Socio-Economic Landscape and Housing Aspirations: The Role of Staff Cooperative Societies in Nigerian Tertiary Institutions

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ABSTRACT

In Nigeria, where access to affordable housing remains a persistent challenge, public servants in tertiary institutions are increasingly turning to community-driven solutions. This study quantitatively examines the role of staff cooperative societies as crucial enablers of housing aspirations, using data from a large-scale cross-sectional survey of 2,178 members across nine public tertiary institutions in Oyo State, Nigeria. The findings reveal high homeownership rates (>70%), confirming cooperatives as effective, self-reliant systems in meeting housing aspirations of members. However, a multivariate interaction model demonstrates that this success is highly conditional and unevenly distributed across different groups. The analysis reveals a significant academic advantage at lower-middle income thresholds (specifically, N100,000–N200,000), as the probability of homeownership for academic staff increases substantially, whereas it declines for their non-academic peers in the same income bracket. This conditional disparity based on professional status exists alongside a significant and persistent gender gap that disadvantages female members. We conclude that staff cooperative societies function as a potent but imperfect engine of housing aspiration, reflecting how broader institutional and social hierarchies shape outcomes. The study highlights the need for policies that support these cooperatives and address the intersecting inequalities within their ranks and operations.

Keywords: Housing aspirations, housing delivery, socio-economic characteristics, staff cooperatives societies, tertiary institutions, Nigeria

INTRODUCTION

The housing sector, with its inherent complexity and dynamism, is an important sector of any nation's socioeconomic stability and development (Tulumello & Dagkouli-Kyriakoglou, 2024). An imbalance between housing demand and supply, particularly when coupled with poor government regulation, inevitably leads to price hikes that push the urban poor and middle class into precarious living conditions (Azam-Khan, 2023). This reality is particularly evident in Nigeria, where access to adequate and affordable housing remains elusive for many, especially for public servants in tertiary institutions. Similar to many urban and peri-urban areas in the country, the study region of Oyo State is facing significant housing stress caused by rapid and often chaotic urbanization (Okedare & Fawole, 2023). This expansion, however, has not been matched by infrastructural development, leading to a host of urban pressures including congested housing, high land values, and social exclusion (Akanmu et al., 2020; Yusuf & Ojewale, 2023). With government struggling to keep pace with the infrastructural demands of this growth (Oladehinde et al., 2024), a significant gap in housing provision has emerged. This situation stands in direct opposition to global development agendas, such as the UN's Sustainable Development Goal 11, which aims to ensure access for all to safe, affordable, and sustainable housing (Ebekozien et al., 2024). Caught between modest incomes and an ineffective formal mortgage system, these employees

navigate a landscape where the dream of homeownership is often distant (Adedeji, 2017). In this context of state and market failure, institution-based cooperative societies have emerged as a grassroots mechanism for self-reliance, offering members a viable pathway to achieving their housing goals through mutual savings and collective action (Effioms et al., 2014).

While the role of cooperatives in economic empowerment is acknowledged, the specific dynamics of their housing interventions remain underexplored. Previous and early research has established their general effectiveness (Olagunju, 2023), but a gap persists in understanding how the diverse characteristics of their members shape their success. The literature has not yet moved from a descriptive evaluation of cooperative strategies to an explanatory analysis of member outcomes.

Therefore, this study presents a member-centric and outcome-oriented analysis that moves from asking what cooperatives do to investigating who succeeds within them and why. Rather than treating cooperative members as a homogeneous group, this study disaggregates the membership by key socio-economic characteristics to provide a quantitative analysis of how factors such as professional hierarchy and gender mediate the success of this vital community-driven housing model. We contend that the accurate measure of a cooperative's success lies in its responsiveness to the lived realities of its members. By leveraging a large-scale survey of 2,178 members and multivariate analysis, this study seeks to answer the core question: How do members' socioeconomic characteristics, such as gender, professional identity, and income level, interact with the cooperative system to produce specific and often unequal housing outcomes? By empirically modeling these relationships, our study provides an insight into the internal aspects of this self-reliant model, offering a nuanced answer to whether cooperatives work, and also how they work, for whom they work best, and where systemic challenges remain.

The paper is structured as follows. The next section reviews the literature on three interconnected themes: the socio-economic determinants of housing demand, the global and local context of the cooperative model as an alternative to market-driven provision, and the specific analytical gaps in understanding its responsiveness to member diversity. The third section outlines the study's methodology, including the sampling strategy, data collection, and the multi-stage quantitative analysis employed. The fourth section presents the core empirical findings of the paper, moving from descriptive statistics to a series of bivariate and multivariate regression models that reveal the complex and often unequal housing outcomes. The fifth section discusses the broader implications of these findings, interpreting them through the lens of self-reliance, institutional responsiveness, and structural inequality. Finally, the conclusion summarizes the core arguments and offers specific policy implications for strengthening this vital community-driven housing model.

LITERATURE REVIEW

For a significant majority of the Nigerian population, the aspiration of homeownership remains a deeply held ambition, yet it is an objective that proves exceedingly difficult to achieve in practice. Defined as housing that can be secured without financial distress, affordable housing has become unattainable for many, largely due to a confluence of low incomes, the high cost of building materials, and an ineffective formal mortgage system (Obi & Ubani, 2014). This challenge is particularly acute for public servants in tertiary institutions, who navigate a precarious space between stable employment and modest salaries. In this context, where formal state and market systems have proven inadequate, institution-based cooperative societies have emerged as a grassroots mechanism for self-reliance. Understanding their role requires an engagement with the literature on the socioeconomic forces that shape housing demand, the nature of the cooperative model as a global and local alternative, and the gaps in understanding its true impact on a diverse membership.

