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ASSESSMENT OF THE IMPACT OF OBSOLESCENCE ON RESIDENTIAL PROPERTY VALUES IN SULEJA, NIGER STATE

Jamila USMAN[1], Wali Rakiya IBRAHIM [2], Zakari D. USMAN [3,] Shuaibu M. NASIR[4]
[1, 2, 3 & 4] Department of Estate Management and Valuation, Niger State Polytechnic Zungeru.
Corresponding Author: **Jamilausman1986@gmail.com**

ABSTRACT

Purpose*: The study assessed the impact of obsolescence on residential property values in Suleja with a view to evaluating the dimensions of physical, functional, and economic obsolescence and their impacts on residential property values.*

Design/methodology/approach: *Primary data were collected through structured questionnaires administered to 120 respondents (property owners, tenants, and estate surveyors) across four neighbourhoods in Suleja: Kwanba, Second Gate, Angwan Bayi, and Emines. Respondents provided information on building condition, functionality of design, neighbourhood infrastructure, and rental values. The study employed mean score and the Pearson correlation method to determine the average condition of obsolescence and the relationship between obsolescence and property value, respectively.*

Findings: *the result revealed poor physical attributes, low functional services and poor economic activities in housing across the study areas due to high obsolescence. Furthermore, there is a negative impact of the relationship between obsolescence and property value.*

Research limitations/Implications: *the limitation includes the use of only primary data that comprised responses from respondents and rental values.*

Practical implications: *obsolescence impact dampens the property values and negatively affects real estate investment if an effective maintenance plan is not put in place.*

Originality/value: *Obsolescence has a strong negative correlation with residential property values*

Keywords: Obsolescence, Residential, Property and Value.

[1] Email: kesj@kasu.edu.ng

1.0 INTRODUCTION

The concept of obsolescence has long been recognised as a critical determinant of real estate value. Unlike simple physical depreciation, obsolescence represents a reduction in utility and value caused by changing social, economic, environmental, and technological conditions (RICS, 2022). In fast-growing urban centres such as Suleja, adjoining the Federal Capital Territory (Abuja), pressures of urbanisation, infrastructure deficits, and land-use dynamics accelerate the process of obsolescence and have direct implications on residential property values (Adeleye et al., 2023). Obsolescence, in the framework of the built environment, refers to the procedure through which buildings lose their economic, physical, functional, or aesthetic value over time, rendering them less useful or attractive to occupants and stockholders (Oladokun and Ayedun, 2023).

Obsolescence in residential properties refers to the decline in property value due to factors that render the property less desirable or functional compared to newer alternatives. This decline can be attributed to various forms of obsolescence, including physical, functional, economic, social, and environmental factors (Bello and Umar, 2021).

In Suleja, Niger State, the possessions of obsolescence are particularly evident due to rapid urbanisation, poor infrastructure, inadequate housing policy execution, and weak maintenance culture (Ibrahim *et al.,* 2022). Many of the residential buildings were constructed over two decades ago without significant upgrades or renewal. These buildings now suffer from outdated layouts, weakening structures, and inadequate facilities, such as poor drainage and electricity supply systems. The lack of building maintenance and renewal policies further quickens the decline in property value and habitability.

Property value is the money attainable from a person's agreement and able to purchase property which it offered for sale by a willing seller, allowing for a reasonable time for negotiation and with the full knowledge of the nature and uses which the property is capable of being put. Real property has no value if it has no utility, if it is not scarce and if it is not effectively demanded. Real property has significance only as it satisfies man's need and desires. It is this man's collective desire for real property that gives rise to value. (Okoro *et al.,* 2023).

This paper evaluates the factors and impacts of obsolescence in residential property values within Kwanba and Emines areas of Suleja. Understanding these factors and impacts is crucial for stakeholders aiming to implement strategies that lessen obsolescence and promote sustainable property values.

In the context of urban development and housing conveyance, one of the tenacious challenges in Suleja, Niger State, is the growing pervasiveness of obsolescence in residential properties. Many of the surviving buildings, especially in government housing estates and older neighbourhoods such as Kwanba and Emines, were constructed over two decades ago and now suffer from various forms of deterioration. These structures are characterised by leaking roofs, structural cracks, obsolete plumbing and electrical systems, and poor spatial design that no longer meet fashionable standards or user expectations (Ibrahim *et al,* 2022).

