Published: 7th October 2026

INTERNATIONAL JOURNAL OF REAL ESTATE

ISSN: 2476-8073

ASSESSMENT OF STRUCTURAL DETERIORATION AND ITS EFFECT ON PROPERTY VALUATION OF COMMERCIAL FACILITIES IN ANAMBRA STATE, NIGERIA

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DOI: https://doi.org/10.5281/zenodo.23207675

Abstract

Structural deterioration is a major physical and economic risk to commercial real estate because visible and hidden defects can increase maintenance obligations, shorten effective economic life, reduce lettability and weaken buyers' and lenders' perceptions of risk. This study assessed the nature and severity of structural deterioration in commercial facilities in Anambra State, Nigeria, and examined its effect on property valuation. A quantitative cross-sectional design was adopted, combining a structured questionnaire administered to 120 property and built-environment professionals with inspection and valuation records for 36 commercial facilities in Awka, Onitsha and Nnewi. A five-point deterioration assessment scale was used to classify cracking, dampness, corrosion, concrete spalling, settlement indicators, roof distress and envelope deterioration. Valuation effects were examined through condition-adjusted comparable evidence and a depreciated replacement-cost cross-check. Results indicate that 85.0% of respondents agreed that structural condition affects market value. Mean valuation discounts were 8.7% for moderate deterioration and 21.6% for severe deterioration. Regression analysis showed a significant negative relationship between deterioration severity and property value ($\beta = -0.61$, $p < 0.001$). The results indicate that deterioration is associated with lower value through repair liability, remaining-life concerns and weaker rental attractiveness; professional perceptions also identify reduced investor confidence as a relevant risk mechanism. The study recommends that building condition be explicitly documented and reflected in inspection, comparable selection, depreciation analysis and valuation reporting.

Keywords: structural deterioration; commercial property; property valuation; depreciation; building condition; facilities management.

1.0 Introduction

Commercial facilities such as offices, shops, plazas, warehouses and mixed-use commercial buildings are capital-intensive assets whose value depends not only on location, income potential and market conditions but also on physical integrity and remaining useful life. Unlike financial assets, buildings are subject to a continuous process of physical ageing: materials lose strength, moisture penetrates envelopes, reinforcement corrodes, foundations settle and finishes wear out. Deterioration therefore transmits from a physical defect into an economic consequence through repair expenditure, business interruption, reduced rental appeal, increased vacancy, shortened economic life and higher investment risk (Baum, 1991; Mansfield & Pinder, 2008).

The issue is particularly important in Nigeria because construction and maintenance costs are exposed to inflation, imported-input pressures and exchange-rate movements. The National Bureau of Statistics (NBS, n.d.) maintains dedicated housing, building and construction statistics and identifies inputs including cement, blocks, metals/iron bars, sand, stone, wood and gravel in construction-sector measurement, underscoring how sharply the cost of remedial works can rise. In such an environment, a defect that is ignored today can become a disproportionately expensive repair tomorrow, and the liability is capitalised into the price a rational purchaser is willing to pay.

For valuers, physical condition is relevant to the quality of valuation inputs and models. The current International Valuation Standards (IVSC, 2024) framework includes IVS 104 on Data and Inputs, IVS 105 on Valuation Models, IVS 106 on Documentation and Reporting, and IVS 400 on Real Property Interests. Similarly, the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON, 2025) identifies the 2025 Nigeria Valuation Standards (the Green Book) as the current national professional standard. Both frameworks implicitly require the valuer to reflect the physical state of the asset in the value opinion rather than treat condition as a peripheral observation.

Anambra State contains some of the most commercially active cities in South-East Nigeria, including Awka (the state capital), Onitsha (a major trading hub with one of the largest markets in West Africa) and Nnewi (a renowned industrial and spare-parts manufacturing centre). Commercial property in these cities supports retail, warehousing, light industry and professional services, yet a substantial stock of this property has been developed without rigorous maintenance regimes, and visible deterioration is common. Despite this, condition is rarely quantified or explicitly reflected in valuation reports in the state.

Although deterioration is widely acknowledged by practitioners as a value determinant, there is a limited quantitative connection between measurable building deterioration and commercial property value in Anambra State. Valuers frequently acknowledge defects qualitatively but apply condition adjustments without documented evidence of how deterioration severity translates into discounts; in many cases no adjustment is made at all. The consequences are valuation opinions that may overstate value, mislead lenders and investors, and expose professionals to liability. This study addresses that gap by linking

condition assessment, professional judgement and a valuation adjustment framework for commercial facilities in Awka, Onitsha and Nnewi.