The literature universally acknowledges that socio-economic status acts as the primary gatekeeper to housing access and quality (Ayodele & Eniola, 2021). While income is consistently cited as the most powerful variable shaping a household's purchasing power (Yang & Chen, 2014), a singular focus on this metric is insufficient in the Nigerian context. The narrative here is fundamentally different from that of developed economies; it is characterized by income volatility, hyperinflation in building material costs that can derail projects midconstruction, and a near-total reliance on informal finance due to the moribund state of the formal mortgage sector (Adedeji, 2017). The existing literature often fails to provide an in-depth analysis of these variables as

they relate specifically to personnel in Nigerian tertiary institutions, a distinct group that contends with both rigid salary frameworks and challenges in the widespread informal housing sector. This necessitates a shift from examining broad determinants to investigating how particular institutional mechanisms, such as cooperatives, can mediate or influence these structural limitations.

The cooperative society has emerged as one such mechanism, filling the institutional vacuum left by the state and the formal private market. This localized response in Nigeria is not an isolated phenomenon but mirrors a global reconsideration of cooperative models in the face of a worldwide housing crisis. As noted by Barenstein et al., (2022), with over a billion people lacking adequate housing due to a convergence of failed state policies and the private sector's inability to cater to low-income populations, cooperatives are being reconsidered as relevant actors. This reframes the cooperative as a housing provider and an ideological alternative that champions "de-commodified" housing, valuing it as a human right rather than a speculative commodity. The dual character of housing thus situates cooperatives at the intersection of practical necessity and normative critique. This ideological dimension and perspective is deepened by the work of Díaz-Parra et al., (2024), who conceptualize cooperative housing as a form of "self-managed habitat production," arguing that this represents a potentially universal model for anti-capitalist struggles in urban settings. This compelling theoretical lens allows the Nigerian cooperative to be viewed as a pragmatic financial tool born of necessity, and equally as a local manifestation of a global struggle against market-driven housing dispossession.

While this global perspective provides an ideological framework, the translation of the universalist aspiration models into on-the-ground success is fraught with complexity and shaped by local context. The comparative work of Encinales et al., (2024) in Latin America demonstrates that the success of such models is deeply connected to the national political and institutional factors. Their research highlights a contrast between statesupported models like Uruguay's and the challenging, often hostile, environments of other neo-liberal regimes. Applying this insight to Nigeria, research on Nigerian housing cooperatives has evolved from institutional descriptions to evaluations of their operational effectiveness. A "top-down" perspective has identified key strategies and constraints from the viewpoint of executives (Azeez & Mogaji-Allison, 2017), while "bottom-up" studies (Abdulkareem et al., 2020) have confirmed high levels of general member satisfaction (Olagunju, 2023). While this body of research establishes that cooperatives work, it often treats the membership as a relatively homogenous group, thereby overlooking the critical question of responsiveness to diversity. What remains underexplored is how member diversity in terms of gender, professional identity, life-cycle stage, and income affects who ultimately achieves homeownership. Bridging this gap requires moving from describing institutional mechanisms to explaining member-level outcomes. This raises a central question for the Nigerian context: is the staff cooperative society a form of radical self-management, or is it a pragmatic coping mechanism that ultimately props up a failing system? While Nigerian scholars rightly point to their effectiveness (Azih, 2021; Yakub et al., 2012), this success is achieved in a context of policy disconnect, forcing a degree of self-reliance that places immense pressure on internal governance and financial discipline (Olotuah, 2015).

This brings into focus the central gap in the existing literature. Research on Nigerian housing cooperatives has evolved from institutional descriptions to evaluations of their operational effectiveness. The literature has not yet moved from a descriptive evaluation of strategies to an explanatory analysis of member outcomes. There is a lack of research that statistically models how the diverse socio-economic characteristics of members, such as gender, professional identity, life-cycle stage, and income level, independently and collectively predict the ultimate outcome of homeownership. This study, therefore, intervenes in this debate by shifting the focus from the cooperative's product line to the members' lived realities. We aim to provide a deeper, more analytical understanding of who succeeds in this self-reliant ecosystem and why, thereby contributing a more nuanced and equitable perspective to the global discourse on self-managed housing solutions.

3. Data and Methods

3.1 Study Area

The study was conducted in Oyo State, located in the Southwest geopolitical zone of Nigeria. It is home to Ibadan (the capital city), one of the largest metropolitan areas in West Africa, alongside numerous other major towns

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such as Oyo, Ogbomoso, and Saki. The state's significant population and diverse urban landscape create intense pressure on its housing market, making it a strategic locus for housing policy research.

Public tertiary institutions in Oyo State, totaling eighteen (18), serve as major centers of public sector employment. Nine (9) institutions were purposefully selected for this study to ensure representation across universities, polytechnics, and colleges of education as well as the state's three senatorial districts. The sampled institutions include the University of Ibadan (UI), Ladoke Akintola University of Technology (LAUTECH), The Polytechnic, Ibadan (TPI), and the Federal College of Education (Special), Oyo. Other sampled institutions are The Oke-Ogun Polytechnic, Saki (TOPS), the Federal College of Animal Health and Production Technology (FCAHPT), Ibadan, the College of Hygiene and Health Technology, Ibadan, the Oyo State College of Education, Lanlate (CEL), and the Oyo State University of Education (OSUE). This sample, constituting 50% of the state's public tertiary institutions, provides a robust cross-section enabling broad generalization within this workforce. As recommended by Creswell (2014), such a proportion provides sufficient statistical power while remaining practical in terms of logistics, time, and resources.