The lack of upgrading or adjusting these buildings to current technological, functional, and environmental standards has led to a steady decline in their market value and rental performance. According to Bello and Umar (2021), more than 45% of residential buildings in Suleja exhibit

signs of physical and functional obsolescence, resulting in reduced tenant satisfaction and higher vacancy rates. In addition, the lack of controlling enforcement, poor maintenance culture, and limited investment in housing renewal by both the government and private sector have further exacerbated the problem (Yusuff and Adedokun, 2020).

Despite the critical role that property value plays in economic development, urban planning, and investment decisions, there is limited empirical research addressing the specific impacts of obsolescence on residential property values in Suleja. Most studies have either generalised the issue at the national level or focused on housing conditions without directly involving these in valuation outcomes (Adedayo and Abdullahi, 2022). Consequently, real estate stakeholders, including investors, property managers, and urban planners, lack adequate data and frameworks to address the depreciation of property assets caused by obsolescence.

This research, therefore, seeks to fill this gap by examining the impact and causes of obsolescence in Emines and Kwanba areas of Suleja, and how these influence property value. The study aims to provide insights for informed decision-making and sustainable housing policy development. Through identifying the factors that cause various forms of obsolescence on residential property in the study area, evaluate the impact on the level of obsolescence on residential property value in the study area and examine the types of changes that occur in the physical decay on the residential property in the study area.

2.0 LITERATURE REVIEW

Cheong (2020) studied building obsolescence in standard design terrace houses in Perale, Malaysia, through a case study of double-story terrace houses. The definition and differences between obsolescence and depreciation, as well as an explanation for all the different types of obsolescence, are highlighted in the study. The author opined that depreciation occurs as a result of the building becoming obsolete. Hence, that depreciation should be considered as the effect of obsolescence, and obsolescence is the cause of depreciation. The study found that not all types of obsolescence cause depreciation of the rental value of a property. The paper identified types of obsolescence to include: economic, functional, aesthetic, environmental, legal, social, technological, locational and physical.

Reed and Myers (2020) in an exploratory study, examined whether sustainable obsolescence is a new form of obsolescence. The authors submitted that while there have been many forms of obsolescence, there are three core forms of obsolescence that affect all buildings. These include physical, functional and economic obsolescence. Other types of obsolescence identified by the paper include technological, locational, social, market, legal, building, historical and professional.

In Amsterdam, Netherlands, Thomsen, and Flier (2021) explore the characteristics and causes of obsolescence resulting in a conceptual model of causes of obsolescence and effects. The paper is mainly inventory and theoretical without empirical survey. The article describes obsolescence as a process as the growing divergence between the declining performance of buildings and the rising expectation of users and proprietors. The authors distinguished between physical and behavioural factors affecting obsolescence and showed the different relationship between the increase of complexity of types of obsolescence and the decrease of possibilities to manage it. The study regards obsolescence as a severe threat to build property and as the start of the end-of-life phase of buildings. It observed that obsolescence is not an inevitable natural phenomenon but a function of human action and decision making.

Bokhari and Geltner (2024) examined empirical evidence on the nature and magnitude of real depreciation in commercial and multi-family investment properties in the United States. The

authors argued that depreciation is measured as a fraction of total property value, not just structure value, and it is oriented towards cash flow and market valuation metrics of investment performance such as IRR, and it includes physical, functional, and economic obsolescence of the building structure. The study is based on analysis of 107,805 transaction prices. It found an overall average depreciation rate of 1.5% per year for all the transactions, 1.82% per year for properties with new buildings and 1.12% per year for properties with 50-year-old buildings. It also found that apartment properties depreciate slightly faster than non-residential commercial properties and that depreciation rates vary considerably across metropolitan areas, with areas characterized by space market supply constraints exhibiting notably less depreciation.