The aim of this study is to assess structural deterioration and its effect on the valuation of commercial facilities in Anambra State, Nigeria. The specific objectives are to:

1. Examine the nature, types and severity of structural deterioration affecting commercial facilities in Awka, Onitsha and Nnewi;
2. Determine the perception of property and built-environment professionals on the effect of structural deterioration on commercial property value;
3. Quantify the valuation discounts associated with different deterioration severity classes using condition-adjusted comparable evidence and a depreciated replacement cost cross-check; and
4. Develop a condition-adjusted valuation framework that can guide professional practice.

The study is significant to valuers, who obtain an evidence-based basis for condition adjustments; to investors and lenders, who obtain more transparent assessments of risk and repair liability; to facilities managers, who obtain justification for preventive maintenance; and to academics, who obtain city-level evidence from Anambra State linking deterioration severity to value. The condition-adjusted framework also contributes to practice under the IVS (IVSC, 2024) and the Nigerian Green Book (ESVARBON, 2025).

2.0 Literature Review

2.1 Concept of Structural Deterioration

Structural deterioration is the progressive loss of performance, serviceability or physical integrity of a building or its components. Building pathology literature treats deterioration as a process with identifiable causes, mechanisms and consequences: causes include age, moisture ingress, reinforcement corrosion, poor workmanship, unsuitable materials, foundation movement, overloading, inadequate drainage, environmental exposure and deferred maintenance; mechanisms include chemical attack, corrosion, erosion, fatigue, creep and biological decay; and consequences range from loss of aesthetics to loss of safety and function (Faqih, Zayed, & Soliman, 2020; Alencastro, Fuertes, & de Wilde, 2018). A central lesson of building pathology is that not every visible defect is structural; a professional assessment must distinguish symptoms, causes and consequences. Cracking, for example, may be harmless shrinkage, an indication of thermal movement, or evidence of foundation settlement requiring engineering investigation (Chong & Low, 2006).

In the Nigerian context, Ayininuola and Olalusi (2004) assessed building failures in Lagos and Ibadan and found that the majority of failures were attributable to design errors, poor workmanship, inadequate site investigation and the use of substandard materials. Waziri (2016) similarly established that design and construction defects exert a decisive influence on the maintenance demand of residential buildings in Nigeria, meaning that deterioration observed during occupancy is often rooted in decisions taken at design and construction stages. Assaf, Al-Hammad, and Al-Shihah (1996) reached an analogous

https://doi.org/10.5281/zenodo.23207675

conclusion in the Saudi Arabian context, demonstrating that faulty design and construction are primary drivers of post-occupancy maintenance problems, an international pattern that Nigerian evidence confirms.

2.2 Causes and Manifestations of Deterioration

The literature identifies a broad family of deterioration agents. Chong and Low (2006) examined latent building defects, defects concealed at handover that manifest months or years later and showed that many originate in design decisions, inadequate supervision and poor detailing rather than in occupation. Wahab and Hamid (2011) reviewed factors affecting defects in structural steel construction and grouped the causes into design, material, workmanship and environmental clusters. Tayeh et al. (2020) identified workmanship quality, material quality, site management and inadequate supervision as the leading predictors of construction-stage defects in residential buildings in Gaza. Faqih et al. (2020) provided a comprehensive classification of physical and environmental defects and emphasised that moisture, temperature cycling and poor ventilation act as accelerants on otherwise sound construction.

Moisture is consistently reported as the single most destructive agent in tropical environments. Water ingress drives reinforcement corrosion, concrete spalling, timber decay, fungal growth, plaster failure and finishes deterioration, and is implicated in a large share of reported defects (Waziri, 2016; Ugwu, Okafor, & Nwoji, 2018). In Nigeria's humid south-east, flat and low-pitched roofs, minimal roof overhangs, failed damp-proofing and defective drainage compound the problem. Corrosion of embedded reinforcement is a particularly serious mechanism because it is often hidden until concrete cover cracks or spalls, at which point repair costs escalate sharply.

2.3 Deterioration, Maintenance and Facilities Management

A large body of Nigerian research links deterioration to weak maintenance management. Olanrewaju and Anifowose (2015) documented the challenges of building maintenance in Ekiti State and attributed poor building condition to inadequate funding, absence of maintenance culture and non-professional execution of maintenance works. Ugwu et al. (2018), in a study at the University of Nigeria, Nsukka, found that about 80% of buildings surveyed required immediate maintenance and concluded that the lack of a maintenance policy and funding is the major cause of public building deterioration. Odeyemi, Adeniyi, and Amoo (2019) reported similar findings at the University of Ilorin, while Ohaedeghasi et al. (2021) and Ebekozien et al. (2021) reported persistent maintenance-management weaknesses in Nigerian public institutions, including the need for stronger preventive maintenance and more systematic maintenance practices.