3.2 Data

The primary data for this study consists of cross-sectional survey data collected in 2024 via a structured questionnaire developed by adapting established instruments from previous cooperative housing studies (e.g., Azeez & Mogaji-Allison, 2017) and tailored to the context of tertiary institutions in Oyo State. To ensure clarity, relevance, and content validity, the instrument was pre-tested, and feedback led to rewording unclear items and improving response options. A proportional systematic sampling from stratified lists was utilized in this study. Membership lists from each institution were used to establish sampling intervals (k), and every k-th member was selected for participation, ensuring proportional representation across the sample. Of the 2,400 questionnaires distributed, 2,178 valid responses were retrieved (response rate: 90.8%), minimizing non-response bias. No poststratification weighting was necessary. To ensure analytical transparency, the key variables utilized in this study were carefully defined. Table I summarizes the descriptions, response options, and coding schemes for each variable used in the analysis.

Table I: Variable Coding and Operationalization

Variable	Response Options	Code/Type	Analytical Role
Home Ownership	Owner / Non-owner	1 = Owner, 0 = Nonowner	Dependent variable (binary) in logistic regression
Age	18–28, 29–39, 40–50, 51–60, 61+	1–5	Control variable (ordered categorical)
Gender	Male, Female	1 = Male, 2 = Female	Key predictor variable (binary)
Emp_cat	Academic, NonAcademic	1 = Academic, 2 = Non-Academic	Key predictor & moderator variable (binary)
Income	<₦100,000, 100,000–200,000, 200,000–300,000, 300,000–400,000, >₦400,000	1–5	Key predictor variable (ordered categorical)
Coop_years	<5, 5–10, 11–15, >15	1–4	Control variable (ordered categorical)

Count	1–4	Integer	Integer; used as a measure of member diversification
Rooms	3–5	Numeric	Scale variable; outcome for group comparisons (t-test)
Cost	Ordinal brackets by ₦ value	1–5	Control variable (ordinal)
Received Assistance	Yes / No	1 = Yes, 0 = No	Independent variable (binary) for secondary analysis

Note: The table summarizes the coding and operational definitions of key analytical variables for the structured questionnaire administered.

For each respondent, the dataset contains a comprehensive set of socio-economic attributes, including categorical measures such as age, employment category (Academic/Non-Academic) and Monthly Income bracket. These variables form the basis of our analysis of the demographic and economic landscape of the cooperative membership. The choice of tertiary institutions was motivated by their relatively stable staff structures, the established presence of cooperatives, and the significant housing needs of their employees.

Housing-specific attributes were gathered to detail the dependent and outcome variables of the study. These attributes include the respondent's current housing ownership status (tenure), the type of housing design (e.g., bungalow, duplex), and the physical scale of the property, measured by the number of habitable rooms. Financial aspects of housing projects were evaluated using categorical variables for the cost of land and the cost of construction. Additionally, process-related variables such as the source of land procurement and the duration to build the house were collected to provide a comprehensive understanding of the housing journey.

A set of variables was developed to assess the role and perception of the cooperative society. We measured the depth of member engagement using variables such as Years of Cooperative membership and the number of Cooperatives patronized. The main independent variables for evaluating the Cooperative's impact include a binary indicator indicating whether the member received housing assistance from the Cooperative, the specific type of assistance received, and an ordinal measure of the perceived benefits for housing projects. Table II presents the description and summary statistics for some key variables used in the analysis.

Table II: Summary Statistics

Variable	**Description**	**Obs**	**Mean**	**Std. Dev**	**Min**	**Max**
Dependent Variable						
Home Ownership	Private Homeownership Status	2178	.75	.43	0	1
Socio-Economic Predictors						
Gender	Respondent's Gender	2178	1.41	.49	1	2
Age	Respondent's Age Group	2178	3.54	1.22	1	5
Emp_category	Employment Category	2178	1.55	.49	1	2

Income		Monthly Income Br	acket (in ₦)	217	8	3.01		1.39		1	5
Housing & Cooperative Variables											
Rooms		Number of Habitabl	e Rooms	217	8	3.88		.57		3	5
Coop_years		Years of Coop. Me	mbership	217	8	2.71		.92		1	4
Cost		Cost of land		217	8	2.58		1.32		1	5
Count		Number of Coopera	tives	217	8	2.17		.66		1	4
Construction		Cost of construction		217	8	2.21		.77		1	5

Note: This table presents the primary variables used in the regression and key bivariate analyses.

The data shows that the housing projects undertaken by members are relatively uniform in scale, with an average of 3.88 habitable rooms and a low standard deviation (SD=0.57). The financial scope of these projects is also moderate; the central tendency for construction costs falls within the ₦15-25 million bracket (mean category = 2.21), and the typical cost of land is centered around the ₦1-2 million bracket (mean category = 2.58). The findings also highlight the long-term nature of this housing strategy. An average member has belonged to a cooperative for over ten years (mean category = 2.71). A significant strategy employed by members is diversification, with the typical member belonging to at least two cooperative societies (mean category = 2.17), likely to pool sufficient capital for their housing projects.

3.3 Methods

In this study, we adopted a quantitative survey research design to assess cooperative societies' roles in housing delivery, measure the socio-economic characteristics of a large population of cooperative members, and model the factors that predict housing outcomes. Our analytical strategy progresses from broad descriptive profiling to bivariate and multivariate modeling, aiming to identify the independent predictors of homeownership and explore how key socio-economic factors interact to shape housing outcomes.

Our analyses involve three stages. First, we use descriptive statistics (frequencies and percentages) to profile the demographic and economic landscape of the sample. Second, we use bivariate statistical tests (Pearson's ChiSquare test and independent-samples t-tests) to examine the relationships between member characteristics and housing outcomes. For ordinal variables treated as pseudo-interval scales, robustness checks using nonparametric equivalents (Mann-Whitney U tests) yielded substantively identical inferences. Third, to move beyond simple associations, we estimate a series of multivariate logistic regression models. The dependent variable, home ownership, is a binary indicator for private homeownership. Our initial model estimates the main effects of key predictors, and we then build on this by estimating models that include interaction terms to test whether the effects of specific characteristics are conditional upon others. Specifically, we test for interactions between Gender × Employment Category and Income × Employment Category to determine if disparities concentrate within specific strata. The model is conceptually robust, and its results are presented as odds ratios (OR) and predicted probabilities for easier interpretation.