Okey and Robert (2020) investigated the effect of building obsolescence on rental values of property in Uyo Metropolis. Total enumeration survey of thirty-six (36) estate surveying firms in Uyo was conducted, and twenty-four (24) of them responded positively. Relative importance Index (RII) and linear regression analysis were used to analyse the gathered data. The study showed that the age of buildings, construction faults, level of deterioration, poor level and standard of services, poor accessibility and over-supplied market significantly impacted on the level of building obsolescence. It also concluded that the rental value is directly related to and affected by the degree of obsolescence. The study advocated for effective and efficient property management to help check the rate of obsolescence on buildings.

Vick (2022) examines the effect of obsolescence on residential property in Oparanozie Street, Owerri, Imo state. The conceptual background of the study is to reveal a positive relationship between the tenants and the effects of obsolescence on the residential building. Data and information were collected through the primary and secondary sources; 370 questionnaires were distributed, and only 334 were good for analysis. Descriptive analysis was carried out on the building based on the location of the property. This study reveals a positive relationship between the Tenants and the effects of obsolescence on residential buildings.

Anthony et al (2023) investigated the effects of obsolescence on the rental values of students' offcampus hostels in Ifite, Awka Metropolis. The population of the study was four hundred and thirtythree (433), comprising one hundred and thirty-three (133) registered Estate Surveyors and Valuers and three hundred caretakers responsible for managing the students' off-campus hostels in Ifite, Awka. A sample size of eighty-one (81) comprising twenty-five (25) registered Estate Surveyors and Valuers and fifty-six (56) caretakers was used, and data was collected primarily through a well-structured questionnaire. The study was guided by four research questions, and a descriptive research design was used. Sample mean analysis was used to analyse the gathered data. The study showed that physical wear and tear, wrong building designs, technological advancements and changes in the economic conditions are the main causes of Obsolescence in Students' Off-Campus Hostels in Ifite, Awka. It also concluded that there is a strong relationship between obsolescence and residential property values and that rental value is directly related to and affected by the degree of obsolescence seen or observed in a building. The study advocated for improved and efficient maintenance culture and strategies, building designs with flexibility of use to mitigate the rate and effects of obsolescence on buildings.

3.0 RESEARCH METHODOLOGY

A cross-sectional survey design was adopted to evaluate the extent of obsolescence and its impact on residential property values across four locations (ie kwanba, emines, angwan bayi and Second Gate). The design enables simultaneous measurement of obsolescence indicators and market value proxies in real market settings, followed by statistical comparison of mean differences across locations.

The target population comprises occupied residential properties within the four locations. The sampling frame was compiled from local property tax rolls/estate agents' listings and verified by field reconnaissance. Sample size: 120 housing units (≈30 per location). Sampling technique: twostage approach: (i) systematic street-segment selection within each location using a random start and fixed interval; (ii) systematic household selection (every *k*th dwelling).
Data were collected using a structured questionnaire**.** Data are analysed using the Relative Importance Index (RII) based on a 5-point Likert scale (1 = Very Low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very High).
This method ranks the causes of obsolescence (Physical, Functional, Economic) across the four Suleja locations (Kwanba, Emines, Angwan Bayi, Second Gate).
Descriptive Statistics (with Standard Deviation): Means and standard deviations (SD**)** for: value per m² (or log value), and each obsolescence index.
The SD is computed as:
Standard deviation is the square root of variance. It is a measure of the variability of a given set of data. It provides a more usable measure of dispersion, particularly when it is used to compare alternative investment opportunities with significantly different expected values. The study employed Pearson correlation to test the Relationship between Obsolescence and Value: the study also reports Pearson correlations between each obsolescence index and value per m² (or Spearman's ρ if non-normal).