Akinsola et al. (2012) identified funding, staffing and management capacity as critical constraints on facility maintenance management in tertiary institutional buildings in South-West Nigeria, while Ikediashi and Okwuashi (2015) showed that outsourcing decisions for facilities management services in Nigerian public hospitals are shaped by cost, expertise and accountability considerations. Ogunbayo et al. (2022) further demonstrated, through a Delphi study, that the composition and adequacy of

maintenance budgets are decisive elements of building maintenance management in the Nigerian built environment.

Closer to the study area, Maduka (2018) investigated building maintenance practices in public secondary schools in Onitsha, Anambra State, and confirmed that funding constraints and poor maintenance culture drive building dilapidation in the state. Ogunnakinde, Akinola, and Siyanbola (2013) identified tenant behaviour, maintenance funding and professional involvement as critical factors affecting maintenance in government estates in Akure. International studies support the economic logic of preventive maintenance: Ali, Kamaruzzaman, Sulaiman, and Cheong Peng (2010) showed that maintenance cost performance is strongly influenced by maintenance planning and management factors, and Ikpo (2009) demonstrated that maintainability can be designed into buildings through maintainability indices, shifting emphasis from repair to prevention. The consensus across this literature is that the transition from minor defect to major deterioration is mediated by maintenance behaviour, which is why facilities management is integral to value preservation.

2.4 Depreciation and Valuation Theory

For valuation, deterioration forms part of physical depreciation which is the loss in value of the improvements through wear and tear, ageing and exposure. Baum (1991) provided an early systematic treatment of property investment depreciation and obsolescence, showing that buildings lose value with age even where land appreciates, and that the pattern of loss varies by building type and quality. Mansfield and Pinder (2008) distinguished 'economic' from 'functional' obsolescence, demonstrating that obsolescence arising from external economic change behaves differently from functional deficiencies and must be treated differently in valuation. Grover and Grover (2015) cautioned that obsolescence cannot be reduced to a simple time-based allowance because its drivers are structural rather than chronological.

The depreciated replacement cost (DRC) approach is the principal valuation method for capturing physical deterioration where direct comparable evidence is limited. French and Gabrielli (2007) examined the relationship between market value and depreciated replacement cost and concluded that the two are complementary rather than contradictory, provided depreciation is estimated with reference to market evidence rather than accounting conventions. Copiello and Bonifaci (2018) proposed improvements to the DRC method, arguing that replacement cost should be decomposed into structure, finishes and installations, each with its own depreciation curve driven by useful life and residual life. Crosby, Devaney, and Law (2011), analysing European office markets, showed that market-derived depreciation benchmarks differ substantially from age-based straight-line assumptions, reinforcing the position that condition allowances should not be arbitrary percentages but should be supported by age, condition, remaining economic life, repair cost, market evidence and professional judgement. A central insight of this literature is that the economic effect of deterioration may exceed the direct repair cost where defects create uncertainty, disruption or financing risk for the prospective purchaser.

https://doi.org/10.5281/zenodo.23207675

2.5 Building Condition and Property Value

The theoretical link between condition and value runs through several channels. First, repair liability: a rational purchaser deducts the cost of restoring the asset to an acceptable standard, including professional fees and contingency. Second, income effects: deteriorated buildings command lower rents, suffer longer vacancy and higher tenant turnover. Third, risk: visible defects signal the possibility of hidden defects, raising the required rate of return and widening negotiation discounts. Fourth, remaining economic life: severe deterioration shortens the period over which the asset can generate income, directly reducing capital value. These mechanisms explain why a purchaser may negotiate a larger discount than the simple cost of remedial work (Baum, 1991; Mansfield & Pinder, 2008).

Empirical hedonic research confirms that physical condition is capitalised into prices. Studies that have replaced building age with direct measures of deterioration or improvement expenditure find significant, non-linear condition effects that age-based proxies obscure (Malpezzi, Ozanne, & Thibodeau, 1987; Chin & Chau, 2003; Sirmans, Macpherson, & Zietz, 2005), and show that renovation and rehabilitation expenditure is positively reflected in transaction prices. The literature also shows that discount patterns are nonlinear: minor deterioration attracts modest adjustments, while severe deterioration attracts disproportionately large discounts because of uncertainty, financing and demolition considerations. For Nigerian commercial markets, asking-price evidence and valuation literature from Awka and Onitsha (PropertyPro Nigeria, n.d.) indicate that the cost method beginning with replacement cost and allowing for depreciation and obsolescence remains widely used precisely because transaction evidence is thin, making transparent condition adjustment all the more important.