After estimating the model, we conducted post-regression diagnostics to assess its validity and robustness. We conducted a Variance Inflation Factor (VIF) test, which showed a mean VIF of 4.09, with no individual predictor exceeding the standard risk threshold of 10, indicating that collinearity did not distort the model's estimates. We assessed model fit and calibration using the Hosmer-Lemeshow goodness-of-fit test and pseudo-R^2, with classification accuracy metrics. For cases with missing data (less than 2% of observations), we employed listwise

deletion after confirming that it resulted in minimal demographic bias. Additionally, we performed a residual analysis and examined influential observations to ensure the stability of the results and confirm that they were not unduly affected by outliers.

RESULTS

The analysis of the survey data provides a comprehensive picture of the cooperative housing ecosystem, revealing a model that is broadly successful yet influenced by the complex socio-economic realities of its members. The findings are presented in four parts: the socio-economic profile of the membership, key bivariate relationships shaping housing outcomes, the universal perception of the cooperative's value, and a multivariate model identifying the independent predictors of homeownership.

4.1 The Socio-Economic Profile of Cooperative Members

The foundation of the cooperative system is its members. As detailed in Table III, the membership is primarily composed of mid-to-late career staff. The majority of respondents are aged between 40 and 60 (63.2%) and are non-academic staff (55.2%). Economically, the data reveals a demographic largely excluded from formal mortgage finance, a significant majority (60.9%) earn less than ₦300,000 monthly. Despite these modest incomes, the cooperative model demonstrates remarkable success as 75% of the members reported owning their own private homes.

Table III: Socio-Economic Profile of Cooperative Members (N = 2,178)

Characteristic	**Category**	**Frequency (N)**	**Percentage (%)**
Age Group	18–28	143	6.6
	29–39	352	16.2
	40–50	550	25.3
	51–60	438	20.1
	61 and above	695	31.9
Gender	Male	1,200	55.1
	Female	978	44.9
Employment Category	Academic	976	44.8
	Non-Academic	1,202	55.2
Monthly Income	N30,000 – N100,000	416	19.1
	N100,000 – N200,000	433	19.9
	N200,000 – N300,000	434	19.9
	N300,000 – N400,000	486	22.3
	Above N400,000	409	18.8

Note: The table profiled the socio-economic characteristics of the Cooperative members for the study.

4.2 Bivariate Relationships Shaping Housing Outcomes

To understand the factors influencing housing success, bivariate analyses were conducted. These tests reveal that outcomes are significantly associated with members' income, professional roles, and life-cycle stage.

A Pearson Chi-Square test revealed a significant non-linear relationship between income brackets and housing tenure, as shown in Table IV. Counterintuitively, the highest income group had the lowest rate of homeownership (66.8%), while the highest rate (85.7%) was found in the middle-income N200,000–N300,000 bracket. This association was statistically significant ($\chi^2(12) = 101.73$, $p < 0.001$).

Table IV: Housing Tenure Status by Monthly Income Bracket

Monthly Income Bracket	Private Owner	Institutional	Rental	Family Home	Total (N)
N30,000 – N100,000	323 (77.6%)	6 (1.4%)	68 (16.4%)	19 (4.6%)	416
N100,000 – N200,000	320 (73.9%)	44 (10.2%)	52 (12.0%)	17 (3.9%)	433
N200,000 – N300,000	372 (85.7%)	2 (0.5%)	54 (12.4%)	6 (1.4%)	434
N300,000 – N400,000	349 (71.8%)	47 (9.7%)	82 (16.9%)	8 (1.6%)	486
Above N400,000	273 (66.8%)	34 (8.3%)	88 (21.5%)	14 (3.4%)	409
Total	**1,637 (75.2%)**	**133 (6.1%)**	**344 (15.8%)**	**64 (2.9%)**	**2,178**

Note: Row percentages are shown in parentheses. Pearson $\chi^2(12) = 101.73$, $p < 0.001$.

Professional identity also emerged as a key differentiator. As shown in Table V, a significant association was found between employment category and housing design ($\chi^2(2) = 21.98$, $p < 0.001$). While bungalows are the predominant housing type (91.3%), academic staff are nearly three times as likely to own a duplex (5.3%) as their non-academic counterparts (1.8%). This difference in housing scale and design is a tangible manifestation of institutional status, suggesting that the benefits derived from the cooperative extend beyond mere homeownership to include the quality and prestige of the housing acquired.

Table V: Type of Housing by Employment Category

Employment Category	Bungalow	Duplex	Others	Total (N)
Academic	867 (88.8%)	52 (5.3%)	57 (5.8%)	976
Non-Academic	1,122 (93.3%)	22 (1.8%)	58 (4.8%)	1,202
Total	**1,989 (91.3%)**	**74 (3.4%)**	**115 (5.3%)**	**2,178**

Note: Row percentages are shown in parentheses. Pearson $\chi^2(2) = 21.98$, $p < 0.001$. The "Others" category includes architectural styles such as Brazilian-style bungalows and other less common designs.

This difference in housing scale was further confirmed by an independent t-test, which showed that academic staff reside in homes with a statistically significant higher average number of rooms ($M = 3.92$, $SD = 0.57$)

compared to non-academic staff (M = 3.85, SD = 0.58), t(2176) = 2.99, p = 0.003. Finally, members' strategies evolve with their life-cycle stage, with a significant association found between age group and the source of land procurement ($\chi^2(16) = 54.09$, $p < 0.001$). Younger members tend to rely on personal savings, while mid-career members are more likely to purchase land, often with cooperative credit.

