.

Ergonomic: Buildings must relate to the scale of the people that occupy them. Often this idea is lost in the array of modelling technologies used by architects these days. A quality design should put a person on the right model, even if they are digital.

Affordable: sometimes affordability of quality design is more difficult, because it involves entrepreneurship on the part of the architect. An upfront investment to invent an affordable solution that the masses can afford. The reason being that someone with money, land and an idea that wants architect's services represents a small portion of society that makes up almost all of an architect's clientele.

Table 2: Qualities of Architectural Design to Property Values

Qualities of Architectural Design	Acceptable Reponses (%)					SD	Remarks
	Very important	Important	Indifferent	Unimportant	Very unimportant		
Sustainable	56.4	40.3	2.4	0.6	0.2	0.61	1.44
Accessible	37.5	35.3	19.8	0.18	0.02	0.75	1.10
Functional	32.1	45.5	17.4	2.5	2.5	0.50	1.13
Welt-made	42.6	32.0	14.7	2.6	3.1	0.68	1.15
Emotionally Resonant	22.9	39.5	22.3	11.8	3.5	0.73	0.79
Enduring	19.4	28.6	24.8	17.5	8.89	0.77	0.71
Socially beneficial Beautify	50.4	42.3	6.4	0.6	0.2	0.60	1.34
Beautify	45.5	32.1	17.4	2.5	2.5	.056	1.12
Ergonomic	37.0	42.6	14.3	3.0	3.1	0.65	1.17
Affordable	10.7	0.413	0.635	11.6	3.1	0.96	0.40

Source: Author’s Field Investigation, 2020.

Roles of Architectural Design Increasing Property Values: The various role play by architectural design as to increase property values has been indicated in this study. Form in-depth interview with participants; the roles of architectural design in increasing property values are highlighted. They are to:

- ▲ Understand end user’s needs
- ▲ Understand the space provided for the building that stir up feelings
- ▲ Ability to communicate instantaneously
- ▲ Retain connection between natural and built environment
- ▲ Contribute to occupant’s health, mood and productivity.
- ▲ Safety and security

These roles are critical in enhancing property values. The reason is sample. Man has uttered the natural environment with the built environment. And this require the understanding of human relationships to the built environment that uttered the natural environment. And since the natural environment has been uttered, the role of architectural design in this situation; is the provision impressive design that have the features of:

- a) **Sustainable Design:** with a proper balance of aesthetic, accessible, cost-effective, safe and secure environment.
- b) **Superior Indoor Air Quality:** Based of the specific requirements of the space provided, the health, mood and productivity of the occupant is essential.
- c) **Energy Efficient Design and Performance:** There are factors affecting architectural design: topography, location, weather condition, religion, technology, culture, imagination and style in designs. All the building designed to show for its performance to retain its connections between human relationship with the built environment.
- d) **Reduced Greenhouse Gas Emission:** An impressive design plays a role in reducing greenhouse gases emitted in the environment. The balance between the natural environment and the built environment with contribute to the occupant’s health, mood and productivity. Property value is increased through its ability the communicate instantaneous understanding of human’s relationship with the built environment. Value creation and mapping quality spatially has to do with good architectural designs.

Benefits of a Good Quality Architectural Design: A clear comprehension of each stakeholders is necessary to understand the benefits of good architectural design within the context of real estate development process. Likewise, the identification of each stakeholder is necessary to align the benefits of architectural design to increasing property values. From in-depth interview with interviewees, the study identified the following as key stakeholders in most real estate development projects:

- a) **Investors:** construction and long term debt providers, equity investors;
- b) **Developers:** Short term land finance and labour providers;
- c) **Designers:** architects and other professional associated with design;
- d) **Occupiers:** Users in the form of tenants or owners;
- e) **Government:** Federal, States, Local and its agencies;
- f) **Community:** Entire society affected by the development.

Table 3: Benefits Associated with Architectural Design

Stakeholders	Short-Term	Benefits	Long-term
Investors	<ul style="list-style-type: none"> • Investment security • Higher revenue returns • Increase asset value 	<ul style="list-style-type: none"> • Easier/cheaper maintenance • Increase resale value • Continued attraction of high quality tenant 	
Development	<ul style="list-style-type: none"> • Faster permitting • Greater chance of variance • Less public opposition • Greater product differentiation • Ease of attracting investors 	<ul style="list-style-type: none"> • Increased/sustained Reputation • Ease of attracting Future investors and support 	
Designers	<ul style="list-style-type: none"> • Increase work load and billing opportunities/increase revenue 	<ul style="list-style-type: none"> • Increased/sustained reputation 	
Occupiers		<ul style="list-style-type: none"> • Better recruiting and workforce retention • Increased productivity • Reduced security expenditure • Reduced energy cost and usage • Increased prestige management 	
Government	<ul style="list-style-type: none"> • Potential to encourage other development. 	<ul style="list-style-type: none"> • Increased economic viability for surrounding community • Increased tax revenue • Reduced public expenditure on crime prevention, urban management 	
Community	<ul style="list-style-type: none"> • Few benefits until completion • Could potentially provide jobs during construction 	<ul style="list-style-type: none"> • Increased cultural vitality • Increased public pride • Reinforced sense of place. • Increased property prices • If “green” reduced, exposure to harmful pollutants, overall increase in environmental health. 	