2.6 Standards and Professional Practice

IVS 104 (Data and Inputs) and IVS 105 (Valuation Models) require that inputs be appropriate, verifiable and reflective of the asset's actual characteristics, while IVS 106 (Documentation and Reporting) requires the valuer to record the reasoning behind adjustments (IVSC, 2024). IVS 400 addresses real property interests specifically. In Nigeria, ESVARBON (2025) identifies the 2025 Nigeria Valuation Standards (the Green Book) as the current national standard, and its requirements align with the IVS on documentation and inputs. Both frameworks imply that where a valuer observes deterioration, the value effect must be investigated, quantified where possible, and disclosed.

3.0 Research Methodology

3.1 Research Design

A cross-sectional quantitative design was selected. The professional survey captures valuation and facilities-management judgement, while the condition schedule converts physical observations into a deterioration index.

3.2 Study Area

The study covers Awka, Onitsha and Nnewi and focuses on offices, shops, plazas, mixed-use commercial buildings, warehouses and small industrial-commercial premises. Residential-only properties are excluded.

3.3 Population and Sampling of Respondents

Respondents were selected through purposive sampling: only professionals with direct, recent involvement in the valuation, inspection, management or ownership of commercial property in the three study cities were targeted. Questionnaires were administered to 150 professionals across the three cities; 128 were returned, of which 120 were fully completed and usable, giving a valid response rate of 80.0%. The study sample comprised 120 respondents: estate surveyors/valuers (42), property/facilities managers (30), civil/structural engineers (24), quantity/building professionals (12) and owners/investors (12). The allocation was Awka 40, Onitsha 44 and Nnewi 36.

Table 1: Respondent Allocation

Category	Awka	Onitsha	Nnewi	Total
Estate surveyors/valuers	14	16	12	42
Property/facilities managers	10	11	9	30
Civil/structural engineers	8	9	7	24
Quantity/building professionals	4	4	4	12
Owners/investors	4	4	4	12
Total	40	44	36	120

The allocation shows a deliberate spread of professional perspectives across the three cities, with estate surveyors/valuers forming the largest single group (35%), consistent with their central role in valuation practice, and each city contributing roughly one-third of the sample (Awka 33.3%, Onitsha 36.7%, Nnewi 30.0%), which supports city-level comparison of responses.

3.4 Research Instrument

The questionnaire comprised respondent profile, observed deterioration, perceived valuation effects and valuation practice sections. Likert items used 1 = strongly disagree to 5 = strongly agree.

3.5 Sample of Facilities and Data Collection

Thirty-six facilities were assessed: 12 in Awka, 13 in Onitsha and 11 in Nnewi. The facilities were purposively selected from recent valuation and inspection records to span the three cities and to vary by

https://doi.org/10.5281/zenodo.23207675

age, building type and visible condition grade. Fieldwork, comprising questionnaire administration and facility inspection, was conducted between July 2026 and September 2026. Seven defect categories were scored 0–4 (0 = no defect, 4 = severe defect): cracking/movement, dampness, corrosion/spalling, settlement indicators, roof distress, envelope deterioration and maintenance backlog. Because each category carries a maximum score of 4, the maximum possible raw score is 28 (7 categories × 4). The deterioration index (DI) was computed as DI = (total score / 28) × 100, converting observed defect scores to a 0–100 scale. DI classes are: below 25 low, 25–49 moderate, 50–69 high and 70–100 severe.

3.6 Valuation Adjustment Computation

The deterioration discount was calculated as DD = [(Benchmark value − Condition adjusted value) / Benchmark value] × 100. The adjusted value incorporates estimated repair liability, remaining-life effects and market-risk considerations.

3.7 Data Analysis

Descriptive statistics, Pearson correlations, one-way ANOVA and OLS regression were used. The regression model was $PV = \alpha + \beta_1(DI) + \beta_2(RepairLiability) + \beta_3(RemainingLife) + \beta_4(RentalAttractiveness) + \Sigma\gamma_k(Location_k) + \varepsilon$, with location entered as two dummy variables (Onitsha and Nnewi, with Awka as the reference category); the location terms were evaluated jointly, while city differences in the deterioration index were additionally examined using one-way ANOVA. Because the facility sample (n = 36) is small relative to the number of predictors, adjusted R^2, variance inflation factors (VIF) and residual diagnostics were examined alongside the conventional R^2, and all regression coefficients are reported unstandardized.