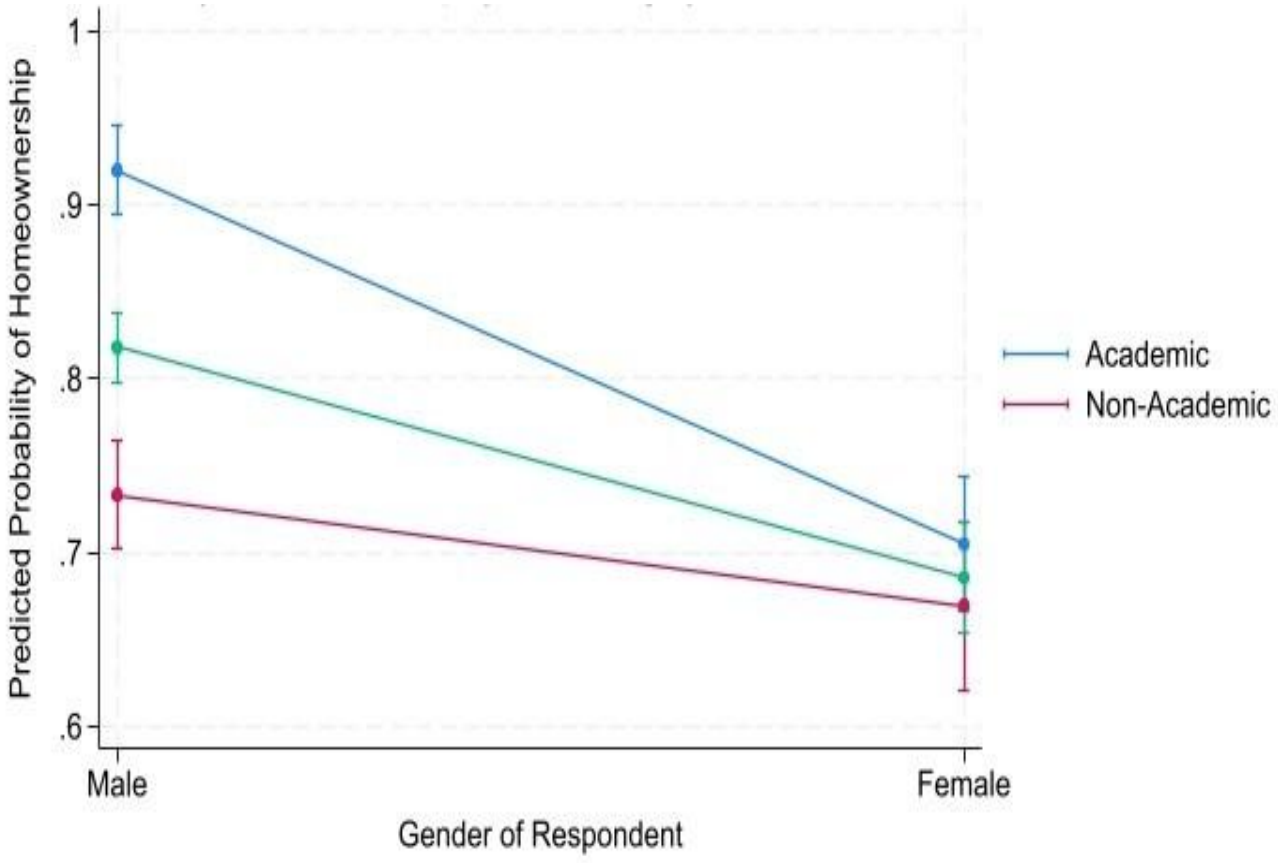
Crucially, despite the clear differences in housing outcomes, there was no statistically significant difference in the perceived benefit of the cooperative between academic staff (M = 1.12, SD = 0.33) and non-academic staff (M = 1.11, SD = 0.32), t(2176) = 0.49, p = 0.622. This indicates that members across the professional spectrum feel equally and highly supported by the system, suggesting a universally high level of satisfaction with the cooperative's role.

4.3 Multivariate Predictors of Homeownership

To build a comprehensive model of homeownership, we tested for interaction effects between our key predictors. The final logistic regression model included interaction terms for both Gender × Employment Category and Income × Employment Category. The overall model was statistically significant (LR $\chi^2(14) = 154.26$, $p < 0.001$) and showed an improved fit over a main-effects-only model (Pseudo $R^2 = 0.0632$). The analysis revealed highly significant interaction effects, indicating that the impact of gender and income on homeownership is fundamentally different for academic versus non-academic staff.

The full model results are presented in Table VII. The analysis revealed a highly significant interaction effect between gender and employment category. To interpret this complex but central interaction, we calculated the predicted probabilities of homeownership for each subgroup, holding all other variables at their means. Figure 1 provides a clear visualization of this relationship.