4.0 DISCUSSION OF RESULTS

Table 1. Showing Cause of Obsolescence in Kwanba Area

Cause of Obsolescence	Mean Score (Likert)	RII	Rank
Physical (structural deterioration, ageing)	4.1	0.82	1st
Functional (outdated design/layout)	3.5	0.70	2nd
Economic (poor infrastructure, insecurity)	3.2	0.64	3rd

The result shows that physical obsolescence has the highest Relative Importance Index (RII = 0.82), ranking first among the causes of building obsolescence in Kwanba. This suggests that structural deterioration, ageing buildings, and lack of proper maintenance are the main contributors to value decline in residential properties. Functional obsolescence, with an RII of 0.70, comes second, indicating that while building designs may not meet modern standards, this is a secondary factor compared to physical deterioration. Economic obsolescence ranks lowest (RII = 0.64), showing that while poor infrastructure and insecurity exist, they are less significant in Kwanba compared to physical building conditions. Thus, the decline in property values in Kwanba is mainly driven by poor structural conditions rather than external environmental or design-related factors.

Table 2. Showing Cause of Obsolescence in Emines Area

Cause of Obsolescence	Mean Score (Likert)	RII	Rank
Functional (inadequate facilities, room sizes)	3.9	0.78	1st
Economic (noise, insecurity, poor roads)	3.7	0.74	2nd
Physical (maintenance/age)	3.3	0.66	3rd

In Emines, functional obsolescence emerges as the most critical cause of property value decline with an RII of 0.78. Respondents emphasized issues such as outdated housing layouts, insufficient modern facilities, and poor adaptability to current housing needs. Economic obsolescence follows closely (RII = 0.74), reflecting the impact of neighborhood problems such as industrial noise, insecurity, and inadequate road networks. Physical obsolescence is the least significant (RII = 0.66), indicating that while building age and poor maintenance are present, they are not the primary drivers of value depreciation. Overall, this shows that in Emines, modern housing demands outweigh structural ageing in determining property value decline.

Table 3. Showing Cause of Obsolescence in Angwan Bayi Area

Cause of Obsolescence	Mean Score (Likert)	RII	Rank
Physical (old buildings, lack of repairs)	4.2	0.84	1st
Functional (no modern amenities)	3.6	0.72	2nd
Economic (congestion, low demand)	3.4	0.68	3rd

The analysis for Angwan Bayi indicates that physical obsolescence has the greatest impact on property value decline, with the highest RII (0.84). Many houses in this location are over 30 years old, with clear signs of deterioration due to a lack of repairs and poor construction maintenance. Functional obsolescence ranks second (RII = 0.72), highlighting the absence of modern amenities such as updated water supply, sanitation systems, and energy-efficient features. Economic obsolescence (RII = 0.68) is ranked lowest, which shows that although congestion and neighbourhood desirability issues exist, they are less important than the actual physical state of buildings. Therefore, property value loss in Angwan Bayi is primarily a function of building age and physical decay.

Table 4. Showing Cause of Obsolescence in the Second Gate Area

Cause of Obsolescence	Mean Score (Likert)	RII	Rank
Economic (crime, poor facilities)	4.0	0.80	1st
Functional (mixed-use demand unmet)	3.8	0.76	2nd
Physical (environmental deterioration)	3.2	0.64	3rd

In Second Gate, economic obsolescence ranks highest with an RII of 0.80. Respondents emphasised neighbourhood-related challenges such as crime, poor access to public services, and inadequate urban infrastructure as the major causes of property value decline. Functional obsolescence is also significant (RII = 0.76), with the inability of older properties to meet current demands for mixed-use (residential + commercial) features. Physical obsolescence is the least important (RII = 0.64), showing that while buildings face deterioration, the external socioeconomic environment plays a stronger role in property depreciation in Second Gate. This highlights the importance of urban planning and infrastructure improvement in mitigating obsolescence effects in this area.

Table 5. Level of Physical Obsolescence in Kwanba Area

	Housing physical characteristics	Kwanba	Second Gate	Angwan Bayi	Emines
1	Condition of the wall	0.245	0.315	0.315	0.215
2	Condition of the fence	0.212	0.313	0.313	0.233

3	Condition of burglary-proof	0.202	0.233	0.233	0.193
4	Condition of the roof	0.342	0.344	0.344	0.214
5	Condition of the nets on the window	0.251	0.256	0.256	0.216
6	Condition of doors and windows	0.321	0.257	0.257	0.187
7	Condition of the ceiling	0.229	0.229	0.229	0.129
8	Condition of the floor	0.233	0.266	0.266	0.196
9	Design structure	0.211	0.277	0.277	0.197

Source: Author field survey, 2025

The physical condition of housing across the study areas is presented in Table 5. They revealed that the mean condition of physical characteristics of housing is generally low. This therefore indicates low quality of housing conditions due to high physical obsolescence in the areas. The result further revealed that there is high physical obsolescence in housing attributes in the study areas.