4.0 Results and Discussion

Table 2: Respondent Profile

Characteristic	Frequency	%
Estate surveyor/valuer	42	35.0
Property/facilities manager	30	25.0
Civil/structural engineer	24	20.0
Quantity/building professional	12	10.0
Owner/investor	12	10.0
1–5 years experience	18	15.0
6–10 years	31	25.8
11–15 years	34	28.3
16–20 years	22	18.3
>20 years	15	12.5

The sample is profession-balanced but dominated by valuation and facilities-management practitioners (60%), which is appropriate for a study on valuation effect. Experience is heavily concentrated in the 6–15-year bands (54.1%), meaning the majority of respondents have sufficient professional exposure to judge deterioration and value relationships, while the presence of respondents with over 20 years of experience (12.5%) anchors the more senior professional view.

Table 3: Reported Deterioration

Defect	Frequency	%
Dampness/water ingress	92	76.7
Wall/plaster cracking	88	73.3
Roof leakage/distress	81	67.5
Concrete spalling/rebar corrosion	69	57.5
Façade deterioration	67	55.8
Floor defects	62	51.7
Settlement/movement indicators	39	32.5
Major structural distress	17	14.2

Moisture-related defects (dampness 76.7%, roof leakage 67.5%) and cracking (73.3%) dominate reported deterioration, corroborating the literature that identifies water ingress as the most destructive agent in tropical environments (Waziri, 2016; Ugwu et al., 2018). Defects with direct structural implications such as spalling and rebar corrosion (57.5%) and settlement indicators (32.5%) are present in a substantial minority of buildings, while outright major structural distress (14.2%) is comparatively rare. The pattern confirms that frequent visible defects do not automatically establish structural failure; suspected structural defects warrant engineering assessment before valuation conclusions are drawn.

Table 4: Perceived Effect on Value

Statement	Mean	SD	Interpretation
Structural condition affects market value	4.32	0.79	High
Major defects increase negotiation discounts	4.41	0.68	Very high
Deterioration reduces rental attractiveness	4.08	0.88	High
Repair liability should be reflected in valuation	4.46	0.65	Very high
Severe deterioration	4.51	0.61	Very high

https://doi.org/10.5281/zenodo.23207675

increases transaction risk			
Condition is adequately captured in current practice	2.71	1.12	Low/moderate
Inspection should accompany valuation	4.57	0.59	Very high

Respondents overwhelmingly affirmed the valuation relevance of structural condition: six of the seven statements recorded means above 4.0, interpreted as high or very high agreement. The strongest agreement attached to the statements that inspection should accompany valuation (4.57) and that severe deterioration increases transaction risk (4.51), signalling that professionals see deterioration primarily as a risk and transparency issue. The notable exception 'condition is adequately captured in current practice' (mean 2.71, SD 1.12) indicates a clear practice gap: professionals recognise the importance of condition but do not believe current reporting reflects it adequately. The relatively high standard deviation on this item also shows disagreement among respondents about the adequacy of current practice.

Table 5: Response Distribution

Item	**Agree/Strongly agree**	**Neutral**	**Disagree/Strongly disagree**
Condition affects market value	102 (85.0%)	10 (8.3%)	8 (6.7%)
Condition affects rental performance	96 (80.0%)	12 (10.0%)	12 (10.0%)
Repair liability should reduce value	107 (89.2%)	7 (5.8%)	6 (5.0%)
Severe defects increase buyer risk	110 (91.7%)	6 (5.0%)	4 (3.3%)
Inspection should be part of valuation	111 (92.5%)	5 (4.2%)	4 (3.3%)

Agreement levels exceed 80% on every item, reaching 92.5% on the integration of inspection into valuation. Combining the two value-effect items, 85.0% of respondents affirm that condition affects market value and 80.0% that it affects rental performance; the near-total consensus that repair liability should reduce value (89.2%) provides professional validation for condition adjustments in practice. The consistency between Tables 4 and 5 strengthens the reliability of the perception findings.

Table 6: Facility Condition Results

Location	Facilities	Mean DI	Low	Moderate	High	Severe
Awka	12	42.1	2	6	3	1
Onitsha	13	48.7	1	5	5	2
Nnewi	11	39.8	3	5	2	1
Total	36	43.7	6	16	10	4

Across the 36 facilities, the mean deterioration index of 43.7 places the average facility in the moderate class. The distribution is 16.7% low, 44.4% moderate, 27.8% high and 11.1% severe, meaning that 38.9% of the commercial stock surveyed exhibits high or severe deterioration. Onitsha records the highest mean DI (48.7, at the upper boundary of the moderate class) and the largest share of high/severe facilities (7 of 13, or 53.8%), consistent with the age and intensity of commercial use in its market district. Nnewi shows the best condition profile (mean DI 39.8), plausibly reflecting newer industrial-commercial stock. These results indicate that a substantial share of commercial facilities in the study area carries condition problems capable of materially affecting value.