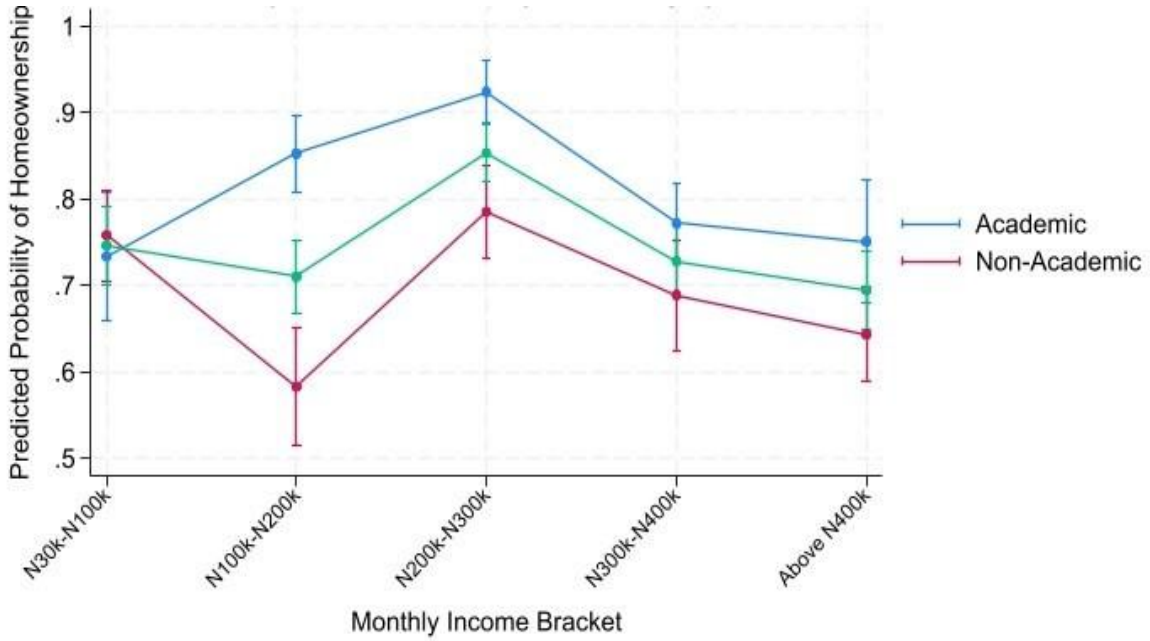
Figure 1: Marginal Effects Plot of the Interaction between Gender and Employment Category on Predicted Homeownership Probability (with 95% CIs)



Note: The plot displays the predicted probability of owning a home, calculated from the logistic regression model in Table VII, holding all other variables at their means.

The plot reveals that the gender penalty for homeownership is paradoxically most severe among the higher status academic staff. While the predicted probability of homeownership for an academic male is approximately 92%, it drops to 71% for an academic female, a gap of 21 percentage points. In contrast, the gender gap among non-academic staff is substantially smaller, with predicted probabilities of 73% for males and 67% for females, a gap of only 6 percentage points.

Figure 2: Marginal Effects Plot of the Interaction between Income and Employment Category on Predicted Homeownership Probability (with 95% CIs)



Note: The plot displays the predicted probability of owning a home, calculated from the logistic regression model in Table VII, holding all other variables at their means.

Figure 2 illustrates the second significant interaction, revealing that the academic advantage is not constant but is activated at a key income threshold. The plot traces the predicted homeownership probabilities for both academic and non-academic staff across income levels. Initially, at the lowest income bracket (₦30,000–₦100,000), there is no significant difference between the two groups. However, an obvious divergence occurs in the ₦100,000–₦200,000 bracket. At this juncture, the probability of homeownership among academics surges to 85.2%, while it drops to just 58.3% among their non-academic peers, opening a significant 27-percentagepoint gap. This academic advantage is maintained as both groups reach their peak probability in the ₦200,000–₦300,000 bracket, where academics (92.4%) hold a substantial and statistically significant lead over non-academic (78.5%). This visual evidence suggests that the benefits of the cooperative system are mediated by professional status, particularly in the mid-income ranges vital for housing investment.

Table VI: Timely Project Completion by Receipt of Cooperative Housing Assistance

Received Direct Housing Assistance	Project Not Timely (<10 yrs)	Project Timely (≤10 yrs)	Total (N)
Yes	0 (0.0%)	58 (100.0%)	58
No	47 (3.6%)	1,270 (96.4%)	1,317
Others	11 (4.2%)	251 (95.8%)	262
Total	**58 (3.5%)**	**1,579 (96.5%)**	**1,637**

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Note: N refers to the subset of homeowners who provided data on project duration. Row percentages are in parentheses. Pearson $\chi^2(3) = 3.47$, $p = 0.325$.

Table VII: Logistic Regression Predicting Likelihood of Homeownership

Predictor	**Odds Ratio (OR)**	**Std. Err.**	**p-value**	**[95% Conf. Interval]**
Main Effect				
Age Group (Ref: 18–28)				
29–39	2.12	0.51	**0.002**	1.33 – 3.39
40–50	1.46	0.32	0.086	0.95 – 2.24
51–60	1.54	0.35	0.054	0.99 – 2.40
61 and above	1.62	0.35	**0.026**	1.06 – 2.48
Gender (Ref: Male)				
Female	0.46	0.05	**0.001**	0.37 – 0.57
Income and Employment Interaction				
Income for Academic Staff (Ref: N30,000–N100,000)				
N100,000–N200,000	2.15	0.59	**0.006**	1.25 – 3.68
N200,000–N300,000	4.59	1.53	**0.001**	2.39 – 8.81
N300,000–N400,000	1.24	0.31	0.399	0.76 – 2.02
Above N400,000	1.10	0.32	0.746	0.62 – 1.93
Interaction Term (Income x Non-Academic)				
N100,000–N200,000 x Non-Acad.	0.20	0.07	**0.001**	0.10 – 0.40
N200,000–N300,000 x Non-Acad.	0.26	0.10	**0.001**	0.12 – 0.56
N300,000–N400,000 x Non-Acad.	0.56	0.19	0.081	0.30 – 1.07
Above N400,000 x Non-Acad.	0.51	0.18	0.054	0.26 – 1.01
Model Fit Statistics				
Number of Obs	2178			
LR $\chi^2(14)$	154.26			