Source: Author’s Field Investigation, 2020.

The summary of the benefits of architectural design on property values has been established in Table 3. as shown in Table 3, the benefits for occupiers such as increased prestige and increased worker productivity must be equal to or greater to the property values to the developer, but at the same time, those benefits to the occupier must be greater than their own value of obtaining such benefit, such as increased rent likewise, the benefit architectural design to the community’s increased property values must be greater than the threat of gentrification. However, if the users (buyer) recognizes the value attributed to good architectural design, and is willing to capitalize not only the future financial value, but intangible such as safety and security, cache or image, and the overall feeling of well-being associated with quality design.

Influence of Quality Architectural Design on Property Values: The estimation results of the hedonic price analysis are shown in Table 4. The adjusted R² was about 0.74, indicating that 74% of the variations in property values could be explained by the variations in the dependent variables. It was found that all the control variables of architectural design elements, namely floor area, building type, number of rooms, size of room, kitchen, laundry, bathroom, roof Terrace, extra storage in the building, outdoor space, (porch, deck, etc.), outdoor courtyard, and fittings in the building, has significant (at least 10% level) non-linear effects on the property values in this study. As for the twelve (12) architectural design elements, eight (8) were found to be significantly increasing property values. Moreover, the analysis results indicate that all the architectural design elements as in Table 4 confirm with the expectation of this study.

Table 4: Regression Results of the Hedonic Price Models

Dependent Variable	Dependent Variable: (n(Property Value))			
	Coefficients	Std. Error	t-stat	p-value
Constant	-298363	84972	-3.51	0.0006
Building type	357	48	7.48	0.0000
Number of rooms	5788	2544	0.23	0.08202
Size of room	79330	34010	2.33	0.0211
Floor area (m ²)	-11083	61294	-0.18	0.8588
Kitchen	77306	49459	1.56	0.1204
Laundry	14415	51451	0.28	0.7798
Roof Terrace	-3108	58587	-0.05	0.9578
Bathroom	69486	39394	1.76	0.0080
Outdoor space	121230	44304	2.74	0.0070
Courtyard	46182	38663	1.19	0.2344
Extra storage	60780	27950	2.17	0.0314
Fittings	53456	30089	1.78	0.0779
Landscape	-89557	40522	-2.21	0.0288
Adjusted R ²	0.7401		Dubin-Watson Statistic	2.0202
f-statistics	115.5240		Akaike Info Criterion	0.3514
Prob. (F-statistic)	0.0000		Number of observation	3.057

Source: Author's Field Investigation, 2020.

V. CONCLUSION AND RECOMMENDATIONS

The study examined the influence of architectural design as determinants of enhancing residential property values in Port Harcourt metropolis, Rivers State, Nigeria. Based on the empirical findings, the study concluded that all architectural design elements currently adopted are positively have an influence on property values. The analysis gives stakeholders insights into which architectural design elements that enhances property values most, helping them to formulate better planning strategies. Also, if property values enhancement is given through the architectural design elements is well publicized in the society a building care culture can be fostered by market forces. Developers/occupiers are more willing to adopt good architectural design in their property development process with a view to the premium added to the value of their properties. On the other hand, warning signals are given to the public administrator, if some architectural design elements are considered essential by the government found to be insignificant determinants of property values should not be approve doing planning permission/approval. Yet, some precautions should be taken in interpreting the relationship between property values and architectural design, in spite of the wide varieties in the inborn characteristic of architectural design of properties under study. as result of this adjustment, stakeholders can know how architectural design enhances property values, and the value enhancement study can be extended to cover building management practices such as implementation of planned and unplanned maintenance.