Table 7: Valuation Discount by Condition Class

Condition	Facilities	Mean benchmark (₦m)	Mean adjusted (₦m)	Discount
Low	6	214.0	207.8	2.9%
Moderate	16	248.5	226.9	8.7%
High	10	281.0	243.7	13.3%
Severe	4	318.0	249.3	21.6%

The discounts increase monotonically with deterioration severity, from 2.9% in the low class to 21.6% in the severe class, a roughly sevenfold difference. Two features deserve emphasis. First, the discount escalates faster than the DI itself: moving from moderate (DI 25–49) to severe (DI 70–100) more than doubles the discount, reflecting the non-linear effect of uncertainty, business interruption, safety and compliance concerns, and shortened remaining economic life that accompany severe deterioration (French & Gabrielli, 2007; Mansfield & Pinder, 2008). Second, the severe class discount (₦68.7m on average) far exceeds plausible direct repair costs for most defects, confirming that the market prices risk and not merely repairs. A universal depreciation percentage is therefore inappropriate; adjustments must be property-specific.

https://doi.org/10.5281/zenodo.23207675

Table 8: Property Cases

Case	Location /type	DI	Class	Benchmark	Allowance	Indicative value	Derivation of allowance
A	Awka office/ plaza	38	Moderate	₦260m	7.5%	₦240.5m	DI 38 sits mid-moderate; allowance set just below the 8.7% class mean (Table 7) because defects are confined to dampness and plaster cracking with no structural content.
B	Onitsha mixed-use commercial	56	High	₦330m	15.0%	₦280.5m	DI 56 in the high class; allowance above the 13.3% class mean to reflect elevated repair liability on roof and envelope elements.
C	Nnewi warehouse/commercial	47	Moderate	₦290m	10.0%	₦261.0m	DI 47 at the upper moderate boundary; allowance above the class mean because roof distress directly threatened warehouse lettability.
D	Onitsha retail facility	74	Severe	₦410m	22.0%	₦319.8m	DI 74 in the severe class; allowance consistent with the 21.6% class mean, reflecting compounded repair, safety and remaining-life concerns.
E	Awka office building	19	Low	₦185m	4.0%	₦177.6m	DI 19 in the low class; allowance marginally above the 2.9% class mean for minor cracking and a routine maintenance backlog.

The five cases translate the severity classes into individual valuation opinions, and each allowance is now traceable to a deterioration score: the DI locates the property in a condition class, the class mean discount from Table 7 anchors the allowance, and case-specific factors (structural content, repair liability, lettability effects) justify any departure from the class mean. Allowances range from 4.0% (Case E, a well-maintained Awka office building) to 22.0% (Case D, an Onitsha retail facility in severe condition). Cases B and D, both Onitsha properties, carry the largest allowances, consistent with Table 6's finding that Onitsha has the highest deterioration index. The cases demonstrate how the framework operates in practice: benchmark value is established from comparable evidence, the condition schedule

drives the allowance, and the indicative value is disclosed together with its supporting reasoning, in line with IVS 106 documentation requirements (IVSC, 2024).

Table 9: Correlation and Regression Results

Variable	Pearson r	Regression β (unstandardized)	p-value
Deterioration Index	−0.64	−0.61	<0.001
Repair liability score	−0.58	−0.29	0.002
Remaining-life concern	−0.55	−0.24	0.006
Rental attractiveness	0.49	0.18	0.018
Location (Awka reference)	—	—	0.184 (joint)

The regression model produced $R^2 = 0.47$ and adjusted $R^2 = 0.38$, indicating that about 47% of the variation in property value in the sample is explained by the model, with the lower adjusted figure reflecting the small sample (n = 36) relative to the number of predictors. The deterioration index is the strongest predictor ($\beta = -0.61$, $p < 0.001$): because the coefficients are unstandardized, a one-unit increase in the DI is associated with a decline of approximately ₦0.61m in property value, holding the other predictors constant.

Repair liability ($\beta = -0.29$) and remaining-life concern ($\beta = -0.24$) are also significant negative predictors, confirming them as transmission channels, while rental attractiveness is a significant positive predictor ($\beta = 0.18$). The location terms, entered as two dummy variables with Awka as the reference category, are not jointly significant ($p = 0.184$) in this sample, suggesting that condition effects dominate the observed intra-city differences after the other predictors are controlled. Variance inflation factors were all below 2, indicating no serious multicollinearity, and residual plots showed no material heteroscedasticity. As a robustness check, the model was re-estimated using value per square metre as the dependent variable; the sign and significance of the deterioration coefficients were unchanged, indicating that the DI–value relationship is not an artefact of larger properties simply being worth more. The negative sign on the deterioration variables confirms the hypothesized adverse effect of deterioration on commercial property value.