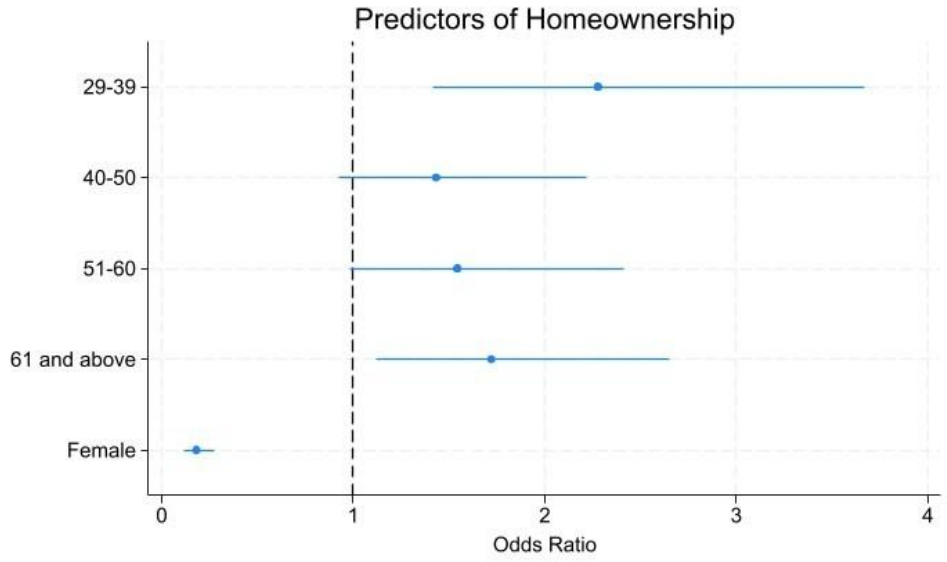
Pseudo R^2	0.063			

Note: Table presents Odds Ratios (OR). p-values < 0.05 are in bold. Reference categories are in parentheses. The main effect for Non-Academic staff is interpreted through the significant interaction terms.

Among the main effects, gender emerges as a strong and consistent predictor. Holding all other factors constant, the odds of a female member owning a home are 54% lower than the odds for a male member (OR = 0.46, $p < 0.001$). Age also plays a significant role, with members in the 29-39 age group (OR = 2.12) and the 61 and above group (OR = 1.62) having significantly higher odds of homeownership compared to the youngest members.

The core of the model lies in the significant interaction between income and employment category. For academic staff, income has a powerful, positive effect at lower-middle levels; the odds of homeownership for an academic earning N200,000–N300,000 are 359% higher (OR = 4.59) than for an academic in the lowest income bracket. However, the significant and negative interaction terms indicate that this pattern is dramatically different for non-academic staff.

Figure 3: Coefficient Plot of Odds Ratios for Key Predictors of Homeownership



Note: The figure displays the odds ratios (dots) and their corresponding 95% confidence intervals from the logistic regression model in Table VII. The dashed vertical line at 1.0 represents the null effect (no association). Predictors with confidence intervals that do not cross this line are statistically significant at the $p < 0.05$ level.

To provide an intuitive visual summary of the logistic regression results from Table VII, Figure 3 presents a coefficient plot. The plot displays the odds ratios and their 95% confidence intervals for the main effects of age and gender, making the direction, magnitude, and statistical significance of the findings immediately accessible. The plot clearly shows a strong, statistically significant negative association between being female and homeownership; its confidence interval is entirely to the left of the null-effect line at 1.0. In contrast, the significant positive effects of the 29–39 and 61-and-above age groups are also readily apparent, with their confidence intervals lying entirely to the right of the null line. This graphical representation confirms the key findings from the regression table in a highly accessible format, thereby enhancing clarity.

DISCUSSION

The findings of this study provide a multi-faceted evaluation of the staff cooperative society as a housing delivery mechanism. The analysis reveals a self-contained and highly effective ecosystem, thriving due to its internal strengths and responsiveness, yet operating largely in isolation from the formal policy environment and not entirely immune to broader societal inequalities.

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The cooperative's success is rooted in its deep alignment with the socio-economic profile and life-cycle needs of its members. This institutional intelligence, where the cooperative functions first as a disciplined savings vehicle for younger members and later as a credit provider for those in their prime career years, demonstrates a level of responsiveness that rigid top-down programs rarely achieve. The specific mechanism of this success is the ecosystem as a whole. We found no statistically significant relationship between receiving a specific housing assistance package and timely project completion, not because the assistance is ineffective, but because the system as a whole is overwhelmingly effective. With over 96% of members completing their projects in a relatively short period, the marginal effect of any single intervention is difficult to detect statistically.

This ceiling effect finding reinforces a robust real-world validation of cooperative governance theory. This framework contrasts cooperative models with for-profit enterprises, highlighting how member-driven structures reinforce solidarity and ensure responsiveness to lived needs (Crabtree-Hayes, 2024; Lang & Novy, 2014). The cooperative's primary value lies not in any single product it offers, but in its existence as a continuous, reliable system built on democratic principles and mutual trust (International Cooperative Alliance, 1995).

However, the cooperative's effectiveness is not absolute, the intersecting identities of its members mediate it. The multivariate analysis, particularly the significant interaction between income and employment, reveals the mechanics of inequality within the system. While the cooperative model provides an equitable foundation at the lowest income levels, a dramatic divergence occurs at the ₦100,000–₦200,000 income bracket. This income level likely represents a threshold for capital investment, and it is at this precise juncture that the structural advantages of being an academic appear to be unlocked.

This empirical pattern can be understood through the theoretical lens of institutional hierarchy. The mechanism for this activation can be explained by models of hierarchy formation, which show how collective beliefs and individual actions create self-reinforcing status rankings (Gould, 2002). Within the cooperative, this might manifest as members or loan committees making subtle status-conferring gestures, such as attributing greater credibility or lower risk to academic staff based on a shared perception of their institutional standing. According to Gould's (2002) model, such gestures reinforce the very hierarchy they are based on, providing a powerful micro-level explanation for the macro-level divergence we observe in homeownership outcomes.