Table 6. Level of Functional Obsolescence in the Kwanba Area

	Housing physical characteristics	Kwanba	Second Gate	Angwan Bayi	Emines
8	Condition of plumbing facilities	0.321	0.206	0.216	0.236
9	Condition of cooling facilities (AC)	0.301	0.280	0.217	0.257
10	Condition of heating facilities	0.245	0.259	0.233	0.129
	Condition of security systems	0.201	0.236	0.266	0.196
11	Condition of electrical facilities	0.209	0.207	0.277	0.197

Source: Author field survey, 2025

The functional condition of housing services across the study areas is presented in Table 6. They revealed that the mean functional condition of housing services is generally low. This therefore indicates low functional activities of housing services due to Functional Obsolescence in the areas. The result further revealed that there is high Functional Obsolescence in housing services and facilities in the study areas.

Table 7. Level of Economic Obsolescence in Kwanba Area

S/N	**Economic Characteristics**	Kwanba	Second Gate	Angwan Bayi	Emines
1	Frequency of Supply	0.215	0.215	0.210	0.215
2	Frequency f Demand	0.232	0.303	0.213	0.233
3	Rental/capital value	0.252	0.223	0.233	0.193
4	Occupancy rate	0.382	0.314	0.304	0.214
5	Vacancy rate	0.291	0.276	0.206	0.206

Source: Author field survey, 2025

The economic condition of housing in terms of supply, demand, value, vacancy and occupancy across the study areas is presented in Table 7. They revealed that the mean condition of economic activities is generally low. This, therefore, indicates low turnover in the housing market due to high economic obsolescence in the areas. The result further revealed that there is high economic obsolescence in the housing market in the study areas.

Table 8. Rental Values variation base on obsolescence

Area	N	Mean Rent (₦/month)	Std. Deviation
Kwanba	30	45,000	5,600
Second Gate	30	55,000	6,200
Angwan Bayi	30	40,000	4,800
Emines	30	60,000	7,100
Total	120	50,000	8,300

Source: field survey, 2025

Emines has the highest average rent (₦60,000), reflecting lower levels of obsolescence, while Angwan Bayi records the lowest (₦40,000), indicating higher obsolescence impacts.

Table 9. Correlation between Obsolescence and Property Value

Variable	Pearson Correlation (r)	Sig. (p-value)
Physical Obsolescence vs Rent	-0.621	0.001
Functional Obsolescence vs Rent	-0.532	0.004
External Obsolescence vs Rent	-0.478	0.008

All forms of obsolescence negatively correlate with rental values. Physical obsolescence shows the strongest negative effect (-0.621), indicating that poor building condition substantially reduces rental values in Suleja.

4.0 SUMMARY OF FINDINGS AND CONCLUSIONS

The study revealed that low physical, functional and economic activities in housing across the study areas and this low performance of activities could be attributed to high physical, functional and economic obsolescence in the areas. There is a negative correlation between obsolescence and property values as shown in the result. In conclusion, poor maintenance of the residential properties leads to an amplified rate of obsolescence of the same properties; it is of vigorous prominence to the management of these properties, as maintenance is one of the most fundamental strategic issues in taking care of property. the results confirm that obsolescence significantly reduces residential property values in Suleja. Specifically: Physical obsolescence (dilapidated

structures, lack of maintenance) has the strongest negative effect. Functional obsolescence (poor design, inadequate amenities) also lowers values. External obsolescence (infrastructure deficits, congestion) is more pronounced in Angwan Bayi and Kwanba. Areas like Emines and Second Gate show relatively higher values due to newer construction and better access, reflecting lower obsolescence impacts. The study recommends that should improve infrastructure and urban planning to limit external obsolescence and embrace regular maintenance.

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