4.5 Condition-Adjusted Valuation Framework

The cases in Table 8 imply a repeatable valuation process; this section makes that process explicit as a six-step condition-adjusted valuation framework:

https://doi.org/10.5281/zenodo.23207675

Inspect: conduct a systematic condition survey of the subject property using the seven-category defect schedule (cracking/movement, dampness, corrosion/spalling, settlement indicators, roof distress, envelope deterioration, maintenance backlog).

Score: rate each category from 0 (no defect) to 4 (severe defect) and compute the deterioration index as DI = (total score / 28) × 100.

Classify: assign the property to a deterioration class (low < 25; moderate 25–49; high 50–69; severe 70–100).

Derive allowance: anchor the condition allowance on the mean discount for the assigned class (Table 7) and adjust for property-specific factors, principally the scale of repair liability, remaining-life effects and rental or lettability impacts.

Adjust: apply the allowance to the benchmark value derived from comparable evidence, and cross-check the result using depreciated replacement cost.

Disclose: document the defects observed, any specialist advice obtained, the allowance derivation and the adjusted value in the valuation report, consistent with IVS 106 (IVSC, 2024) and the Nigeria Valuation Standards (ESVARBON, 2025).

Table 10: Deterioration Class to Indicative Adjustment Range

Class	DI range	Facilities (n)	Mean discount (Table 7)	Indicative adjustment range
Low	< 25	6	2.9%	0–5%
Moderate	25–49	16	8.7%	5–12%
High	50–69	10	13.3%	10–17%
Severe	70–100	4	21.6%	15–25%

Table 10 summarises the mapping that operationalises the framework: each deterioration class is associated with an indicative adjustment range centred on the empirically observed mean discount, within which the valuer positions the final allowance according to the case-specific factors identified at Step 4. The ranges deliberately overlap at the class boundaries to accommodate properties whose DI scores sit near a threshold, and they restate the monotonic, non-linear escalation of value loss with deterioration severity documented in Table 7.

5.0 Discussion of Results

The findings support the proposition that structural deterioration is economically relevant to commercial property valuation. High agreement scores indicate that respondents expect physical condition to affect marketability and price, and a rational purchaser will consider the cost, uncertainty and inconvenience of

bringing a deteriorated asset to the required standard. This aligns with depreciation theory, which holds that physical deterioration and obsolescence erode the value of improvements even where land value is sustained (Baum, 1991; Grover & Grover, 2015).

Dampness and cracking deserve careful attention. Moisture can accelerate corrosion and material degradation, while cracks may range from harmless shrinkage to evidence of movement or structural distress (Chong & Low, 2006; Faqih et al., 2020). Valuers should therefore identify defects, establish likely causes, obtain specialist advice where necessary, estimate repair implications, consider disruption and risk, and then reflect the net market effect using evidence. The finding that moisture-related defects dominate the deterioration profile in Anambra State mirrors the wider Nigerian evidence (Waziri, 2016; Ugwu et al., 2018) and points to drainage, roofing and envelope maintenance as the highest-value preventive interventions.

The discount range of 2.9%–21.6% demonstrates why a universal depreciation percentage is inappropriate. Condition adjustments should be property-specific and supported by repair estimates, comparable evidence, remaining-life considerations and professional judgement, consistent with the DRC literature's insistence on market-anchored depreciation (Crosby et al., 2011; Copiello & Bonifaci, 2018). The escalation of discounts in the severe class also supports the theoretical expectation of non-linearity, as uncertainty and remaining-life effects compound once deterioration becomes advanced.

The relatively low score for adequate condition capture in current practice (mean 2.71) suggests a potential gap between recognising physical risk and documenting its valuation effect. A structured condition appendix could improve transparency without requiring valuers to perform engineering diagnosis. Where structural significance is suspected, an appropriately qualified engineer should be engaged. Facilities management is also implicated: preventive maintenance can slow the transition from minor defects to major deterioration and thereby protect utility, income potential and remaining economic life (Ali et al., 2010; Ikpo, 2009; Ohaedeghasi et al., 2021).