This intersectional reality is further complicated by the main effect of gender, which persist across all models. The significant gender disparity directly reflects theories of gender stratification, which identify gender as a foundational axis of inequality in asset accumulation (World Bank, 2018). The finding is consistent with literature showing that men are significantly more likely to claim sole property ownership, a gap rooted in patriarchal norms and structural biases in property markets (Deere & Doss, 2006). The paradoxical finding that this gap is widest among higher-status academic staff strengthens the argument that gendered disadvantage is amplified as financial stakes rise, a form of double jeopardy for professional women. This powerfully highlights that while the cooperative provides an essential mechanism, members' starting positions are profoundly shaped by external societal structures.

Furthermore, this self-reliant system has largely evolved despite the formal policy environment, suggesting a disconnect between national housing policies and their implementation at the grassroots level. This self-reliance is both the cooperative's greatest strength, making it resilient, and a potential weakness, as it limits its ability to scale and tackle systemic issues like infrastructure provision, which requires state collaboration.

Finally, it is important to situate the model's findings within its statistical performance. Our diagnostic tests confirm that the model is well-specified and free of multicollinearity. However, its primary value is explanatory rather than predictive, identifying the direction and significance of key relationships. The low Pseudo R^2 value (0.063) indicates that homeownership is a complex outcome influenced by many factors beyond the scope of our model. However, the powerful, independent effects of gender and the income-employment interaction emerge as statistically significant signals of structural forces, even within a model that acknowledges substantial unobserved heterogeneity.

CONCLUSION AND POLICY IMPLICATIONS

6.1 Conclusion

Staff cooperative societies in Nigerian tertiary institutions represent an effective model of community-driven, self-reliant housing provision. They are flexible, trusted, and highly responsive to the needs of their core lowto-middle-income membership. By functioning as a holistic support system, they have enabled thousands of public servants, who are systematically excluded from formal mortgage markets, to achieve homeownership. However, this study concludes that their success is a complex narrative. The cooperative model is a potent amplifier of its members' capacities, but it is not a perfect equalizer in the sense that it is constrained by broader societal and institutional structures related to gender and professional hierarchy. As a self-reliant ecosystem born out of a policy vacuum, it is a testament to grassroots ingenuity but also a symptom of systemic state failure.

6.2 Policy Implications

The findings of this study generate several policy implications aimed at strengthening the cooperative model and addressing its limitations. First, government policy must move beyond passive recognition to the active integration of staff cooperative societies into national housing strategy. This implies creating dedicated credit lines from development banks (e.g., the Federal Mortgage Bank of Nigeria) that cooperatives can access on behalf of their members, leveraging their superior last-mile delivery capabilities and high repayment rates.

Then, the significant gender and employment disparities have direct implications for cooperative governance. Cooperatives should be encouraged and supported to move beyond gender-neutral policies to proactive, gender transformative initiatives. This includes developing targeted financial literacy programs for female members and creating loan products designed to accommodate women's unique economic life cycles. Similarly, institutions could partner with their cooperatives to create dedicated support funds or provide institutional guarantees to mitigate the disadvantages faced by non-academic staff.

Also, the self-reliance of cooperatives reaches its limit when faced with large-scale infrastructure needs. A key policy implication is the need for local and state governments to form Public-Cooperative Partnerships (PCPs). In this model, the government's role would be to provide affordable land and basic site-and-service infrastructure (roads, water, electricity), while the cooperative manages the construction finance and project delivery for its members. This leverages the strengths of both sectors to overcome a barrier to affordable housing development.

Ultimately, acknowledging and integrating the role of these self-reliant cooperative societies into formal urban planning and governance is necessary for building more inclusive and sustainable cities in Nigeria. By providing a proven pathway to affordable housing, these grassroots initiatives directly complement major development frameworks, including the UN's Sustainable Development Goal 11, which calls for ensuring access to adequate and safe housing for all by 2030, and Africa’s Agenda 2063, which envisions resilient and inclusive urban centers. Supporting and scaling these existing, effective community-driven models is not just a pragmatic housing strategy; it is a direct investment in achieving these vital global and continental goals.

While this study offers valuable insights into cooperative housing, it is essential to recognize its limitations, which highlight opportunities for future research. First, the analysis is conditional on being a cooperative member, which introduces a potential for selection bias. The findings illuminate the factors that predict success among members but cannot be generalized to all tertiary institution staff. It is plausible that individuals who join cooperatives are already predisposed to be more organized, better at saving, or more motivated to achieve homeownership than their non-member colleagues. Therefore, the high rate of homeownership observed, while a testament to the cooperative model's effectiveness for its participants, cannot be interpreted as the effect of the cooperative relative to non-membership without a proper control group.

Second, the study's cross-sectional design precludes strong causal claims. While we have identified powerful statistical associations, for example, between gender and homeownership, we can only infer correlation, not

causation. A longitudinal study that tracks members and non-members over time would be required to establish the causal impact of cooperative membership and its specific interventions on housing trajectories.

Finally, while our multivariate model controls for key socio-economic variables, the modest Pseudo R^2 value indicates the presence of unobserved confounders. There are likely other important factors influencing homeownership that were not measured in this survey. These could include individual-level variables such as prior family assets, spousal income, and household debt levels, as well as institution-level factors like the quality of each cooperative's governance and the specific risk policies of their loan committees. Future research incorporating these variables could build a more comprehensive explanatory model. Despite these limitations, this study provides one of the most detailed quantitative analyses to date of the internal dynamics of staff cooperative societies in Nigeria, laying a foundation for future causal and comparative work.

Data Availability

The data that support the finding of this study are available upon request.

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Ethical Approval

There are no ethical considerations for this research

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