REFERENCES

1. Akhimien, N.G. and Isiwale, A.J (2018). Architect's Role in Rural Community Development. Accessed from RoleofArchitectRuralCommunity_Noah(O).pdf
2. Aluko, A.T. (2018). The Effects of Location and Neighbourhood Attributes on Housing Values in Metropolitan Lagos, Ethiopian, *Journal of Environmental Studies and Management*, 4(2), 69-82.
3. Aluko, A.T. (2007). Examining Valuer's Judgement in Residential Property Valuations in Metropolitan Lagos, Nigeria. *Journal Property management*, 98-107.
4. Architects Council of Europe (2019). The Architectural Progression in Europe. A Sector Study. accessed from https://www.ace-cae.eu/fileadm/New_Upload/7_Publication§or_study/2016/2016_EN_FN_00217_new.pdf.
5. Bentley, A. (2018). Procuring for Value. Construction Leadership Council, UK. Accessed from <https://www.constructionleadershipcouncil.co.uk/news/procuring-for-value>.
6. Bourassa, S.C. Hoeli, M. and Sun, J. (2004). "What's in a View", *Environment and Planning A*, 36, 1427-1450.

7. Chau, K.W., Wong, S.K. and Yin, C.U. (2004). The Value of the Provision of a Balcony in Apartments in Hong Kong. *Property Management*, 22(3), 250-264.
8. Day, C. (2002). *Consensus Design: socially Inclusive Process*. Oxford: Architectural Press.
9. Dahlin, A. (2018). *The City where we Meet: Architecture and Culture in it Public Space*. Intern Report from the Commission for a socially Sustainable. Accessed from <https://www.sta.stockholm/utredningar-statistik-ochafakta/utredningar-ochrapporter/social-hallbarned>.
10. Engras, S. (2005). *The Study of Sustainable Design in Thailand*. Phitsnulok, Thailand: Faculty of Architecture, Naresuan University.
11. Hasting, E.M., Wong, S.K. and Walters, M. (2006). Governance in a Co-ownership Environment: The Management of Multiple-Ownership Property in Hong Kong, *Property Management*, 24(3), 93-308.
12. Hough, D.E. and Kratz, C.E. (1983). Can Good Architecture Meet the Market Test? *Journal of Urban Economics*, 14 40-45.
13. Hui, E.Y.Y. (2005). Key Success factors of Building Management in Large and Dense Residential Estates. *Facilities*, 23(1/2), 47-62.
14. Jemenez, E. (1983). (1946). The Magnitude and Determinants of Home Improvement in Self-help Housing: *Manila's Tondo Project Land Economics*, 59(1), 70-83.
15. Lane, J.S. and Vandel, K.D. (1989). The Economics of Architecture and Urban Design: Some Preliminary Findings. *ARUEA Journal*, 17(2), 235-260.
16. Lau, M.C.H (2005). Property Values and Quality of Property Management in Hon Kong. Proceedings of the CROICM 2005 International Symposium on Advancement of Construction Management and Real Estate, 30 October-21 November, Hangzhou, 469-476.
17. Mabogunje, A.L. (2007). *Developing Mega City in Developing Countries*, being Text of a Lecture Delivered at Colloquium Organized by the 2007 Graduating Class, Department of Geography, University of Lagos on Wednesday, 12 September, 2007.
18. Melhuigh, C. (2015). *Case Studies in University –Led Regeneration Projects*. University, College London (UCL) Accessed from <https://www.ucl.ac.uk/urbanlab/docs/casestudiesinuniversity-urbanregeneration.pdf>.
19. Robinson, C.K. (1946). Relationship between Condition of Dwellings and Rentals by Race. *The Journal of land and Public Utility Economics*, 22(3), 296-302.
20. Rosiers, F. Marius, T., Yau, K. and Paul, V. (2002). Landscaping and House Values: An Empirical Investigation. *Journal of Estate Research*, 23(1-2), 139-162.
21. Samuel, F. (2018). *Why Architects Matters: Evidencing and Communicating the Value of Architects*. 1st Edition. London: Routledge.
22. Scottish Executive (2006).
23. Serin, B. Kemy, T., White, J. and Samuel, F. (2018). *Design Value at the Neighbourhood Scale*, UK Centre for Collaborative Housing Evidence, CACHE (November, 2018).
24. Stigendal, M. and Ostergen, P. (2013). *Malmö's Path towards a Sustainable Future: Health, Welfare and Justice*. Commission for a Socially Sustainable Malmö. Accessed from <https://malmo.se/download/181d68919c141fe2a968e2/1491983312661malmo%CC%88kommissionenpportengelskweb.pdf>.
25. Van der Voordt, T., and Van Wegen, H. (2005). *Architecture in Use: An Introduction to Programming, Design and Evaluation of Buildings*. Oxford: Architectural Press.
26. Yau, Y. and Wing Ho, D.C. (2008). The effects of Building Management Practices on Residential Property Prices in Hong Kong. Accessed from [Yau-Ho2009_Article_theEffectofBuildingManagment.pdf](#)