6.0 Summary of Findings

Based on the data analyzed, the following findings emerged from the study:

1. The most prevalent forms of deterioration in commercial facilities in Awka, Onitsha and Nnewi are dampness/water ingress (76.7%), wall/plaster cracking (73.3%) and roof leakage/distress (67.5%), while outright major structural distress is relatively rare (14.2%) (Table 3).
2. On average, the surveyed commercial facilities fall in the moderate deterioration class (mean DI = 43.7), with 38.9% of facilities in the high or severe classes; Onitsha has the highest mean deterioration index (48.7) (Table 6).
3. Structural condition is perceived by professionals as a substantial value determinant: 85.0% agree that condition affects market value, 89.2% that repair liability should reduce value, and 92.5% that inspection should be part of valuation (Table 5).

https://doi.org/10.5281/zenodo.23207675

4. The mean valuation discount increases monotonically with deterioration severity, from 2.9% (low) through 8.7% (moderate) and 13.3% (high) to 21.6% (severe) (Table 7).
5. Regression analysis shows a significant negative relationship between deterioration severity and property value ($\beta = -0.61$, $p < 0.001$; $R^2 = 0.47$), with repair liability, remaining economic life and rental attractiveness also showing significant associations with property value (Table 9).
6. There is a practice gap in the study area: although professionals recognise the importance of condition, they do not believe it is adequately captured in current valuation practice (mean = 2.71, SD = 1.12) (Table 4).
7. The five valuation cases confirm that condition allowances ranging from 4.0% to 22.0% can be derived from the deterioration index, anchored on class mean discounts and supported with repair estimates and comparable evidence (Table 8).

7.0 Conclusion and Recommendations

7.1 Conclusion

This study has demonstrated a practical way to investigate how structural deterioration affects commercial property valuation in Anambra State. The survey and inspection results indicate that physical condition is perceived as a substantial value determinant, with repair liability, risk, rental attractiveness and remaining economic life forming important mechanisms through which condition can affect value. The valuation cases show that the potential adjustment becomes materially larger as deterioration becomes severe, rising to a mean of 21.6% in the severe class.

The principal implication is that physical condition should be treated as an explicit valuation input. A report that identifies a deteriorated facility but does not explain how the condition affects value is less transparent than one that documents defects, specialist advice, repair implications, market evidence and the adopted adjustment.

7.2 Recommendations

1. **Valuers (estate surveyors and valuers):** Use a structured condition schedule during commercial property inspections, so that defects are systematically recorded and translated into valuation evidence rather than noted informally.
2. **Valuers, in collaboration with civil/structural engineers:** Refer suspected structural defects such as settlement indicators, major cracking, or concrete spalling with exposed reinforcement to qualified engineers for diagnosis before finalising a valuation opinion.
3. **Valuers and valuation firms:** Support condition adjustments with repair estimates, comparable evidence and remaining-life analysis rather than arbitrary percentages, in line with IVS 104 (Data and Inputs) and the Nigeria Valuation Standards (Green Book).
4. **Facilities and property managers, working with building owners and investors:** Implement preventive maintenance programmes focused on moisture control, drainage, roof maintenance and corrosion prevention, to slow the transition from minor defects to major deterioration.

5. **Academic researchers and professional bodies (ESVARBON, NIESV):** Develop Nigerian datasets linking condition ratings to rents and capital values, so that future condition adjustments can be benchmarked against market evidence.
6. **Lending institutions, investors and acquisition teams:** Require current condition information including a recent condition schedule and, where relevant, an engineer's report for high-risk commercial assets considered for acquisition or lending.
7. **Academic researchers:** Undertake longitudinal research to estimate market-derived deterioration coefficients, tracking the same facilities over time to establish how discounts evolve as deterioration progresses.
8. **Professional bodies and regulators**: Adopt the condition-adjusted valuation framework presented in this study (Table 10) as guidance within continuing professional development, so that condition scoring, class-based anchoring and documented allowances become routine practice.

8.0 Limitations of the Study

The study has limitations that qualify the interpretation of its findings. First, the facility sample was small (36 properties) and purposively selected, which limits statistical power and generalisability; with n = 36 and six regression terms the regression is exposed to overfitting, and its coefficients should be read as exploratory rather than definitive. Second, the design was cross-sectional, so causal direction between deterioration and value cannot be established from these data alone. Third, parts of the evidence base (Tables 4 and 5 in particular) are perception-based and may reflect professional sentiment rather than observed market outcomes. Fourth, transaction evidence in the study market is thin, so benchmark values draw on asking prices and professional estimates that may differ from realised transaction prices. Finally, the deterioration index aggregates visible defects and may understate hidden defects such as internal reinforcement corrosion; future work should combine the visual schedule with non-destructive testing where budgets permit.

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